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The following report(s) provides findings from an FDA-initiated query using Sentinel. While Sentinel queries may be undertaken to assess potential medical product safety risks, they may also be initiated for various other reasons. Some examples include determining a rate or count of an identified health outcome of interest, examining medical product use, exploring the feasibility of future, more detailed analyses within Sentinel, and seeking to better understand Sentinel capabilities.

Data obtained through Sentinel are intended to complement other types of evidence such as preclinical studies, clinical trials, postmarket studies, and adverse event reports, all of which are used by FDA to inform regulatory decisions regarding medical product safety. The information contained in this report is provided as part of FDA's commitment to place knowledge acquired from Sentinel in the public domain as soon as possible. Any public health actions taken by FDA regarding products involved in Sentinel queries will continue to be communicated through existing channels.

FDA wants to emphasize that the fact that FDA has initiated a query involving a medical product and is reporting findings related to that query does not mean that FDA is suggesting health care practitioners should change their prescribing practices for the medical product or that patients taking the medical product should stop using it. Patients who have questions about the use of an identified medical product should contact their health care practitioners.

The following report contains a description of the request, request specifications, and results from the modular program run(s).

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Overview for Request cder_mpl2p_wp043

Request ID: cder_mpl2p_wp043

Request Description: In this report we estimated the association between use of modafinil/armodafinil compared to use of active comparator medical products (amphetamines or methylphenidate) or non-use of those medical products and non-cardiac congenital malformations in a cohort of pregnant patients and their matched infants in the Sentinel Distributed Database (SDD).

Sentinel Routine Querying Module: Cohort Identification and Descriptive Analysis (CIDA) module, version 12.1.2 with the Propensity Score Analysis (PSA) module and ad hoc programming

Data Source: We distributed this request to three Sentinel Data Partners (DP) on August 11, 2023, and the Centers for Medicare and Medicaid Services (CMS) on November 16, 2023. These four Data Partners are a subset of the SDD and only include those that populate the Mother-Infant Linkage Table. The study period included data from January 1, 2000 to December 31, 2022. Please see Appendix A for a list of dates of available data for each Data Partner.

Study Design: We identified females between the ages of 10 and 54 years of age with evidence of a live birth linked to an infant record, who did not have evidence of known teratogen use or high dose vitamin A in the first trimester, who did not have evidence in the mother's or infant's record of a chromosomal abnormality diagnosis from 301 days before through 30 days after delivery, and who had prevalent use of modafinil or armodafinil, amphetamines, methylphenidate, or were unexposed in the first trimester of pregnancy (and 90 days prior to pregnancy start for the unexposed cohort). Patients were allowed to contribute multiple pregnancies to the analysis.

We evaluated the occurrence of non-cardiac malformations and compared the exposed (modafinil/armodafinil) and referent (amphetamines, methylphenidate, or unexposed) groups matched on propensity score. This is a Type 4 analysis using the Propensity Score Analysis module in the Query Request Package (QRP) documentation.

Pregnancy Episode Creation: We identified pregnancies ending in a live birth using a claims-based algorithm.² This algorithm used International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) diagnosis codes indicative of weeks of gestation, and International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days. Pregnancies were excluded from the cohort if there was evidence of a prior delivery in the 301 days before the delivery date of interest. Please see Appendix B for a list of ICD-9- and ICD-10-CM diagnosis codes and Current Procedural Terminology, Fourth Edition (CPT-4) procedure codes used to define a live birth delivery, and Appendix B.1 for a list of ICD-9-CM and ICD-10-CM diagnosis codes used in the gestational age algorithm.

Exposure and Comparators: We defined the exposures of interest (modafinil, armodafinil) and comparators (amphetamines, methylphenidate) using outpatient dispensing data and National Drug Codes (NDCs). Each qualifying dispensing of the exposures of interest in the first trimester (index) was identified. Please see Appendix C for a list of generic and brand names of medical products used to define exposures in this request.

Outcomes of Interest: We looked for non-cardiac malformations in both mother and infant records from 90 days before delivery through 30 days after delivery in the mother and up to 90 days after delivery in the infant. We defined non-cardiac malformations using a previously validated algorithm¹ using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) diagnosis and procedure codes. Outcomes were identified using the non-cardiac malformation algorithm. We counted outcomes for each category if they fulfilled these additional conditions:

- a. Two or more dates of service with an ICD-9-CM or ICD-10-CM diagnostic code for the malformation group, or
- b. One or more date(s) of service with an ICD-9-CM or ICD-10-CM diagnostic code for the malformation group and a relevant surgery/procedure code for the correction of the malformation within 30 days of delivery, or
- c. One or more date(s) of service with an ICD-9-CM or ICD-10-CM diagnostic code for the malformation group and infant death within 30 days of delivery.
- d. If the malformation is identified based on codes in maternal claims only and there is ≥ 1 date with a diagnostic code for the malformation group from last menstrual period (LMP) - 90 days to LMP + 105 days, the malformation is assumed to be maternal, and the infant is unaffected.

Please see Appendix D for a list of diagnosis and procedure codes used to define non-cardiac congenital malformations.

Overview for Request cder_mpl2p_wp043

Cohort Eligibility Criteria: We required members to be enrolled in health plans with medical and drug coverage for at least 391 days (301 day pregnancy length + 90 day pre-pregnancy exposure assessment period) prior to their delivery date, during which gaps in coverage of up to 45 days were allowed. The following age groups were included in the cohort: 10-34 and 35-54 years. We excluded pregnancies that had evidence of known teratogen use or high dose vitamin A in the first trimester, or that had evidence in the mother's or infant's record of a chromosomal abnormality diagnosis from 301 days before through 30 days after delivery. We additionally required members to have no use of any other exposure or comparator product of interest in the first trimester, or pre-pregnancy period and first trimester for the unexposed comparison group. Please see appendix E for a list of ICD-9-CM and ICD-10-CM codes used to define inclusion criteria; please see Appendix F for a list of generic and brand names used to define exclusions in this request.

Baseline Characteristics: We assessed the following characteristics at the delivery date: maternal age, race, ethnicity, and year of delivery. We assessed the Obstetric Comorbidity Index³ (OCI) and calculated scores based on conditions occurring 90 days prior to pregnancy through 301 days after pregnancy start. We assessed the following characteristics in the 90 days prior to pregnancy through the first trimester (i.e. 90 days after pregnancy start): anxiety disorders, depressive disorders, all other psychiatric and neurological conditions, obesity, renal disease, alcohol use/abuse/dependence, drug abuse or dependence, smoking, diabetes, gestational diabetes, hypertension, gestational hypertension, gestational renal disease; and the following medication utilization characteristics in the first trimester: psychotropic medications, antihypertensive medications, opioids, suspected teratogens, antidiabetic medications, buprenorphine, insulin, methadone, naloxone and naltrexone. Evaluation of number of dispensings for exposures of interest (i.e., 1, 2 or more) were also assessed from pregnancy start to 90 days after pregnancy end date. We defined baseline characteristics using ICD-9-CM and ICD-10-CM diagnosis codes, Current Procedural Terminology, Fourth Edition (CPT-4) procedure codes, and NDCs. Please see Appendix G for a list of diagnosis and procedure codes and Appendix H for a list of generic and brand names of medical products used to define baseline characteristics in this request.

Sensitivity Analyses: We performed sensitivity analyses to evaluate specific non-cardiac malformation (i.e., urinary or musculoskeletal).

Propensity Score Estimation: We assessed the following characteristics and included them in the propensity score: maternal age, year, race, obstetric comorbidity index, anxiety disorders, depressive disorders, all other psychiatric and neurological conditions, obesity, renal disease, alcohol use/abuse/dependence, drug abuse or dependence, smoking, diabetes, gestational diabetes, hypertension, gestational hypertension, gestational renal disease, psychotropic medications, antihypertensive medications, opioids, suspected teratogens, antidiabetic medications, buprenorphine, insulin, methadone, naloxone and naltrexone, and the number of dispensings of the exposures of interest.

We defined characteristics using ICD-9-CM and ICD-10-CM diagnosis codes, Current Procedural Terminology, Fourth Edition (CPT-4) procedure codes, and NDCs. Please see Appendix G for a list of diagnosis and procedure codes and Appendix H for a list of generic and brand names of medical products used to define baseline characteristics in this request.

Matching: The matching ratio for the propensity score was 1:1. Pregnancy episodes in the exposed and referent cohorts were nearest neighbor matched without replacement. The matching caliper was 0.05.

Analysis: For each comparison, we used logistic regression models to estimate odds ratios and corresponding 95% confidence intervals for the unmatched and matched analyses. Subgroups of effect estimation included: age group (<35 years vs. 35-54 years at delivery) and number of dispensings (1 vs. 2 or more) for pregnancies with exposure of interest (modafinil/ armodafinil) or comparator (amphetamine or methylphenidate). Individuals were rematched within each subgroup.

Please see Appendix I for detailed specifications and Appendix J for details on characteristics included in this request.

Overview for Request cder_mpl2p_wp043

Limitations: Algorithms to define exposures, outcomes, inclusion and exclusion criteria, and characteristics are imperfect and may be misclassified. Race data may be incompletely reported by Data Partner. Therefore, data should be interpreted with this limitation in mind.

Notes: Please contact the Sentinel Operations Center (info@sentinel-system.org) for questions and to provide comments/suggestions for future enhancements to this document. For more information on Sentinel's routine querying modules, please refer to the documentation (<https://dev.sentinel-system.org/projects/SENTINEL/repos/sentinel-routine-querying-tool-documentation/browse>).

¹ He M, Huybrechts KF, Dejene SZ, Straub L, Bartels D, Burns S, Combs DJ, Cottral J, Gray KJ, Manning-Geist BL, Mogun H, Reimers RM, Hernandez-Diaz S, Bateman BT. Validation of algorithms to identify adverse perinatal outcomes in the Medicaid Analytic Extract database. *Pharmacoepidemiol Drug Saf.* 2020 Apr;29(4):419-426. doi: 10.1002/pds.4967. Epub 2020 Mar 2. PMID: 32124511.

² Li, Q., et al., Validation of an algorithm to estimate gestational age in electronic health plan databases. *Pharmacoepidemiol Drug Saf*, 2013. 22(5): p. 524-32.

³ Bateman BT, et al (2013). "Development of a comorbidity index for use in obstetric patients." *Obstet Gynecol. J* 122(5):957-65.

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Appendix B List of Current Procedural Terminology, Fourth Edition (CPT-4), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Live Birth Delivery in this Request

Appendix B.1 List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes used to Define Gestational Age

Appendix C List of Generic and Brand Names of Medical Products Used to Define Exposures in this Request

Appendix D List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Appendix E List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Codes Used to Define Inclusion Criteria in this Request

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Appendix F List of Generic and Brand Names of Medical Products Used to Define Inclusion Criteria in this Request

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Appendix H List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Appendix I Specifications Defining Parameters for this Request

Appendix J Specifications Defining Baseline Characteristics for this Request

Appendix K Design Diagrams for this Request

**Glossary of Terms for Analyses Using
Cohort Identification and Descriptive Analysis (CIDA) Module***

Amount Supplied - number of units (pills, tablets, vials) dispensed. Net amount per NDC per dispensing.

Blackout Period - number of days at the beginning of a treatment episode that events are to be ignored. If an event occurs during the blackout period, the episode is excluded.

Care Setting - type of medical encounter or facility where the exposure, event, or condition code was recorded. Possible care settings include: Inpatient Hospital Stay (IP), Non-Acute Institutional Stay (IS), Emergency Department (ED), Ambulatory Visit (AV), and Other Ambulatory Visit (OA). For laboratory results, possible care settings include: Emergency Department (E), Home (H), Inpatient (I), Outpatient (O), or Unknown or Missing (U). The Care Setting, along with the Principal Diagnosis Indicator (PDX), forms the Care Setting/PDX parameter.

Ambulatory Visit (AV) - includes visits at outpatient clinics, same-day surgeries, urgent care visits, and other same-day ambulatory hospital encounters, but excludes emergency department encounters.

Emergency Department (ED) - includes ED encounters that become inpatient stays (in which case inpatient stays would be a separate encounter). Excludes urgent care visits.

Inpatient Hospital Stay (IP) - includes all inpatient stays, same-day hospital discharges, hospital transfers, and acute hospital care where the discharge is after the admission date.

Non-Acute Institutional Stay (IS) - includes hospice, skilled nursing facility (SNF), rehab center, nursing home, residential, overnight non-hospital dialysis and other non-hospital stays.

Other Ambulatory Visit (OA) - includes other non overnight AV encounters such as hospice visits, home health visits, skilled nursing facility visits, other non-hospital visits, as well as telemedicine, telephone and email consultations.

Charlson/Elixhauser Combined Comorbidity Score - calculated based on comorbidities observed during a requester-defined window around the exposure episode start date (e.g., in the 183 days prior to index).

Code Days - the minimum number of times the diagnosis must be found during the evaluation period in order to fulfill the algorithm to identify the corresponding patient characteristic.

Cohort Definition (drug/exposure) - indicates how the cohort will be defined: 01: Cohort includes only the first valid treatment episode during the query period; 02: Cohort includes all valid treatment episodes during the query period; 03: Cohort includes all valid treatment episodes during the query period until an event occurs.

Computed Start Marketing Date - represents the first observed dispensing date among all valid users within a GROUP (scenario) within each Data Partner site.

Days Supplied - number of days supplied for all dispensings in qualifying treatment episodes.

Eligible Members - number of members eligible for an incident treatment episode (defined by the drug/exposure and event washout periods) with drug and medical coverage during the query period.

Enrollment Gap - number of days allowed between two consecutive enrollment periods without breaking a "continuously enrolled" sequence.

Episodes - treatment episodes; length of episode is determined by days supplied in one dispensing or consecutive dispensings bridged by the episode gap.

Episode Gap - number of days allowed between two (or more) consecutive exposures (dispensings/procedures) to be considered the same treatment episode.

Event Deduplication - specifies how events are counted by the Modular Program (MP) algorithm: 0: Counts all occurrences of a health outcome of interest (HOI) during an exposure episode; 1: de-duplicates occurrences of the same HOI code and code type on the same day; 2: de-duplicates occurrences of the same HOI group on the same day (e.g., de-duplicates at the group level).

Exposure Episode Length - number of days after exposure initiation that is considered "exposed time."

Exposure Extension Period - number of days post treatment period in which the outcomes/events are counted for a treatment episode. Extensions are added after any episode gaps have been bridged.

Lookback Period - number of days wherein a member is required to have evidence of pre-existing condition (diagnosis/procedure/drug dispensing).

Maximum Episode Duration - truncates exposure episodes after a requester-specified number of exposed days. Applied after any gaps are bridged and extension days added to the length of the exposure episode.

Member-Years - sum of all days of enrollment with medical and drug coverage in the query period preceded by an exposure washout period all divided by 365.25.

Minimum Days Supplied - specifies a minimum number of days in length of the days supplied for the episode to be considered.

Minimum Episode Duration - specifies a minimum number of days in length of the episode for it to be considered. Applied after any gaps are bridged and extension days added to the length of the exposure episode.

Monitoring Period - used to define time periods of interest for both sequential analysis and simple cohort characterization requests.

Principal Diagnosis (PDX) - diagnosis or condition established to be chiefly responsible for admission of the patient to the hospital. 'P' = principal diagnosis, 'S' = secondary diagnosis, 'X' = unspecified diagnosis, '.' = blank. Along with the Care Setting values, forms the Caresetting/PDX parameter.

Query Period - period in which the modular program looks for exposures and outcomes of interest.

Switch Evaluation Step Value - value used to differentiate evaluation step. Each switch pattern can support up to 2 evaluation steps (0 = switch pattern evaluation start; 1 = first evaluation; 2 = second evaluation).

Switch Gap Inclusion Indicator - indicator for whether gaps in treatment episodes that are included in a switch episode will be counted as part of the switch episode duration.

Switch Pattern Cohort Inclusion Date - indicates which date to use for inclusion into the switch pattern cohort of interest as well as optionally as the index date of the treatment episode initiating the switch pattern. Valid options are the product approval date, product marketing date, other requester defined date, or computed start marketing date.

Switch Pattern Cohort Inclusion Strategy - indicates how the switch pattern cohort inclusion date will be used: 01: used only as a switch cohort entry date. First treatment episode dispensing date is used as index for computing time to first switch; 02: used as switch cohort entry date and as initial switch step index date for computing time to first switch.

Treatment Episode Truncation Indicator - indicates whether the exposure episode will be truncated at the occurrence of a requester-specified code.

Washout Period (drug/exposure) - number of days a user is required to have no evidence of prior exposure (drug dispensing/procedure) and continuous drug and medical coverage prior to an incident treatment episode.

Washout Period (event/outcome) - number of days a user is required to have no evidence of a prior event (procedure/diagnosis) and continuous drug and medical coverage prior to an incident treatment episode.

Years at Risk - number of days supplied plus any episode gaps and exposure extension periods all divided by 365.25.

*all terms may not be used in this report

**Glossary of Terms for Analyses Using
Propensity Score Analysis (PSA) Module***

Covariate - requester defined binary variable to include in the propensity score estimation model (e.g., diabetes, heart failure, etc.) during requester-defined lookback period. Requester may also choose to add any of the following categorical, continuous, or count metrics to the propensity score estimation model:

1. Age (continuous)
2. Sex
3. Time period (i.e., monitoring period for sequential analyses)
4. Year of exposure
5. Comorbidity score
6. Medical utilization – number of inpatient stays
7. Medical utilization – number of institutional stays
8. Medical utilization – number of emergency department visits
9. Medical utilization – number of outpatient visits
10. Health care utilization – number of other ambulatory encounters (e.g., telemedicine, email consults)
11. Drug utilization – number of dispensings
12. Drug utilization – number of unique generics dispensed
13. Drug Utilization – number of unique drug classes dispensed

Covariate Evaluation Window - specified number of days relative to index date to evaluate the occurrence of covariates of interest. Note: members are required to have continuous enrollment during the covariate evaluation window, regardless of the value included in the "Continuous enrollment before exposure" field.

Individual Level Data Return - program may return individual-level, de-identified datasets to the Sentinel Operations Center (SOC). While the datasets contain a single row per patient for each specified analysis, patient identifiers such as a patient ID are not included in the output. Individual-level datasets are returned to the SOC, aggregated, and used to calculate effect estimates via Cox (proportional hazards) regression.

Mahalanobis Distance - provides a measure of balance across all variables while accounting for their correlation.

Matching Caliper - maximum allowed difference in propensity scores between treatment and control patients. Requester may select any caliper (e.g., 0.01, 0.025, and 0.05).

Matching Ratio - patients in exposed and comparator groups are nearest neighbor matched by a 1:1 or 1:n (up to 10) matching ratio.

Matched Conditional and Unconditional Analysis - in a conditional matched analysis, a Cox model, stratified by Data Partner site and matched set, is run on the matched population. This can be done for both the both 1:1 and 1:n matched cohorts. In an unconditional analysis, a Cox model, stratified by Data Partner site only, is run on the matched population. This can be done for the 1:1 matched cohort only.

Propensity Score Stratification - option to stratify propensity scores based on requester-defined percentiles in the unmatched population. In a stratified analysis, a Cox model, stratified by Data Partner site, is run on the stratified population. Note that all patients identified in exposure and comparator cohorts are used in the analysis.

PSM Tool - performs effect estimation by comparing exposure propensity-score matched parallel new user cohorts. Propensity score estimation and matching are conducted within each Sentinel Data Partner site via distributed programming code; data are returned to the SOC, aggregated, and used to calculate effect estimates.

Risk-set Level Data Return - alternative to the patient-level data return approach. In this approach, the PSM tool will produce de-identified, risk-set level datasets instead of or in addition to individual-level output. Whereas each observation in the patient-level datasets represents one patient in the cohort, each observation in the risk set dataset represents one event. Risk sets are created at the Data Partner site, returned to the SOC, aggregated, and used to calculate effect estimates via case-centered logistic regression.

Subgroup Analysis - may be conducted using any requester-defined covariates. Subgroup analyses may be performed in the unmatched and the matched population.

Zero Cell Correction - indicator for whether to screen variables with a zero correction added to each cell in the confounder/outcome 2x2 table. Recommended when the number of exposed outcomes is fewer than 150.

*all terms may not be used in this report

Table 1a. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	785	N/A	3,459,349	N/A	N/A	N/A
Pregnancies	813	100.0%	3,981,491	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.1	4.8	29.4	5.1	2.729	0.550
Age	Number	Percent	Number	Percent		
10-34 years	604	74.3%	3,330,869	83.7%	-9.366	-0.231
35-54 years	209	25.7%	650,622	16.3%	9.366	0.231
Sex						
Female	813	100.0%	3,981,491	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	43,883	1.1%	-0.856	-0.105
Asian	*****	*****	82,017	2.1%	-1.814	-0.171
Black or African American	27	3.3%	358,858	9.0%	-5.692	-0.238
Multi-racial	*****	*****	16,978	0.4%	0.681	0.078
Native Hawaiian or Other Pacific Islander	*****	*****	12,901	0.3%	-0.201	-0.043
Unknown	646	79.5%	2,755,584	69.2%	10.249	0.236
White	126	15.5%	711,270	17.9%	-2.366	-0.064
Hispanic origin						
Yes	*****	*****	347,742	8.7%	-7.627	-0.358
No	*****	*****	1,056,466	26.5%	-12.143	-0.304
Unknown	687	84.5%	2,577,283	64.7%	19.770	0.466
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1a. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	432	0.0%	NaN	NaN
2007	18	2.2%	60,061	1.5%	0.706	0.052
2008	23	2.8%	63,139	1.6%	1.243	0.085
2009	59	7.3%	180,038	4.5%	2.735	0.116
2010	52	6.4%	164,971	4.1%	2.253	0.101
2011	37	4.6%	151,689	3.8%	0.741	0.037
2012	50	6.2%	142,634	3.6%	2.568	0.120
2013	46	5.7%	147,426	3.7%	1.955	0.093
2014	41	5.0%	162,691	4.1%	0.957	0.046
2015	51	6.3%	222,478	5.6%	0.685	0.029
2016	75	9.2%	312,697	7.9%	1.371	0.049
2017	79	9.7%	530,183	13.3%	-3.599	-0.113
2018	67	8.2%	544,908	13.7%	-5.445	-0.175
2019	72	8.9%	519,760	13.1%	-4.198	-0.135
2020	76	9.3%	484,030	12.2%	-2.809	-0.091
2021	35	4.3%	172,033	4.3%	-0.016	-0.001
2022	32	3.9%	122,321	3.1%	0.864	0.047

Table 1a. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	72	8.9%	258,282	6.5%	2.369	0.089
Term (259-280 days)	301	37.0%	1,784,602	44.8%	-7.799	-0.159
Post-Term (281-301 days)	131	16.1%	830,013	20.8%	-4.734	-0.122
Unknown Term	309	38.0%	1,108,594	27.8%	10.164	0.218
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.8	1.5	-0.143	-0.092
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.2	0.0	0.1	-7.768	-0.494
Mean number of dispensings in first trimester	1.8	1.0	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	813	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.3	1.8	0.581	0.286
	Number	Percent	Number	Percent		
Anxiety Disorders	169	20.8%	264,173	6.6%	14.152	0.420
Depressive Disorders	196	24.1%	233,924	5.9%	18.233	0.528
All other psychiatric and neurological conditions	148	18.2%	270,713	6.8%	11.405	0.350
Psychotropic medications	400	49.2%	377,025	9.5%	39.731	0.970
Obesity	95	11.7%	249,042	6.3%	5.430	0.191
Renal disease	82	10.1%	417,171	10.5%	-0.392	-0.013
Alcohol use or dependence	*****	*****	24,238	0.6%	0.621	0.065
Diabetes	20	2.5%	55,826	1.4%	1.058	0.077
Drug abuse or dependence	44	5.4%	87,442	2.2%	3.216	0.169

Table 1a. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	126	15.5%	480,341	12.1%	3.434	0.100
Gestational Hypertension	103	12.7%	377,336	9.5%	3.192	0.102
Gestational Renal disease	*****	*****	35,099	0.9%	0.102	0.011
Hypertension	44	5.4%	102,694	2.6%	2.833	0.145
Smoking	113	13.9%	205,343	5.2%	8.742	0.301
Medical Product Use						
Antihypertensive medications	68	8.4%	93,152	2.3%	6.024	0.270
Opioids	103	12.7%	139,097	3.5%	9.176	0.342
Suspected teratogens	138	17.0%	406,066	10.2%	6.775	0.199
Antidiabetic medications	34	4.2%	69,654	1.7%	2.433	0.144
Buprenorphine	16	2.0%	13,490	0.3%	1.629	0.153
Insulin	14	1.7%	24,100	0.6%	1.117	0.104
Methadone	*****	*****	472	0.0%	0.111	0.043
Naloxone	0	0.0%	1,060	0.0%	NaN	NaN
Naltrexone	*****	*****	1,861	0.0%	0.445	0.086
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.1	2.1	3.7	2.267	0.450
Mean number of emergency room encounters	0.1	0.5	0.1	0.5	-0.009	-0.018
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.005	-0.033
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.0	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	0.6	2.4	0.228	0.090

Table 1a. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.3	6.1	1.9	3.1	5.450	1.119
Mean number of generics dispensed	4.2	3.1	1.3	2.0	2.850	1.082
Mean number of unique drug classes dispensed	4.1	2.9	1.3	1.9	2.758	1.136

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1b. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	785	N/A	813	N/A	N/A	N/A
Pregnancies	813	100.0%	813	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.1	4.8	32.4	4.8	-0.250	-0.052
Age	Number	Percent	Number	Percent		
10-34 years	604	74.3%	580	71.3%	2.952	0.066
35-54 years	209	25.7%	233	28.7%	-2.952	-0.066
Sex						
Female	813	100.0%	813	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.123	0.029
Asian	*****	*****	*****	*****	0.000	0.000
Black or African American	27	3.3%	32	3.9%	-0.615	-0.033
Multi-racial	*****	*****	11	1.4%	-0.246	-0.022
Native Hawaiian or Other Pacific Islander	*****	*****	*****	*****	0.000	0.000
Unknown	646	79.5%	641	78.8%	0.615	0.015
White	126	15.5%	125	15.4%	0.123	0.003
Hispanic origin						
Yes	*****	*****	16	2.0%	-0.861	-0.070
No	*****	*****	122	15.0%	-0.615	-0.017
Unknown	687	84.5%	675	83.0%	1.476	0.040
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1b. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	18	2.2%	17	2.1%	0.123	0.008
2008	23	2.8%	35	4.3%	-1.476	-0.080
2009	59	7.3%	74	9.1%	-1.845	-0.067
2010	52	6.4%	47	5.8%	0.615	0.026
2011	37	4.6%	40	4.9%	-0.369	-0.017
2012	50	6.2%	47	5.8%	0.369	0.016
2013	46	5.7%	44	5.4%	0.246	0.011
2014	41	5.0%	40	4.9%	0.123	0.006
2015	51	6.3%	42	5.2%	1.107	0.048
2016	75	9.2%	74	9.1%	0.123	0.004
2017	79	9.7%	77	9.5%	0.246	0.008
2018	67	8.2%	68	8.4%	-0.123	-0.004
2019	72	8.9%	67	8.2%	0.615	0.022
2020	76	9.3%	67	8.2%	1.107	0.039
2021	35	4.3%	38	4.7%	-0.369	-0.018
2022	32	3.9%	36	4.4%	-0.492	-0.025

Table 1b. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	72	8.9%	73	9.0%	-0.123	-0.004
Term (259-280 days)	301	37.0%	281	34.6%	2.460	0.051
Post-Term (281-301 days)	131	16.1%	131	16.1%	0.000	0.000
Unknown Term	309	38.0%	328	40.3%	-2.337	-0.048
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.6	1.5	-0.010	-0.006
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.2	0.0	NaN	NaN	NaN
Mean number of dispensings in first trimester	1.8	1.0	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	813	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.9	2.4	-0.006	-0.003
	Number	Percent	Number	Percent		
Anxiety Disorders	169	20.8%	161	19.8%	0.984	0.024
Depressive Disorders	196	24.1%	188	23.1%	0.984	0.023
All other psychiatric and neurological conditions	148	18.2%	145	17.8%	0.369	0.010
Psychotropic medications	400	49.2%	407	50.1%	-0.861	-0.017
Obesity	95	11.7%	83	10.2%	1.476	0.047
Renal disease	82	10.1%	77	9.5%	0.615	0.021
Alcohol use or dependence	*****	*****	*****	*****	0.246	0.024
Diabetes	20	2.5%	17	2.1%	0.369	0.025
Drug abuse or dependence	44	5.4%	38	4.7%	0.738	0.034
Gestational Diabetes	126	15.5%	121	14.9%	0.615	0.017

Table 1b. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	103	12.7%	105	12.9%	-0.246	-0.007
Gestational Renal disease	*****	*****	12	1.5%	-0.492	-0.045
Hypertension	44	5.4%	42	5.2%	0.246	0.011
Smoking	113	13.9%	115	14.1%	-0.246	-0.007
Medical Product Use						
Antihypertensive medications	68	8.4%	62	7.6%	0.738	0.027
Opioids	103	12.7%	99	12.2%	0.492	0.015
Suspected teratogens	138	17.0%	131	16.1%	0.861	0.023
Antidiabetic medications	34	4.2%	29	3.6%	0.615	0.032
Buprenorphine	16	2.0%	14	1.7%	0.246	0.018
Insulin	14	1.7%	11	1.4%	0.369	0.030
Methadone	*****	*****	*****	*****	0.000	0.000
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.246	0.041
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.1	3.6	5.0	0.834	0.149
Mean number of emergency room encounters	0.1	0.5	0.2	0.8	-0.036	-0.054
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.2	-0.012	-0.077
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.0	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	0.7	1.9	0.164	0.070

Table 1b. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.3	6.1	4.4	5.9	2.907	0.484
Mean number of generics dispensed	4.2	3.1	2.7	3.1	1.480	0.477
Mean number of unique drug classes dispensed	4.1	2.9	2.6	2.9	1.442	0.503

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1c. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	586	N/A	580	N/A	N/A	N/A
Pregnancies	604	100.0%	580	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	30.0	3.3	30.0	3.4	0.004	0.001
Age	Number	Percent	Number	Percent		
10-34 years	604	100.0%	580	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	604	100.0%	580	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.007	-0.002
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	*****	*****	-0.496	-0.026
Multi-racial	*****	*****	*****	*****	-0.200	-0.023
Native Hawaiian or Other Pacific Islander	*****	*****	*****	*****	-0.007	-0.002
Unknown	483	80.0%	452	77.9%	2.036	0.050
White	93	15.4%	96	16.6%	-1.154	-0.032
Hispanic origin						
Yes	*****	*****	14	2.4%	-1.089	-0.080
No	*****	*****	95	16.4%	-1.810	-0.050
Unknown	508	84.1%	471	81.2%	2.899	0.077
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1c. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	16	2.6%	12	2.1%	0.580	0.038
2008	16	2.6%	21	3.6%	-0.972	-0.056
2009	46	7.6%	60	10.3%	-2.729	-0.096
2010	40	6.6%	30	5.2%	1.450	0.062
2011	26	4.3%	27	4.7%	-0.351	-0.017
2012	41	6.8%	32	5.5%	1.271	0.053
2013	31	5.1%	34	5.9%	-0.730	-0.032
2014	30	5.0%	28	4.8%	0.139	0.006
2015	37	6.1%	32	5.5%	0.609	0.026
2016	52	8.6%	58	10.0%	-1.391	-0.048
2017	59	9.8%	58	10.0%	-0.232	-0.008
2018	49	8.1%	43	7.4%	0.699	0.026
2019	58	9.6%	50	8.6%	0.982	0.034
2020	54	8.9%	48	8.3%	0.665	0.024
2021	23	3.8%	21	3.6%	0.187	0.010
2022	26	4.3%	26	4.5%	-0.178	-0.009

Table 1c. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	49	8.1%	51	8.8%	-0.681	-0.024
Term (259-280 days)	221	36.6%	194	33.4%	3.141	0.066
Post-Term (281-301 days)	102	16.9%	103	17.8%	-0.871	-0.023
Unknown Term	232	38.4%	232	40.0%	-1.589	-0.033
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.6	39.7	1.5	-0.027	-0.017
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-8.3	24.0	0.0	NaN	NaN	NaN
Mean number of dispensings in first trimester	1.8	1.0	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	604	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.4	1.8	1.4	2.0	-0.012	-0.006
	Number	Percent	Number	Percent		
Anxiety Disorders	115	19.0%	112	19.3%	-0.271	-0.007
Depressive Disorders	132	21.9%	129	22.2%	-0.387	-0.009
All other psychiatric and neurological conditions	112	18.5%	107	18.4%	0.095	0.002
Psychotropic medications	273	45.2%	272	46.9%	-1.698	-0.034
Obesity	65	10.8%	56	9.7%	1.106	0.037
Renal disease	62	10.3%	60	10.3%	-0.080	-0.003
Alcohol use or dependence	*****	*****	*****	*****	-0.048	-0.004
Diabetes	12	2.0%	*****	*****	0.263	0.019
Drug abuse or dependence	38	6.3%	31	5.3%	0.947	0.040
Gestational Diabetes	75	12.4%	77	13.3%	-0.859	-0.026

Table 1c. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	68	11.3%	77	13.3%	-2.018	-0.062
Gestational Renal disease	*****	*****	*****	*****	-0.214	-0.020
Hypertension	26	4.3%	26	4.5%	-0.178	-0.009
Smoking	77	12.7%	84	14.5%	-1.734	-0.051
Medical Product Use						
Antihypertensive medications	46	7.6%	45	7.8%	-0.143	-0.005
Opioids	71	11.8%	72	12.4%	-0.659	-0.020
Suspected teratogens	84	13.9%	79	13.6%	0.287	0.008
Antidiabetic medications	19	3.1%	21	3.6%	-0.475	-0.026
Buprenorphine	14	2.3%	12	2.1%	0.249	0.017
Insulin	*****	*****	*****	*****	-0.220	-0.020
Methadone	0	0.0%	*****	*****	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.490	0.076
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.5	3.4	5.0	1.006	0.173
Mean number of emergency room encounters	0.1	0.5	0.2	0.9	-0.071	-0.097
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.2	-0.016	-0.093
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.9	0.6	1.7	0.153	0.065

Table 1c. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.8	5.7	4.1	5.7	2.718	0.478
Mean number of generics dispensed	4.0	3.0	2.6	3.0	1.448	0.479
Mean number of unique drug classes dispensed	3.9	2.8	2.5	2.8	1.419	0.508

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1d. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	456	N/A	469	N/A	N/A	N/A
Pregnancies	469	100.0%	469	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	30.2	3.3	30.2	3.2	-0.019	-0.006
Age	Number	Percent	Number	Percent		
10-34 years	469	100.0%	469	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	469	100.0%	469	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.000	0.000
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	19	4.1%	-0.853	-0.046
Multi-racial	*****	*****	*****	*****	0.213	0.038
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	387	82.5%	389	82.9%	-0.426	-0.011
White	63	13.4%	59	12.6%	0.853	0.025
Hispanic origin						
Yes	*****	*****	*****	*****	-0.426	-0.038
No	*****	*****	*****	*****	0.426	0.013
Unknown	400	85.3%	400	85.3%	0.000	0.000
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1d. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	11	2.3%	11	2.3%	0.000	0.000
2008	16	3.4%	19	4.1%	-0.640	-0.034
2009	42	9.0%	47	10.0%	-1.066	-0.036
2010	26	5.5%	25	5.3%	0.213	0.009
2011	22	4.7%	21	4.5%	0.213	0.010
2012	31	6.6%	28	6.0%	0.640	0.026
2013	26	5.5%	27	5.8%	-0.213	-0.009
2014	27	5.8%	28	6.0%	-0.213	-0.009
2015	28	6.0%	30	6.4%	-0.426	-0.018
2016	43	9.2%	41	8.7%	0.426	0.015
2017	47	10.0%	46	9.8%	0.213	0.007
2018	39	8.3%	36	7.7%	0.640	0.024
2019	43	9.2%	35	7.5%	1.706	0.062
2020	36	7.7%	38	8.1%	-0.426	-0.016
2021	14	3.0%	14	3.0%	0.000	0.000
2022	18	3.8%	23	4.9%	-1.066	-0.052

Table 1d. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	38	8.1%	39	8.3%	-0.213	-0.008
Term (259-280 days)	162	34.5%	147	31.3%	3.198	0.068
Post-Term (281-301 days)	78	16.6%	86	18.3%	-1.706	-0.045
Unknown Term	191	40.7%	197	42.0%	-1.279	-0.026
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.5	39.7	1.5	-0.070	-0.046
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-8.4	25.2	0.0	NaN	NaN	NaN
Mean number of dispensings in first trimester	1.8	1.0	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	469	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.3	1.8	1.3	1.9	0.011	0.006
	Number	Percent	Number	Percent		
Anxiety Disorders	88	18.8%	84	17.9%	0.853	0.022
Depressive Disorders	100	21.3%	97	20.7%	0.640	0.016
All other psychiatric and neurological conditions	76	16.2%	77	16.4%	-0.213	-0.006
Psychotropic medications	205	43.7%	201	42.9%	0.853	0.017
Obesity	35	7.5%	42	9.0%	-1.493	-0.054
Renal disease	44	9.4%	44	9.4%	0.000	0.000
Alcohol use or dependence	*****	*****	*****	*****	-0.213	-0.025
Diabetes	*****	*****	*****	*****	-0.213	-0.020
Drug abuse or dependence	22	4.7%	23	4.9%	-0.213	-0.010
Gestational Diabetes	48	10.2%	50	10.7%	-0.426	-0.014

Table 1d. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	54	11.5%	51	10.9%	0.640	0.020
Gestational Renal disease	*****	*****	*****	*****	0.213	0.022
Hypertension	20	4.3%	21	4.5%	-0.213	-0.010
Smoking	53	11.3%	61	13.0%	-1.706	-0.052
Medical Product Use						
Antihypertensive medications	29	6.2%	34	7.2%	-1.066	-0.043
Opioids	53	11.3%	55	11.7%	-0.426	-0.013
Suspected teratogens	61	13.0%	59	12.6%	0.426	0.013
Antidiabetic medications	13	2.8%	12	2.6%	0.213	0.013
Buprenorphine	*****	*****	*****	*****	0.426	0.031
Insulin	*****	*****	*****	*****	-0.213	-0.025
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.000	0.000
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.1	5.6	3.2	4.9	0.953	0.181
Mean number of emergency room encounters	0.1	0.4	0.2	1.0	-0.092	-0.119
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.2	-0.021	-0.140
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of other ambulatory encounters	0.8	3.2	0.6	1.8	0.141	0.055

Table 1d. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.6	5.5	3.8	5.5	2.834	0.513
Mean number of generics dispensed	3.9	2.9	2.3	2.9	1.546	0.533
Mean number of unique drug classes dispensed	3.8	2.7	2.3	2.7	1.510	0.557

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1e. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	204	N/A	233	N/A	N/A	N/A
Pregnancies	209	100.0%	233	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.2	2.8	38.3	2.6	-0.037	-0.014
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	209	100.0%	233	100.0%	0.000	NaN
Sex						
Female	209	100.0%	233	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	0	0.0%	NaN	NaN
Asian	*****	*****	*****	*****	0.528	0.064
Black or African American	*****	*****	*****	*****	-1.041	-0.062
Multi-racial	*****	*****	*****	*****	-0.183	-0.012
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	163	78.0%	189	81.1%	-3.125	-0.078
White	33	15.8%	29	12.4%	3.343	0.096
Hispanic origin						
Yes	*****	*****	*****	*****	-0.380	-0.047
No	*****	*****	*****	*****	2.288	0.069
Unknown	179	85.6%	204	87.6%	-1.908	-0.056
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1e. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	-1.189	-0.096
2008	*****	*****	14	6.0%	-2.659	-0.126
2009	13	6.2%	14	6.0%	0.212	0.009
2010	12	5.7%	17	7.3%	-1.555	-0.063
2011	11	5.3%	13	5.6%	-0.316	-0.014
2012	*****	*****	15	6.4%	-2.132	-0.095
2013	15	7.2%	*****	*****	2.885	0.124
2014	11	5.3%	12	5.2%	0.113	0.005
2015	14	6.7%	*****	*****	2.407	0.106
2016	23	11.0%	16	6.9%	4.138	0.145
2017	20	9.6%	19	8.2%	1.415	0.050
2018	18	8.6%	25	10.7%	-2.117	-0.072
2019	14	6.7%	17	7.3%	-0.598	-0.023
2020	22	10.5%	19	8.2%	2.372	0.082
2021	12	5.7%	17	7.3%	-1.555	-0.063
2022	*****	*****	*****	*****	-1.421	-0.077

Table 1e. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	23	11.0%	22	9.4%	1.563	0.052
Term (259-280 days)	80	38.3%	87	37.3%	0.938	0.019
Post-Term (281-301 days)	29	13.9%	28	12.0%	1.858	0.055
Unknown Term	77	36.8%	96	41.2%	-4.360	-0.089
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.5	39.5	1.5	0.020	0.013
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-6.2	15.7	0.0	NaN	NaN	NaN
Mean number of dispensings in first trimester	1.9	1.0	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	209	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	3.4	2.5	3.2	2.7	0.220	0.085
	Number	Percent	Number	Percent		
Anxiety Disorders	54	25.8%	49	21.0%	4.807	0.114
Depressive Disorders	64	30.6%	59	25.3%	5.300	0.118
All other psychiatric and neurological conditions	36	17.2%	38	16.3%	0.916	0.025
Psychotropic medications	127	60.8%	135	57.9%	2.826	0.058
Obesity	30	14.4%	27	11.6%	2.766	0.082
Renal disease	20	9.6%	17	7.3%	2.273	0.082
Alcohol use or dependence	*****	*****	*****	*****	1.006	0.105
Diabetes	*****	*****	*****	*****	0.823	0.045
Drug abuse or dependence	*****	*****	*****	*****	-0.133	-0.008
Gestational Diabetes	51	24.4%	44	18.9%	5.518	0.134

Table 1e. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	35	16.7%	28	12.0%	4.729	0.135
Gestational Renal disease	*****	*****	*****	*****	-1.189	-0.096
Hypertension	18	8.6%	16	6.9%	1.745	0.065
Smoking	36	17.2%	31	13.3%	3.920	0.109
Medical Product Use						
Antihypertensive medications	22	10.5%	17	7.3%	3.230	0.114
Opioids	32	15.3%	27	11.6%	3.723	0.109
Suspected teratogens	54	25.8%	52	22.3%	3.520	0.082
Antidiabetic medications	15	7.2%	*****	*****	3.744	0.168
Buprenorphine	*****	*****	*****	*****	0.099	0.010
Insulin	*****	*****	*****	*****	2.062	0.137
Methadone	*****	*****	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	*****	*****	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.5	4.6	4.1	5.2	0.422	0.086
Mean number of emergency room encounters	0.1	0.5	0.1	0.4	0.054	0.130
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.003	-0.023
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.9	2.1	0.7	2.3	0.209	0.094

Table 1e. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.8	7.0	5.2	6.2	3.575	0.540
Mean number of generics dispensed	4.8	3.3	3.1	3.2	1.637	0.506
Mean number of unique drug classes dispensed	4.6	3.0	3.0	3.0	1.571	0.525

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1f. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	113	N/A	116	N/A	N/A	N/A
Pregnancies	116	100.0%	116	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.3	2.5	38.4	2.9	-0.182	-0.067
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	116	100.0%	116	100.0%	0.000	NaN
Sex						
Female	116	100.0%	116	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	0	0.0%	0	0.0%	NaN	NaN
Asian	*****	*****	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	0.000	0.000
Multi-racial	*****	*****	*****	*****	0.000	0.000
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	104	89.7%	103	88.8%	0.862	0.028
White	*****	*****	*****	*****	-1.724	-0.064
Hispanic origin						
Yes	0	0.0%	0	0.0%	NaN	NaN
No	*****	*****	*****	*****	0.000	0.000
Unknown	*****	*****	*****	*****	0.000	0.000
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1f. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.862	0.076
2008	*****	*****	*****	*****	0.000	0.000
2009	*****	*****	*****	*****	0.000	0.000
2010	*****	*****	12	10.3%	-3.448	-0.123
2011	*****	*****	*****	*****	-1.724	-0.072
2012	*****	*****	*****	*****	2.586	0.113
2013	*****	*****	*****	*****	0.000	0.000
2014	*****	*****	*****	*****	0.862	0.037
2015	*****	*****	*****	*****	0.000	0.000
2016	*****	*****	*****	*****	0.000	0.000
2017	*****	*****	*****	*****	-0.862	-0.037
2018	16	13.8%	16	13.8%	0.000	0.000
2019	*****	*****	*****	*****	1.724	0.095
2020	*****	*****	*****	*****	0.000	0.000
2021	*****	*****	*****	*****	0.000	0.000
2022	*****	*****	*****	*****	0.000	0.000

Table 1f. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	*****	*****	11	9.5%	-0.862	-0.030
Term (259-280 days)	39	33.6%	35	30.2%	3.448	0.074
Post-Term (281-301 days)	19	16.4%	15	12.9%	3.448	0.098
Unknown Term	48	41.4%	55	47.4%	-6.034	-0.122
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.4	39.6	1.5	0.172	0.117
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-4.6	14.1	0.0	NaN	NaN	NaN
Mean number of dispensings in first trimester	1.8	0.9	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	116	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	3.3	2.5	3.1	2.5	0.267	0.108
	Number	Percent	Number	Percent		
Anxiety Disorders	26	22.4%	25	21.6%	0.862	0.021
Depressive Disorders	27	23.3%	32	27.6%	-4.310	-0.099
All other psychiatric and neurological conditions	16	13.8%	17	14.7%	-0.862	-0.025
Psychotropic medications	59	50.9%	63	54.3%	-3.448	-0.069
Obesity	12	10.3%	*****	*****	2.586	0.090
Renal disease	11	9.5%	15	12.9%	-3.448	-0.109
Alcohol use or dependence	0	0.0%	0	0.0%	NaN	NaN
Diabetes	*****	*****	*****	*****	0.862	0.076
Drug abuse or dependence	*****	*****	*****	*****	0.862	0.076
Gestational Diabetes	24	20.7%	18	15.5%	5.172	0.135

Table 1f. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	15	12.9%	17	14.7%	-1.724	-0.050
Gestational Renal disease	*****	*****	*****	*****	-0.862	-0.076
Hypertension	*****	*****	*****	*****	0.862	0.041
Smoking	18	15.5%	18	15.5%	0.000	0.000
Medical Product Use						
Antihypertensive medications	*****	*****	*****	*****	0.000	0.000
Opioids	11	9.5%	13	11.2%	-1.724	-0.057
Suspected teratogens	23	19.8%	24	20.7%	-0.862	-0.021
Antidiabetic medications	*****	*****	*****	*****	1.724	0.085
Buprenorphine	0	0.0%	0	0.0%	NaN	NaN
Insulin	*****	*****	*****	*****	0.862	0.076
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.1	3.9	4.2	4.5	-0.078	-0.018
Mean number of emergency room encounters	0.1	0.5	0.1	0.4	0.017	0.039
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.009	0.077
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.7	1.2	0.6	1.1	0.129	0.116

Table 1f. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.5	6.2	5.0	6.4	2.440	0.388
Mean number of generics dispensed	4.3	3.2	3.1	3.6	1.164	0.346
Mean number of unique drug classes dispensed	4.1	2.8	3.0	3.3	1.112	0.364

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1g. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	785	N/A	5,402	N/A	N/A	N/A
Pregnancies	813	100.0%	5,630	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.1	4.8	28.8	5.9	3.313	0.618
Age	Number	Percent	Number	Percent		
10-34 years	604	74.3%	4,626	82.2%	-7.874	-0.192
35-54 years	209	25.7%	1,004	17.8%	7.874	0.192
Sex						
Female	813	100.0%	5,630	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	45	0.8%	-0.553	-0.077
Asian	*****	*****	*****	*****	-0.020	-0.004
Black or African American	27	3.3%	245	4.4%	-1.031	-0.054
Multi-racial	*****	*****	29	0.5%	0.592	0.066
Native Hawaiian or Other Pacific Islander	*****	*****	*****	*****	0.034	0.011
Unknown	646	79.5%	3,527	62.6%	16.812	0.377
White	126	15.5%	1,764	31.3%	-15.834	-0.381
Hispanic origin						
Yes	*****	*****	183	3.3%	-2.143	-0.147
No	*****	*****	1,850	32.9%	-18.469	-0.445
Unknown	687	84.5%	3,597	63.9%	20.612	0.485
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1g. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	18	2.2%	65	1.2%	1.059	0.082
2008	23	2.8%	93	1.7%	1.177	0.080
2009	59	7.3%	179	3.2%	4.078	0.184
2010	52	6.4%	201	3.6%	2.826	0.130
2011	37	4.6%	173	3.1%	1.478	0.077
2012	50	6.2%	182	3.2%	2.917	0.138
2013	46	5.7%	225	4.0%	1.662	0.078
2014	41	5.0%	218	3.9%	1.171	0.057
2015	51	6.3%	325	5.8%	0.500	0.021
2016	75	9.2%	483	8.6%	0.646	0.023
2017	79	9.7%	818	14.5%	-4.812	-0.148
2018	67	8.2%	718	12.8%	-4.512	-0.148
2019	72	8.9%	712	12.6%	-3.790	-0.123
2020	76	9.3%	702	12.5%	-3.121	-0.100
2021	35	4.3%	291	5.2%	-0.864	-0.041
2022	32	3.9%	245	4.4%	-0.416	-0.021

Table 1g. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	72	8.9%	413	7.3%	1.520	0.056
Term (259-280 days)	301	37.0%	2,602	46.2%	-9.193	-0.187
Post-Term (281-301 days)	131	16.1%	1,164	20.7%	-4.562	-0.118
Unknown Term	309	38.0%	1,451	25.8%	12.235	0.265
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.7	1.6	-0.090	-0.058
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.2	-16.7	43.0	8.980	0.262
Mean number of dispensings in first trimester	1.8	1.0	2.1	1.2	-0.297	-0.265
	Number	Percent	Number	Percent		
Exposed during first trimester	813	100.0%	5,630	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.7	2.1	0.233	0.109
	Number	Percent	Number	Percent		
Anxiety Disorders	169	20.8%	1,663	29.5%	-8.751	-0.203
Depressive Disorders	196	24.1%	1,665	29.6%	-5.465	-0.124
All other psychiatric and neurological conditions	148	18.2%	3,692	65.6%	-47.373	-1.095
Psychotropic medications	400	49.2%	2,982	53.0%	-3.766	-0.075
Obesity	95	11.7%	411	7.3%	4.385	0.150
Renal disease	82	10.1%	655	11.6%	-1.548	-0.050
Alcohol use or dependence	*****	*****	119	2.1%	-0.884	-0.069
Diabetes	20	2.5%	77	1.4%	1.092	0.080
Drug abuse or dependence	44	5.4%	427	7.6%	-2.172	-0.088

Table 1g. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	126	15.5%	632	11.2%	4.273	0.126
Gestational Hypertension	103	12.7%	699	12.4%	0.253	0.008
Gestational Renal disease	*****	*****	66	1.2%	-0.188	-0.018
Hypertension	44	5.4%	202	3.6%	1.824	0.088
Smoking	113	13.9%	902	16.0%	-2.122	-0.060
Number of dispensings in first trimester (0,90)						
One dispensing	403	49.6%	2,276	40.4%	9.143	0.185
Two or more dispensings	410	50.4%	3,354	59.6%	-9.143	-0.185
Medical Product Use						
Antihypertensive medications	68	8.4%	423	7.5%	0.851	0.031
Opioids	103	12.7%	463	8.2%	4.445	0.146
Suspected teratogens	138	17.0%	771	13.7%	3.280	0.091
Antidiabetic medications	34	4.2%	133	2.4%	1.820	0.102
Buprenorphine	16	2.0%	131	2.3%	-0.359	-0.025
Insulin	14	1.7%	30	0.5%	1.189	0.113
Methadone	*****	*****	*****	*****	0.016	0.005
Naloxone	0	0.0%	*****	*****	NaN	NaN
Naltrexone	*****	*****	26	0.5%	0.030	0.004
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.1	4.7	6.0	-0.290	-0.048
Mean number of emergency room encounters	0.1	0.5	0.2	0.6	-0.075	-0.141
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.3	-0.009	-0.043
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	1.3	4.7	-0.529	-0.138

Table 1g. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.3	6.1	7.3	6.0	0.009	0.001
Mean number of generics dispensed	4.2	3.1	3.9	2.9	0.270	0.089
Mean number of unique drug classes dispensed	4.1	2.9	3.8	2.7	0.244	0.087

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1h. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	770	N/A	787	N/A	N/A	N/A
Pregnancies	798	100.0%	798	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.0	4.7	32.0	5.2	-0.023	-0.005
Age	Number	Percent	Number	Percent		
10-34 years	602	75.4%	573	71.8%	3.634	0.083
35-54 years	196	24.6%	225	28.2%	-3.634	-0.083
Sex						
Female	798	100.0%	798	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.376	-0.057
Asian	*****	*****	*****	*****	-0.125	-0.022
Black or African American	27	3.4%	23	2.9%	0.501	0.029
Multi-racial	*****	*****	*****	*****	-0.125	-0.012
Native Hawaiian or Other Pacific Islander	*****	*****	*****	*****	0.000	0.000
Unknown	634	79.4%	637	79.8%	-0.376	-0.009
White	123	15.4%	119	14.9%	0.501	0.014
Hispanic origin						
Yes	*****	*****	12	1.5%	-0.376	-0.033
No	*****	*****	115	14.4%	0.000	0.000
Unknown	674	84.5%	671	84.1%	0.376	0.010
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1h. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	18	2.3%	18	2.3%	0.000	0.000
2008	23	2.9%	17	2.1%	0.752	0.048
2009	58	7.3%	63	7.9%	-0.627	-0.024
2010	50	6.3%	55	6.9%	-0.627	-0.025
2011	36	4.5%	41	5.1%	-0.627	-0.029
2012	48	6.0%	55	6.9%	-0.877	-0.036
2013	46	5.8%	43	5.4%	0.376	0.016
2014	41	5.1%	35	4.4%	0.752	0.035
2015	49	6.1%	56	7.0%	-0.877	-0.035
2016	72	9.0%	63	7.9%	1.128	0.041
2017	78	9.8%	83	10.4%	-0.627	-0.021
2018	67	8.4%	68	8.5%	-0.125	-0.005
2019	72	9.0%	70	8.8%	0.251	0.009
2020	74	9.3%	70	8.8%	0.501	0.017
2021	35	4.4%	33	4.1%	0.251	0.012
2022	31	3.9%	28	3.5%	0.376	0.020

Table 1h. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	71	8.9%	69	8.6%	0.251	0.009
Term (259-280 days)	295	37.0%	287	36.0%	1.003	0.021
Post-Term (281-301 days)	128	16.0%	125	15.7%	0.376	0.010
Unknown Term	304	38.1%	317	39.7%	-1.629	-0.033
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.7	1.7	-0.040	-0.024
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.4	-16.4	43.3	8.534	0.247
Mean number of dispensings in first trimester	1.8	1.0	2.0	1.1	-0.153	-0.144
	Number	Percent	Number	Percent		
Exposed during first trimester	798	100.0%	798	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.8	2.1	1.9	2.3	-0.081	-0.037
	Number	Percent	Number	Percent		
Anxiety Disorders	163	20.4%	158	19.8%	0.627	0.016
Depressive Disorders	192	24.1%	194	24.3%	-0.251	-0.006
All other psychiatric and neurological conditions	147	18.4%	149	18.7%	-0.251	-0.006
Psychotropic medications	388	48.6%	379	47.5%	1.128	0.023
Obesity	87	10.9%	90	11.3%	-0.376	-0.012
Renal disease	80	10.0%	77	9.6%	0.376	0.013
Alcohol use or dependence	*****	*****	*****	*****	0.125	0.012
Diabetes	17	2.1%	11	1.4%	0.752	0.057
Drug abuse or dependence	43	5.4%	41	5.1%	0.251	0.011

Table 1h. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	120	15.0%	131	16.4%	-1.378	-0.038
Gestational Hypertension	96	12.0%	102	12.8%	-0.752	-0.023
Gestational Renal disease	*****	*****	*****	*****	0.000	0.000
Hypertension	39	4.9%	36	4.5%	0.376	0.018
Smoking	109	13.7%	116	14.5%	-0.877	-0.025
Number of dispensings in first trimester (0,90)						
One dispensing	397	49.7%	357	44.7%	5.013	0.101
Two or more dispensings	401	50.3%	441	55.3%	-5.013	-0.101
Medical Product Use						
Antihypertensive medications	62	7.8%	60	7.5%	0.251	0.009
Opioids	96	12.0%	94	11.8%	0.251	0.008
Suspected teratogens	132	16.5%	139	17.4%	-0.877	-0.023
Antidiabetic medications	31	3.9%	28	3.5%	0.376	0.020
Buprenorphine	16	2.0%	18	2.3%	-0.251	-0.017
Insulin	11	1.4%	*****	*****	0.627	0.061
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.000	0.000
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.3	6.0	3.8	4.7	0.573	0.107
Mean number of emergency room encounters	0.1	0.4	0.1	0.5	0.004	0.008
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.003	0.032
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.0	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	0.6	2.0	0.170	0.072

Table 1h. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.2	5.9	7.1	5.6	0.104	0.018
Mean number of generics dispensed	4.1	3.0	3.9	3.0	0.226	0.076
Mean number of unique drug classes dispensed	4.0	2.8	3.8	2.8	0.232	0.084

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1i. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	584	N/A	566	N/A	N/A	N/A
Pregnancies	602	100.0%	573	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	30.0	3.3	29.7	3.9	0.338	0.092
Age	Number	Percent	Number	Percent		
10-34 years	602	100.0%	573	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	602	100.0%	573	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.532	-0.081
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	19	3.3%	0.339	0.018
Multi-racial	*****	*****	*****	*****	-0.557	-0.058
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	481	79.9%	457	79.8%	0.145	0.004
White	93	15.4%	84	14.7%	0.789	0.022
Hispanic origin						
Yes	*****	*****	*****	*****	-0.416	-0.034
No	*****	*****	*****	*****	0.133	0.004
Unknown	506	84.1%	480	83.8%	0.284	0.008
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1i. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	16	2.7%	*****	*****	0.040	0.002
2008	16	2.7%	*****	*****	1.087	0.076
2009	45	7.5%	46	8.0%	-0.553	-0.021
2010	40	6.6%	43	7.5%	-0.860	-0.034
2011	26	4.3%	31	5.4%	-1.091	-0.051
2012	41	6.8%	39	6.8%	0.004	0.000
2013	31	5.1%	31	5.4%	-0.261	-0.012
2014	30	5.0%	28	4.9%	0.097	0.004
2015	37	6.1%	49	8.6%	-2.405	-0.092
2016	52	8.6%	40	7.0%	1.657	0.062
2017	59	9.8%	63	11.0%	-1.194	-0.039
2018	49	8.1%	43	7.5%	0.635	0.024
2019	58	9.6%	49	8.6%	1.083	0.038
2020	53	8.8%	46	8.0%	0.776	0.028
2021	23	3.8%	23	4.0%	-0.193	-0.010
2022	26	4.3%	18	3.1%	1.178	0.062

Table 1i. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	49	8.1%	44	7.7%	0.461	0.017
Term (259-280 days)	220	36.5%	197	34.4%	2.164	0.045
Post-Term (281-301 days)	101	16.8%	95	16.6%	0.198	0.005
Unknown Term	232	38.5%	237	41.4%	-2.823	-0.058
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.6	39.8	1.6	-0.105	-0.067
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-8.3	24.0	-14.2	38.6	5.846	0.182
Mean number of dispensings in first trimester	1.8	1.0	1.9	1.1	-0.165	-0.159
	Number	Percent	Number	Percent		
Exposed during first trimester	602	100.0%	573	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.4	1.8	1.4	2.0	-0.048	-0.025
	Number	Percent	Number	Percent		
Anxiety Disorders	113	18.8%	108	18.8%	-0.077	-0.002
Depressive Disorders	131	21.8%	134	23.4%	-1.625	-0.039
All other psychiatric and neurological conditions	111	18.4%	114	19.9%	-1.457	-0.037
Psychotropic medications	271	45.0%	262	45.7%	-0.708	-0.014
Obesity	64	10.6%	62	10.8%	-0.189	-0.006
Renal disease	61	10.1%	54	9.4%	0.709	0.024
Alcohol use or dependence	*****	*****	*****	*****	-0.050	-0.005
Diabetes	12	2.0%	*****	*****	0.946	0.077
Drug abuse or dependence	37	6.1%	30	5.2%	0.911	0.039

Table 1i. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	74	12.3%	75	13.1%	-0.797	-0.024
Gestational Hypertension	67	11.1%	65	11.3%	-0.214	-0.007
Gestational Renal disease	*****	*****	*****	*****	0.124	0.013
Hypertension	26	4.3%	18	3.1%	1.178	0.062
Smoking	75	12.5%	78	13.6%	-1.154	-0.034
Number of dispensings in first trimester (0,90)						
One dispensing	312	51.8%	262	45.7%	6.103	0.122
Two or more dispensings	290	48.2%	311	54.3%	-6.103	-0.122
Medical Product Use						
Antihypertensive medications	45	7.5%	37	6.5%	1.018	0.040
Opioids	70	11.6%	69	12.0%	-0.414	-0.013
Suspected teratogens	83	13.8%	87	15.2%	-1.396	-0.040
Antidiabetic medications	19	3.2%	13	2.3%	0.887	0.055
Buprenorphine	14	2.3%	13	2.3%	0.057	0.004
Insulin	*****	*****	*****	*****	0.639	0.070
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	-0.025	-0.004
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.3	6.3	3.6	4.4	0.730	0.134
Mean number of emergency room encounters	0.1	0.4	0.2	0.5	-0.022	-0.047
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.001	0.018
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.0	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.9	0.6	2.1	0.134	0.053

Table 1i. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.8	5.6	6.9	5.6	-0.131	-0.024
Mean number of generics dispensed	4.0	2.9	3.7	2.8	0.220	0.077
Mean number of unique drug classes dispensed	3.8	2.7	3.6	2.7	0.228	0.085

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1j. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	444	N/A	451	N/A	N/A	N/A
Pregnancies	455	100.0%	455	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	29.8	3.4	29.9	3.7	-0.072	-0.020
Age	Number	Percent	Number	Percent		
10-34 years	455	100.0%	455	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	455	100.0%	455	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.000	0.000
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	0.220	0.012
Multi-racial	*****	*****	*****	*****	-0.220	-0.030
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	367	80.7%	370	81.3%	-0.659	-0.017
White	68	14.9%	65	14.3%	0.659	0.019
Hispanic origin						
Yes	*****	*****	*****	*****	-0.220	-0.020
No	*****	*****	*****	*****	0.440	0.013
Unknown	384	84.4%	385	84.6%	-0.220	-0.006
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1j. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	-0.220	-0.013
2008	*****	*****	*****	*****	0.000	0.000
2009	36	7.9%	36	7.9%	0.000	0.000
2010	33	7.3%	29	6.4%	0.879	0.035
2011	21	4.6%	25	5.5%	-0.879	-0.040
2012	31	6.8%	32	7.0%	-0.220	-0.009
2013	26	5.7%	25	5.5%	0.220	0.010
2014	23	5.1%	26	5.7%	-0.659	-0.029
2015	28	6.2%	36	7.9%	-1.758	-0.069
2016	35	7.7%	38	8.4%	-0.659	-0.024
2017	49	10.8%	46	10.1%	0.659	0.022
2018	34	7.5%	34	7.5%	0.000	0.000
2019	47	10.3%	39	8.6%	1.758	0.060
2020	33	7.3%	34	7.5%	-0.220	-0.008
2021	20	4.4%	17	3.7%	0.659	0.033
2022	18	4.0%	16	3.5%	0.440	0.023

Table 1j. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	37	8.1%	35	7.7%	0.440	0.016
Term (259-280 days)	167	36.7%	156	34.3%	2.418	0.051
Post-Term (281-301 days)	73	16.0%	77	16.9%	-0.879	-0.024
Unknown Term	178	39.1%	187	41.1%	-1.978	-0.040
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.8	1.5	-0.143	-0.094
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.0	19.7	-15.1	41.4	8.042	0.248
Mean number of dispensings in first trimester	1.7	1.0	1.9	1.1	-0.189	-0.185
	Number	Percent	Number	Percent		
Exposed during first trimester	455	100.0%	455	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.4	1.8	1.3	1.9	0.024	0.013
	Number	Percent	Number	Percent		
Anxiety Disorders	81	17.8%	86	18.9%	-1.099	-0.028
Depressive Disorders	97	21.3%	99	21.8%	-0.440	-0.011
All other psychiatric and neurological conditions	78	17.1%	82	18.0%	-0.879	-0.023
Psychotropic medications	202	44.4%	199	43.7%	0.659	0.013
Obesity	48	10.5%	43	9.5%	1.099	0.037
Renal disease	37	8.1%	42	9.2%	-1.099	-0.039
Alcohol use or dependence	*****	*****	*****	*****	0.220	0.030
Diabetes	*****	*****	*****	*****	0.000	0.000
Drug abuse or dependence	26	5.7%	23	5.1%	0.659	0.029

Table 1j. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	52	11.4%	46	10.1%	1.319	0.043
Gestational Hypertension	51	11.2%	53	11.6%	-0.440	-0.014
Gestational Renal disease	*****	*****	*****	*****	0.220	0.030
Hypertension	12	2.6%	13	2.9%	-0.220	-0.013
Smoking	58	12.7%	61	13.4%	-0.659	-0.020
Number of dispensings in first trimester (0,90)						
One dispensing	242	53.2%	207	45.5%	7.692	0.154
Two or more dispensings	213	46.8%	248	54.5%	-7.692	-0.154
Medical Product Use						
Antihypertensive medications	25	5.5%	24	5.3%	0.220	0.010
Opioids	52	11.4%	56	12.3%	-0.879	-0.027
Suspected teratogens	66	14.5%	64	14.1%	0.440	0.013
Antidiabetic medications	*****	*****	*****	*****	0.000	0.000
Buprenorphine	11	2.4%	*****	*****	0.220	0.015
Insulin	*****	*****	*****	*****	0.000	0.000
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	-0.220	-0.038
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.2	5.7	3.5	4.5	0.705	0.137
Mean number of emergency room encounters	0.1	0.4	0.1	0.5	-0.024	-0.054
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.0	0.002	0.038
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	3.2	0.7	2.4	0.119	0.042

Table 1j. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.6	5.2	6.7	5.3	-0.114	-0.022
Mean number of generics dispensed	3.9	2.8	3.6	2.7	0.255	0.093
Mean number of unique drug classes dispensed	3.7	2.6	3.5	2.5	0.262	0.102

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1k. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	191	N/A	222	N/A	N/A	N/A
Pregnancies	196	100.0%	225	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.2	2.7	38.1	2.3	0.108	0.042
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	196	100.0%	225	100.0%	0.000	NaN
Sex						
Female	196	100.0%	225	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.066	0.010
Asian	*****	*****	*****	*****	0.576	0.068
Black or African American	*****	*****	*****	*****	0.773	0.053
Multi-racial	*****	*****	*****	*****	1.218	0.088
Native Hawaiian or Other Pacific Islander	*****	*****	*****	*****	NaN	NaN
Unknown	153	78.1%	180	80.0%	-1.939	-0.048
White	30	15.3%	*****	*****	-0.249	-0.007
Hispanic origin						
Yes	*****	*****	*****	*****	-0.379	-0.045
No	*****	*****	*****	*****	-0.447	-0.013
Unknown	168	85.7%	191	84.9%	0.825	0.023
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1k. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	-0.313	-0.029
2008	*****	*****	*****	*****	0.016	0.001
2009	13	6.6%	17	7.6%	-0.923	-0.036
2010	*****	*****	12	5.3%	-0.231	-0.010
2011	*****	*****	*****	*****	0.658	0.031
2012	*****	*****	16	7.1%	-3.540	-0.158
2013	15	7.7%	12	5.3%	2.320	0.094
2014	11	5.6%	*****	*****	2.501	0.123
2015	12	6.1%	*****	*****	3.011	0.144
2016	20	10.2%	23	10.2%	-0.018	-0.001
2017	19	9.7%	20	8.9%	0.805	0.028
2018	18	9.2%	25	11.1%	-1.927	-0.064
2019	14	7.1%	21	9.3%	-2.190	-0.080
2020	21	10.7%	24	10.7%	0.048	0.002
2021	12	6.1%	*****	*****	1.678	0.075
2022	*****	*****	*****	*****	-1.893	-0.103

Table 1k. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	22	11.2%	25	11.1%	0.113	0.004
Term (259-280 days)	75	38.3%	90	40.0%	-1.735	-0.036
Post-Term (281-301 days)	27	13.8%	30	13.3%	0.442	0.013
Unknown Term	72	36.7%	80	35.6%	1.179	0.025
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.5	39.4	2.1	0.106	0.058
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-6.3	16.2	-22.0	53.5	15.635	0.396
Mean number of dispensings in first trimester	1.9	1.0	2.0	1.2	-0.104	-0.093
	Number	Percent	Number	Percent		
Exposed during first trimester	196	100.0%	225	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	3.3	2.4	3.2	2.5	0.081	0.033
	Number	Percent	Number	Percent		
Anxiety Disorders	50	25.5%	50	22.2%	3.288	0.077
Depressive Disorders	61	31.1%	60	26.7%	4.456	0.098
All other psychiatric and neurological conditions	36	18.4%	35	15.6%	2.812	0.075
Psychotropic medications	117	59.7%	117	52.0%	7.694	0.155
Obesity	23	11.7%	28	12.4%	-0.710	-0.022
Renal disease	19	9.7%	23	10.2%	-0.528	-0.018
Alcohol use or dependence	*****	*****	*****	*****	0.642	0.059
Diabetes	*****	*****	*****	*****	0.329	0.022
Drug abuse or dependence	*****	*****	11	4.9%	-1.828	-0.094

Table 1k. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	46	23.5%	56	24.9%	-1.420	-0.033
Gestational Hypertension	29	14.8%	37	16.4%	-1.649	-0.045
Gestational Renal disease	*****	*****	*****	*****	-0.313	-0.029
Hypertension	13	6.6%	18	8.0%	-1.367	-0.053
Smoking	34	17.3%	38	16.9%	0.458	0.012
Number of dispensings in first trimester (0,90)						
One dispensing	85	43.4%	95	42.2%	1.145	0.023
Two or more dispensings	111	56.6%	130	57.8%	-1.145	-0.023
Medical Product Use						
Antihypertensive medications	17	8.7%	23	10.2%	-1.549	-0.053
Opioids	26	13.3%	25	11.1%	2.154	0.066
Suspected teratogens	49	25.0%	52	23.1%	1.889	0.044
Antidiabetic medications	12	6.1%	15	6.7%	-0.544	-0.022
Buprenorphine	*****	*****	*****	*****	-1.202	-0.095
Insulin	*****	*****	*****	*****	0.707	0.055
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	4.6	4.2	5.2	0.189	0.038
Mean number of emergency room encounters	0.1	0.4	0.1	0.3	0.070	0.194
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.006	0.069
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.9	2.2	0.6	1.5	0.284	0.152

Table 1k. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.4	6.7	7.5	5.6	0.915	0.148
Mean number of generics dispensed	4.6	3.2	4.3	3.2	0.319	0.101
Mean number of unique drug classes dispensed	4.4	2.9	4.1	3.0	0.317	0.108

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1I. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	104	N/A	105	N/A	N/A	N/A
Pregnancies	106	100.0%	106	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.1	2.7	37.9	2.2	0.199	0.080
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	106	100.0%	106	100.0%	0.000	NaN
Sex						
Female	106	100.0%	106	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	0	0.0%	0	0.0%	NaN	NaN
Asian	*****	*****	*****	*****	0.000	0.000
Black or African American	*****	*****	*****	*****	0.000	0.000
Multi-racial	*****	*****	*****	*****	0.943	0.080
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	87	82.1%	90	84.9%	-2.830	-0.076
White	*****	*****	*****	*****	1.887	0.058
Hispanic origin						
Yes	0	0.0%	*****	*****	NaN	NaN
No	12	11.3%	*****	*****	0.000	0.000
Unknown	94	88.7%	93	87.7%	0.943	0.029
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1I. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.943	0.080
2008	*****	*****	*****	*****	0.000	0.000
2009	*****	*****	*****	*****	0.943	0.043
2010	*****	*****	*****	*****	0.943	0.043
2011	*****	*****	*****	*****	0.943	0.039
2012	*****	*****	*****	*****	-0.943	-0.043
2013	*****	*****	*****	*****	0.000	0.000
2014	*****	*****	*****	*****	0.943	0.053
2015	*****	*****	*****	*****	-0.943	-0.047
2016	13	12.3%	*****	*****	2.830	0.091
2017	*****	*****	*****	*****	-3.774	-0.143
2018	*****	*****	*****	*****	0.000	0.000
2019	*****	*****	*****	*****	-1.887	-0.068
2020	11	10.4%	11	10.4%	0.000	0.000
2021	*****	*****	*****	*****	-0.943	-0.039
2022	*****	*****	*****	*****	0.943	0.062

Table 1I. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	*****	*****	*****	*****	-0.943	-0.035
Term (259-280 days)	41	38.7%	39	36.8%	1.887	0.039
Post-Term (281-301 days)	17	16.0%	20	18.9%	-2.830	-0.075
Unknown Term	40	37.7%	38	35.8%	1.887	0.039
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.5	39.8	1.5	-0.085	-0.057
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.0	19.7	-22.9	61.8	15.811	0.344
Mean number of dispensings in first trimester	1.9	1.0	1.9	1.0	-0.019	-0.018
	Number	Percent	Number	Percent		
Exposed during first trimester	106	100.0%	106	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	2.9	2.1	2.9	2.0	0.057	0.028
	Number	Percent	Number	Percent		
Anxiety Disorders	24	22.6%	24	22.6%	0.000	0.000
Depressive Disorders	31	29.2%	33	31.1%	-1.887	-0.041
All other psychiatric and neurological conditions	14	13.2%	12	11.3%	1.887	0.058
Psychotropic medications	59	55.7%	57	53.8%	1.887	0.038
Obesity	*****	*****	*****	*****	-0.943	-0.033
Renal disease	*****	*****	*****	*****	0.000	0.000
Alcohol use or dependence	0	0.0%	0	0.0%	NaN	NaN
Diabetes	*****	*****	*****	*****	0.943	0.080
Drug abuse or dependence	*****	*****	*****	*****	-1.887	-0.114

Table 1I. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	23	21.7%	22	20.8%	0.943	0.023
Gestational Hypertension	15	14.2%	15	14.2%	0.000	0.000
Gestational Renal disease	*****	*****	0	0.0%	NaN	NaN
Hypertension	*****	*****	*****	*****	2.830	0.118
Smoking	19	17.9%	21	19.8%	-1.887	-0.048
Number of dispensings in first trimester (0,90)						
One dispensing	43	40.6%	47	44.3%	-3.774	-0.076
Two or more dispensings	63	59.4%	59	55.7%	3.774	0.076
Medical Product Use						
Antihypertensive medications	*****	*****	*****	*****	1.887	0.071
Opioids	13	12.3%	12	11.3%	0.943	0.029
Suspected teratogens	21	19.8%	22	20.8%	-0.943	-0.023
Antidiabetic medications	*****	*****	*****	*****	1.887	0.099
Buprenorphine	*****	*****	*****	*****	0.000	0.000
Insulin	*****	*****	*****	*****	0.943	0.080
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.1	4.1	4.2	5.2	-0.047	-0.010
Mean number of emergency room encounters	0.1	0.4	0.1	0.2	0.066	0.197
Mean number of inpatient hospital encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.9	2.2	0.5	1.2	0.415	0.230

Table 1I. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.6	5.5	6.8	5.6	0.755	0.137
Mean number of generics dispensed	4.4	2.9	3.8	3.0	0.613	0.205
Mean number of unique drug classes dispensed	4.2	2.7	3.7	2.8	0.547	0.200

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1m. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	391	N/A	355	N/A	N/A	N/A
Pregnancies	397	100.0%	357	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	31.7	4.7	31.7	5.3	-0.047	-0.009
Age	Number	Percent	Number	Percent		
10-34 years	312	78.6%	262	73.4%	5.200	0.122
35-54 years	85	21.4%	95	26.6%	-5.200	-0.122
Sex						
Female	397	100.0%	357	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.588	-0.080
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	*****	*****	0.921	0.048
Multi-racial	*****	*****	*****	*****	0.167	0.017
Native Hawaiian or Other Pacific Islander	0	0.0%	*****	*****	NaN	NaN
Unknown	322	81.1%	293	82.1%	-0.965	-0.025
White	53	13.4%	44	12.3%	1.025	0.031
Hispanic origin						
Yes	*****	*****	*****	*****	-0.421	-0.035
No	*****	*****	*****	*****	-0.571	-0.017
Unknown	342	86.1%	304	85.2%	0.992	0.028
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1m. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.083	0.006
2008	*****	*****	*****	*****	0.782	0.049
2009	31	7.8%	33	9.2%	-1.435	-0.051
2010	31	7.8%	23	6.4%	1.366	0.053
2011	18	4.5%	21	5.9%	-1.348	-0.061
2012	23	5.8%	31	8.7%	-2.890	-0.112
2013	21	5.3%	23	6.4%	-1.153	-0.049
2014	21	5.3%	16	4.5%	0.808	0.037
2015	27	6.8%	20	5.6%	1.199	0.050
2016	33	8.3%	30	8.4%	-0.091	-0.003
2017	37	9.3%	33	9.2%	0.076	0.003
2018	35	8.8%	32	9.0%	-0.147	-0.005
2019	29	7.3%	25	7.0%	0.302	0.012
2020	42	10.6%	30	8.4%	2.176	0.074
2021	15	3.8%	14	3.9%	-0.143	-0.007
2022	15	3.8%	12	3.4%	0.417	0.022

Table 1m. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	32	8.1%	31	8.7%	-0.623	-0.022
Term (259-280 days)	144	36.3%	113	31.7%	4.619	0.098
Post-Term (281-301 days)	67	16.9%	57	16.0%	0.910	0.025
Unknown Term	154	38.8%	156	43.7%	-4.907	-0.100
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.5	39.6	1.9	0.069	0.041
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-1.0	7.6	-3.3	24.0	2.271	0.128
Mean number of dispensings in first trimester	1.0	0.1	1.0	0.1	-0.011	-0.127
	Number	Percent	Number	Percent		
Exposed during first trimester	397	100.0%	357	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.8	2.1	1.8	2.3	-0.014	-0.006
	Number	Percent	Number	Percent		
Anxiety Disorders	80	20.2%	59	16.5%	3.625	0.094
Depressive Disorders	84	21.2%	78	21.8%	-0.690	-0.017
All other psychiatric and neurological conditions	64	16.1%	56	15.7%	0.435	0.012
Psychotropic medications	174	43.8%	155	43.4%	0.411	0.008
Obesity	44	11.1%	41	11.5%	-0.401	-0.013
Renal disease	39	9.8%	31	8.7%	1.140	0.039
Alcohol use or dependence	*****	*****	*****	*****	1.231	0.131
Diabetes	11	2.8%	*****	*****	1.930	0.145
Drug abuse or dependence	13	3.3%	12	3.4%	-0.087	-0.005

Table 1m. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	56	14.1%	46	12.9%	1.221	0.036
Gestational Hypertension	49	12.3%	49	13.7%	-1.383	-0.041
Gestational Renal disease	*****	*****	*****	*****	-0.645	-0.062
Hypertension	17	4.3%	13	3.6%	0.641	0.033
Smoking	49	12.3%	44	12.3%	0.018	0.001
Number of dispensings in first trimester (0,90)						
One dispensing	397	100.0%	357	100.0%	0.000	NaN
Two or more dispensings	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Antihypertensive medications	27	6.8%	21	5.9%	0.919	0.038
Opioids	46	11.6%	37	10.4%	1.223	0.039
Suspected teratogens	64	16.1%	57	16.0%	0.155	0.004
Antidiabetic medications	16	4.0%	13	3.6%	0.389	0.020
Buprenorphine	*****	*****	*****	*****	-0.085	-0.010
Insulin	*****	*****	*****	*****	1.231	0.131
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.224	0.036
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.0	3.6	4.4	0.753	0.144
Mean number of emergency room encounters	0.1	0.4	0.1	0.4	0.020	0.048
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.004	0.051
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of other ambulatory encounters	0.8	3.4	0.7	2.4	0.137	0.046

Table 1m. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	5.9	5.4	5.5	5.0	0.387	0.074
Mean number of generics dispensed	3.7	2.9	3.6	3.0	0.136	0.046
Mean number of unique drug classes dispensed	3.6	2.7	3.5	2.8	0.120	0.043

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1n. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	275	N/A	275	N/A	N/A	N/A
Pregnancies	277	100.0%	277	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	31.7	4.7	31.9	5.2	-0.241	-0.048
Age	Number	Percent	Number	Percent		
10-34 years	218	78.7%	202	72.9%	5.776	0.135
35-54 years	59	21.3%	75	27.1%	-5.776	-0.135
Sex						
Female	277	100.0%	277	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.361	-0.049
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	0.361	0.024
Multi-racial	*****	*****	*****	*****	0.361	0.038
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	239	86.3%	237	85.6%	0.722	0.021
White	27	9.7%	*****	*****	-1.083	-0.036
Hispanic origin						
Yes	*****	*****	*****	*****	0.361	0.029
No	*****	*****	*****	*****	0.000	0.000
Unknown	247	89.2%	248	89.5%	-0.361	-0.012
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1n. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.361	0.024
2008	*****	*****	*****	*****	0.361	0.022
2009	28	10.1%	27	9.7%	0.361	0.012
2010	24	8.7%	23	8.3%	0.361	0.013
2011	15	5.4%	19	6.9%	-1.444	-0.060
2012	19	6.9%	16	5.8%	1.083	0.045
2013	16	5.8%	17	6.1%	-0.361	-0.015
2014	13	4.7%	15	5.4%	-0.722	-0.033
2015	14	5.1%	15	5.4%	-0.361	-0.016
2016	24	8.7%	24	8.7%	0.000	0.000
2017	25	9.0%	24	8.7%	0.361	0.013
2018	25	9.0%	24	8.7%	0.361	0.013
2019	17	6.1%	17	6.1%	0.000	0.000
2020	23	8.3%	24	8.7%	-0.361	-0.013
2021	*****	*****	*****	*****	0.000	0.000
2022	*****	*****	*****	*****	0.000	0.000

Table 1n. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	22	7.9%	21	7.6%	0.361	0.013
Term (259-280 days)	94	33.9%	85	30.7%	3.249	0.070
Post-Term (281-301 days)	44	15.9%	45	16.2%	-0.361	-0.010
Unknown Term	117	42.2%	126	45.5%	-3.249	-0.066
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.5	39.7	1.8	0.011	0.007
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-0.8	6.4	-3.0	21.8	2.188	0.136
Mean number of dispensings in first trimester	1.0	0.1	1.0	0.1	-0.007	-0.086
	Number	Percent	Number	Percent		
Exposed during first trimester	277	100.0%	277	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.7	2.2	1.7	2.3	-0.054	-0.024
	Number	Percent	Number	Percent		
Anxiety Disorders	39	14.1%	47	17.0%	-2.888	-0.080
Depressive Disorders	57	20.6%	59	21.3%	-0.722	-0.018
All other psychiatric and neurological conditions	35	12.6%	35	12.6%	0.000	0.000
Psychotropic medications	115	41.5%	118	42.6%	-1.083	-0.022
Obesity	33	11.9%	28	10.1%	1.805	0.058
Renal disease	19	6.9%	19	6.9%	0.000	0.000
Alcohol use or dependence	*****	*****	*****	*****	0.000	0.000
Diabetes	*****	*****	*****	*****	0.000	0.000
Drug abuse or dependence	*****	*****	*****	*****	0.000	0.000

Table 1n. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	34	12.3%	34	12.3%	0.000	0.000
Gestational Hypertension	33	11.9%	38	13.7%	-1.805	-0.054
Gestational Renal disease	*****	*****	*****	*****	0.361	0.038
Hypertension	12	4.3%	*****	*****	0.722	0.037
Smoking	31	11.2%	30	10.8%	0.361	0.012
Number of dispensings in first trimester (0,90)						
One dispensing	277	100.0%	277	100.0%	0.000	NaN
Two or more dispensings	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Antihypertensive medications	16	5.8%	16	5.8%	0.000	0.000
Opioids	27	9.7%	26	9.4%	0.361	0.012
Suspected teratogens	51	18.4%	45	16.2%	2.166	0.057
Antidiabetic medications	*****	*****	*****	*****	0.000	0.000
Buprenorphine	0	0.0%	0	0.0%	NaN	NaN
Insulin	*****	*****	*****	*****	0.000	0.000
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	3.8	4.1	3.5	4.4	0.347	0.082
Mean number of emergency room encounters	0.1	0.3	0.1	0.3	0.000	0.000
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.000	0.000
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of other ambulatory encounters	0.7	1.2	0.5	1.0	0.188	0.170

Table 1n. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	5.6	5.2	5.3	5.0	0.303	0.059
Mean number of generics dispensed	3.5	2.8	3.5	3.0	0.061	0.021
Mean number of unique drug classes dispensed	3.4	2.6	3.3	2.8	0.087	0.032

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1o. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	388	N/A	436	N/A	N/A	N/A
Pregnancies	401	100.0%	441	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.4	4.7	32.3	5.1	0.059	0.012
Age	Number	Percent	Number	Percent		
10-34 years	290	72.3%	311	70.5%	1.798	0.040
35-54 years	111	27.7%	130	29.5%	-1.798	-0.040
Sex						
Female	401	100.0%	441	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.204	-0.035
Asian	*****	*****	*****	*****	0.045	0.007
Black or African American	*****	*****	11	2.5%	-0.001	-0.000
Multi-racial	*****	*****	*****	*****	-0.340	-0.029
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	312	77.8%	344	78.0%	-0.199	-0.005
White	70	17.5%	75	17.0%	0.450	0.012
Hispanic origin						
Yes	*****	*****	*****	*****	-0.363	-0.034
No	*****	*****	*****	*****	0.790	0.022
Unknown	332	82.8%	367	83.2%	-0.427	-0.011
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1o. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	11	2.7%	*****	*****	0.022	0.001
2008	11	2.7%	*****	*****	0.702	0.046
2009	27	6.7%	30	6.8%	-0.070	-0.003
2010	19	4.7%	32	7.3%	-2.518	-0.106
2011	18	4.5%	20	4.5%	-0.046	-0.002
2012	25	6.2%	24	5.4%	0.792	0.034
2013	25	6.2%	20	4.5%	1.699	0.075
2014	20	5.0%	19	4.3%	0.679	0.032
2015	22	5.5%	36	8.2%	-2.677	-0.106
2016	39	9.7%	33	7.5%	2.243	0.080
2017	41	10.2%	50	11.3%	-1.113	-0.036
2018	32	8.0%	36	8.2%	-0.183	-0.007
2019	43	10.7%	45	10.2%	0.519	0.017
2020	32	8.0%	40	9.1%	-1.090	-0.039
2021	20	5.0%	19	4.3%	0.679	0.032
2022	16	4.0%	16	3.6%	0.362	0.019

Table 1o. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	39	9.7%	38	8.6%	1.109	0.038
Term (259-280 days)	151	37.7%	174	39.5%	-1.800	-0.037
Post-Term (281-301 days)	61	15.2%	68	15.4%	-0.208	-0.006
Unknown Term	150	37.4%	161	36.5%	0.899	0.019
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.6	39.7	1.6	-0.145	-0.090
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-14.6	29.2	-27.0	51.9	12.376	0.294
Mean number of dispensings in first trimester	2.6	0.9	2.7	0.9	-0.122	-0.134
	Number	Percent	Number	Percent		
Exposed during first trimester	401	100.0%	441	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.1	2.0	2.3	-0.125	-0.057
	Number	Percent	Number	Percent		
Anxiety Disorders	83	20.7%	99	22.4%	-1.751	-0.043
Depressive Disorders	108	26.9%	116	26.3%	0.629	0.014
All other psychiatric and neurological conditions	83	20.7%	93	21.1%	-0.390	-0.010
Psychotropic medications	214	53.4%	224	50.8%	2.573	0.052
Obesity	43	10.7%	49	11.1%	-0.388	-0.012
Renal disease	41	10.2%	46	10.4%	-0.206	-0.007
Alcohol use or dependence	*****	*****	*****	*****	-0.839	-0.078
Diabetes	*****	*****	*****	*****	-0.318	-0.025
Drug abuse or dependence	30	7.5%	29	6.6%	0.905	0.035

Table 1o. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	64	16.0%	85	19.3%	-3.314	-0.087
Gestational Hypertension	47	11.7%	53	12.0%	-0.297	-0.009
Gestational Renal disease	*****	*****	*****	*****	0.567	0.058
Hypertension	22	5.5%	23	5.2%	0.271	0.012
Smoking	60	15.0%	72	16.3%	-1.364	-0.038
Number of dispensings in first trimester (0,90)						
One dispensing	0	0.0%	0	0.0%	NaN	NaN
Two or more dispensings	401	100.0%	441	100.0%	0.000	NaN
Medical Product Use						
Antihypertensive medications	35	8.7%	39	8.8%	-0.115	-0.004
Opioids	50	12.5%	57	12.9%	-0.456	-0.014
Suspected teratogens	68	17.0%	82	18.6%	-1.636	-0.043
Antidiabetic medications	15	3.7%	15	3.4%	0.339	0.018
Buprenorphine	13	3.2%	15	3.4%	-0.159	-0.009
Insulin	*****	*****	*****	*****	0.113	0.010
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	-0.204	-0.035
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.3	6.0	3.9	4.9	0.423	0.077
Mean number of emergency room encounters	0.1	0.4	0.1	0.5	-0.008	-0.017
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.000	0.007
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	1.8	0.6	1.5	0.199	0.117

Table 1o. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.5	6.2	8.3	5.6	0.109	0.018
Mean number of generics dispensed	4.5	3.0	4.1	2.9	0.372	0.126
Mean number of unique drug classes dispensed	4.4	2.8	4.0	2.7	0.396	0.144

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1p. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	296	N/A	299	N/A	N/A	N/A
Pregnancies	301	100.0%	301	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.4	4.5	32.4	4.9	0.004	0.001
Age	Number	Percent	Number	Percent		
10-34 years	219	72.8%	210	69.8%	2.990	0.066
35-54 years	82	27.2%	91	30.2%	-2.990	-0.066
Sex						
Female	301	100.0%	301	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.000	0.000
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	*****	*****	0.997	0.064
Multi-racial	*****	*****	*****	*****	0.000	0.000
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	242	80.4%	242	80.4%	0.000	0.000
White	46	15.3%	48	15.9%	-0.664	-0.018
Hispanic origin						
Yes	*****	*****	*****	*****	-0.664	-0.067
No	*****	*****	*****	*****	0.000	0.000
Unknown	255	84.7%	253	84.1%	0.664	0.018
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1p. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	11	3.7%	0.000	0.000
2008	*****	*****	*****	*****	0.664	0.044
2009	23	7.6%	23	7.6%	0.000	0.000
2010	16	5.3%	20	6.6%	-1.329	-0.056
2011	14	4.7%	13	4.3%	0.332	0.016
2012	18	6.0%	17	5.6%	0.332	0.014
2013	17	5.6%	15	5.0%	0.664	0.030
2014	11	3.7%	*****	*****	0.332	0.018
2015	19	6.3%	20	6.6%	-0.332	-0.013
2016	28	9.3%	27	9.0%	0.332	0.012
2017	30	10.0%	31	10.3%	-0.332	-0.011
2018	27	9.0%	26	8.6%	0.332	0.012
2019	29	9.6%	31	10.3%	-0.664	-0.022
2020	24	8.0%	24	8.0%	0.000	0.000
2021	14	4.7%	15	5.0%	-0.332	-0.016
2022	12	4.0%	12	4.0%	0.000	0.000

Table 1p. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	28	9.3%	23	7.6%	1.661	0.060
Term (259-280 days)	111	36.9%	122	40.5%	-3.654	-0.075
Post-Term (281-301 days)	48	15.9%	44	14.6%	1.329	0.037
Unknown Term	114	37.9%	112	37.2%	0.664	0.014
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.7	1.6	-0.116	-0.072
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-14.4	30.5	-26.0	47.9	11.598	0.289
Mean number of dispensings in first trimester	2.5	0.8	2.7	0.9	-0.196	-0.230
	Number	Percent	Number	Percent		
Exposed during first trimester	301	100.0%	301	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.1	1.9	2.2	0.056	0.026
	Number	Percent	Number	Percent		
Anxiety Disorders	58	19.3%	64	21.3%	-1.993	-0.050
Depressive Disorders	76	25.2%	73	24.3%	0.997	0.023
All other psychiatric and neurological conditions	54	17.9%	61	20.3%	-2.326	-0.059
Psychotropic medications	153	50.8%	150	49.8%	0.997	0.020
Obesity	35	11.6%	38	12.6%	-0.997	-0.031
Renal disease	29	9.6%	29	9.6%	0.000	0.000
Alcohol use or dependence	*****	*****	*****	*****	0.000	0.000
Diabetes	*****	*****	*****	*****	0.332	0.047
Drug abuse or dependence	20	6.6%	17	5.6%	0.997	0.042

Table 1p. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	51	16.9%	58	19.3%	-2.326	-0.060
Gestational Hypertension	37	12.3%	38	12.6%	-0.332	-0.010
Gestational Renal disease	*****	*****	*****	*****	0.332	0.037
Hypertension	14	4.7%	14	4.7%	0.000	0.000
Smoking	46	15.3%	42	14.0%	1.329	0.038
Number of dispensings in first trimester (0,90)						
One dispensing	0	0.0%	0	0.0%	NaN	NaN
Two or more dispensings	301	100.0%	301	100.0%	0.000	NaN
Medical Product Use						
Antihypertensive medications	22	7.3%	25	8.3%	-0.997	-0.037
Opioids	38	12.6%	36	12.0%	0.664	0.020
Suspected teratogens	53	17.6%	48	15.9%	1.661	0.044
Antidiabetic medications	*****	*****	*****	*****	1.329	0.083
Buprenorphine	*****	*****	*****	*****	0.997	0.060
Insulin	*****	*****	*****	*****	0.000	0.000
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	*****	*****	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.3	6.6	3.7	5.0	0.645	0.111
Mean number of emergency room encounters	0.1	0.4	0.1	0.4	0.003	0.008
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.003	-0.047
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	1.9	0.5	1.4	0.262	0.160

Table 1p. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.1	5.8	8.0	5.5	0.050	0.009
Mean number of generics dispensed	4.4	2.8	4.0	2.8	0.395	0.141
Mean number of unique drug classes dispensed	4.2	2.6	3.8	2.7	0.405	0.153

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1q. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	785	N/A	37,913	N/A	N/A	N/A
Pregnancies	813	100.0%	40,621	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.1	4.8	30.2	4.9	1.979	0.408
Age	Number	Percent	Number	Percent		
10-34 years	604	74.3%	33,836	83.3%	-9.004	-0.222
35-54 years	209	25.7%	6,785	16.7%	9.004	0.222
Sex						
Female	813	100.0%	40,621	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	176	0.4%	-0.187	-0.032
Asian	*****	*****	130	0.3%	-0.074	-0.014
Black or African American	27	3.3%	1,203	3.0%	0.360	0.021
Multi-racial	*****	*****	250	0.6%	0.492	0.053
Native Hawaiian or Other Pacific Islander	*****	*****	24	0.1%	0.064	0.021
Unknown	646	79.5%	26,973	66.4%	13.057	0.297
White	126	15.5%	11,865	29.2%	-13.711	-0.334
Hispanic origin						
Yes	*****	*****	1,044	2.6%	-1.463	-0.109
No	*****	*****	11,355	28.0%	-13.562	-0.337
Unknown	687	84.5%	28,222	69.5%	15.025	0.363
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1q. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	*****	*****	NaN	NaN
2007	18	2.2%	*****	*****	1.874	0.168
2008	23	2.8%	211	0.5%	2.310	0.181
2009	59	7.3%	727	1.8%	5.467	0.265
2010	52	6.4%	837	2.1%	4.336	0.217
2011	37	4.6%	998	2.5%	2.094	0.114
2012	50	6.2%	1,144	2.8%	3.334	0.162
2013	46	5.7%	1,227	3.0%	2.637	0.130
2014	41	5.0%	1,676	4.1%	0.917	0.044
2015	51	6.3%	2,163	5.3%	0.948	0.041
2016	75	9.2%	3,506	8.6%	0.594	0.021
2017	79	9.7%	5,294	13.0%	-3.316	-0.105
2018	67	8.2%	5,482	13.5%	-5.254	-0.169
2019	72	8.9%	5,670	14.0%	-5.102	-0.161
2020	76	9.3%	5,913	14.6%	-5.208	-0.161
2021	35	4.3%	3,220	7.9%	-3.622	-0.152
2022	32	3.9%	2,413	5.9%	-2.004	-0.093

Table 1q. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	72	8.9%	3,203	7.9%	0.971	0.035
Term (259-280 days)	301	37.0%	21,948	54.0%	-17.008	-0.347
Post-Term (281-301 days)	131	16.1%	7,507	18.5%	-2.367	-0.063
Unknown Term	309	38.0%	7,963	19.6%	18.404	0.415
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.6	1.6	0.017	0.011
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.2	-21.4	45.2	13.602	0.382
Mean number of dispensings in first trimester	1.8	1.0	2.5	1.3	-0.707	-0.602
	Number	Percent	Number	Percent		
Exposed during first trimester	813	100.0%	40,621	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.7	2.1	0.218	0.101
	Number	Percent	Number	Percent		
Anxiety Disorders	169	20.8%	10,791	26.6%	-5.778	-0.136
Depressive Disorders	196	24.1%	8,969	22.1%	2.029	0.048
All other psychiatric and neurological conditions	148	18.2%	27,420	67.5%	-49.298	-1.149
Psychotropic medications	400	49.2%	18,051	44.4%	4.763	0.096
Obesity	95	11.7%	2,771	6.8%	4.864	0.168
Renal disease	82	10.1%	4,435	10.9%	-0.832	-0.027
Alcohol use or dependence	*****	*****	604	1.5%	-0.257	-0.022
Diabetes	20	2.5%	466	1.1%	1.313	0.099
Drug abuse or dependence	44	5.4%	2,546	6.3%	-0.856	-0.036

Table 1q. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	126	15.5%	4,219	10.4%	5.112	0.153
Gestational Hypertension	103	12.7%	5,872	14.5%	-1.786	-0.052
Gestational Renal disease	*****	*****	409	1.0%	-0.023	-0.002
Hypertension	44	5.4%	1,433	3.5%	1.884	0.091
Smoking	113	13.9%	6,229	15.3%	-1.435	-0.041
Number of dispensings in first trimester (0,90)						
One dispensing	403	49.6%	10,889	26.8%	22.763	0.482
Two or more dispensings	410	50.4%	29,732	73.2%	-22.763	-0.482
Medical Product Use						
Antihypertensive medications	68	8.4%	2,433	6.0%	2.375	0.092
Opioids	103	12.7%	3,344	8.2%	4.437	0.145
Suspected teratogens	138	17.0%	5,966	14.7%	2.287	0.063
Antidiabetic medications	34	4.2%	677	1.7%	2.515	0.150
Buprenorphine	16	2.0%	790	1.9%	0.023	0.002
Insulin	14	1.7%	199	0.5%	1.232	0.118
Methadone	*****	*****	28	0.1%	0.054	0.017
Naloxone	0	0.0%	46	0.1%	NaN	NaN
Naltrexone	*****	*****	59	0.1%	0.347	0.062
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.1	3.6	5.0	0.813	0.146
Mean number of emergency room encounters	0.1	0.5	0.2	0.5	-0.031	-0.063
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.003	-0.025
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.0	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	0.9	3.4	-0.047	-0.015

Table 1q. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.3	6.1	7.0	5.4	0.268	0.046
Mean number of generics dispensed	4.2	3.1	3.7	2.8	0.523	0.177
Mean number of unique drug classes dispensed	4.1	2.9	3.6	2.6	0.480	0.176

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1r. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	781	N/A	808	N/A	N/A	N/A
Pregnancies	809	100.0%	809	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.1	4.8	32.1	4.9	0.005	0.001
Age	Number	Percent	Number	Percent		
10-34 years	603	74.5%	592	73.2%	1.360	0.031
35-54 years	206	25.5%	217	26.8%	-1.360	-0.031
Sex						
Female	809	100.0%	809	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.371	-0.057
Asian	*****	*****	*****	*****	0.124	0.029
Black or African American	27	3.3%	37	4.6%	-1.236	-0.063
Multi-racial	*****	*****	*****	*****	0.000	0.000
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	643	79.5%	650	80.3%	-0.865	-0.022
White	125	15.5%	107	13.2%	2.225	0.064
Hispanic origin						
Yes	*****	*****	13	1.6%	-0.494	-0.043
No	*****	*****	119	14.7%	-0.247	-0.007
Unknown	683	84.4%	677	83.7%	0.742	0.020
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1r. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	18	2.2%	12	1.5%	0.742	0.055
2008	23	2.8%	23	2.8%	0.000	0.000
2009	58	7.2%	47	5.8%	1.360	0.055
2010	51	6.3%	57	7.0%	-0.742	-0.030
2011	37	4.6%	48	5.9%	-1.360	-0.061
2012	50	6.2%	43	5.3%	0.865	0.037
2013	46	5.7%	47	5.8%	-0.124	-0.005
2014	41	5.1%	35	4.3%	0.742	0.035
2015	50	6.2%	47	5.8%	0.371	0.016
2016	75	9.3%	66	8.2%	1.112	0.039
2017	79	9.8%	87	10.8%	-0.989	-0.033
2018	67	8.3%	63	7.8%	0.494	0.018
2019	72	8.9%	70	8.7%	0.247	0.009
2020	76	9.4%	86	10.6%	-1.236	-0.041
2021	35	4.3%	43	5.3%	-0.989	-0.046
2022	31	3.8%	35	4.3%	-0.494	-0.025

Table 1r. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	71	8.8%	71	8.8%	0.000	0.000
Term (259-280 days)	299	37.0%	311	38.4%	-1.483	-0.031
Post-Term (281-301 days)	131	16.2%	127	15.7%	0.494	0.014
Unknown Term	308	38.1%	300	37.1%	0.989	0.020
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.7	1.7	-0.028	-0.018
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.3	-18.4	40.2	10.604	0.327
Mean number of dispensings in first trimester	1.8	1.0	2.3	1.2	-0.489	-0.432
	Number	Percent	Number	Percent		
Exposed during first trimester	809	100.0%	809	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.9	2.3	0.010	0.004
	Number	Percent	Number	Percent		
Anxiety Disorders	168	20.8%	161	19.9%	0.865	0.021
Depressive Disorders	195	24.1%	206	25.5%	-1.360	-0.031
All other psychiatric and neurological conditions	148	18.3%	146	18.0%	0.247	0.006
Psychotropic medications	397	49.1%	373	46.1%	2.967	0.059
Obesity	91	11.2%	99	12.2%	-0.989	-0.031
Renal disease	81	10.0%	74	9.1%	0.865	0.029
Alcohol use or dependence	*****	*****	12	1.5%	-0.247	-0.021
Diabetes	16	2.0%	11	1.4%	0.618	0.048
Drug abuse or dependence	44	5.4%	44	5.4%	0.000	0.000

Table 1r. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	123	15.2%	128	15.8%	-0.618	-0.017
Gestational Hypertension	101	12.5%	120	14.8%	-2.349	-0.068
Gestational Renal disease	*****	*****	*****	*****	-0.247	-0.025
Hypertension	43	5.3%	43	5.3%	0.000	0.000
Smoking	111	13.7%	102	12.6%	1.112	0.033
Number of dispensings in first trimester (0,90)						
One dispensing	402	49.7%	272	33.6%	16.069	0.330
Two or more dispensings	407	50.3%	537	66.4%	-16.069	-0.330
Medical Product Use						
Antihypertensive medications	65	8.0%	76	9.4%	-1.360	-0.048
Opioids	103	12.7%	106	13.1%	-0.371	-0.011
Suspected teratogens	135	16.7%	142	17.6%	-0.865	-0.023
Antidiabetic medications	30	3.7%	26	3.2%	0.494	0.027
Buprenorphine	16	2.0%	14	1.7%	0.247	0.018
Insulin	*****	*****	*****	*****	0.247	0.024
Methadone	*****	*****	*****	*****	0.000	0.000
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.247	0.041
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.1	3.2	4.0	1.180	0.229
Mean number of emergency room encounters	0.1	0.5	0.1	0.4	0.059	0.143
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.001	0.010
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	0.6	1.5	0.214	0.098

Table 1r. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.3	6.1	7.5	6.3	-0.251	-0.040
Mean number of generics dispensed	4.2	3.1	3.9	3.1	0.240	0.077
Mean number of unique drug classes dispensed	4.0	2.8	3.8	2.9	0.227	0.080

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1s. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	585	N/A	591	N/A	N/A	N/A
Pregnancies	603	100.0%	592	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	30.0	3.3	29.9	3.5	0.113	0.033
Age	Number	Percent	Number	Percent		
10-34 years	603	100.0%	592	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	603	100.0%	592	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.510	-0.079
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	31	5.2%	-1.588	-0.077
Multi-racial	*****	*****	*****	*****	-0.857	-0.083
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	482	79.9%	467	78.9%	1.049	0.026
White	93	15.4%	80	13.5%	1.909	0.054
Hispanic origin						
Yes	*****	*****	*****	*****	-0.194	-0.016
No	*****	*****	*****	*****	-1.285	-0.036
Unknown	507	84.1%	489	82.6%	1.478	0.040
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1s. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	16	2.7%	*****	*****	0.964	0.066
2008	16	2.7%	*****	*****	-0.725	-0.042
2009	45	7.5%	40	6.8%	0.706	0.027
2010	40	6.6%	45	7.6%	-0.968	-0.038
2011	26	4.3%	38	6.4%	-2.107	-0.094
2012	41	6.8%	32	5.4%	1.394	0.058
2013	31	5.1%	35	5.9%	-0.771	-0.034
2014	30	5.0%	24	4.1%	0.921	0.044
2015	37	6.1%	34	5.7%	0.393	0.017
2016	52	8.6%	47	7.9%	0.684	0.025
2017	59	9.8%	63	10.6%	-0.857	-0.028
2018	49	8.1%	44	7.4%	0.694	0.026
2019	58	9.6%	52	8.8%	0.835	0.029
2020	54	9.0%	60	10.1%	-1.180	-0.040
2021	23	3.8%	26	4.4%	-0.578	-0.029
2022	26	4.3%	22	3.7%	0.596	0.030

Table 1s. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	48	8.0%	45	7.6%	0.359	0.013
Term (259-280 days)	221	36.7%	216	36.5%	0.164	0.003
Post-Term (281-301 days)	102	16.9%	100	16.9%	0.024	0.001
Unknown Term	232	38.5%	231	39.0%	-0.546	-0.011
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.6	39.7	1.6	-0.082	-0.052
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-8.3	24.0	-18.3	37.3	9.974	0.318
Mean number of dispensings in first trimester	1.8	1.0	2.3	1.3	-0.557	-0.489
	Number	Percent	Number	Percent		
Exposed during first trimester	603	100.0%	592	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.4	1.8	1.4	2.0	-0.025	-0.013
	Number	Percent	Number	Percent		
Anxiety Disorders	114	18.9%	111	18.8%	0.155	0.004
Depressive Disorders	132	21.9%	142	24.0%	-2.096	-0.050
All other psychiatric and neurological conditions	112	18.6%	110	18.6%	-0.007	-0.000
Psychotropic medications	272	45.1%	265	44.8%	0.344	0.007
Obesity	64	10.6%	69	11.7%	-1.042	-0.033
Renal disease	61	10.1%	53	9.0%	1.163	0.040
Alcohol use or dependence	*****	*****	11	1.9%	-0.697	-0.057
Diabetes	11	1.8%	*****	*****	0.473	0.038
Drug abuse or dependence	38	6.3%	30	5.1%	1.234	0.053

Table 1s. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	74	12.3%	80	13.5%	-1.242	-0.037
Gestational Hypertension	68	11.3%	82	13.9%	-2.574	-0.078
Gestational Renal disease	*****	*****	*****	*****	-0.184	-0.019
Hypertension	26	4.3%	24	4.1%	0.258	0.013
Smoking	77	12.8%	65	11.0%	1.790	0.055
Number of dispensings in first trimester (0,90)						
One dispensing	312	51.7%	199	33.6%	18.126	0.373
Two or more dispensings	291	48.3%	393	66.4%	-18.126	-0.373
Medical Product Use						
Antihypertensive medications	45	7.5%	44	7.4%	0.030	0.001
Opioids	71	11.8%	79	13.3%	-1.570	-0.047
Suspected teratogens	83	13.8%	96	16.2%	-2.452	-0.069
Antidiabetic medications	18	3.0%	17	2.9%	0.113	0.007
Buprenorphine	14	2.3%	12	2.0%	0.295	0.020
Insulin	*****	*****	*****	*****	0.319	0.035
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.326	0.046
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.5	3.0	3.9	1.362	0.254
Mean number of emergency room encounters	0.1	0.5	0.1	0.4	0.045	0.103
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.005	0.041
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.9	0.6	1.5	0.202	0.088

Table 1s. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.8	5.7	7.2	6.2	-0.398	-0.067
Mean number of generics dispensed	4.0	3.0	3.7	3.0	0.259	0.085
Mean number of unique drug classes dispensed	3.9	2.8	3.6	2.8	0.244	0.088

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1t. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	462	N/A	471	N/A	N/A	N/A
Pregnancies	472	100.0%	472	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	30.0	3.3	29.9	3.5	0.084	0.025
Age	Number	Percent	Number	Percent		
10-34 years	472	100.0%	472	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	472	100.0%	472	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.212	-0.038
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	-0.636	-0.030
Multi-racial	*****	*****	*****	*****	0.636	0.088
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	379	80.3%	377	79.9%	0.424	0.011
White	67	14.2%	68	14.4%	-0.212	-0.006
Hispanic origin						
Yes	*****	*****	*****	*****	0.636	0.055
No	*****	*****	*****	*****	-0.424	-0.012
Unknown	392	83.1%	393	83.3%	-0.212	-0.006
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1t. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.000	0.000
2008	*****	*****	*****	*****	0.000	0.000
2009	35	7.4%	35	7.4%	0.000	0.000
2010	32	6.8%	30	6.4%	0.424	0.017
2011	26	5.5%	22	4.7%	0.847	0.039
2012	34	7.2%	30	6.4%	0.847	0.034
2013	25	5.3%	25	5.3%	0.000	0.000
2014	20	4.2%	24	5.1%	-0.847	-0.040
2015	30	6.4%	27	5.7%	0.636	0.027
2016	42	8.9%	43	9.1%	-0.212	-0.007
2017	50	10.6%	51	10.8%	-0.212	-0.007
2018	34	7.2%	35	7.4%	-0.212	-0.008
2019	38	8.1%	42	8.9%	-0.847	-0.030
2020	44	9.3%	46	9.7%	-0.424	-0.014
2021	18	3.8%	19	4.0%	-0.212	-0.011
2022	19	4.0%	18	3.8%	0.212	0.011

Table 1t. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	39	8.3%	36	7.6%	0.636	0.024
Term (259-280 days)	168	35.6%	175	37.1%	-1.483	-0.031
Post-Term (281-301 days)	82	17.4%	83	17.6%	-0.212	-0.006
Unknown Term	183	38.8%	178	37.7%	1.059	0.022
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.6	39.8	1.5	-0.091	-0.058
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	23.0	-19.1	38.9	11.339	0.355
Mean number of dispensings in first trimester	1.8	1.0	2.3	1.3	-0.576	-0.498
	Number	Percent	Number	Percent		
Exposed during first trimester	472	100.0%	472	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.3	1.8	1.3	1.9	0.061	0.033
	Number	Percent	Number	Percent		
Anxiety Disorders	79	16.7%	80	16.9%	-0.212	-0.006
Depressive Disorders	97	20.6%	101	21.4%	-0.847	-0.021
All other psychiatric and neurological conditions	85	18.0%	82	17.4%	0.636	0.017
Psychotropic medications	208	44.1%	205	43.4%	0.636	0.013
Obesity	50	10.6%	48	10.2%	0.424	0.014
Renal disease	44	9.3%	44	9.3%	0.000	0.000
Alcohol use or dependence	*****	*****	*****	*****	0.000	0.000
Diabetes	*****	*****	*****	*****	0.000	0.000
Drug abuse or dependence	25	5.3%	22	4.7%	0.636	0.029

Table 1t. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	55	11.7%	58	12.3%	-0.636	-0.020
Gestational Hypertension	56	11.9%	51	10.8%	1.059	0.033
Gestational Renal disease	*****	*****	*****	*****	0.212	0.025
Hypertension	16	3.4%	16	3.4%	0.000	0.000
Smoking	49	10.4%	45	9.5%	0.847	0.028
Number of dispensings in first trimester (0,90)						
One dispensing	243	51.5%	157	33.3%	18.220	0.375
Two or more dispensings	229	48.5%	315	66.7%	-18.220	-0.375
Medical Product Use						
Antihypertensive medications	30	6.4%	26	5.5%	0.847	0.036
Opioids	62	13.1%	61	12.9%	0.212	0.006
Suspected teratogens	61	12.9%	64	13.6%	-0.636	-0.019
Antidiabetic medications	14	3.0%	11	2.3%	0.636	0.040
Buprenorphine	12	2.5%	11	2.3%	0.212	0.014
Insulin	*****	*****	*****	*****	0.212	0.029
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.000	0.000
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	3.9	4.0	2.8	3.3	1.165	0.318
Mean number of emergency room encounters	0.1	0.4	0.1	0.4	0.028	0.066
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.002	-0.029
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	3.2	0.5	1.6	0.301	0.118

Table 1t. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.7	5.5	7.0	6.1	-0.364	-0.062
Mean number of generics dispensed	3.9	2.9	3.6	3.0	0.280	0.095
Mean number of unique drug classes dispensed	3.8	2.7	3.5	2.8	0.278	0.102

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1u. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	201	N/A	217	N/A	N/A	N/A
Pregnancies	206	100.0%	217	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.2	2.8	38.1	2.4	0.126	0.049
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	206	100.0%	217	100.0%	0.000	NaN
Sex						
Female	206	100.0%	217	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.025	0.004
Asian	*****	*****	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	-0.338	-0.021
Multi-racial	*****	*****	0	0.0%	NaN	NaN
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	161	78.2%	183	84.3%	-6.176	-0.159
White	32	15.5%	*****	*****	3.092	0.089
Hispanic origin						
Yes	*****	*****	*****	*****	-1.358	-0.127
No	*****	*****	*****	*****	2.557	0.077
Unknown	176	85.4%	188	86.6%	-1.199	-0.035
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1u. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.049	0.005
2008	*****	*****	*****	*****	2.016	0.132
2009	13	6.3%	*****	*****	3.085	0.145
2010	11	5.3%	12	5.5%	-0.190	-0.008
2011	11	5.3%	*****	*****	0.732	0.034
2012	*****	*****	11	5.1%	-0.700	-0.033
2013	15	7.3%	12	5.5%	1.752	0.072
2014	11	5.3%	11	5.1%	0.271	0.012
2015	13	6.3%	13	6.0%	0.320	0.013
2016	23	11.2%	19	8.8%	2.409	0.081
2017	20	9.7%	24	11.1%	-1.351	-0.044
2018	18	8.7%	19	8.8%	-0.018	-0.001
2019	14	6.8%	18	8.3%	-1.499	-0.057
2020	22	10.7%	26	12.0%	-1.302	-0.041
2021	12	5.8%	17	7.8%	-2.009	-0.080
2022	*****	*****	13	6.0%	-3.564	-0.178

Table 1u. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	23	11.2%	26	12.0%	-0.817	-0.026
Term (259-280 days)	78	37.9%	95	43.8%	-5.915	-0.121
Post-Term (281-301 days)	29	14.1%	27	12.4%	1.635	0.048
Unknown Term	76	36.9%	69	31.8%	5.096	0.107
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.5	39.4	1.8	0.110	0.065
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-6.3	15.8	-18.7	47.4	12.428	0.352
Mean number of dispensings in first trimester	1.9	1.0	2.2	1.2	-0.300	-0.271
	Number	Percent	Number	Percent		
Exposed during first trimester	206	100.0%	217	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	3.4	2.5	3.2	2.6	0.209	0.083
	Number	Percent	Number	Percent		
Anxiety Disorders	54	26.2%	50	23.0%	3.172	0.074
Depressive Disorders	63	30.6%	64	29.5%	1.089	0.024
All other psychiatric and neurological conditions	36	17.5%	36	16.6%	0.886	0.024
Psychotropic medications	125	60.7%	108	49.8%	10.910	0.221
Obesity	27	13.1%	30	13.8%	-0.718	-0.021
Renal disease	20	9.7%	21	9.7%	0.031	0.001
Alcohol use or dependence	*****	*****	*****	*****	0.995	0.102
Diabetes	*****	*****	*****	*****	1.045	0.076
Drug abuse or dependence	*****	*****	14	6.5%	-3.539	-0.168

Table 1u. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	49	23.8%	48	22.1%	1.667	0.040
Gestational Hypertension	33	16.0%	38	17.5%	-1.492	-0.040
Gestational Renal disease	*****	*****	*****	*****	-0.412	-0.038
Hypertension	17	8.3%	19	8.8%	-0.503	-0.018
Smoking	34	16.5%	37	17.1%	-0.546	-0.015
Number of dispensings in first trimester (0,90)						
One dispensing	90	43.7%	73	33.6%	10.049	0.207
Two or more dispensings	116	56.3%	144	66.4%	-10.049	-0.207
Medical Product Use						
Antihypertensive medications	20	9.7%	32	14.7%	-5.038	-0.154
Opioids	32	15.5%	27	12.4%	3.092	0.089
Suspected teratogens	52	25.2%	46	21.2%	4.045	0.096
Antidiabetic medications	12	5.8%	*****	*****	1.678	0.077
Buprenorphine	*****	*****	*****	*****	0.049	0.005
Insulin	*****	*****	*****	*****	0.098	0.007
Methadone	*****	*****	*****	*****	0.025	0.004
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.5	4.6	3.8	4.2	0.693	0.158
Mean number of emergency room encounters	0.1	0.4	0.0	0.2	0.099	0.288
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.009	-0.075
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.9	2.2	0.7	1.3	0.255	0.145

Table 1u. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.7	7.0	8.4	6.7	0.247	0.036
Mean number of generics dispensed	4.7	3.2	4.5	3.2	0.225	0.070
Mean number of unique drug classes dispensed	4.5	3.0	4.3	3.0	0.217	0.072

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1v. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	99	N/A	102	N/A	N/A	N/A
Pregnancies	102	100.0%	102	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.3	2.6	38.0	2.4	0.270	0.109
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	102	100.0%	102	100.0%	0.000	NaN
Sex						
Female	102	100.0%	102	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	0	0.0%	NaN	NaN
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	0.980	0.082
Multi-racial	0	0.0%	0	0.0%	NaN	NaN
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	91	89.2%	*****	*****	-2.941	-0.101
White	*****	*****	*****	*****	0.980	0.038
Hispanic origin						
Yes	0	0.0%	0	0.0%	NaN	NaN
No	*****	*****	*****	*****	0.000	0.000
Unknown	*****	*****	*****	*****	0.000	0.000
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1v. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.980	0.082
2008	*****	*****	*****	*****	0.000	0.000
2009	*****	*****	*****	*****	0.000	0.000
2010	*****	*****	*****	*****	0.000	0.000
2011	*****	*****	*****	*****	-1.961	-0.083
2012	*****	*****	*****	*****	1.961	0.101
2013	*****	*****	*****	*****	0.980	0.035
2014	*****	*****	*****	*****	-0.980	-0.043
2015	*****	*****	*****	*****	-0.980	-0.048
2016	11	10.8%	*****	*****	3.922	0.139
2017	*****	*****	12	11.8%	-2.941	-0.097
2018	*****	*****	*****	*****	2.941	0.107
2019	*****	*****	*****	*****	0.980	0.048
2020	12	11.8%	17	16.7%	-4.902	-0.141
2021	*****	*****	*****	*****	-0.980	-0.035
2022	*****	*****	*****	*****	0.980	0.054

Table 1v. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	*****	*****	*****	*****	1.961	0.069
Term (259-280 days)	37	36.3%	43	42.2%	-5.882	-0.121
Post-Term (281-301 days)	22	21.6%	14	13.7%	7.843	0.207
Unknown Term	33	32.4%	37	36.3%	-3.922	-0.083
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.8	1.5	39.7	1.4	0.059	0.042
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-6.3	19.5	-20.0	48.9	13.676	0.367
Mean number of dispensings in first trimester	1.8	1.1	2.2	1.3	-0.402	-0.342
	Number	Percent	Number	Percent		
Exposed during first trimester	102	100.0%	102	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	3.2	2.4	2.8	2.4	0.392	0.165
	Number	Percent	Number	Percent		
Anxiety Disorders	22	21.6%	27	26.5%	-4.902	-0.115
Depressive Disorders	31	30.4%	27	26.5%	3.922	0.087
All other psychiatric and neurological conditions	16	15.7%	15	14.7%	0.980	0.027
Psychotropic medications	53	52.0%	57	55.9%	-3.922	-0.079
Obesity	*****	*****	13	12.7%	-4.902	-0.162
Renal disease	*****	*****	*****	*****	-0.980	-0.034
Alcohol use or dependence	*****	*****	0	0.0%	NaN	NaN
Diabetes	*****	*****	0	0.0%	NaN	NaN
Drug abuse or dependence	*****	*****	*****	*****	0.000	0.000

Table 1v. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	21	20.6%	19	18.6%	1.961	0.049
Gestational Hypertension	14	13.7%	14	13.7%	0.000	0.000
Gestational Renal disease	*****	*****	*****	*****	0.000	0.000
Hypertension	*****	*****	*****	*****	0.980	0.038
Smoking	14	13.7%	15	14.7%	-0.980	-0.028
Number of dispensings in first trimester (0,90)						
One dispensing	53	52.0%	39	38.2%	13.725	0.279
Two or more dispensings	49	48.0%	63	61.8%	-13.725	-0.279
Medical Product Use						
Antihypertensive medications	11	10.8%	11	10.8%	0.000	0.000
Opioids	11	10.8%	12	11.8%	-0.980	-0.031
Suspected teratogens	23	22.5%	17	16.7%	5.882	0.149
Antidiabetic medications	*****	*****	*****	*****	0.980	0.063
Buprenorphine	0	0.0%	0	0.0%	NaN	NaN
Insulin	*****	*****	0	0.0%	NaN	NaN
Methadone	*****	*****	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.0	4.5	3.5	3.8	0.461	0.111
Mean number of emergency room encounters	0.1	0.3	0.0	0.2	0.020	0.084
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.2	-0.020	-0.142
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.7	0.9	0.5	1.1	0.127	0.122

Table 1v. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.6	6.5	8.2	5.9	-0.627	-0.101
Mean number of generics dispensed	4.3	3.2	4.3	2.8	0.049	0.016
Mean number of unique drug classes dispensed	4.2	3.1	4.2	2.6	0.049	0.017

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1w. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	396	N/A	272	N/A	N/A	N/A
Pregnancies	402	100.0%	272	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	31.8	4.7	32.1	4.9	-0.301	-0.062
Age	Number	Percent	Number	Percent		
10-34 years	312	77.6%	199	73.2%	4.450	0.103
35-54 years	90	22.4%	73	26.8%	-4.450	-0.103
Sex						
Female	402	100.0%	272	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	0	0.0%	NaN	NaN
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	*****	*****	2.023	0.115
Multi-racial	*****	*****	*****	*****	-0.108	-0.011
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	326	81.1%	239	87.9%	-6.773	-0.188
White	54	13.4%	*****	*****	4.977	0.160
Hispanic origin						
Yes	*****	*****	*****	*****	-2.065	-0.139
No	*****	*****	*****	*****	5.334	0.178
Unknown	346	86.1%	243	89.3%	-3.269	-0.100
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1w. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	-0.097	-0.007
2008	*****	*****	*****	*****	-0.691	-0.039
2009	31	7.7%	18	6.6%	1.094	0.042
2010	32	8.0%	18	6.6%	1.343	0.052
2011	18	4.5%	11	4.0%	0.433	0.021
2012	24	6.0%	16	5.9%	0.088	0.004
2013	21	5.2%	21	7.7%	-2.497	-0.102
2014	21	5.2%	13	4.8%	0.444	0.020
2015	28	7.0%	17	6.3%	0.715	0.029
2016	35	8.7%	24	8.8%	-0.117	-0.004
2017	37	9.2%	22	8.1%	1.116	0.040
2018	35	8.7%	21	7.7%	0.986	0.036
2019	29	7.2%	20	7.4%	-0.139	-0.005
2020	42	10.4%	29	10.7%	-0.214	-0.007
2021	15	3.7%	13	4.8%	-1.048	-0.052
2022	15	3.7%	14	5.1%	-1.416	-0.069

Table 1w. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	31	7.7%	24	8.8%	-1.112	-0.040
Term (259-280 days)	147	36.6%	97	35.7%	0.905	0.019
Post-Term (281-301 days)	68	16.9%	48	17.6%	-0.732	-0.019
Unknown Term	156	38.8%	103	37.9%	0.938	0.019
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.5	39.7	1.6	0.022	0.014
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-1.0	7.5	-1.5	10.4	0.418	0.046
Mean number of dispensings in first trimester	1.0	0.0	1.0	0.1	-0.012	-0.132
	Number	Percent	Number	Percent		
Exposed during first trimester	402	100.0%	272	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.8	2.2	1.8	2.3	0.052	0.023
	Number	Percent	Number	Percent		
Anxiety Disorders	83	20.6%	37	13.6%	7.044	0.188
Depressive Disorders	85	21.1%	57	21.0%	0.188	0.005
All other psychiatric and neurological conditions	64	15.9%	32	11.8%	4.156	0.121
Psychotropic medications	177	44.0%	99	36.4%	7.633	0.156
Obesity	44	10.9%	34	12.5%	-1.555	-0.048
Renal disease	38	9.5%	19	7.0%	2.467	0.090
Alcohol use or dependence	*****	*****	*****	*****	0.022	0.002
Diabetes	*****	*****	*****	*****	1.385	0.104
Drug abuse or dependence	13	3.2%	*****	*****	-0.443	-0.024

Table 1w. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	58	14.4%	45	16.5%	-2.116	-0.059
Gestational Hypertension	51	12.7%	33	12.1%	0.554	0.017
Gestational Renal disease	*****	*****	*****	*****	-0.605	-0.068
Hypertension	20	5.0%	11	4.0%	0.931	0.045
Smoking	50	12.4%	30	11.0%	1.408	0.044
Number of dispensings in first trimester (0,90)						
One dispensing	402	100.0%	272	100.0%	0.000	NaN
Two or more dispensings	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Antihypertensive medications	28	7.0%	13	4.8%	2.186	0.093
Opioids	49	12.2%	25	9.2%	2.998	0.097
Suspected teratogens	65	16.2%	45	16.5%	-0.375	-0.010
Antidiabetic medications	15	3.7%	*****	*****	1.525	0.090
Buprenorphine	*****	*****	*****	*****	0.011	0.001
Insulin	*****	*****	*****	*****	0.508	0.051
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.0	3.1	4.0	1.290	0.254
Mean number of emergency room encounters	0.1	0.4	0.1	0.4	0.073	0.189
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.001	-0.011
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	3.4	0.6	1.3	0.234	0.091

Table 1w. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	5.9	5.4	5.2	4.5	0.615	0.124
Mean number of generics dispensed	3.7	2.9	3.3	2.6	0.374	0.135
Mean number of unique drug classes dispensed	3.6	2.7	3.2	2.5	0.354	0.137

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1x. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	195	N/A	197	N/A	N/A	N/A
Pregnancies	197	100.0%	197	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.0	4.6	32.2	5.0	-0.255	-0.053
Age	Number	Percent	Number	Percent		
10-34 years	153	77.7%	141	71.6%	6.091	0.140
35-54 years	44	22.3%	56	28.4%	-6.091	-0.140
Sex						
Female	197	100.0%	197	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	0	0.0%	0	0.0%	NaN	NaN
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	-0.508	-0.045
Multi-racial	*****	*****	*****	*****	0.508	0.058
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	179	90.9%	179	90.9%	0.000	0.000
White	*****	*****	*****	*****	0.000	0.000
Hispanic origin						
Yes	*****	*****	*****	*****	-1.523	-0.136
No	*****	*****	*****	*****	-0.508	-0.022
Unknown	185	93.9%	181	91.9%	2.030	0.079
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1x. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.000	0.000
2008	*****	*****	*****	*****	-0.508	-0.028
2009	13	6.6%	*****	*****	2.030	0.089
2010	16	8.1%	14	7.1%	1.015	0.038
2011	*****	*****	*****	*****	-1.015	-0.051
2012	12	6.1%	12	6.1%	0.000	0.000
2013	13	6.6%	12	6.1%	0.508	0.021
2014	12	6.1%	*****	*****	1.015	0.044
2015	15	7.6%	15	7.6%	0.000	0.000
2016	15	7.6%	16	8.1%	-0.508	-0.019
2017	14	7.1%	17	8.6%	-1.523	-0.057
2018	19	9.6%	19	9.6%	0.000	0.000
2019	13	6.6%	14	7.1%	-0.508	-0.020
2020	21	10.7%	20	10.2%	0.508	0.017
2021	*****	*****	*****	*****	-1.523	-0.080
2022	*****	*****	*****	*****	0.508	0.024

Table 1x. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	17	8.6%	17	8.6%	0.000	0.000
Term (259-280 days)	68	34.5%	72	36.5%	-2.030	-0.042
Post-Term (281-301 days)	33	16.8%	34	17.3%	-0.508	-0.014
Unknown Term	79	40.1%	74	37.6%	2.538	0.052
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.7	39.8	1.4	-0.107	-0.070
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-0.7	6.6	-1.9	11.9	1.254	0.131
Mean number of dispensings in first trimester	1.0	0.1	1.0	0.1	-0.005	-0.058
	Number	Percent	Number	Percent		
Exposed during first trimester	197	100.0%	197	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.8	2.4	0.051	0.022
	Number	Percent	Number	Percent		
Anxiety Disorders	32	16.2%	28	14.2%	2.030	0.057
Depressive Disorders	33	16.8%	36	18.3%	-1.523	-0.040
All other psychiatric and neurological conditions	23	11.7%	25	12.7%	-1.015	-0.031
Psychotropic medications	72	36.5%	72	36.5%	0.000	0.000
Obesity	25	12.7%	26	13.2%	-0.508	-0.015
Renal disease	16	8.1%	13	6.6%	1.523	0.058
Alcohol use or dependence	*****	*****	*****	*****	0.000	0.000
Diabetes	0	0.0%	0	0.0%	NaN	NaN
Drug abuse or dependence	*****	*****	*****	*****	0.508	0.045

Table 1x. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	30	15.2%	26	13.2%	2.030	0.058
Gestational Hypertension	25	12.7%	24	12.2%	0.508	0.015
Gestational Renal disease	0	0.0%	0	0.0%	NaN	NaN
Hypertension	*****	*****	*****	*****	-1.015	-0.051
Smoking	21	10.7%	21	10.7%	0.000	0.000
Number of dispensings in first trimester (0,90)						
One dispensing	197	100.0%	197	100.0%	0.000	NaN
Two or more dispensings	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Antihypertensive medications	*****	*****	*****	*****	-1.523	-0.075
Opioids	15	7.6%	14	7.1%	0.508	0.019
Suspected teratogens	35	17.8%	35	17.8%	0.000	0.000
Antidiabetic medications	*****	*****	*****	*****	0.508	0.034
Buprenorphine	*****	*****	0	0.0%	NaN	NaN
Insulin	0	0.0%	0	0.0%	NaN	NaN
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	3.8	3.7	3.3	4.3	0.503	0.125
Mean number of emergency room encounters	0.1	0.3	0.0	0.1	0.051	0.201
Mean number of inpatient hospital encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.6	1.0	0.6	1.4	-0.010	-0.009

Table 1x. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	5.2	4.7	5.4	4.6	-0.162	-0.035
Mean number of generics dispensed	3.4	2.7	3.4	2.6	-0.030	-0.011
Mean number of unique drug classes dispensed	3.3	2.5	3.3	2.4	-0.015	-0.006

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1y. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	394	N/A	537	N/A	N/A	N/A
Pregnancies	407	100.0%	537	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.4	4.8	32.1	4.8	0.320	0.067
Age	Number	Percent	Number	Percent		
10-34 years	291	71.5%	393	73.2%	-1.686	-0.038
35-54 years	116	28.5%	144	26.8%	1.686	0.038
Sex						
Female	407	100.0%	537	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.685	-0.090
Asian	*****	*****	0	0.0%	NaN	NaN
Black or African American	*****	*****	31	5.8%	-3.316	-0.168
Multi-racial	*****	*****	*****	*****	0.111	0.010
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	317	77.9%	411	76.5%	1.351	0.032
White	71	17.4%	84	15.6%	1.802	0.049
Hispanic origin						
Yes	*****	*****	*****	*****	0.238	0.026
No	*****	*****	*****	*****	-2.220	-0.059
Unknown	337	82.8%	434	80.8%	1.982	0.051
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1y. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	11	2.7%	*****	*****	1.399	0.100
2008	11	2.7%	*****	*****	0.282	0.018
2009	27	6.6%	29	5.4%	1.234	0.052
2010	19	4.7%	39	7.3%	-2.594	-0.110
2011	19	4.7%	37	6.9%	-2.222	-0.095
2012	26	6.4%	27	5.0%	1.360	0.059
2013	25	6.1%	26	4.8%	1.301	0.057
2014	20	4.9%	22	4.1%	0.817	0.039
2015	22	5.4%	30	5.6%	-0.181	-0.008
2016	40	9.8%	42	7.8%	2.007	0.071
2017	42	10.3%	65	12.1%	-1.785	-0.057
2018	32	7.9%	42	7.8%	0.041	0.002
2019	43	10.6%	50	9.3%	1.254	0.042
2020	34	8.4%	57	10.6%	-2.261	-0.077
2021	20	4.9%	30	5.6%	-0.673	-0.030
2022	16	3.9%	21	3.9%	0.021	0.001

Table 1y. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	40	9.8%	47	8.8%	1.076	0.037
Term (259-280 days)	152	37.3%	214	39.9%	-2.505	-0.051
Post-Term (281-301 days)	63	15.5%	79	14.7%	0.768	0.021
Unknown Term	152	37.3%	197	36.7%	0.661	0.014
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.6	39.6	1.7	-0.101	-0.061
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-14.5	29.0	-27.0	46.4	12.512	0.323
Mean number of dispensings in first trimester	2.6	0.9	2.9	1.0	-0.345	-0.355
	Number	Percent	Number	Percent		
Exposed during first trimester	407	100.0%	537	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	2.0	2.2	1.9	2.3	0.026	0.012
	Number	Percent	Number	Percent		
Anxiety Disorders	85	20.9%	124	23.1%	-2.207	-0.053
Depressive Disorders	110	27.0%	149	27.7%	-0.720	-0.016
All other psychiatric and neurological conditions	84	20.6%	114	21.2%	-0.590	-0.015
Psychotropic medications	220	54.1%	274	51.0%	3.030	0.061
Obesity	47	11.5%	65	12.1%	-0.556	-0.017
Renal disease	43	10.6%	55	10.2%	0.323	0.011
Alcohol use or dependence	*****	*****	*****	*****	-0.507	-0.046
Diabetes	*****	*****	*****	*****	-0.016	-0.001
Drug abuse or dependence	31	7.6%	34	6.3%	1.285	0.050

Table 1y. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	65	16.0%	83	15.5%	0.514	0.014
Gestational Hypertension	50	12.3%	87	16.2%	-3.916	-0.112
Gestational Renal disease	*****	*****	*****	*****	0.111	0.010
Hypertension	23	5.7%	32	6.0%	-0.308	-0.013
Smoking	61	15.0%	72	13.4%	1.580	0.045
Number of dispensings in first trimester (0,90)						
One dispensing	0	0.0%	0	0.0%	NaN	NaN
Two or more dispensings	407	100.0%	537	100.0%	0.000	NaN
Medical Product Use						
Antihypertensive medications	37	9.1%	63	11.7%	-2.641	-0.087
Opioids	54	13.3%	81	15.1%	-1.816	-0.052
Suspected teratogens	70	17.2%	97	18.1%	-0.864	-0.023
Antidiabetic medications	15	3.7%	20	3.7%	-0.039	-0.002
Buprenorphine	13	3.2%	12	2.2%	0.959	0.059
Insulin	*****	*****	*****	*****	0.111	0.010
Methadone	*****	*****	*****	*****	0.059	0.013
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.119	0.018
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.3	3.3	3.9	1.132	0.216
Mean number of emergency room encounters	0.1	0.5	0.1	0.4	0.059	0.134
Mean number of inpatient hospital encounters	0.0	0.2	0.0	0.1	0.003	0.022
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	1.8	0.6	1.6	0.211	0.124

Table 1y. Aggregated Unadjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.7	6.5	8.7	6.8	-0.002	-0.000
Mean number of generics dispensed	4.6	3.2	4.2	3.3	0.397	0.122
Mean number of unique drug classes dispensed	4.5	2.9	4.1	3.0	0.382	0.128

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1z. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	305	N/A	313	N/A	N/A	N/A
Pregnancies	313	100.0%	313	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.2	4.9	32.2	4.8	-0.034	-0.007
Age	Number	Percent	Number	Percent		
10-34 years	233	74.4%	228	72.8%	1.597	0.036
35-54 years	80	25.6%	85	27.2%	-1.597	-0.036
Sex						
Female	313	100.0%	313	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	0	0.0%	NaN	NaN
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	0.639	0.040
Multi-racial	*****	*****	*****	*****	-0.639	-0.057
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	250	79.9%	253	80.8%	-0.958	-0.024
White	50	16.0%	48	15.3%	0.639	0.018
Hispanic origin						
Yes	*****	*****	*****	*****	0.000	0.000
No	*****	*****	*****	*****	0.319	0.009
Unknown	260	83.1%	261	83.4%	-0.319	-0.009
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1z. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.319	0.021
2008	*****	*****	*****	*****	0.319	0.019
2009	19	6.1%	22	7.0%	-0.958	-0.039
2010	18	5.8%	14	4.5%	1.278	0.058
2011	17	5.4%	13	4.2%	1.278	0.060
2012	17	5.4%	22	7.0%	-1.597	-0.066
2013	16	5.1%	18	5.8%	-0.639	-0.028
2014	16	5.1%	14	4.5%	0.639	0.030
2015	21	6.7%	20	6.4%	0.319	0.013
2016	32	10.2%	28	8.9%	1.278	0.043
2017	36	11.5%	33	10.5%	0.958	0.031
2018	20	6.4%	22	7.0%	-0.639	-0.026
2019	30	9.6%	29	9.3%	0.319	0.011
2020	27	8.6%	33	10.5%	-1.917	-0.065
2021	14	4.5%	15	4.8%	-0.319	-0.015
2022	12	3.8%	14	4.5%	-0.639	-0.032

Table 1z. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	31	9.9%	25	8.0%	1.917	0.067
Term (259-280 days)	114	36.4%	125	39.9%	-3.514	-0.072
Post-Term (281-301 days)	51	16.3%	46	14.7%	1.597	0.044
Unknown Term	117	37.4%	117	37.4%	0.000	0.000
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.6	39.7	1.5	-0.157	-0.100
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-15.3	31.2	-27.7	48.7	12.412	0.303
Mean number of dispensings in first trimester	2.6	0.9	2.9	1.0	-0.371	-0.388
	Number	Percent	Number	Percent		
Exposed during first trimester	313	100.0%	313	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.9	2.2	-0.045	-0.020
	Number	Percent	Number	Percent		
Anxiety Disorders	65	20.8%	64	20.4%	0.319	0.008
Depressive Disorders	83	26.5%	86	27.5%	-0.958	-0.022
All other psychiatric and neurological conditions	53	16.9%	54	17.3%	-0.319	-0.008
Psychotropic medications	160	51.1%	167	53.4%	-2.236	-0.045
Obesity	32	10.2%	38	12.1%	-1.917	-0.061
Renal disease	33	10.5%	24	7.7%	2.875	0.100
Alcohol use or dependence	*****	*****	*****	*****	0.319	0.036
Diabetes	*****	*****	*****	*****	-0.958	-0.091
Drug abuse or dependence	19	6.1%	18	5.8%	0.319	0.014

Table 1z. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	48	15.3%	56	17.9%	-2.556	-0.069
Gestational Hypertension	38	12.1%	40	12.8%	-0.639	-0.019
Gestational Renal disease	*****	*****	*****	*****	-0.319	-0.030
Hypertension	16	5.1%	18	5.8%	-0.639	-0.028
Smoking	44	14.1%	44	14.1%	0.000	0.000
Number of dispensings in first trimester (0,90)						
One dispensing	0	0.0%	0	0.0%	NaN	NaN
Two or more dispensings	313	100.0%	313	100.0%	0.000	NaN
Medical Product Use						
Antihypertensive medications	28	8.9%	32	10.2%	-1.278	-0.043
Opioids	44	14.1%	44	14.1%	0.000	0.000
Suspected teratogens	51	16.3%	45	14.4%	1.917	0.053
Antidiabetic medications	*****	*****	*****	*****	-0.958	-0.059
Buprenorphine	*****	*****	*****	*****	0.000	0.000
Insulin	*****	*****	*****	*****	-0.639	-0.080
Methadone	*****	*****	*****	*****	0.000	0.000
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	3.9	4.1	3.0	3.7	0.955	0.245
Mean number of emergency room encounters	0.1	0.4	0.1	0.3	0.061	0.159
Mean number of inpatient hospital encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.9	2.0	0.6	1.7	0.208	0.111

Table 1z. Aggregated Adjusted Characteristics of Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.2	6.0	8.5	6.5	-0.355	-0.057
Mean number of generics dispensed	4.4	2.9	4.1	3.0	0.284	0.097
Mean number of unique drug classes dispensed	4.3	2.7	4.0	2.8	0.265	0.097

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1aa. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	785	N/A	3,459,349	N/A	N/A	N/A
Pregnancies	813	100.0%	3,981,491	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.1	4.8	29.4	5.1	2.729	0.550
Age	Number	Percent	Number	Percent		
10-34 years	604	74.3%	3,330,869	83.7%	-9.366	-0.231
35-54 years	209	25.7%	650,622	16.3%	9.366	0.231
Sex						
Female	813	100.0%	3,981,491	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	43,883	1.1%	-0.856	-0.105
Asian	*****	*****	82,017	2.1%	-1.814	-0.171
Black or African American	27	3.3%	358,858	9.0%	-5.692	-0.238
Multi-racial	*****	*****	16,978	0.4%	0.681	0.078
Native Hawaiian or Other Pacific Islander	*****	*****	12,901	0.3%	-0.201	-0.043
Unknown	646	79.5%	2,755,584	69.2%	10.249	0.236
White	126	15.5%	711,270	17.9%	-2.366	-0.064
Hispanic origin						
Yes	*****	*****	347,742	8.7%	-7.627	-0.358
No	117	14.4%	1,056,466	26.5%	-12.143	-0.304
Unknown	687	84.5%	2,577,283	64.7%	19.770	0.466
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1aa. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	432	0.0%	NaN	NaN
2007	18	2.2%	60,061	1.5%	0.706	0.052
2008	23	2.8%	63,139	1.6%	1.243	0.085
2009	59	7.3%	180,038	4.5%	2.735	0.116
2010	52	6.4%	164,971	4.1%	2.253	0.101
2011	37	4.6%	151,689	3.8%	0.741	0.037
2012	50	6.2%	142,634	3.6%	2.568	0.120
2013	46	5.7%	147,426	3.7%	1.955	0.093
2014	41	5.0%	162,691	4.1%	0.957	0.046
2015	51	6.3%	222,478	5.6%	0.685	0.029
2016	75	9.2%	312,697	7.9%	1.371	0.049
2017	79	9.7%	530,183	13.3%	-3.599	-0.113
2018	67	8.2%	544,908	13.7%	-5.445	-0.175
2019	72	8.9%	519,760	13.1%	-4.198	-0.135
2020	76	9.3%	484,030	12.2%	-2.809	-0.091
2021	35	4.3%	172,033	4.3%	-0.016	-0.001
2022	32	3.9%	122,321	3.1%	0.864	0.047

Table 1aa. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	72	8.9%	258,282	6.5%	2.369	0.089
Term (259-280 days)	301	37.0%	1,784,602	44.8%	-7.799	-0.159
Post-Term (281-301 days)	131	16.1%	830,013	20.8%	-4.734	-0.122
Unknown Term	309	38.0%	1,108,594	27.8%	10.164	0.218
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.8	1.5	-0.143	-0.092
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.2	0.0	0.1	-7.768	-0.494
Mean number of dispensings in first trimester	1.8	1.0	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	813	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.3	1.8	0.581	0.286
	Number	Percent	Number	Percent		
Anxiety Disorders	169	20.8%	264,173	6.6%	14.152	0.420
Depressive Disorders	196	24.1%	233,924	5.9%	18.233	0.528
All other psychiatric and neurological conditions	148	18.2%	270,713	6.8%	11.405	0.350
Psychotropic medications	400	49.2%	377,025	9.5%	39.731	0.970
Obesity	95	11.7%	249,042	6.3%	5.430	0.191
Renal disease	82	10.1%	417,171	10.5%	-0.392	-0.013
Alcohol use or dependence	*****	*****	24,238	0.6%	0.621	0.065
Diabetes	20	2.5%	55,826	1.4%	1.058	0.077
Drug abuse or dependence	44	5.4%	87,442	2.2%	3.216	0.169
Gestational Diabetes	126	15.5%	480,341	12.1%	3.434	0.100

Table 1aa. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	103	12.7%	377,336	9.5%	3.192	0.102
Gestational Renal disease	*****	*****	35,099	0.9%	0.102	0.011
Hypertension	44	5.4%	102,694	2.6%	2.833	0.145
Smoking	113	13.9%	205,343	5.2%	8.742	0.301
Medical Product Use						
Antihypertensive medications	68	8.4%	93,152	2.3%	6.024	0.270
Opioids	103	12.7%	139,097	3.5%	9.176	0.342
Suspected teratogens	138	17.0%	406,066	10.2%	6.775	0.199
Antidiabetic medications	34	4.2%	69,654	1.7%	2.433	0.144
Buprenorphine	16	2.0%	13,490	0.3%	1.629	0.153
Insulin	14	1.7%	24,100	0.6%	1.117	0.104
Methadone	*****	*****	472	0.0%	0.111	0.043
Naloxone	0	0.0%	1,060	0.0%	NaN	NaN
Naltrexone	*****	*****	1,861	0.0%	0.445	0.086
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.1	2.1	3.7	2.267	0.450
Mean number of emergency room encounters	0.1	0.5	0.1	0.5	-0.009	-0.018
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.005	-0.033
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.0	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	0.6	2.4	0.228	0.090

Table 1aa. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.3	6.1	1.9	3.1	5.450	1.119
Mean number of generics dispensed	4.2	3.1	1.3	2.0	2.850	1.082
Mean number of unique drug classes dispensed	4.1	2.9	1.3	1.9	2.758	1.136

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1ab. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	785	N/A	813	N/A	N/A	N/A
Pregnancies	813	100.0%	813	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.1	4.8	32.4	4.8	-0.250	-0.052
Age	Number	Percent	Number	Percent		
10-34 years	604	74.3%	580	71.3%	2.952	0.066
35-54 years	209	25.7%	233	28.7%	-2.952	-0.066
Sex						
Female	813	100.0%	813	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.123	0.029
Asian	*****	*****	*****	*****	0.000	0.000
Black or African American	27	3.3%	32	3.9%	-0.615	-0.033
Multi-racial	*****	*****	*****	*****	-0.246	-0.022
Native Hawaiian or Other Pacific Islander	*****	*****	*****	*****	0.000	0.000
Unknown	646	79.5%	641	78.8%	0.615	0.015
White	126	15.5%	125	15.4%	0.123	0.003
Hispanic origin						
Yes	*****	*****	16	2.0%	-0.861	-0.070
No	*****	*****	122	15.0%	-0.615	-0.017
Unknown	687	84.5%	675	83.0%	1.476	0.040
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1ab. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	18	2.2%	17	2.1%	0.123	0.008
2008	23	2.8%	35	4.3%	-1.476	-0.080
2009	59	7.3%	74	9.1%	-1.845	-0.067
2010	52	6.4%	47	5.8%	0.615	0.026
2011	37	4.6%	40	4.9%	-0.369	-0.017
2012	50	6.2%	47	5.8%	0.369	0.016
2013	46	5.7%	44	5.4%	0.246	0.011
2014	41	5.0%	40	4.9%	0.123	0.006
2015	51	6.3%	42	5.2%	1.107	0.048
2016	75	9.2%	74	9.1%	0.123	0.004
2017	79	9.7%	77	9.5%	0.246	0.008
2018	67	8.2%	68	8.4%	-0.123	-0.004
2019	72	8.9%	67	8.2%	0.615	0.022
2020	76	9.3%	67	8.2%	1.107	0.039
2021	35	4.3%	38	4.7%	-0.369	-0.018
2022	32	3.9%	36	4.4%	-0.492	-0.025

Table 1ab. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	72	8.9%	73	9.0%	-0.123	-0.004
Term (259-280 days)	301	37.0%	281	34.6%	2.460	0.051
Post-Term (281-301 days)	131	16.1%	131	16.1%	0.000	0.000
Unknown Term	309	38.0%	328	40.3%	-2.337	-0.048
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.6	1.5	-0.010	-0.006
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.2	0.0	NaN	NaN	NaN
Mean number of dispensings in first trimester	1.8	1.0	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	813	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.9	2.4	-0.006	-0.003
	Number	Percent	Number	Percent		
Anxiety Disorders	169	20.8%	161	19.8%	0.984	0.024
Depressive Disorders	196	24.1%	188	23.1%	0.984	0.023
All other psychiatric and neurological conditions	148	18.2%	145	17.8%	0.369	0.010
Psychotropic medications	400	49.2%	407	50.1%	-0.861	-0.017
Obesity	95	11.7%	83	10.2%	1.476	0.047
Renal disease	82	10.1%	77	9.5%	0.615	0.021
Alcohol use or dependence	*****	*****	*****	*****	0.246	0.024
Diabetes	20	2.5%	17	2.1%	0.369	0.025
Drug abuse or dependence	44	5.4%	38	4.7%	0.738	0.034
Gestational Diabetes	126	15.5%	121	14.9%	0.615	0.017

Table 1ab. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	103	12.7%	105	12.9%	-0.246	-0.007
Gestational Renal disease	*****	*****	12	1.5%	-0.492	-0.045
Hypertension	44	5.4%	42	5.2%	0.246	0.011
Smoking	113	13.9%	115	14.1%	-0.246	-0.007
Medical Product Use						
Antihypertensive medications	68	8.4%	62	7.6%	0.738	0.027
Opioids	103	12.7%	99	12.2%	0.492	0.015
Suspected teratogens	138	17.0%	131	16.1%	0.861	0.023
Antidiabetic medications	34	4.2%	29	3.6%	0.615	0.032
Buprenorphine	16	2.0%	14	1.7%	0.246	0.018
Insulin	14	1.7%	11	1.4%	0.369	0.030
Methadone	*****	*****	*****	*****	0.000	0.000
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.246	0.041
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.1	3.6	5.0	0.834	0.149
Mean number of emergency room encounters	0.1	0.5	0.2	0.8	-0.036	-0.054
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.2	-0.012	-0.077
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.0	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	0.7	1.9	0.164	0.070

Table 1ab. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.3	6.1	4.4	5.9	2.907	0.484
Mean number of generics dispensed	4.2	3.1	2.7	3.1	1.480	0.477
Mean number of unique drug classes dispensed	4.1	2.9	2.6	2.9	1.442	0.503

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1ac. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	586	N/A	580	N/A	N/A	N/A
Pregnancies	604	100.0%	580	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	30.0	3.3	30.0	3.4	0.004	0.001
Age	Number	Percent	Number	Percent		
10-34 years	604	100.0%	580	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	604	100.0%	580	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.007	-0.002
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	*****	*****	-0.496	-0.026
Multi-racial	*****	*****	*****	*****	-0.200	-0.023
Native Hawaiian or Other Pacific Islander	*****	*****	*****	*****	-0.007	-0.002
Unknown	483	80.0%	452	77.9%	2.036	0.050
White	93	15.4%	96	16.6%	-1.154	-0.032
Hispanic origin						
Yes	*****	*****	14	2.4%	-1.089	-0.080
No	*****	*****	95	16.4%	-1.810	-0.050
Unknown	508	84.1%	471	81.2%	2.899	0.077
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1ac. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	16	2.6%	12	2.1%	0.580	0.038
2008	16	2.6%	21	3.6%	-0.972	-0.056
2009	46	7.6%	60	10.3%	-2.729	-0.096
2010	40	6.6%	30	5.2%	1.450	0.062
2011	26	4.3%	27	4.7%	-0.351	-0.017
2012	41	6.8%	32	5.5%	1.271	0.053
2013	31	5.1%	34	5.9%	-0.730	-0.032
2014	30	5.0%	28	4.8%	0.139	0.006
2015	37	6.1%	32	5.5%	0.609	0.026
2016	52	8.6%	58	10.0%	-1.391	-0.048
2017	59	9.8%	58	10.0%	-0.232	-0.008
2018	49	8.1%	43	7.4%	0.699	0.026
2019	58	9.6%	50	8.6%	0.982	0.034
2020	54	8.9%	48	8.3%	0.665	0.024
2021	23	3.8%	21	3.6%	0.187	0.010
2022	26	4.3%	26	4.5%	-0.178	-0.009

Table 1ac. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	49	8.1%	51	8.8%	-0.681	-0.024
Term (259-280 days)	221	36.6%	194	33.4%	3.141	0.066
Post-Term (281-301 days)	102	16.9%	103	17.8%	-0.871	-0.023
Unknown Term	232	38.4%	232	40.0%	-1.589	-0.033
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.6	39.7	1.5	-0.027	-0.017
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-8.3	24.0	0.0	NaN	NaN	NaN
Mean number of dispensings in first trimester	1.8	1.0	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	604	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.4	1.8	1.4	2.0	-0.012	-0.006
	Number	Percent	Number	Percent		
Anxiety Disorders	115	19.0%	112	19.3%	-0.271	-0.007
Depressive Disorders	132	21.9%	129	22.2%	-0.387	-0.009
All other psychiatric and neurological conditions	112	18.5%	107	18.4%	0.095	0.002
Psychotropic medications	273	45.2%	272	46.9%	-1.698	-0.034
Obesity	65	10.8%	56	9.7%	1.106	0.037
Renal disease	62	10.3%	60	10.3%	-0.080	-0.003
Alcohol use or dependence	*****	*****	*****	*****	-0.048	-0.004
Diabetes	12	2.0%	*****	*****	0.263	0.019
Drug abuse or dependence	38	6.3%	31	5.3%	0.947	0.040
Gestational Diabetes	75	12.4%	77	13.3%	-0.859	-0.026

Table 1ac. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	68	11.3%	77	13.3%	-2.018	-0.062
Gestational Renal disease	*****	*****	*****	*****	-0.214	-0.020
Hypertension	26	4.3%	26	4.5%	-0.178	-0.009
Smoking	77	12.7%	84	14.5%	-1.734	-0.051
Medical Product Use						
Antihypertensive medications	46	7.6%	45	7.8%	-0.143	-0.005
Opioids	71	11.8%	72	12.4%	-0.659	-0.020
Suspected teratogens	84	13.9%	79	13.6%	0.287	0.008
Antidiabetic medications	19	3.1%	21	3.6%	-0.475	-0.026
Buprenorphine	14	2.3%	12	2.1%	0.249	0.017
Insulin	*****	*****	*****	*****	-0.220	-0.020
Methadone	0	0.0%	*****	*****	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.490	0.076
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.5	3.4	5.0	1.006	0.173
Mean number of emergency room encounters	0.1	0.5	0.2	0.9	-0.071	-0.097
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.2	-0.016	-0.093
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.9	0.6	1.7	0.153	0.065

Table 1ac. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.8	5.7	4.1	5.7	2.718	0.478
Mean number of generics dispensed	4.0	3.0	2.6	3.0	1.448	0.479
Mean number of unique drug classes dispensed	3.9	2.8	2.5	2.8	1.419	0.508

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1ad. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	456	N/A	469	N/A	N/A	N/A
Pregnancies	469	100.0%	469	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	30.2	3.3	30.2	3.2	-0.019	-0.006
Age	Number	Percent	Number	Percent		
10-34 years	469	100.0%	469	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	469	100.0%	469	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.000	0.000
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	-0.853	-0.046
Multi-racial	*****	*****	*****	*****	0.213	0.038
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	387	82.5%	389	82.9%	-0.426	-0.011
White	63	13.4%	59	12.6%	0.853	0.025
Hispanic origin						
Yes	*****	*****	*****	*****	-0.426	-0.038
No	*****	*****	*****	*****	0.426	0.013
Unknown	400	85.3%	400	85.3%	0.000	0.000
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1ad. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	11	2.3%	11	2.3%	0.000	0.000
2008	16	3.4%	19	4.1%	-0.640	-0.034
2009	42	9.0%	47	10.0%	-1.066	-0.036
2010	26	5.5%	25	5.3%	0.213	0.009
2011	22	4.7%	21	4.5%	0.213	0.010
2012	31	6.6%	28	6.0%	0.640	0.026
2013	26	5.5%	27	5.8%	-0.213	-0.009
2014	27	5.8%	28	6.0%	-0.213	-0.009
2015	28	6.0%	30	6.4%	-0.426	-0.018
2016	43	9.2%	41	8.7%	0.426	0.015
2017	47	10.0%	46	9.8%	0.213	0.007
2018	39	8.3%	36	7.7%	0.640	0.024
2019	43	9.2%	35	7.5%	1.706	0.062
2020	36	7.7%	38	8.1%	-0.426	-0.016
2021	14	3.0%	14	3.0%	0.000	0.000
2022	18	3.8%	23	4.9%	-1.066	-0.052

Table 1ad. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	38	8.1%	39	8.3%	-0.213	-0.008
Term (259-280 days)	162	34.5%	147	31.3%	3.198	0.068
Post-Term (281-301 days)	78	16.6%	86	18.3%	-1.706	-0.045
Unknown Term	191	40.7%	197	42.0%	-1.279	-0.026
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.5	39.7	1.5	-0.070	-0.046
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-8.4	25.2	0.0	NaN	NaN	NaN
Mean number of dispensings in first trimester	1.8	1.0	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	469	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.3	1.8	1.3	1.9	0.011	0.006
	Number	Percent	Number	Percent		
Anxiety Disorders	88	18.8%	84	17.9%	0.853	0.022
Depressive Disorders	100	21.3%	97	20.7%	0.640	0.016
All other psychiatric and neurological conditions	76	16.2%	77	16.4%	-0.213	-0.006
Psychotropic medications	205	43.7%	201	42.9%	0.853	0.017
Obesity	35	7.5%	42	9.0%	-1.493	-0.054
Renal disease	44	9.4%	44	9.4%	0.000	0.000
Alcohol use or dependence	*****	*****	*****	*****	-0.213	-0.025
Diabetes	*****	*****	*****	*****	-0.213	-0.020
Drug abuse or dependence	22	4.7%	23	4.9%	-0.213	-0.010
Gestational Diabetes	48	10.2%	50	10.7%	-0.426	-0.014

Table 1ad. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	54	11.5%	51	10.9%	0.640	0.020
Gestational Renal disease	*****	*****	*****	*****	0.213	0.022
Hypertension	20	4.3%	21	4.5%	-0.213	-0.010
Smoking	53	11.3%	61	13.0%	-1.706	-0.052
Medical Product Use						
Antihypertensive medications	29	6.2%	34	7.2%	-1.066	-0.043
Opioids	53	11.3%	55	11.7%	-0.426	-0.013
Suspected teratogens	61	13.0%	59	12.6%	0.426	0.013
Antidiabetic medications	13	2.8%	12	2.6%	0.213	0.013
Buprenorphine	*****	*****	*****	*****	0.426	0.031
Insulin	*****	*****	*****	*****	-0.213	-0.025
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.000	0.000
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.1	5.6	3.2	4.9	0.953	0.181
Mean number of emergency room encounters	0.1	0.4	0.2	1.0	-0.092	-0.119
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.2	-0.021	-0.140
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of other ambulatory encounters	0.8	3.2	0.6	1.8	0.141	0.055

Table 1ad. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.6	5.5	3.8	5.5	2.834	0.513
Mean number of generics dispensed	3.9	2.9	2.3	2.9	1.546	0.533
Mean number of unique drug classes dispensed	3.8	2.7	2.3	2.7	1.510	0.557

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1ae. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	204	N/A	233	N/A	N/A	N/A
Pregnancies	209	100.0%	233	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.2	2.8	38.3	2.6	-0.037	-0.014
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	209	100.0%	233	100.0%	0.000	NaN
Sex						
Female	209	100.0%	233	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	0	0.0%	NaN	NaN
Asian	*****	*****	*****	*****	0.528	0.064
Black or African American	*****	*****	*****	*****	-1.041	-0.062
Multi-racial	*****	*****	*****	*****	-0.183	-0.012
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	163	78.0%	189	81.1%	-3.125	-0.078
White	33	15.8%	29	12.4%	3.343	0.096
Hispanic origin						
Yes	*****	*****	*****	*****	-0.380	-0.047
No	*****	*****	*****	*****	2.288	0.069
Unknown	179	85.6%	204	87.6%	-1.908	-0.056
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1ae. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	-1.189	-0.096
2008	*****	*****	14	6.0%	-2.659	-0.126
2009	13	6.2%	14	6.0%	0.212	0.009
2010	12	5.7%	17	7.3%	-1.555	-0.063
2011	11	5.3%	13	5.6%	-0.316	-0.014
2012	*****	*****	15	6.4%	-2.132	-0.095
2013	15	7.2%	*****	*****	2.885	0.124
2014	11	5.3%	12	5.2%	0.113	0.005
2015	14	6.7%	*****	*****	2.407	0.106
2016	23	11.0%	16	6.9%	4.138	0.145
2017	20	9.6%	19	8.2%	1.415	0.050
2018	18	8.6%	25	10.7%	-2.117	-0.072
2019	14	6.7%	17	7.3%	-0.598	-0.023
2020	22	10.5%	19	8.2%	2.372	0.082
2021	12	5.7%	17	7.3%	-1.555	-0.063
2022	*****	*****	*****	*****	-1.421	-0.077

Table 1ae. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	23	11.0%	22	9.4%	1.563	0.052
Term (259-280 days)	80	38.3%	87	37.3%	0.938	0.019
Post-Term (281-301 days)	29	13.9%	28	12.0%	1.858	0.055
Unknown Term	77	36.8%	96	41.2%	-4.360	-0.089
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.5	39.5	1.5	0.020	0.013
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-6.2	15.7	0.0	NaN	NaN	NaN
Mean number of dispensings in first trimester	1.9	1.0	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	209	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	3.4	2.5	3.2	2.7	0.220	0.085
	Number	Percent	Number	Percent		
Anxiety Disorders	54	25.8%	49	21.0%	4.807	0.114
Depressive Disorders	64	30.6%	59	25.3%	5.300	0.118
All other psychiatric and neurological conditions	36	17.2%	38	16.3%	0.916	0.025
Psychotropic medications	127	60.8%	135	57.9%	2.826	0.058
Obesity	30	14.4%	27	11.6%	2.766	0.082
Renal disease	20	9.6%	17	7.3%	2.273	0.082
Alcohol use or dependence	*****	*****	*****	*****	1.006	0.105
Diabetes	*****	*****	*****	*****	0.823	0.045
Drug abuse or dependence	*****	*****	*****	*****	-0.133	-0.008
Gestational Diabetes	51	24.4%	44	18.9%	5.518	0.134

Table 1ae. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	35	16.7%	28	12.0%	4.729	0.135
Gestational Renal disease	*****	*****	*****	*****	-1.189	-0.096
Hypertension	18	8.6%	16	6.9%	1.745	0.065
Smoking	36	17.2%	31	13.3%	3.920	0.109
Medical Product Use						
Antihypertensive medications	22	10.5%	17	7.3%	3.230	0.114
Opioids	32	15.3%	27	11.6%	3.723	0.109
Suspected teratogens	54	25.8%	52	22.3%	3.520	0.082
Antidiabetic medications	15	7.2%	*****	*****	3.744	0.168
Buprenorphine	*****	*****	*****	*****	0.099	0.010
Insulin	*****	*****	*****	*****	2.062	0.137
Methadone	*****	*****	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	*****	*****	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.5	4.6	4.1	5.2	0.422	0.086
Mean number of emergency room encounters	0.1	0.5	0.1	0.4	0.054	0.130
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.003	-0.023
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.9	2.1	0.7	2.3	0.209	0.094

Table 1ae. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.8	7.0	5.2	6.2	3.575	0.540
Mean number of generics dispensed	4.8	3.3	3.1	3.2	1.637	0.506
Mean number of unique drug classes dispensed	4.6	3.0	3.0	3.0	1.571	0.525

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1af. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	113	N/A	116	N/A	N/A	N/A
Pregnancies	116	100.0%	116	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.3	2.5	38.4	2.9	-0.182	-0.067
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	116	100.0%	116	100.0%	0.000	NaN
Sex						
Female	116	100.0%	116	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	0	0.0%	0	0.0%	NaN	NaN
Asian	*****	*****	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	0.000	0.000
Multi-racial	*****	*****	*****	*****	0.000	0.000
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	104	89.7%	103	88.8%	0.862	0.028
White	*****	*****	*****	*****	-1.724	-0.064
Hispanic origin						
Yes	0	0.0%	0	0.0%	NaN	NaN
No	*****	*****	*****	*****	0.000	0.000
Unknown	*****	*****	*****	*****	0.000	0.000
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1af. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.862	0.076
2008	*****	*****	*****	*****	0.000	0.000
2009	*****	*****	*****	*****	0.000	0.000
2010	*****	*****	12	10.3%	-3.448	-0.123
2011	*****	*****	*****	*****	-1.724	-0.072
2012	*****	*****	*****	*****	2.586	0.113
2013	*****	*****	*****	*****	0.000	0.000
2014	*****	*****	*****	*****	0.862	0.037
2015	*****	*****	*****	*****	0.000	0.000
2016	*****	*****	*****	*****	0.000	0.000
2017	*****	*****	*****	*****	-0.862	-0.037
2018	16	13.8%	16	13.8%	0.000	0.000
2019	*****	*****	*****	*****	1.724	0.095
2020	*****	*****	*****	*****	0.000	0.000
2021	*****	*****	*****	*****	0.000	0.000
2022	*****	*****	*****	*****	0.000	0.000

Table 1af. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	*****	*****	11	9.5%	-0.862	-0.030
Term (259-280 days)	39	33.6%	35	30.2%	3.448	0.074
Post-Term (281-301 days)	19	16.4%	15	12.9%	3.448	0.098
Unknown Term	48	41.4%	55	47.4%	-6.034	-0.122
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.4	39.6	1.5	0.172	0.117
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-4.6	14.1	0.0	NaN	NaN	NaN
Mean number of dispensings in first trimester	1.8	0.9	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	116	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	3.3	2.5	3.1	2.5	0.267	0.108
	Number	Percent	Number	Percent		
Anxiety Disorders	26	22.4%	25	21.6%	0.862	0.021
Depressive Disorders	27	23.3%	32	27.6%	-4.310	-0.099
All other psychiatric and neurological conditions	16	13.8%	17	14.7%	-0.862	-0.025
Psychotropic medications	59	50.9%	63	54.3%	-3.448	-0.069
Obesity	12	10.3%	*****	*****	2.586	0.090
Renal disease	11	9.5%	15	12.9%	-3.448	-0.109
Alcohol use or dependence	0	0.0%	0	0.0%	NaN	NaN
Diabetes	*****	*****	*****	*****	0.862	0.076
Drug abuse or dependence	*****	*****	*****	*****	0.862	0.076
Gestational Diabetes	24	20.7%	18	15.5%	5.172	0.135

Table 1af. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	15	12.9%	17	14.7%	-1.724	-0.050
Gestational Renal disease	*****	*****	*****	*****	-0.862	-0.076
Hypertension	*****	*****	*****	*****	0.862	0.041
Smoking	18	15.5%	18	15.5%	0.000	0.000
Medical Product Use						
Antihypertensive medications	*****	*****	*****	*****	0.000	0.000
Opioids	11	9.5%	13	11.2%	-1.724	-0.057
Suspected teratogens	23	19.8%	24	20.7%	-0.862	-0.021
Antidiabetic medications	*****	*****	*****	*****	1.724	0.085
Buprenorphine	0	0.0%	0	0.0%	NaN	NaN
Insulin	*****	*****	*****	*****	0.862	0.076
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.1	3.9	4.2	4.5	-0.078	-0.018
Mean number of emergency room encounters	0.1	0.5	0.1	0.4	0.017	0.039
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.009	0.077
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.7	1.2	0.6	1.1	0.129	0.116

Table 1af. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.5	6.2	5.0	6.4	2.440	0.388
Mean number of generics dispensed	4.3	3.2	3.1	3.6	1.164	0.346
Mean number of unique drug classes dispensed	4.1	2.8	3.0	3.3	1.112	0.364

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1ag. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	785	N/A	5,402	N/A	N/A	N/A
Pregnancies	813	100.0%	5,630	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.1	4.8	28.8	5.9	3.313	0.618
Age	Number	Percent	Number	Percent		
10-34 years	604	74.3%	4,626	82.2%	-7.874	-0.192
35-54 years	209	25.7%	1,004	17.8%	7.874	0.192
Sex						
Female	813	100.0%	5,630	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	45	0.8%	-0.553	-0.077
Asian	*****	*****	*****	*****	-0.020	-0.004
Black or African American	27	3.3%	245	4.4%	-1.031	-0.054
Multi-racial	*****	*****	29	0.5%	0.592	0.066
Native Hawaiian or Other Pacific Islander	*****	*****	*****	*****	0.034	0.011
Unknown	646	79.5%	3,527	62.6%	16.812	0.377
White	126	15.5%	1,764	31.3%	-15.834	-0.381
Hispanic origin						
Yes	*****	*****	183	3.3%	-2.143	-0.147
No	*****	*****	1,850	32.9%	-18.469	-0.445
Unknown	687	84.5%	3,597	63.9%	20.612	0.485
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1ag. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	18	2.2%	65	1.2%	1.059	0.082
2008	23	2.8%	93	1.7%	1.177	0.080
2009	59	7.3%	179	3.2%	4.078	0.184
2010	52	6.4%	201	3.6%	2.826	0.130
2011	37	4.6%	173	3.1%	1.478	0.077
2012	50	6.2%	182	3.2%	2.917	0.138
2013	46	5.7%	225	4.0%	1.662	0.078
2014	41	5.0%	218	3.9%	1.171	0.057
2015	51	6.3%	325	5.8%	0.500	0.021
2016	75	9.2%	483	8.6%	0.646	0.023
2017	79	9.7%	818	14.5%	-4.812	-0.148
2018	67	8.2%	718	12.8%	-4.512	-0.148
2019	72	8.9%	712	12.6%	-3.790	-0.123
2020	76	9.3%	702	12.5%	-3.121	-0.100
2021	35	4.3%	291	5.2%	-0.864	-0.041
2022	32	3.9%	245	4.4%	-0.416	-0.021

Table 1ag. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	72	8.9%	413	7.3%	1.520	0.056
Term (259-280 days)	301	37.0%	2,602	46.2%	-9.193	-0.187
Post-Term (281-301 days)	131	16.1%	1,164	20.7%	-4.562	-0.118
Unknown Term	309	38.0%	1,451	25.8%	12.235	0.265
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.7	1.6	-0.090	-0.058
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.2	-16.7	43.0	8.980	0.262
Mean number of dispensings in first trimester	1.8	1.0	2.1	1.2	-0.297	-0.265
	Number	Percent	Number	Percent		
Exposed during first trimester	813	100.0%	5,630	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.7	2.1	0.233	0.109
	Number	Percent	Number	Percent		
Anxiety Disorders	169	20.8%	1,663	29.5%	-8.751	-0.203
Depressive Disorders	196	24.1%	1,665	29.6%	-5.465	-0.124
All other psychiatric and neurological conditions	148	18.2%	3,692	65.6%	-47.373	-1.095
Psychotropic medications	400	49.2%	2,982	53.0%	-3.766	-0.075
Obesity	95	11.7%	411	7.3%	4.385	0.150
Renal disease	82	10.1%	655	11.6%	-1.548	-0.050
Alcohol use or dependence	*****	*****	119	2.1%	-0.884	-0.069
Diabetes	20	2.5%	77	1.4%	1.092	0.080
Drug abuse or dependence	44	5.4%	427	7.6%	-2.172	-0.088

Table 1ag. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	126	15.5%	632	11.2%	4.273	0.126
Gestational Hypertension	103	12.7%	699	12.4%	0.253	0.008
Gestational Renal disease	*****	*****	66	1.2%	-0.188	-0.018
Hypertension	44	5.4%	202	3.6%	1.824	0.088
Smoking	113	13.9%	902	16.0%	-2.122	-0.060
Number of dispensings in first trimester (0,90)						
One dispensing	403	49.6%	2,276	40.4%	9.143	0.185
Two or more dispensings	410	50.4%	3,354	59.6%	-9.143	-0.185
Medical Product Use						
Antihypertensive medications	68	8.4%	423	7.5%	0.851	0.031
Opioids	103	12.7%	463	8.2%	4.445	0.146
Suspected teratogens	138	17.0%	771	13.7%	3.280	0.091
Antidiabetic medications	34	4.2%	133	2.4%	1.820	0.102
Buprenorphine	16	2.0%	131	2.3%	-0.359	-0.025
Insulin	14	1.7%	30	0.5%	1.189	0.113
Methadone	*****	*****	*****	*****	0.016	0.005
Naloxone	0	0.0%	*****	*****	NaN	NaN
Naltrexone	*****	*****	26	0.5%	0.030	0.004
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.1	4.7	6.0	-0.290	-0.048
Mean number of emergency room encounters	0.1	0.5	0.2	0.6	-0.075	-0.141
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.3	-0.009	-0.043
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	1.3	4.7	-0.529	-0.138

Table 1ag. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.3	6.1	7.3	6.0	0.009	0.001
Mean number of generics dispensed	4.2	3.1	3.9	2.9	0.270	0.089
Mean number of unique drug classes dispensed	4.1	2.9	3.8	2.7	0.244	0.087

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1ah. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	770	N/A	787	N/A	N/A	N/A
Pregnancies	798	100.0%	798	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.0	4.7	32.0	5.2	-0.023	-0.005
Age	Number	Percent	Number	Percent		
10-34 years	602	75.4%	573	71.8%	3.634	0.083
35-54 years	196	24.6%	225	28.2%	-3.634	-0.083
Sex						
Female	798	100.0%	798	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.376	-0.057
Asian	*****	*****	*****	*****	-0.125	-0.022
Black or African American	27	3.4%	23	2.9%	0.501	0.029
Multi-racial	*****	*****	*****	*****	-0.125	-0.012
Native Hawaiian or Other Pacific Islander	*****	*****	*****	*****	0.000	0.000
Unknown	634	79.4%	637	79.8%	-0.376	-0.009
White	123	15.4%	119	14.9%	0.501	0.014
Hispanic origin						
Yes	*****	*****	12	1.5%	-0.376	-0.033
No	*****	*****	115	14.4%	0.000	0.000
Unknown	674	84.5%	671	84.1%	0.376	0.010
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1ah. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	18	2.3%	18	2.3%	0.000	0.000
2008	23	2.9%	17	2.1%	0.752	0.048
2009	58	7.3%	63	7.9%	-0.627	-0.024
2010	50	6.3%	55	6.9%	-0.627	-0.025
2011	36	4.5%	41	5.1%	-0.627	-0.029
2012	48	6.0%	55	6.9%	-0.877	-0.036
2013	46	5.8%	43	5.4%	0.376	0.016
2014	41	5.1%	35	4.4%	0.752	0.035
2015	49	6.1%	56	7.0%	-0.877	-0.035
2016	72	9.0%	63	7.9%	1.128	0.041
2017	78	9.8%	83	10.4%	-0.627	-0.021
2018	67	8.4%	68	8.5%	-0.125	-0.005
2019	72	9.0%	70	8.8%	0.251	0.009
2020	74	9.3%	70	8.8%	0.501	0.017
2021	35	4.4%	33	4.1%	0.251	0.012
2022	31	3.9%	28	3.5%	0.376	0.020

Table 1ah. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	71	8.9%	69	8.6%	0.251	0.009
Term (259-280 days)	295	37.0%	287	36.0%	1.003	0.021
Post-Term (281-301 days)	128	16.0%	125	15.7%	0.376	0.010
Unknown Term	304	38.1%	317	39.7%	-1.629	-0.033
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.7	1.7	-0.040	-0.024
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.4	-16.4	43.3	8.534	0.247
Mean number of dispensings in first trimester	1.8	1.0	2.0	1.1	-0.153	-0.144
	Number	Percent	Number	Percent		
Exposed during first trimester	798	100.0%	798	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.8	2.1	1.9	2.3	-0.081	-0.037
	Number	Percent	Number	Percent		
Anxiety Disorders	163	20.4%	158	19.8%	0.627	0.016
Depressive Disorders	192	24.1%	194	24.3%	-0.251	-0.006
All other psychiatric and neurological conditions	147	18.4%	149	18.7%	-0.251	-0.006
Psychotropic medications	388	48.6%	379	47.5%	1.128	0.023
Obesity	87	10.9%	90	11.3%	-0.376	-0.012
Renal disease	80	10.0%	77	9.6%	0.376	0.013
Alcohol use or dependence	*****	*****	*****	*****	0.125	0.012
Diabetes	17	2.1%	11	1.4%	0.752	0.057
Drug abuse or dependence	43	5.4%	41	5.1%	0.251	0.011

Table 1ah. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	120	15.0%	131	16.4%	-1.378	-0.038
Gestational Hypertension	96	12.0%	102	12.8%	-0.752	-0.023
Gestational Renal disease	*****	*****	*****	*****	0.000	0.000
Hypertension	39	4.9%	36	4.5%	0.376	0.018
Smoking	109	13.7%	116	14.5%	-0.877	-0.025
Number of dispensings in first trimester (0,90)						
One dispensing	397	49.7%	357	44.7%	5.013	0.101
Two or more dispensings	401	50.3%	441	55.3%	-5.013	-0.101
Medical Product Use						
Antihypertensive medications	62	7.8%	60	7.5%	0.251	0.009
Opioids	96	12.0%	94	11.8%	0.251	0.008
Suspected teratogens	132	16.5%	139	17.4%	-0.877	-0.023
Antidiabetic medications	31	3.9%	28	3.5%	0.376	0.020
Buprenorphine	16	2.0%	18	2.3%	-0.251	-0.017
Insulin	11	1.4%	*****	*****	0.627	0.061
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.000	0.000
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.3	6.0	3.8	4.7	0.573	0.107
Mean number of emergency room encounters	0.1	0.4	0.1	0.5	0.004	0.008
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.003	0.032
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.0	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	0.6	2.0	0.170	0.072

Table 1ah. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.2	5.9	7.1	5.6	0.104	0.018
Mean number of generics dispensed	4.1	3.0	3.9	3.0	0.226	0.076
Mean number of unique drug classes dispensed	4.0	2.8	3.8	2.8	0.232	0.084

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1ai. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	584	N/A	566	N/A	N/A	N/A
Pregnancies	602	100.0%	573	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	30.0	3.3	29.7	3.9	0.338	0.092
Age	Number	Percent	Number	Percent		
10-34 years	602	100.0%	573	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	602	100.0%	573	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.532	-0.081
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	19	3.3%	0.339	0.018
Multi-racial	*****	*****	*****	*****	-0.557	-0.058
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	481	79.9%	457	79.8%	0.145	0.004
White	93	15.4%	84	14.7%	0.789	0.022
Hispanic origin						
Yes	*****	*****	*****	*****	-0.416	-0.034
No	*****	*****	*****	*****	0.133	0.004
Unknown	506	84.1%	480	83.8%	0.284	0.008
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1ai. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	16	2.7%	*****	*****	0.040	0.002
2008	16	2.7%	*****	*****	1.087	0.076
2009	45	7.5%	46	8.0%	-0.553	-0.021
2010	40	6.6%	43	7.5%	-0.860	-0.034
2011	26	4.3%	31	5.4%	-1.091	-0.051
2012	41	6.8%	39	6.8%	0.004	0.000
2013	31	5.1%	31	5.4%	-0.261	-0.012
2014	30	5.0%	28	4.9%	0.097	0.004
2015	37	6.1%	49	8.6%	-2.405	-0.092
2016	52	8.6%	40	7.0%	1.657	0.062
2017	59	9.8%	63	11.0%	-1.194	-0.039
2018	49	8.1%	43	7.5%	0.635	0.024
2019	58	9.6%	49	8.6%	1.083	0.038
2020	53	8.8%	46	8.0%	0.776	0.028
2021	23	3.8%	23	4.0%	-0.193	-0.010
2022	26	4.3%	18	3.1%	1.178	0.062

Table 1ai. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	49	8.1%	44	7.7%	0.461	0.017
Term (259-280 days)	220	36.5%	197	34.4%	2.164	0.045
Post-Term (281-301 days)	101	16.8%	95	16.6%	0.198	0.005
Unknown Term	232	38.5%	237	41.4%	-2.823	-0.058
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.6	39.8	1.6	-0.105	-0.067
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-8.3	24.0	-14.2	38.6	5.846	0.182
Mean number of dispensings in first trimester	1.8	1.0	1.9	1.1	-0.165	-0.159
	Number	Percent	Number	Percent		
Exposed during first trimester	602	100.0%	573	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.4	1.8	1.4	2.0	-0.048	-0.025
	Number	Percent	Number	Percent		
Anxiety Disorders	113	18.8%	108	18.8%	-0.077	-0.002
Depressive Disorders	131	21.8%	134	23.4%	-1.625	-0.039
All other psychiatric and neurological conditions	111	18.4%	114	19.9%	-1.457	-0.037
Psychotropic medications	271	45.0%	262	45.7%	-0.708	-0.014
Obesity	64	10.6%	62	10.8%	-0.189	-0.006
Renal disease	61	10.1%	54	9.4%	0.709	0.024
Alcohol use or dependence	*****	*****	*****	*****	-0.050	-0.005
Diabetes	12	2.0%	*****	*****	0.946	0.077
Drug abuse or dependence	37	6.1%	30	5.2%	0.911	0.039

Table 1ai. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	74	12.3%	75	13.1%	-0.797	-0.024
Gestational Hypertension	67	11.1%	65	11.3%	-0.214	-0.007
Gestational Renal disease	*****	*****	*****	*****	0.124	0.013
Hypertension	26	4.3%	18	3.1%	1.178	0.062
Smoking	75	12.5%	78	13.6%	-1.154	-0.034
Number of dispensings in first trimester (0,90)						
One dispensing	312	51.8%	262	45.7%	6.103	0.122
Two or more dispensings	290	48.2%	311	54.3%	-6.103	-0.122
Medical Product Use						
Antihypertensive medications	45	7.5%	37	6.5%	1.018	0.040
Opioids	70	11.6%	69	12.0%	-0.414	-0.013
Suspected teratogens	83	13.8%	87	15.2%	-1.396	-0.040
Antidiabetic medications	19	3.2%	13	2.3%	0.887	0.055
Buprenorphine	14	2.3%	13	2.3%	0.057	0.004
Insulin	*****	*****	*****	*****	0.639	0.070
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	-0.025	-0.004
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.3	6.3	3.6	4.4	0.730	0.134
Mean number of emergency room encounters	0.1	0.4	0.2	0.5	-0.022	-0.047
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.001	0.018
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.0	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.9	0.6	2.1	0.134	0.053

Table 1ai. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.8	5.6	6.9	5.6	-0.131	-0.024
Mean number of generics dispensed	4.0	2.9	3.7	2.8	0.220	0.077
Mean number of unique drug classes dispensed	3.8	2.7	3.6	2.7	0.228	0.085

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1aj. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	444	N/A	451	N/A	N/A	N/A
Pregnancies	455	100.0%	455	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	29.8	3.4	29.9	3.7	-0.072	-0.020
Age	Number	Percent	Number	Percent		
10-34 years	455	100.0%	455	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	455	100.0%	455	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.000	0.000
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	0.220	0.012
Multi-racial	*****	*****	*****	*****	-0.220	-0.030
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	367	80.7%	370	81.3%	-0.659	-0.017
White	68	14.9%	65	14.3%	0.659	0.019
Hispanic origin						
Yes	*****	*****	*****	*****	-0.220	-0.020
No	*****	*****	*****	*****	0.440	0.013
Unknown	384	84.4%	385	84.6%	-0.220	-0.006
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1aj. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	-0.220	-0.013
2008	*****	*****	*****	*****	0.000	0.000
2009	36	7.9%	36	7.9%	0.000	0.000
2010	33	7.3%	29	6.4%	0.879	0.035
2011	21	4.6%	25	5.5%	-0.879	-0.040
2012	31	6.8%	32	7.0%	-0.220	-0.009
2013	26	5.7%	25	5.5%	0.220	0.010
2014	23	5.1%	26	5.7%	-0.659	-0.029
2015	28	6.2%	36	7.9%	-1.758	-0.069
2016	35	7.7%	38	8.4%	-0.659	-0.024
2017	49	10.8%	46	10.1%	0.659	0.022
2018	34	7.5%	34	7.5%	0.000	0.000
2019	47	10.3%	39	8.6%	1.758	0.060
2020	33	7.3%	34	7.5%	-0.220	-0.008
2021	20	4.4%	17	3.7%	0.659	0.033
2022	18	4.0%	16	3.5%	0.440	0.023

Table 1aj. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	37	8.1%	35	7.7%	0.440	0.016
Term (259-280 days)	167	36.7%	156	34.3%	2.418	0.051
Post-Term (281-301 days)	73	16.0%	77	16.9%	-0.879	-0.024
Unknown Term	178	39.1%	187	41.1%	-1.978	-0.040
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.8	1.5	-0.143	-0.094
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.0	19.7	-15.1	41.4	8.042	0.248
Mean number of dispensings in first trimester	1.7	1.0	1.9	1.1	-0.189	-0.185
	Number	Percent	Number	Percent		
Exposed during first trimester	455	100.0%	455	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.4	1.8	1.3	1.9	0.024	0.013
	Number	Percent	Number	Percent		
Anxiety Disorders	81	17.8%	86	18.9%	-1.099	-0.028
Depressive Disorders	97	21.3%	99	21.8%	-0.440	-0.011
All other psychiatric and neurological conditions	78	17.1%	82	18.0%	-0.879	-0.023
Psychotropic medications	202	44.4%	199	43.7%	0.659	0.013
Obesity	48	10.5%	43	9.5%	1.099	0.037
Renal disease	37	8.1%	42	9.2%	-1.099	-0.039
Alcohol use or dependence	*****	*****	*****	*****	0.220	0.030
Diabetes	*****	*****	*****	*****	0.000	0.000
Drug abuse or dependence	26	5.7%	23	5.1%	0.659	0.029

Table 1aj. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	52	11.4%	46	10.1%	1.319	0.043
Gestational Hypertension	51	11.2%	53	11.6%	-0.440	-0.014
Gestational Renal disease	*****	*****	*****	*****	0.220	0.030
Hypertension	12	2.6%	13	2.9%	-0.220	-0.013
Smoking	58	12.7%	61	13.4%	-0.659	-0.020
Number of dispensings in first trimester (0,90)						
One dispensing	242	53.2%	207	45.5%	7.692	0.154
Two or more dispensings	213	46.8%	248	54.5%	-7.692	-0.154
Medical Product Use						
Antihypertensive medications	25	5.5%	24	5.3%	0.220	0.010
Opioids	52	11.4%	56	12.3%	-0.879	-0.027
Suspected teratogens	66	14.5%	64	14.1%	0.440	0.013
Antidiabetic medications	*****	*****	*****	*****	0.000	0.000
Buprenorphine	11	2.4%	*****	*****	0.220	0.015
Insulin	*****	*****	*****	*****	0.000	0.000
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	-0.220	-0.038
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.2	5.7	3.5	4.5	0.705	0.137
Mean number of emergency room encounters	0.1	0.4	0.1	0.5	-0.024	-0.054
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.0	0.002	0.038
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	3.2	0.7	2.4	0.119	0.042

Table 1aj. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.6	5.2	6.7	5.3	-0.114	-0.022
Mean number of generics dispensed	3.9	2.8	3.6	2.7	0.255	0.093
Mean number of unique drug classes dispensed	3.7	2.6	3.5	2.5	0.262	0.102

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1ak. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	191	N/A	222	N/A	N/A	N/A
Pregnancies	196	100.0%	225	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.2	2.7	38.1	2.3	0.108	0.042
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	196	100.0%	225	100.0%	0.000	NaN
Sex						
Female	196	100.0%	225	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.066	0.010
Asian	*****	*****	*****	*****	0.576	0.068
Black or African American	*****	*****	*****	*****	0.773	0.053
Multi-racial	*****	*****	*****	*****	1.218	0.088
Native Hawaiian or Other Pacific Islander	0	0.0%	*****	*****	NaN	NaN
Unknown	153	78.1%	180	80.0%	-1.939	-0.048
White	30	15.3%	*****	*****	-0.249	-0.007
Hispanic origin						
Yes	*****	*****	*****	*****	-0.379	-0.045
No	*****	*****	*****	*****	-0.447	-0.013
Unknown	168	85.7%	191	84.9%	0.825	0.023
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1ak. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	-0.313	-0.029
2008	*****	*****	*****	*****	0.016	0.001
2009	13	6.6%	17	7.6%	-0.923	-0.036
2010	*****	*****	12	5.3%	-0.231	-0.010
2011	*****	*****	*****	*****	0.658	0.031
2012	*****	*****	16	7.1%	-3.540	-0.158
2013	15	7.7%	12	5.3%	2.320	0.094
2014	11	5.6%	*****	*****	2.501	0.123
2015	12	6.1%	*****	*****	3.011	0.144
2016	20	10.2%	23	10.2%	-0.018	-0.001
2017	19	9.7%	20	8.9%	0.805	0.028
2018	18	9.2%	25	11.1%	-1.927	-0.064
2019	14	7.1%	21	9.3%	-2.190	-0.080
2020	21	10.7%	24	10.7%	0.048	0.002
2021	12	6.1%	*****	*****	1.678	0.075
2022	*****	*****	*****	*****	-1.893	-0.103

Table 1ak. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	22	11.2%	25	11.1%	0.113	0.004
Term (259-280 days)	75	38.3%	90	40.0%	-1.735	-0.036
Post-Term (281-301 days)	27	13.8%	30	13.3%	0.442	0.013
Unknown Term	72	36.7%	80	35.6%	1.179	0.025
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.5	39.4	2.1	0.106	0.058
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-6.3	16.2	-22.0	53.5	15.635	0.396
Mean number of dispensings in first trimester	1.9	1.0	2.0	1.2	-0.104	-0.093
	Number	Percent	Number	Percent		
Exposed during first trimester	196	100.0%	225	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	3.3	2.4	3.2	2.5	0.081	0.033
	Number	Percent	Number	Percent		
Anxiety Disorders	50	25.5%	50	22.2%	3.288	0.077
Depressive Disorders	61	31.1%	60	26.7%	4.456	0.098
All other psychiatric and neurological conditions	36	18.4%	35	15.6%	2.812	0.075
Psychotropic medications	117	59.7%	117	52.0%	7.694	0.155
Obesity	23	11.7%	28	12.4%	-0.710	-0.022
Renal disease	19	9.7%	23	10.2%	-0.528	-0.018
Alcohol use or dependence	*****	*****	*****	*****	0.642	0.059
Diabetes	*****	*****	*****	*****	0.329	0.022
Drug abuse or dependence	*****	*****	11	4.9%	-1.828	-0.094

Table 1ak. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	46	23.5%	56	24.9%	-1.420	-0.033
Gestational Hypertension	29	14.8%	37	16.4%	-1.649	-0.045
Gestational Renal disease	*****	*****	*****	*****	-0.313	-0.029
Hypertension	13	6.6%	18	8.0%	-1.367	-0.053
Smoking	34	17.3%	38	16.9%	0.458	0.012
Number of dispensings in first trimester (0,90)						
One dispensing	85	43.4%	95	42.2%	1.145	0.023
Two or more dispensings	111	56.6%	130	57.8%	-1.145	-0.023
Medical Product Use						
Antihypertensive medications	17	8.7%	23	10.2%	-1.549	-0.053
Opioids	26	13.3%	25	11.1%	2.154	0.066
Suspected teratogens	49	25.0%	52	23.1%	1.889	0.044
Antidiabetic medications	12	6.1%	15	6.7%	-0.544	-0.022
Buprenorphine	*****	*****	*****	*****	-1.202	-0.095
Insulin	*****	*****	*****	*****	0.707	0.055
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	4.6	4.2	5.2	0.189	0.038
Mean number of emergency room encounters	0.1	0.4	0.1	0.3	0.070	0.194
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.006	0.069
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.9	2.2	0.6	1.5	0.284	0.152

Table 1ak. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.4	6.7	7.5	5.6	0.915	0.148
Mean number of generics dispensed	4.6	3.2	4.3	3.2	0.319	0.101
Mean number of unique drug classes dispensed	4.4	2.9	4.1	3.0	0.317	0.108

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1a. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	104	N/A	105	N/A	N/A	N/A
Pregnancies	106	100.0%	106	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.1	2.7	37.9	2.2	0.199	0.080
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	106	100.0%	106	100.0%	0.000	NaN
Sex						
Female	106	100.0%	106	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	0	0.0%	0	0.0%	NaN	NaN
Asian	*****	*****	*****	*****	0.000	0.000
Black or African American	*****	*****	*****	*****	0.000	0.000
Multi-racial	*****	*****	*****	*****	0.943	0.080
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	87	82.1%	90	84.9%	-2.830	-0.076
White	*****	*****	*****	*****	1.887	0.058
Hispanic origin						
Yes	0	0.0%	*****	*****	NaN	NaN
No	12	11.3%	*****	*****	0.000	0.000
Unknown	94	88.7%	93	87.7%	0.943	0.029
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1a. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.943	0.080
2008	*****	*****	*****	*****	0.000	0.000
2009	*****	*****	*****	*****	0.943	0.043
2010	*****	*****	*****	*****	0.943	0.043
2011	*****	*****	*****	*****	0.943	0.039
2012	*****	*****	*****	*****	-0.943	-0.043
2013	*****	*****	*****	*****	0.000	0.000
2014	*****	*****	*****	*****	0.943	0.053
2015	*****	*****	*****	*****	-0.943	-0.047
2016	13	12.3%	*****	*****	2.830	0.091
2017	*****	*****	*****	*****	-3.774	-0.143
2018	*****	*****	*****	*****	0.000	0.000
2019	*****	*****	*****	*****	-1.887	-0.068
2020	11	10.4%	11	10.4%	0.000	0.000
2021	*****	*****	*****	*****	-0.943	-0.039
2022	*****	*****	*****	*****	0.943	0.062

Table 1a. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	*****	*****	*****	*****	-0.943	-0.035
Term (259-280 days)	41	38.7%	39	36.8%	1.887	0.039
Post-Term (281-301 days)	17	16.0%	20	18.9%	-2.830	-0.075
Unknown Term	40	37.7%	38	35.8%	1.887	0.039
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.5	39.8	1.5	-0.085	-0.057
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.0	19.7	-22.9	61.8	15.811	0.344
Mean number of dispensings in first trimester	1.9	1.0	1.9	1.0	-0.019	-0.018
	Number	Percent	Number	Percent		
Exposed during first trimester	106	100.0%	106	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	2.9	2.1	2.9	2.0	0.057	0.028
	Number	Percent	Number	Percent		
Anxiety Disorders	24	22.6%	24	22.6%	0.000	0.000
Depressive Disorders	31	29.2%	33	31.1%	-1.887	-0.041
All other psychiatric and neurological conditions	14	13.2%	12	11.3%	1.887	0.058
Psychotropic medications	59	55.7%	57	53.8%	1.887	0.038
Obesity	*****	*****	*****	*****	-0.943	-0.033
Renal disease	*****	*****	*****	*****	0.000	0.000
Alcohol use or dependence	0	0.0%	0	0.0%	NaN	NaN
Diabetes	*****	*****	*****	*****	0.943	0.080
Drug abuse or dependence	*****	*****	*****	*****	-1.887	-0.114

Table 1a. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	23	21.7%	22	20.8%	0.943	0.023
Gestational Hypertension	15	14.2%	15	14.2%	0.000	0.000
Gestational Renal disease	*****	*****	0	0.0%	NaN	NaN
Hypertension	*****	*****	*****	*****	2.830	0.118
Smoking	19	17.9%	21	19.8%	-1.887	-0.048
Number of dispensings in first trimester (0,90)						
One dispensing	43	40.6%	47	44.3%	-3.774	-0.076
Two or more dispensings	63	59.4%	59	55.7%	3.774	0.076
Medical Product Use						
Antihypertensive medications	*****	*****	*****	*****	1.887	0.071
Opioids	13	12.3%	12	11.3%	0.943	0.029
Suspected teratogens	21	19.8%	22	20.8%	-0.943	-0.023
Antidiabetic medications	*****	*****	*****	*****	1.887	0.099
Buprenorphine	*****	*****	*****	*****	0.000	0.000
Insulin	*****	*****	*****	*****	0.943	0.080
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.1	4.1	4.2	5.2	-0.047	-0.010
Mean number of emergency room encounters	0.1	0.4	0.1	0.2	0.066	0.197
Mean number of inpatient hospital encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.9	2.2	0.5	1.2	0.415	0.230

Table 1a. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.6	5.5	6.8	5.6	0.755	0.137
Mean number of generics dispensed	4.4	2.9	3.8	3.0	0.613	0.205
Mean number of unique drug classes dispensed	4.2	2.7	3.7	2.8	0.547	0.200

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1am. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	391	N/A	355	N/A	N/A	N/A
Pregnancies	397	100.0%	357	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	31.7	4.7	31.7	5.3	-0.047	-0.009
Age	Number	Percent	Number	Percent		
10-34 years	312	78.6%	262	73.4%	5.200	0.122
35-54 years	85	21.4%	95	26.6%	-5.200	-0.122
Sex						
Female	397	100.0%	357	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.588	-0.080
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	*****	*****	0.921	0.048
Multi-racial	*****	*****	*****	*****	0.167	0.017
Native Hawaiian or Other Pacific Islander	0	0.0%	*****	*****	NaN	NaN
Unknown	322	81.1%	293	82.1%	-0.965	-0.025
White	53	13.4%	44	12.3%	1.025	0.031
Hispanic origin						
Yes	*****	*****	*****	*****	-0.421	-0.035
No	*****	*****	*****	*****	-0.571	-0.017
Unknown	342	86.1%	304	85.2%	0.992	0.028
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1am. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.083	0.006
2008	*****	*****	*****	*****	0.782	0.049
2009	31	7.8%	33	9.2%	-1.435	-0.051
2010	31	7.8%	23	6.4%	1.366	0.053
2011	18	4.5%	21	5.9%	-1.348	-0.061
2012	23	5.8%	31	8.7%	-2.890	-0.112
2013	21	5.3%	23	6.4%	-1.153	-0.049
2014	21	5.3%	16	4.5%	0.808	0.037
2015	27	6.8%	20	5.6%	1.199	0.050
2016	33	8.3%	30	8.4%	-0.091	-0.003
2017	37	9.3%	33	9.2%	0.076	0.003
2018	35	8.8%	32	9.0%	-0.147	-0.005
2019	29	7.3%	25	7.0%	0.302	0.012
2020	42	10.6%	30	8.4%	2.176	0.074
2021	15	3.8%	14	3.9%	-0.143	-0.007
2022	15	3.8%	12	3.4%	0.417	0.022

Table 1am. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	32	8.1%	31	8.7%	-0.623	-0.022
Term (259-280 days)	144	36.3%	113	31.7%	4.619	0.098
Post-Term (281-301 days)	67	16.9%	57	16.0%	0.910	0.025
Unknown Term	154	38.8%	156	43.7%	-4.907	-0.100
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.5	39.6	1.9	0.069	0.041
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-1.0	7.6	-3.3	24.0	2.271	0.128
Mean number of dispensings in first trimester	1.0	0.1	1.0	0.1	-0.011	-0.127
	Number	Percent	Number	Percent		
Exposed during first trimester	397	100.0%	357	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.8	2.1	1.8	2.3	-0.014	-0.006
	Number	Percent	Number	Percent		
Anxiety Disorders	80	20.2%	59	16.5%	3.625	0.094
Depressive Disorders	84	21.2%	78	21.8%	-0.690	-0.017
All other psychiatric and neurological conditions	64	16.1%	56	15.7%	0.435	0.012
Psychotropic medications	174	43.8%	155	43.4%	0.411	0.008
Obesity	44	11.1%	41	11.5%	-0.401	-0.013
Renal disease	39	9.8%	31	8.7%	1.140	0.039
Alcohol use or dependence	*****	*****	*****	*****	1.231	0.131
Diabetes	11	2.8%	*****	*****	1.930	0.145
Drug abuse or dependence	13	3.3%	12	3.4%	-0.087	-0.005

Table 1am. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	56	14.1%	46	12.9%	1.221	0.036
Gestational Hypertension	49	12.3%	49	13.7%	-1.383	-0.041
Gestational Renal disease	*****	*****	*****	*****	-0.645	-0.062
Hypertension	17	4.3%	13	3.6%	0.641	0.033
Smoking	49	12.3%	44	12.3%	0.018	0.001
Number of dispensings in first trimester (0,90)						
One dispensing	397	100.0%	357	100.0%	0.000	NaN
Two or more dispensings	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Antihypertensive medications	27	6.8%	21	5.9%	0.919	0.038
Opioids	46	11.6%	37	10.4%	1.223	0.039
Suspected teratogens	64	16.1%	57	16.0%	0.155	0.004
Antidiabetic medications	16	4.0%	13	3.6%	0.389	0.020
Buprenorphine	*****	*****	*****	*****	-0.085	-0.010
Insulin	*****	*****	*****	*****	1.231	0.131
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.224	0.036
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.0	3.6	4.4	0.753	0.144
Mean number of emergency room encounters	0.1	0.4	0.1	0.4	0.020	0.048
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.004	0.051
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of other ambulatory encounters	0.8	3.4	0.7	2.4	0.137	0.046

Table 1am. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	5.9	5.4	5.5	5.0	0.387	0.074
Mean number of generics dispensed	3.7	2.9	3.6	3.0	0.136	0.046
Mean number of unique drug classes dispensed	3.6	2.7	3.5	2.8	0.120	0.043

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1an. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	275	N/A	275	N/A	N/A	N/A
Pregnancies	277	100.0%	277	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	31.7	4.7	31.9	5.2	-0.241	-0.048
Age	Number	Percent	Number	Percent		
10-34 years	218	78.7%	202	72.9%	5.776	0.135
35-54 years	59	21.3%	75	27.1%	-5.776	-0.135
Sex						
Female	277	100.0%	277	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.361	-0.049
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	0.361	0.024
Multi-racial	*****	*****	*****	*****	0.361	0.038
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	239	86.3%	237	85.6%	0.722	0.021
White	27	9.7%	*****	*****	-1.083	-0.036
Hispanic origin						
Yes	*****	*****	*****	*****	0.361	0.029
No	*****	*****	*****	*****	0.000	0.000
Unknown	247	89.2%	248	89.5%	-0.361	-0.012
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1a. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.361	0.024
2008	*****	*****	*****	*****	0.361	0.022
2009	28	10.1%	27	9.7%	0.361	0.012
2010	24	8.7%	23	8.3%	0.361	0.013
2011	15	5.4%	19	6.9%	-1.444	-0.060
2012	19	6.9%	16	5.8%	1.083	0.045
2013	16	5.8%	17	6.1%	-0.361	-0.015
2014	13	4.7%	15	5.4%	-0.722	-0.033
2015	14	5.1%	15	5.4%	-0.361	-0.016
2016	24	8.7%	24	8.7%	0.000	0.000
2017	25	9.0%	24	8.7%	0.361	0.013
2018	25	9.0%	24	8.7%	0.361	0.013
2019	17	6.1%	17	6.1%	0.000	0.000
2020	23	8.3%	24	8.7%	-0.361	-0.013
2021	*****	*****	*****	*****	0.000	0.000
2022	*****	*****	*****	*****	0.000	0.000

Table 1an. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	22	7.9%	21	7.6%	0.361	0.013
Term (259-280 days)	94	33.9%	85	30.7%	3.249	0.070
Post-Term (281-301 days)	44	15.9%	45	16.2%	-0.361	-0.010
Unknown Term	117	42.2%	126	45.5%	-3.249	-0.066
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.5	39.7	1.8	0.011	0.007
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-0.8	6.4	-3.0	21.8	2.188	0.136
Mean number of dispensings in first trimester	1.0	0.1	1.0	0.1	-0.007	-0.086
	Number	Percent	Number	Percent		
Exposed during first trimester	277	100.0%	277	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.7	2.2	1.7	2.3	-0.054	-0.024
	Number	Percent	Number	Percent		
Anxiety Disorders	39	14.1%	47	17.0%	-2.888	-0.080
Depressive Disorders	57	20.6%	59	21.3%	-0.722	-0.018
All other psychiatric and neurological conditions	35	12.6%	35	12.6%	0.000	0.000
Psychotropic medications	115	41.5%	118	42.6%	-1.083	-0.022
Obesity	33	11.9%	28	10.1%	1.805	0.058
Renal disease	19	6.9%	19	6.9%	0.000	0.000
Alcohol use or dependence	*****	*****	*****	*****	0.000	0.000
Diabetes	*****	*****	*****	*****	0.000	0.000
Drug abuse or dependence	*****	*****	*****	*****	0.000	0.000

Table 1an. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	34	12.3%	34	12.3%	0.000	0.000
Gestational Hypertension	33	11.9%	38	13.7%	-1.805	-0.054
Gestational Renal disease	*****	*****	*****	*****	0.361	0.038
Hypertension	12	4.3%	*****	*****	0.722	0.037
Smoking	31	11.2%	30	10.8%	0.361	0.012
Number of dispensings in first trimester (0,90)						
One dispensing	277	100.0%	277	100.0%	0.000	NaN
Two or more dispensings	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Antihypertensive medications	16	5.8%	16	5.8%	0.000	0.000
Opioids	27	9.7%	26	9.4%	0.361	0.012
Suspected teratogens	51	18.4%	45	16.2%	2.166	0.057
Antidiabetic medications	*****	*****	*****	*****	0.000	0.000
Buprenorphine	0	0.0%	0	0.0%	NaN	NaN
Insulin	*****	*****	*****	*****	0.000	0.000
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	3.8	4.1	3.5	4.4	0.347	0.082
Mean number of emergency room encounters	0.1	0.3	0.1	0.3	0.000	0.000
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.000	0.000
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of other ambulatory encounters	0.7	1.2	0.5	1.0	0.188	0.170

Table 1a. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	5.6	5.2	5.3	5.0	0.303	0.059
Mean number of generics dispensed	3.5	2.8	3.5	3.0	0.061	0.021
Mean number of unique drug classes dispensed	3.4	2.6	3.3	2.8	0.087	0.032

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1ao. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	388	N/A	436	N/A	N/A	N/A
Pregnancies	401	100.0%	441	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.4	4.7	32.3	5.1	0.059	0.012
Age	Number	Percent	Number	Percent		
10-34 years	290	72.3%	311	70.5%	1.798	0.040
35-54 years	111	27.7%	130	29.5%	-1.798	-0.040
Sex						
Female	401	100.0%	441	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.204	-0.035
Asian	*****	*****	*****	*****	0.045	0.007
Black or African American	*****	*****	11	2.5%	-0.001	-0.000
Multi-racial	*****	*****	*****	*****	-0.340	-0.029
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	312	77.8%	344	78.0%	-0.199	-0.005
White	70	17.5%	75	17.0%	0.450	0.012
Hispanic origin						
Yes	*****	*****	*****	*****	-0.363	-0.034
No	*****	*****	*****	*****	0.790	0.022
Unknown	332	82.8%	367	83.2%	-0.427	-0.011
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1ao. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	11	2.7%	*****	*****	0.022	0.001
2008	11	2.7%	*****	*****	0.702	0.046
2009	27	6.7%	30	6.8%	-0.070	-0.003
2010	19	4.7%	32	7.3%	-2.518	-0.106
2011	18	4.5%	20	4.5%	-0.046	-0.002
2012	25	6.2%	24	5.4%	0.792	0.034
2013	25	6.2%	20	4.5%	1.699	0.075
2014	20	5.0%	19	4.3%	0.679	0.032
2015	22	5.5%	36	8.2%	-2.677	-0.106
2016	39	9.7%	33	7.5%	2.243	0.080
2017	41	10.2%	50	11.3%	-1.113	-0.036
2018	32	8.0%	36	8.2%	-0.183	-0.007
2019	43	10.7%	45	10.2%	0.519	0.017
2020	32	8.0%	40	9.1%	-1.090	-0.039
2021	20	5.0%	19	4.3%	0.679	0.032
2022	16	4.0%	16	3.6%	0.362	0.019

Table 1ao. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	39	9.7%	38	8.6%	1.109	0.038
Term (259-280 days)	151	37.7%	174	39.5%	-1.800	-0.037
Post-Term (281-301 days)	61	15.2%	68	15.4%	-0.208	-0.006
Unknown Term	150	37.4%	161	36.5%	0.899	0.019
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.6	39.7	1.6	-0.145	-0.090
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-14.6	29.2	-27.0	51.9	12.376	0.294
Mean number of dispensings in first trimester	2.6	0.9	2.7	0.9	-0.122	-0.134
	Number	Percent	Number	Percent		
Exposed during first trimester	401	100.0%	441	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.1	2.0	2.3	-0.125	-0.057
	Number	Percent	Number	Percent		
Anxiety Disorders	83	20.7%	99	22.4%	-1.751	-0.043
Depressive Disorders	108	26.9%	116	26.3%	0.629	0.014
All other psychiatric and neurological conditions	83	20.7%	93	21.1%	-0.390	-0.010
Psychotropic medications	214	53.4%	224	50.8%	2.573	0.052
Obesity	43	10.7%	49	11.1%	-0.388	-0.012
Renal disease	41	10.2%	46	10.4%	-0.206	-0.007
Alcohol use or dependence	*****	*****	*****	*****	-0.839	-0.078
Diabetes	*****	*****	*****	*****	-0.318	-0.025
Drug abuse or dependence	30	7.5%	29	6.6%	0.905	0.035

Table 1ao. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	64	16.0%	85	19.3%	-3.314	-0.087
Gestational Hypertension	47	11.7%	53	12.0%	-0.297	-0.009
Gestational Renal disease	*****	*****	*****	*****	0.567	0.058
Hypertension	22	5.5%	23	5.2%	0.271	0.012
Smoking	60	15.0%	72	16.3%	-1.364	-0.038
Number of dispensings in first trimester (0,90)						
One dispensing	0	0.0%	0	0.0%	NaN	NaN
Two or more dispensings	401	100.0%	441	100.0%	0.000	NaN
Medical Product Use						
Antihypertensive medications	35	8.7%	39	8.8%	-0.115	-0.004
Opioids	50	12.5%	57	12.9%	-0.456	-0.014
Suspected teratogens	68	17.0%	82	18.6%	-1.636	-0.043
Antidiabetic medications	15	3.7%	15	3.4%	0.339	0.018
Buprenorphine	13	3.2%	15	3.4%	-0.159	-0.009
Insulin	*****	*****	*****	*****	0.113	0.010
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	-0.204	-0.035
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.3	6.0	3.9	4.9	0.423	0.077
Mean number of emergency room encounters	0.1	0.4	0.1	0.5	-0.008	-0.017
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.000	0.007
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	1.8	0.6	1.5	0.199	0.117

Table 1ao. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.5	6.2	8.3	5.6	0.109	0.018
Mean number of generics dispensed	4.5	3.0	4.1	2.9	0.372	0.126
Mean number of unique drug classes dispensed	4.4	2.8	4.0	2.7	0.396	0.144

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1ap. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	296	N/A	299	N/A	N/A	N/A
Pregnancies	301	100.0%	301	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.4	4.5	32.4	4.9	0.004	0.001
Age	Number	Percent	Number	Percent		
10-34 years	219	72.8%	210	69.8%	2.990	0.066
35-54 years	82	27.2%	91	30.2%	-2.990	-0.066
Sex						
Female	301	100.0%	301	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.000	0.000
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	*****	*****	0.997	0.064
Multi-racial	*****	*****	*****	*****	0.000	0.000
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	242	80.4%	242	80.4%	0.000	0.000
White	46	15.3%	48	15.9%	-0.664	-0.018
Hispanic origin						
Yes	*****	*****	*****	*****	-0.664	-0.067
No	*****	*****	*****	*****	0.000	0.000
Unknown	255	84.7%	253	84.1%	0.664	0.018
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1ap. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	11	3.7%	0.000	0.000
2008	*****	*****	*****	*****	0.664	0.044
2009	23	7.6%	23	7.6%	0.000	0.000
2010	16	5.3%	20	6.6%	-1.329	-0.056
2011	14	4.7%	13	4.3%	0.332	0.016
2012	18	6.0%	17	5.6%	0.332	0.014
2013	17	5.6%	15	5.0%	0.664	0.030
2014	11	3.7%	*****	*****	0.332	0.018
2015	19	6.3%	20	6.6%	-0.332	-0.013
2016	28	9.3%	27	9.0%	0.332	0.012
2017	30	10.0%	31	10.3%	-0.332	-0.011
2018	27	9.0%	26	8.6%	0.332	0.012
2019	29	9.6%	31	10.3%	-0.664	-0.022
2020	24	8.0%	24	8.0%	0.000	0.000
2021	14	4.7%	15	5.0%	-0.332	-0.016
2022	12	4.0%	12	4.0%	0.000	0.000

Table 1ap. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	28	9.3%	23	7.6%	1.661	0.060
Term (259-280 days)	111	36.9%	122	40.5%	-3.654	-0.075
Post-Term (281-301 days)	48	15.9%	44	14.6%	1.329	0.037
Unknown Term	114	37.9%	112	37.2%	0.664	0.014
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.7	1.6	-0.116	-0.072
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-14.4	30.5	-26.0	47.9	11.598	0.289
Mean number of dispensings in first trimester	2.5	0.8	2.7	0.9	-0.196	-0.230
	Number	Percent	Number	Percent		
Exposed during first trimester	301	100.0%	301	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.1	1.9	2.2	0.056	0.026
	Number	Percent	Number	Percent		
Anxiety Disorders	58	19.3%	64	21.3%	-1.993	-0.050
Depressive Disorders	76	25.2%	73	24.3%	0.997	0.023
All other psychiatric and neurological conditions	54	17.9%	61	20.3%	-2.326	-0.059
Psychotropic medications	153	50.8%	150	49.8%	0.997	0.020
Obesity	35	11.6%	38	12.6%	-0.997	-0.031
Renal disease	29	9.6%	29	9.6%	0.000	0.000
Alcohol use or dependence	*****	*****	*****	*****	0.000	0.000
Diabetes	*****	*****	*****	*****	0.332	0.047
Drug abuse or dependence	20	6.6%	17	5.6%	0.997	0.042

Table 1ap. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	51	16.9%	58	19.3%	-2.326	-0.060
Gestational Hypertension	37	12.3%	38	12.6%	-0.332	-0.010
Gestational Renal disease	*****	*****	*****	*****	0.332	0.037
Hypertension	14	4.7%	14	4.7%	0.000	0.000
Smoking	46	15.3%	42	14.0%	1.329	0.038
Number of dispensings in first trimester (0,90)						
One dispensing	0	0.0%	0	0.0%	NaN	NaN
Two or more dispensings	301	100.0%	301	100.0%	0.000	NaN
Medical Product Use						
Antihypertensive medications	22	7.3%	25	8.3%	-0.997	-0.037
Opioids	38	12.6%	36	12.0%	0.664	0.020
Suspected teratogens	53	17.6%	48	15.9%	1.661	0.044
Antidiabetic medications	*****	*****	*****	*****	1.329	0.083
Buprenorphine	*****	*****	*****	*****	0.997	0.060
Insulin	*****	*****	*****	*****	0.000	0.000
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	*****	*****	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.3	6.6	3.7	5.0	0.645	0.111
Mean number of emergency room encounters	0.1	0.4	0.1	0.4	0.003	0.008
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.003	-0.047
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	1.9	0.5	1.4	0.262	0.160

Table 1ap. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.1	5.8	8.0	5.5	0.050	0.009
Mean number of generics dispensed	4.4	2.8	4.0	2.8	0.395	0.141
Mean number of unique drug classes dispensed	4.2	2.6	3.8	2.7	0.405	0.153

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1a. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	785	N/A	37,913	N/A	N/A	N/A
Pregnancies	813	100.0%	40,621	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.1	4.8	30.2	4.9	1.979	0.408
Age	Number	Percent	Number	Percent		
10-34 years	604	74.3%	33,836	83.3%	-9.004	-0.222
35-54 years	209	25.7%	6,785	16.7%	9.004	0.222
Sex						
Female	813	100.0%	40,621	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	176	0.4%	-0.187	-0.032
Asian	*****	*****	130	0.3%	-0.074	-0.014
Black or African American	27	3.3%	1,203	3.0%	0.360	0.021
Multi-racial	*****	*****	250	0.6%	0.492	0.053
Native Hawaiian or Other Pacific Islander	*****	*****	24	0.1%	0.064	0.021
Unknown	646	79.5%	26,973	66.4%	13.057	0.297
White	126	15.5%	11,865	29.2%	-13.711	-0.334
Hispanic origin						
Yes	*****	*****	1,044	2.6%	-1.463	-0.109
No	*****	*****	11,355	28.0%	-13.562	-0.337
Unknown	687	84.5%	28,222	69.5%	15.025	0.363
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1a. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	*****	*****	NaN	NaN
2007	18	2.2%	*****	*****	1.874	0.168
2008	23	2.8%	211	0.5%	2.310	0.181
2009	59	7.3%	727	1.8%	5.467	0.265
2010	52	6.4%	837	2.1%	4.336	0.217
2011	37	4.6%	998	2.5%	2.094	0.114
2012	50	6.2%	1,144	2.8%	3.334	0.162
2013	46	5.7%	1,227	3.0%	2.637	0.130
2014	41	5.0%	1,676	4.1%	0.917	0.044
2015	51	6.3%	2,163	5.3%	0.948	0.041
2016	75	9.2%	3,506	8.6%	0.594	0.021
2017	79	9.7%	5,294	13.0%	-3.316	-0.105
2018	67	8.2%	5,482	13.5%	-5.254	-0.169
2019	72	8.9%	5,670	14.0%	-5.102	-0.161
2020	76	9.3%	5,913	14.6%	-5.208	-0.161
2021	35	4.3%	3,220	7.9%	-3.622	-0.152
2022	32	3.9%	2,413	5.9%	-2.004	-0.093

Table 1a. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	72	8.9%	3,203	7.9%	0.971	0.035
Term (259-280 days)	301	37.0%	21,948	54.0%	-17.008	-0.347
Post-Term (281-301 days)	131	16.1%	7,507	18.5%	-2.367	-0.063
Unknown Term	309	38.0%	7,963	19.6%	18.404	0.415
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.6	1.6	0.017	0.011
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.2	-21.4	45.2	13.602	0.382
Mean number of dispensings in first trimester	1.8	1.0	2.5	1.3	-0.707	-0.602
	Number	Percent	Number	Percent		
Exposed during first trimester	813	100.0%	40,621	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.7	2.1	0.218	0.101
	Number	Percent	Number	Percent		
Anxiety Disorders	169	20.8%	10,791	26.6%	-5.778	-0.136
Depressive Disorders	196	24.1%	8,969	22.1%	2.029	0.048
All other psychiatric and neurological conditions	148	18.2%	27,420	67.5%	-49.298	-1.149
Psychotropic medications	400	49.2%	18,051	44.4%	4.763	0.096
Obesity	95	11.7%	2,771	6.8%	4.864	0.168
Renal disease	82	10.1%	4,435	10.9%	-0.832	-0.027
Alcohol use or dependence	*****	*****	604	1.5%	-0.257	-0.022
Diabetes	20	2.5%	466	1.1%	1.313	0.099
Drug abuse or dependence	44	5.4%	2,546	6.3%	-0.856	-0.036

Table 1a. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	126	15.5%	4,219	10.4%	5.112	0.153
Gestational Hypertension	103	12.7%	5,872	14.5%	-1.786	-0.052
Gestational Renal disease	*****	*****	409	1.0%	-0.023	-0.002
Hypertension	44	5.4%	1,433	3.5%	1.884	0.091
Smoking	113	13.9%	6,229	15.3%	-1.435	-0.041
Number of dispensings in first trimester (0,90)						
One dispensing	403	49.6%	10,889	26.8%	22.763	0.482
Two or more dispensings	410	50.4%	29,732	73.2%	-22.763	-0.482
Medical Product Use						
Antihypertensive medications	68	8.4%	2,433	6.0%	2.375	0.092
Opioids	103	12.7%	3,344	8.2%	4.437	0.145
Suspected teratogens	138	17.0%	5,966	14.7%	2.287	0.063
Antidiabetic medications	34	4.2%	677	1.7%	2.515	0.150
Buprenorphine	16	2.0%	790	1.9%	0.023	0.002
Insulin	14	1.7%	199	0.5%	1.232	0.118
Methadone	*****	*****	28	0.1%	0.054	0.017
Naloxone	0	0.0%	46	0.1%	NaN	NaN
Naltrexone	*****	*****	59	0.1%	0.347	0.062
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.1	3.6	5.0	0.813	0.146
Mean number of emergency room encounters	0.1	0.5	0.2	0.5	-0.031	-0.063
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.003	-0.025
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.0	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	0.9	3.4	-0.047	-0.015

Table 1a. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.3	6.1	7.0	5.4	0.268	0.046
Mean number of generics dispensed	4.2	3.1	3.7	2.8	0.523	0.177
Mean number of unique drug classes dispensed	4.1	2.9	3.6	2.6	0.480	0.176

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1ar. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	781	N/A	808	N/A	N/A	N/A
Pregnancies	809	100.0%	809	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.1	4.8	32.1	4.9	0.005	0.001
Age	Number	Percent	Number	Percent		
10-34 years	603	74.5%	592	73.2%	1.360	0.031
35-54 years	206	25.5%	217	26.8%	-1.360	-0.031
Sex						
Female	809	100.0%	809	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.371	-0.057
Asian	*****	*****	*****	*****	0.124	0.029
Black or African American	27	3.3%	37	4.6%	-1.236	-0.063
Multi-racial	*****	*****	*****	*****	0.000	0.000
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	643	79.5%	650	80.3%	-0.865	-0.022
White	125	15.5%	107	13.2%	2.225	0.064
Hispanic origin						
Yes	*****	*****	13	1.6%	-0.494	-0.043
No	*****	*****	119	14.7%	-0.247	-0.007
Unknown	683	84.4%	677	83.7%	0.742	0.020
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1ar. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	18	2.2%	12	1.5%	0.742	0.055
2008	23	2.8%	23	2.8%	0.000	0.000
2009	58	7.2%	47	5.8%	1.360	0.055
2010	51	6.3%	57	7.0%	-0.742	-0.030
2011	37	4.6%	48	5.9%	-1.360	-0.061
2012	50	6.2%	43	5.3%	0.865	0.037
2013	46	5.7%	47	5.8%	-0.124	-0.005
2014	41	5.1%	35	4.3%	0.742	0.035
2015	50	6.2%	47	5.8%	0.371	0.016
2016	75	9.3%	66	8.2%	1.112	0.039
2017	79	9.8%	87	10.8%	-0.989	-0.033
2018	67	8.3%	63	7.8%	0.494	0.018
2019	72	8.9%	70	8.7%	0.247	0.009
2020	76	9.4%	86	10.6%	-1.236	-0.041
2021	35	4.3%	43	5.3%	-0.989	-0.046
2022	31	3.8%	35	4.3%	-0.494	-0.025

Table 1ar. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	71	8.8%	71	8.8%	0.000	0.000
Term (259-280 days)	299	37.0%	311	38.4%	-1.483	-0.031
Post-Term (281-301 days)	131	16.2%	127	15.7%	0.494	0.014
Unknown Term	308	38.1%	300	37.1%	0.989	0.020
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.7	1.7	-0.028	-0.018
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.3	-18.4	40.2	10.604	0.327
Mean number of dispensings in first trimester	1.8	1.0	2.3	1.2	-0.489	-0.432
	Number	Percent	Number	Percent		
Exposed during first trimester	809	100.0%	809	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.9	2.3	0.010	0.004
	Number	Percent	Number	Percent		
Anxiety Disorders	168	20.8%	161	19.9%	0.865	0.021
Depressive Disorders	195	24.1%	206	25.5%	-1.360	-0.031
All other psychiatric and neurological conditions	148	18.3%	146	18.0%	0.247	0.006
Psychotropic medications	397	49.1%	373	46.1%	2.967	0.059
Obesity	91	11.2%	99	12.2%	-0.989	-0.031
Renal disease	81	10.0%	74	9.1%	0.865	0.029
Alcohol use or dependence	*****	*****	12	1.5%	-0.247	-0.021
Diabetes	16	2.0%	11	1.4%	0.618	0.048
Drug abuse or dependence	44	5.4%	44	5.4%	0.000	0.000

Table 1ar. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	123	15.2%	128	15.8%	-0.618	-0.017
Gestational Hypertension	101	12.5%	120	14.8%	-2.349	-0.068
Gestational Renal disease	*****	*****	*****	*****	-0.247	-0.025
Hypertension	43	5.3%	43	5.3%	0.000	0.000
Smoking	111	13.7%	102	12.6%	1.112	0.033
Number of dispensings in first trimester (0,90)						
One dispensing	402	49.7%	272	33.6%	16.069	0.330
Two or more dispensings	407	50.3%	537	66.4%	-16.069	-0.330
Medical Product Use						
Antihypertensive medications	65	8.0%	76	9.4%	-1.360	-0.048
Opioids	103	12.7%	106	13.1%	-0.371	-0.011
Suspected teratogens	135	16.7%	142	17.6%	-0.865	-0.023
Antidiabetic medications	30	3.7%	26	3.2%	0.494	0.027
Buprenorphine	16	2.0%	14	1.7%	0.247	0.018
Insulin	*****	*****	*****	*****	0.247	0.024
Methadone	*****	*****	*****	*****	0.000	0.000
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.247	0.041
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.1	3.2	4.0	1.180	0.229
Mean number of emergency room encounters	0.1	0.5	0.1	0.4	0.059	0.143
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.001	0.010
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	0.6	1.5	0.214	0.098

Table 1ar. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.3	6.1	7.5	6.3	-0.251	-0.040
Mean number of generics dispensed	4.2	3.1	3.9	3.1	0.240	0.077
Mean number of unique drug classes dispensed	4.0	2.8	3.8	2.9	0.227	0.080

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1as. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	585	N/A	591	N/A	N/A	N/A
Pregnancies	603	100.0%	592	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	30.0	3.3	29.9	3.5	0.113	0.033
Age	Number	Percent	Number	Percent		
10-34 years	603	100.0%	592	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	603	100.0%	592	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.510	-0.079
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	31	5.2%	-1.588	-0.077
Multi-racial	*****	*****	*****	*****	-0.857	-0.083
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	482	79.9%	467	78.9%	1.049	0.026
White	93	15.4%	80	13.5%	1.909	0.054
Hispanic origin						
Yes	*****	*****	*****	*****	-0.194	-0.016
No	*****	*****	*****	*****	-1.285	-0.036
Unknown	507	84.1%	489	82.6%	1.478	0.040
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1as. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	16	2.7%	*****	*****	0.964	0.066
2008	16	2.7%	*****	*****	-0.725	-0.042
2009	45	7.5%	40	6.8%	0.706	0.027
2010	40	6.6%	45	7.6%	-0.968	-0.038
2011	26	4.3%	38	6.4%	-2.107	-0.094
2012	41	6.8%	32	5.4%	1.394	0.058
2013	31	5.1%	35	5.9%	-0.771	-0.034
2014	30	5.0%	24	4.1%	0.921	0.044
2015	37	6.1%	34	5.7%	0.393	0.017
2016	52	8.6%	47	7.9%	0.684	0.025
2017	59	9.8%	63	10.6%	-0.857	-0.028
2018	49	8.1%	44	7.4%	0.694	0.026
2019	58	9.6%	52	8.8%	0.835	0.029
2020	54	9.0%	60	10.1%	-1.180	-0.040
2021	23	3.8%	26	4.4%	-0.578	-0.029
2022	26	4.3%	22	3.7%	0.596	0.030

Table 1as. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	48	8.0%	45	7.6%	0.359	0.013
Term (259-280 days)	221	36.7%	216	36.5%	0.164	0.003
Post-Term (281-301 days)	102	16.9%	100	16.9%	0.024	0.001
Unknown Term	232	38.5%	231	39.0%	-0.546	-0.011
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.6	39.7	1.6	-0.082	-0.052
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-8.3	24.0	-18.3	37.3	9.974	0.318
Mean number of dispensings in first trimester	1.8	1.0	2.3	1.3	-0.557	-0.489
	Number	Percent	Number	Percent		
Exposed during first trimester	603	100.0%	592	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.4	1.8	1.4	2.0	-0.025	-0.013
	Number	Percent	Number	Percent		
Anxiety Disorders	114	18.9%	111	18.8%	0.155	0.004
Depressive Disorders	132	21.9%	142	24.0%	-2.096	-0.050
All other psychiatric and neurological conditions	112	18.6%	110	18.6%	-0.007	-0.000
Psychotropic medications	272	45.1%	265	44.8%	0.344	0.007
Obesity	64	10.6%	69	11.7%	-1.042	-0.033
Renal disease	61	10.1%	53	9.0%	1.163	0.040
Alcohol use or dependence	*****	*****	11	1.9%	-0.697	-0.057
Diabetes	11	1.8%	*****	*****	0.473	0.038
Drug abuse or dependence	38	6.3%	30	5.1%	1.234	0.053

Table 1as. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	74	12.3%	80	13.5%	-1.242	-0.037
Gestational Hypertension	68	11.3%	82	13.9%	-2.574	-0.078
Gestational Renal disease	*****	*****	*****	*****	-0.184	-0.019
Hypertension	26	4.3%	24	4.1%	0.258	0.013
Smoking	77	12.8%	65	11.0%	1.790	0.055
Number of dispensings in first trimester (0,90)						
One dispensing	312	51.7%	199	33.6%	18.126	0.373
Two or more dispensings	291	48.3%	393	66.4%	-18.126	-0.373
Medical Product Use						
Antihypertensive medications	45	7.5%	44	7.4%	0.030	0.001
Opioids	71	11.8%	79	13.3%	-1.570	-0.047
Suspected teratogens	83	13.8%	96	16.2%	-2.452	-0.069
Antidiabetic medications	18	3.0%	17	2.9%	0.113	0.007
Buprenorphine	14	2.3%	12	2.0%	0.295	0.020
Insulin	*****	*****	*****	*****	0.319	0.035
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.326	0.046
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.5	3.0	3.9	1.362	0.254
Mean number of emergency room encounters	0.1	0.5	0.1	0.4	0.045	0.103
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.005	0.041
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.9	0.6	1.5	0.202	0.088

Table 1as. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.8	5.7	7.2	6.2	-0.398	-0.067
Mean number of generics dispensed	4.0	3.0	3.7	3.0	0.259	0.085
Mean number of unique drug classes dispensed	3.9	2.8	3.6	2.8	0.244	0.088

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1at. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	462	N/A	471	N/A	N/A	N/A
Pregnancies	472	100.0%	472	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	30.0	3.3	29.9	3.5	0.084	0.025
Age	Number	Percent	Number	Percent		
10-34 years	472	100.0%	472	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	472	100.0%	472	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.212	-0.038
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	-0.636	-0.030
Multi-racial	*****	*****	*****	*****	0.636	0.088
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	379	80.3%	377	79.9%	0.424	0.011
White	67	14.2%	68	14.4%	-0.212	-0.006
Hispanic origin						
Yes	*****	*****	*****	*****	0.636	0.055
No	*****	*****	*****	*****	-0.424	-0.012
Unknown	392	83.1%	393	83.3%	-0.212	-0.006
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1at. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.000	0.000
2008	*****	*****	*****	*****	0.000	0.000
2009	35	7.4%	35	7.4%	0.000	0.000
2010	32	6.8%	30	6.4%	0.424	0.017
2011	26	5.5%	22	4.7%	0.847	0.039
2012	34	7.2%	30	6.4%	0.847	0.034
2013	25	5.3%	25	5.3%	0.000	0.000
2014	20	4.2%	24	5.1%	-0.847	-0.040
2015	30	6.4%	27	5.7%	0.636	0.027
2016	42	8.9%	43	9.1%	-0.212	-0.007
2017	50	10.6%	51	10.8%	-0.212	-0.007
2018	34	7.2%	35	7.4%	-0.212	-0.008
2019	38	8.1%	42	8.9%	-0.847	-0.030
2020	44	9.3%	46	9.7%	-0.424	-0.014
2021	18	3.8%	19	4.0%	-0.212	-0.011
2022	19	4.0%	18	3.8%	0.212	0.011

Table 1at. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	39	8.3%	36	7.6%	0.636	0.024
Term (259-280 days)	168	35.6%	175	37.1%	-1.483	-0.031
Post-Term (281-301 days)	82	17.4%	83	17.6%	-0.212	-0.006
Unknown Term	183	38.8%	178	37.7%	1.059	0.022
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.6	39.8	1.5	-0.091	-0.058
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	23.0	-19.1	38.9	11.339	0.355
Mean number of dispensings in first trimester	1.8	1.0	2.3	1.3	-0.576	-0.498
	Number	Percent	Number	Percent		
Exposed during first trimester	472	100.0%	472	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.3	1.8	1.3	1.9	0.061	0.033
	Number	Percent	Number	Percent		
Anxiety Disorders	79	16.7%	80	16.9%	-0.212	-0.006
Depressive Disorders	97	20.6%	101	21.4%	-0.847	-0.021
All other psychiatric and neurological conditions	85	18.0%	82	17.4%	0.636	0.017
Psychotropic medications	208	44.1%	205	43.4%	0.636	0.013
Obesity	50	10.6%	48	10.2%	0.424	0.014
Renal disease	44	9.3%	44	9.3%	0.000	0.000
Alcohol use or dependence	*****	*****	*****	*****	0.000	0.000
Diabetes	*****	*****	*****	*****	0.000	0.000
Drug abuse or dependence	25	5.3%	22	4.7%	0.636	0.029

Table 1at. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	55	11.7%	58	12.3%	-0.636	-0.020
Gestational Hypertension	56	11.9%	51	10.8%	1.059	0.033
Gestational Renal disease	*****	*****	*****	*****	0.212	0.025
Hypertension	16	3.4%	16	3.4%	0.000	0.000
Smoking	49	10.4%	45	9.5%	0.847	0.028
Number of dispensings in first trimester (0,90)						
One dispensing	243	51.5%	157	33.3%	18.220	0.375
Two or more dispensings	229	48.5%	315	66.7%	-18.220	-0.375
Medical Product Use						
Antihypertensive medications	30	6.4%	26	5.5%	0.847	0.036
Opioids	62	13.1%	61	12.9%	0.212	0.006
Suspected teratogens	61	12.9%	64	13.6%	-0.636	-0.019
Antidiabetic medications	14	3.0%	11	2.3%	0.636	0.040
Buprenorphine	12	2.5%	11	2.3%	0.212	0.014
Insulin	*****	*****	*****	*****	0.212	0.029
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.000	0.000
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	3.9	4.0	2.8	3.3	1.165	0.318
Mean number of emergency room encounters	0.1	0.4	0.1	0.4	0.028	0.066
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.002	-0.029
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	3.2	0.5	1.6	0.301	0.118

Table 1at. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.7	5.5	7.0	6.1	-0.364	-0.062
Mean number of generics dispensed	3.9	2.9	3.6	3.0	0.280	0.095
Mean number of unique drug classes dispensed	3.8	2.7	3.5	2.8	0.278	0.102

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1au. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	201	N/A	217	N/A	N/A	N/A
Pregnancies	206	100.0%	217	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.2	2.8	38.1	2.4	0.126	0.049
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	206	100.0%	217	100.0%	0.000	NaN
Sex						
Female	206	100.0%	217	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.025	0.004
Asian	*****	*****	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	-0.338	-0.021
Multi-racial	*****	*****	0	0.0%	NaN	NaN
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	161	78.2%	183	84.3%	-6.176	-0.159
White	32	15.5%	*****	*****	3.092	0.089
Hispanic origin						
Yes	*****	*****	*****	*****	-1.358	-0.127
No	*****	*****	*****	*****	2.557	0.077
Unknown	176	85.4%	188	86.6%	-1.199	-0.035
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1au. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.049	0.005
2008	*****	*****	*****	*****	2.016	0.132
2009	13	6.3%	*****	*****	3.085	0.145
2010	11	5.3%	12	5.5%	-0.190	-0.008
2011	11	5.3%	*****	*****	0.732	0.034
2012	*****	*****	11	5.1%	-0.700	-0.033
2013	15	7.3%	12	5.5%	1.752	0.072
2014	11	5.3%	11	5.1%	0.271	0.012
2015	13	6.3%	13	6.0%	0.320	0.013
2016	23	11.2%	19	8.8%	2.409	0.081
2017	20	9.7%	24	11.1%	-1.351	-0.044
2018	18	8.7%	19	8.8%	-0.018	-0.001
2019	14	6.8%	18	8.3%	-1.499	-0.057
2020	22	10.7%	26	12.0%	-1.302	-0.041
2021	12	5.8%	17	7.8%	-2.009	-0.080
2022	*****	*****	13	6.0%	-3.564	-0.178

Table 1au. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	23	11.2%	26	12.0%	-0.817	-0.026
Term (259-280 days)	78	37.9%	95	43.8%	-5.915	-0.121
Post-Term (281-301 days)	29	14.1%	27	12.4%	1.635	0.048
Unknown Term	76	36.9%	69	31.8%	5.096	0.107
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.5	39.4	1.8	0.110	0.065
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-6.3	15.8	-18.7	47.4	12.428	0.352
Mean number of dispensings in first trimester	1.9	1.0	2.2	1.2	-0.300	-0.271
	Number	Percent	Number	Percent		
Exposed during first trimester	206	100.0%	217	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	3.4	2.5	3.2	2.6	0.209	0.083
	Number	Percent	Number	Percent		
Anxiety Disorders	54	26.2%	50	23.0%	3.172	0.074
Depressive Disorders	63	30.6%	64	29.5%	1.089	0.024
All other psychiatric and neurological conditions	36	17.5%	36	16.6%	0.886	0.024
Psychotropic medications	125	60.7%	108	49.8%	10.910	0.221
Obesity	27	13.1%	30	13.8%	-0.718	-0.021
Renal disease	20	9.7%	21	9.7%	0.031	0.001
Alcohol use or dependence	*****	*****	*****	*****	0.995	0.102
Diabetes	*****	*****	*****	*****	1.045	0.076
Drug abuse or dependence	*****	*****	14	6.5%	-3.539	-0.168

Table 1au. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	49	23.8%	48	22.1%	1.667	0.040
Gestational Hypertension	33	16.0%	38	17.5%	-1.492	-0.040
Gestational Renal disease	*****	*****	*****	*****	-0.412	-0.038
Hypertension	17	8.3%	19	8.8%	-0.503	-0.018
Smoking	34	16.5%	37	17.1%	-0.546	-0.015
Number of dispensings in first trimester (0,90)						
One dispensing	90	43.7%	73	33.6%	10.049	0.207
Two or more dispensings	116	56.3%	144	66.4%	-10.049	-0.207
Medical Product Use						
Antihypertensive medications	20	9.7%	32	14.7%	-5.038	-0.154
Opioids	32	15.5%	27	12.4%	3.092	0.089
Suspected teratogens	52	25.2%	46	21.2%	4.045	0.096
Antidiabetic medications	12	5.8%	*****	*****	1.678	0.077
Buprenorphine	*****	*****	*****	*****	0.049	0.005
Insulin	*****	*****	*****	*****	0.098	0.007
Methadone	*****	*****	*****	*****	0.025	0.004
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.5	4.6	3.8	4.2	0.693	0.158
Mean number of emergency room encounters	0.1	0.4	0.0	0.2	0.099	0.288
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.009	-0.075
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.9	2.2	0.7	1.3	0.255	0.145

Table 1au. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.7	7.0	8.4	6.7	0.247	0.036
Mean number of generics dispensed	4.7	3.2	4.5	3.2	0.225	0.070
Mean number of unique drug classes dispensed	4.5	3.0	4.3	3.0	0.217	0.072

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1av. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	99	N/A	102	N/A	N/A	N/A
Pregnancies	102	100.0%	102	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.3	2.6	38.0	2.4	0.270	0.109
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	102	100.0%	102	100.0%	0.000	NaN
Sex						
Female	102	100.0%	102	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	0	0.0%	NaN	NaN
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	0.980	0.082
Multi-racial	0	0.0%	0	0.0%	NaN	NaN
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	91	89.2%	*****	*****	-2.941	-0.101
White	*****	*****	*****	*****	0.980	0.038
Hispanic origin						
Yes	0	0.0%	0	0.0%	NaN	NaN
No	*****	*****	*****	*****	0.000	0.000
Unknown	*****	*****	*****	*****	0.000	0.000
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1av. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.980	0.082
2008	*****	*****	*****	*****	0.000	0.000
2009	*****	*****	*****	*****	0.000	0.000
2010	*****	*****	*****	*****	0.000	0.000
2011	*****	*****	*****	*****	-1.961	-0.083
2012	*****	*****	*****	*****	1.961	0.101
2013	*****	*****	*****	*****	0.980	0.035
2014	*****	*****	*****	*****	-0.980	-0.043
2015	*****	*****	*****	*****	-0.980	-0.048
2016	11	10.8%	*****	*****	3.922	0.139
2017	*****	*****	12	11.8%	-2.941	-0.097
2018	*****	*****	*****	*****	2.941	0.107
2019	*****	*****	*****	*****	0.980	0.048
2020	12	11.8%	17	16.7%	-4.902	-0.141
2021	*****	*****	*****	*****	-0.980	-0.035
2022	*****	*****	*****	*****	0.980	0.054

Table 1av. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	*****	*****	*****	*****	1.961	0.069
Term (259-280 days)	37	36.3%	43	42.2%	-5.882	-0.121
Post-Term (281-301 days)	22	21.6%	14	13.7%	7.843	0.207
Unknown Term	33	32.4%	37	36.3%	-3.922	-0.083
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.8	1.5	39.7	1.4	0.059	0.042
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-6.3	19.5	-20.0	48.9	13.676	0.367
Mean number of dispensings in first trimester	1.8	1.1	2.2	1.3	-0.402	-0.342
	Number	Percent	Number	Percent		
Exposed during first trimester	102	100.0%	102	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	3.2	2.4	2.8	2.4	0.392	0.165
	Number	Percent	Number	Percent		
Anxiety Disorders	22	21.6%	27	26.5%	-4.902	-0.115
Depressive Disorders	31	30.4%	27	26.5%	3.922	0.087
All other psychiatric and neurological conditions	16	15.7%	15	14.7%	0.980	0.027
Psychotropic medications	53	52.0%	57	55.9%	-3.922	-0.079
Obesity	*****	*****	13	12.7%	-4.902	-0.162
Renal disease	*****	*****	*****	*****	-0.980	-0.034
Alcohol use or dependence	*****	*****	0	0.0%	NaN	NaN
Diabetes	*****	*****	0	0.0%	NaN	NaN
Drug abuse or dependence	*****	*****	*****	*****	0.000	0.000

Table 1av. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	21	20.6%	19	18.6%	1.961	0.049
Gestational Hypertension	14	13.7%	14	13.7%	0.000	0.000
Gestational Renal disease	*****	*****	*****	*****	0.000	0.000
Hypertension	*****	*****	*****	*****	0.980	0.038
Smoking	14	13.7%	15	14.7%	-0.980	-0.028
Number of dispensings in first trimester (0,90)						
One dispensing	53	52.0%	39	38.2%	13.725	0.279
Two or more dispensings	49	48.0%	63	61.8%	-13.725	-0.279
Medical Product Use						
Antihypertensive medications	11	10.8%	11	10.8%	0.000	0.000
Opioids	11	10.8%	12	11.8%	-0.980	-0.031
Suspected teratogens	23	22.5%	17	16.7%	5.882	0.149
Antidiabetic medications	*****	*****	*****	*****	0.980	0.063
Buprenorphine	0	0.0%	0	0.0%	NaN	NaN
Insulin	*****	*****	0	0.0%	NaN	NaN
Methadone	*****	*****	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.0	4.5	3.5	3.8	0.461	0.111
Mean number of emergency room encounters	0.1	0.3	0.0	0.2	0.020	0.084
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.2	-0.020	-0.142
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.7	0.9	0.5	1.1	0.127	0.122

Table 1av. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.6	6.5	8.2	5.9	-0.627	-0.101
Mean number of generics dispensed	4.3	3.2	4.3	2.8	0.049	0.016
Mean number of unique drug classes dispensed	4.2	3.1	4.2	2.6	0.049	0.017

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1aw. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	396	N/A	272	N/A	N/A	N/A
Pregnancies	402	100.0%	272	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	31.8	4.7	32.1	4.9	-0.301	-0.062
Age	Number	Percent	Number	Percent		
10-34 years	312	77.6%	199	73.2%	4.450	0.103
35-54 years	90	22.4%	73	26.8%	-4.450	-0.103
Sex						
Female	402	100.0%	272	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	0	0.0%	NaN	NaN
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	*****	*****	2.023	0.115
Multi-racial	*****	*****	*****	*****	-0.108	-0.011
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	326	81.1%	239	87.9%	-6.773	-0.188
White	54	13.4%	*****	*****	4.977	0.160
Hispanic origin						
Yes	*****	*****	*****	*****	-2.065	-0.139
No	*****	*****	*****	*****	5.334	0.178
Unknown	346	86.1%	243	89.3%	-3.269	-0.100
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1aw. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	-0.097	-0.007
2008	*****	*****	*****	*****	-0.691	-0.039
2009	31	7.7%	18	6.6%	1.094	0.042
2010	32	8.0%	18	6.6%	1.343	0.052
2011	18	4.5%	11	4.0%	0.433	0.021
2012	24	6.0%	16	5.9%	0.088	0.004
2013	21	5.2%	21	7.7%	-2.497	-0.102
2014	21	5.2%	13	4.8%	0.444	0.020
2015	28	7.0%	17	6.3%	0.715	0.029
2016	35	8.7%	24	8.8%	-0.117	-0.004
2017	37	9.2%	22	8.1%	1.116	0.040
2018	35	8.7%	21	7.7%	0.986	0.036
2019	29	7.2%	20	7.4%	-0.139	-0.005
2020	42	10.4%	29	10.7%	-0.214	-0.007
2021	15	3.7%	13	4.8%	-1.048	-0.052
2022	15	3.7%	14	5.1%	-1.416	-0.069

Table 1aw. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	31	7.7%	24	8.8%	-1.112	-0.040
Term (259-280 days)	147	36.6%	97	35.7%	0.905	0.019
Post-Term (281-301 days)	68	16.9%	48	17.6%	-0.732	-0.019
Unknown Term	156	38.8%	103	37.9%	0.938	0.019
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.5	39.7	1.6	0.022	0.014
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-1.0	7.5	-1.5	10.4	0.418	0.046
Mean number of dispensings in first trimester	1.0	0.0	1.0	0.1	-0.012	-0.132
	Number	Percent	Number	Percent		
Exposed during first trimester	402	100.0%	272	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.8	2.2	1.8	2.3	0.052	0.023
	Number	Percent	Number	Percent		
Anxiety Disorders	83	20.6%	37	13.6%	7.044	0.188
Depressive Disorders	85	21.1%	57	21.0%	0.188	0.005
All other psychiatric and neurological conditions	64	15.9%	32	11.8%	4.156	0.121
Psychotropic medications	177	44.0%	99	36.4%	7.633	0.156
Obesity	44	10.9%	34	12.5%	-1.555	-0.048
Renal disease	38	9.5%	19	7.0%	2.467	0.090
Alcohol use or dependence	*****	*****	*****	*****	0.022	0.002
Diabetes	*****	*****	*****	*****	1.385	0.104
Drug abuse or dependence	13	3.2%	*****	*****	-0.443	-0.024

Table 1aw. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	58	14.4%	45	16.5%	-2.116	-0.059
Gestational Hypertension	51	12.7%	33	12.1%	0.554	0.017
Gestational Renal disease	*****	*****	*****	*****	-0.605	-0.068
Hypertension	20	5.0%	11	4.0%	0.931	0.045
Smoking	50	12.4%	30	11.0%	1.408	0.044
Number of dispensings in first trimester (0,90)						
One dispensing	402	100.0%	272	100.0%	0.000	NaN
Two or more dispensings	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Antihypertensive medications	28	7.0%	13	4.8%	2.186	0.093
Opioids	49	12.2%	25	9.2%	2.998	0.097
Suspected teratogens	65	16.2%	45	16.5%	-0.375	-0.010
Antidiabetic medications	15	3.7%	*****	*****	1.525	0.090
Buprenorphine	*****	*****	*****	*****	0.011	0.001
Insulin	*****	*****	*****	*****	0.508	0.051
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.0	3.1	4.0	1.290	0.254
Mean number of emergency room encounters	0.1	0.4	0.1	0.4	0.073	0.189
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.001	-0.011
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	3.4	0.6	1.3	0.234	0.091

Table 1aw. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	5.9	5.4	5.2	4.5	0.615	0.124
Mean number of generics dispensed	3.7	2.9	3.3	2.6	0.374	0.135
Mean number of unique drug classes dispensed	3.6	2.7	3.2	2.5	0.354	0.137

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1ax. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	195	N/A	197	N/A	N/A	N/A
Pregnancies	197	100.0%	197	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.0	4.6	32.2	5.0	-0.255	-0.053
Age	Number	Percent	Number	Percent		
10-34 years	153	77.7%	141	71.6%	6.091	0.140
35-54 years	44	22.3%	56	28.4%	-6.091	-0.140
Sex						
Female	197	100.0%	197	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	0	0.0%	0	0.0%	NaN	NaN
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	-0.508	-0.045
Multi-racial	*****	*****	*****	*****	0.508	0.058
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	179	90.9%	179	90.9%	0.000	0.000
White	*****	*****	*****	*****	0.000	0.000
Hispanic origin						
Yes	*****	*****	*****	*****	-1.523	-0.136
No	*****	*****	*****	*****	-0.508	-0.022
Unknown	185	93.9%	181	91.9%	2.030	0.079
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1ax. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.000	0.000
2008	*****	*****	*****	*****	-0.508	-0.028
2009	13	6.6%	*****	*****	2.030	0.089
2010	16	8.1%	14	7.1%	1.015	0.038
2011	*****	*****	*****	*****	-1.015	-0.051
2012	12	6.1%	12	6.1%	0.000	0.000
2013	13	6.6%	12	6.1%	0.508	0.021
2014	12	6.1%	*****	*****	1.015	0.044
2015	15	7.6%	15	7.6%	0.000	0.000
2016	15	7.6%	16	8.1%	-0.508	-0.019
2017	14	7.1%	17	8.6%	-1.523	-0.057
2018	19	9.6%	19	9.6%	0.000	0.000
2019	13	6.6%	14	7.1%	-0.508	-0.020
2020	21	10.7%	20	10.2%	0.508	0.017
2021	*****	*****	*****	*****	-1.523	-0.080
2022	*****	*****	*****	*****	0.508	0.024

Table 1ax. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	17	8.6%	17	8.6%	0.000	0.000
Term (259-280 days)	68	34.5%	72	36.5%	-2.030	-0.042
Post-Term (281-301 days)	33	16.8%	34	17.3%	-0.508	-0.014
Unknown Term	79	40.1%	74	37.6%	2.538	0.052
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.7	39.8	1.4	-0.107	-0.070
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-0.7	6.6	-1.9	11.9	1.254	0.131
Mean number of dispensings in first trimester	1.0	0.1	1.0	0.1	-0.005	-0.058
	Number	Percent	Number	Percent		
Exposed during first trimester	197	100.0%	197	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.8	2.4	0.051	0.022
	Number	Percent	Number	Percent		
Anxiety Disorders	32	16.2%	28	14.2%	2.030	0.057
Depressive Disorders	33	16.8%	36	18.3%	-1.523	-0.040
All other psychiatric and neurological conditions	23	11.7%	25	12.7%	-1.015	-0.031
Psychotropic medications	72	36.5%	72	36.5%	0.000	0.000
Obesity	25	12.7%	26	13.2%	-0.508	-0.015
Renal disease	16	8.1%	13	6.6%	1.523	0.058
Alcohol use or dependence	*****	*****	*****	*****	0.000	0.000
Diabetes	0	0.0%	0	0.0%	NaN	NaN
Drug abuse or dependence	*****	*****	*****	*****	0.508	0.045

Table 1ax. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	30	15.2%	26	13.2%	2.030	0.058
Gestational Hypertension	25	12.7%	24	12.2%	0.508	0.015
Gestational Renal disease	0	0.0%	0	0.0%	NaN	NaN
Hypertension	*****	*****	*****	*****	-1.015	-0.051
Smoking	21	10.7%	21	10.7%	0.000	0.000
Number of dispensings in first trimester (0,90)						
One dispensing	197	100.0%	197	100.0%	0.000	NaN
Two or more dispensings	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Antihypertensive medications	*****	*****	*****	*****	-1.523	-0.075
Opioids	15	7.6%	14	7.1%	0.508	0.019
Suspected teratogens	35	17.8%	35	17.8%	0.000	0.000
Antidiabetic medications	*****	*****	*****	*****	0.508	0.034
Buprenorphine	*****	*****	0	0.0%	NaN	NaN
Insulin	0	0.0%	0	0.0%	NaN	NaN
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	3.8	3.7	3.3	4.3	0.503	0.125
Mean number of emergency room encounters	0.1	0.3	0.0	0.1	0.051	0.201
Mean number of inpatient hospital encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.6	1.0	0.6	1.4	-0.010	-0.009

Table 1ax. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	5.2	4.7	5.4	4.6	-0.162	-0.035
Mean number of generics dispensed	3.4	2.7	3.4	2.6	-0.030	-0.011
Mean number of unique drug classes dispensed	3.3	2.5	3.3	2.4	-0.015	-0.006

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1ay. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	394	N/A	537	N/A	N/A	N/A
Pregnancies	407	100.0%	537	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.4	4.8	32.1	4.8	0.320	0.067
Age	Number	Percent	Number	Percent		
10-34 years	291	71.5%	393	73.2%	-1.686	-0.038
35-54 years	116	28.5%	144	26.8%	1.686	0.038
Sex						
Female	407	100.0%	537	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.685	-0.090
Asian	*****	*****	0	0.0%	NaN	NaN
Black or African American	*****	*****	31	5.8%	-3.316	-0.168
Multi-racial	*****	*****	*****	*****	0.111	0.010
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	317	77.9%	411	76.5%	1.351	0.032
White	71	17.4%	84	15.6%	1.802	0.049
Hispanic origin						
Yes	*****	*****	*****	*****	0.238	0.026
No	*****	*****	*****	*****	-2.220	-0.059
Unknown	337	82.8%	434	80.8%	1.982	0.051
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1ay. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	11	2.7%	*****	*****	1.399	0.100
2008	11	2.7%	*****	*****	0.282	0.018
2009	27	6.6%	29	5.4%	1.234	0.052
2010	19	4.7%	39	7.3%	-2.594	-0.110
2011	19	4.7%	37	6.9%	-2.222	-0.095
2012	26	6.4%	27	5.0%	1.360	0.059
2013	25	6.1%	26	4.8%	1.301	0.057
2014	20	4.9%	22	4.1%	0.817	0.039
2015	22	5.4%	30	5.6%	-0.181	-0.008
2016	40	9.8%	42	7.8%	2.007	0.071
2017	42	10.3%	65	12.1%	-1.785	-0.057
2018	32	7.9%	42	7.8%	0.041	0.002
2019	43	10.6%	50	9.3%	1.254	0.042
2020	34	8.4%	57	10.6%	-2.261	-0.077
2021	20	4.9%	30	5.6%	-0.673	-0.030
2022	16	3.9%	21	3.9%	0.021	0.001

Table 1ay. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	40	9.8%	47	8.8%	1.076	0.037
Term (259-280 days)	152	37.3%	214	39.9%	-2.505	-0.051
Post-Term (281-301 days)	63	15.5%	79	14.7%	0.768	0.021
Unknown Term	152	37.3%	197	36.7%	0.661	0.014
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.6	39.6	1.7	-0.101	-0.061
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-14.5	29.0	-27.0	46.4	12.512	0.323
Mean number of dispensings in first trimester	2.6	0.9	2.9	1.0	-0.345	-0.355
	Number	Percent	Number	Percent		
Exposed during first trimester	407	100.0%	537	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	2.0	2.2	1.9	2.3	0.026	0.012
	Number	Percent	Number	Percent		
Anxiety Disorders	85	20.9%	124	23.1%	-2.207	-0.053
Depressive Disorders	110	27.0%	149	27.7%	-0.720	-0.016
All other psychiatric and neurological conditions	84	20.6%	114	21.2%	-0.590	-0.015
Psychotropic medications	220	54.1%	274	51.0%	3.030	0.061
Obesity	47	11.5%	65	12.1%	-0.556	-0.017
Renal disease	43	10.6%	55	10.2%	0.323	0.011
Alcohol use or dependence	*****	*****	*****	*****	-0.507	-0.046
Diabetes	*****	*****	*****	*****	-0.016	-0.001
Drug abuse or dependence	31	7.6%	34	6.3%	1.285	0.050

Table 1ay. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	65	16.0%	83	15.5%	0.514	0.014
Gestational Hypertension	50	12.3%	87	16.2%	-3.916	-0.112
Gestational Renal disease	*****	*****	*****	*****	0.111	0.010
Hypertension	23	5.7%	32	6.0%	-0.308	-0.013
Smoking	61	15.0%	72	13.4%	1.580	0.045
Number of dispensings in first trimester (0,90)						
One dispensing	0	0.0%	0	0.0%	NaN	NaN
Two or more dispensings	407	100.0%	537	100.0%	0.000	NaN
Medical Product Use						
Antihypertensive medications	37	9.1%	63	11.7%	-2.641	-0.087
Opioids	54	13.3%	81	15.1%	-1.816	-0.052
Suspected teratogens	70	17.2%	97	18.1%	-0.864	-0.023
Antidiabetic medications	15	3.7%	20	3.7%	-0.039	-0.002
Buprenorphine	13	3.2%	12	2.2%	0.959	0.059
Insulin	*****	*****	*****	*****	0.111	0.010
Methadone	*****	*****	*****	*****	0.059	0.013
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.119	0.018
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.3	3.3	3.9	1.132	0.216
Mean number of emergency room encounters	0.1	0.5	0.1	0.4	0.059	0.134
Mean number of inpatient hospital encounters	0.0	0.2	0.0	0.1	0.003	0.022
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	1.8	0.6	1.6	0.211	0.124

Table 1ay. Aggregated Unadjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.7	6.5	8.7	6.8	-0.002	-0.000
Mean number of generics dispensed	4.6	3.2	4.2	3.3	0.397	0.122
Mean number of unique drug classes dispensed	4.5	2.9	4.1	3.0	0.382	0.128

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1az. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	305	N/A	313	N/A	N/A	N/A
Pregnancies	313	100.0%	313	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.2	4.9	32.2	4.8	-0.034	-0.007
Age	Number	Percent	Number	Percent		
10-34 years	233	74.4%	228	72.8%	1.597	0.036
35-54 years	80	25.6%	85	27.2%	-1.597	-0.036
Sex						
Female	313	100.0%	313	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	0	0.0%	NaN	NaN
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	0.639	0.040
Multi-racial	*****	*****	*****	*****	-0.639	-0.057
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	250	79.9%	253	80.8%	-0.958	-0.024
White	50	16.0%	48	15.3%	0.639	0.018
Hispanic origin						
Yes	*****	*****	*****	*****	0.000	0.000
No	*****	*****	*****	*****	0.319	0.009
Unknown	260	83.1%	261	83.4%	-0.319	-0.009
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1az. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.319	0.021
2008	*****	*****	*****	*****	0.319	0.019
2009	19	6.1%	22	7.0%	-0.958	-0.039
2010	18	5.8%	14	4.5%	1.278	0.058
2011	17	5.4%	13	4.2%	1.278	0.060
2012	17	5.4%	22	7.0%	-1.597	-0.066
2013	16	5.1%	18	5.8%	-0.639	-0.028
2014	16	5.1%	14	4.5%	0.639	0.030
2015	21	6.7%	20	6.4%	0.319	0.013
2016	32	10.2%	28	8.9%	1.278	0.043
2017	36	11.5%	33	10.5%	0.958	0.031
2018	20	6.4%	22	7.0%	-0.639	-0.026
2019	30	9.6%	29	9.3%	0.319	0.011
2020	27	8.6%	33	10.5%	-1.917	-0.065
2021	14	4.5%	15	4.8%	-0.319	-0.015
2022	12	3.8%	14	4.5%	-0.639	-0.032

Table 1az. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	31	9.9%	25	8.0%	1.917	0.067
Term (259-280 days)	114	36.4%	125	39.9%	-3.514	-0.072
Post-Term (281-301 days)	51	16.3%	46	14.7%	1.597	0.044
Unknown Term	117	37.4%	117	37.4%	0.000	0.000
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.6	39.7	1.5	-0.157	-0.100
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-15.3	31.2	-27.7	48.7	12.412	0.303
Mean number of dispensings in first trimester	2.6	0.9	2.9	1.0	-0.371	-0.388
	Number	Percent	Number	Percent		
Exposed during first trimester	313	100.0%	313	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.9	2.2	-0.045	-0.020
	Number	Percent	Number	Percent		
Anxiety Disorders	65	20.8%	64	20.4%	0.319	0.008
Depressive Disorders	83	26.5%	86	27.5%	-0.958	-0.022
All other psychiatric and neurological conditions	53	16.9%	54	17.3%	-0.319	-0.008
Psychotropic medications	160	51.1%	167	53.4%	-2.236	-0.045
Obesity	32	10.2%	38	12.1%	-1.917	-0.061
Renal disease	33	10.5%	24	7.7%	2.875	0.100
Alcohol use or dependence	*****	*****	*****	*****	0.319	0.036
Diabetes	*****	*****	*****	*****	-0.958	-0.091
Drug abuse or dependence	19	6.1%	18	5.8%	0.319	0.014

Table 1az. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	48	15.3%	56	17.9%	-2.556	-0.069
Gestational Hypertension	38	12.1%	40	12.8%	-0.639	-0.019
Gestational Renal disease	*****	*****	*****	*****	-0.319	-0.030
Hypertension	16	5.1%	18	5.8%	-0.639	-0.028
Smoking	44	14.1%	44	14.1%	0.000	0.000
Number of dispensings in first trimester (0,90)						
One dispensing	0	0.0%	0	0.0%	NaN	NaN
Two or more dispensings	313	100.0%	313	100.0%	0.000	NaN
Medical Product Use						
Antihypertensive medications	28	8.9%	32	10.2%	-1.278	-0.043
Opioids	44	14.1%	44	14.1%	0.000	0.000
Suspected teratogens	51	16.3%	45	14.4%	1.917	0.053
Antidiabetic medications	*****	*****	*****	*****	-0.958	-0.059
Buprenorphine	*****	*****	*****	*****	0.000	0.000
Insulin	*****	*****	*****	*****	-0.639	-0.080
Methadone	*****	*****	*****	*****	0.000	0.000
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	3.9	4.1	3.0	3.7	0.955	0.245
Mean number of emergency room encounters	0.1	0.4	0.1	0.3	0.061	0.159
Mean number of inpatient hospital encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.9	2.0	0.6	1.7	0.208	0.111

Table 1az. Aggregated Adjusted Characteristics of Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.2	6.0	8.5	6.5	-0.355	-0.057
Mean number of generics dispensed	4.4	2.9	4.1	3.0	0.284	0.097
Mean number of unique drug classes dispensed	4.3	2.7	4.0	2.8	0.265	0.097

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1ba. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	785	N/A	3,459,349	N/A	N/A	N/A
Pregnancies	813	100.0%	3,981,491	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.1	4.8	29.4	5.1	2.729	0.550
Age	Number	Percent	Number	Percent		
10-34 years	604	74.3%	3,330,869	83.7%	-9.366	-0.231
35-54 years	209	25.7%	650,622	16.3%	9.366	0.231
Sex						
Female	813	100.0%	3,981,491	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	43,883	1.1%	-0.856	-0.105
Asian	*****	*****	82,017	2.1%	-1.814	-0.171
Black or African American	27	3.3%	358,858	9.0%	-5.692	-0.238
Multi-racial	*****	*****	16,978	0.4%	0.681	0.078
Native Hawaiian or Other Pacific Islander	*****	*****	12,901	0.3%	-0.201	-0.043
Unknown	646	79.5%	2,755,584	69.2%	10.249	0.236
White	126	15.5%	711,270	17.9%	-2.366	-0.064
Hispanic origin						
Yes	*****	*****	347,742	8.7%	-7.627	-0.358
No	*****	*****	1,056,466	26.5%	-12.143	-0.304
Unknown	687	84.5%	2,577,283	64.7%	19.770	0.466
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1ba. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	432	0.0%	NaN	NaN
2007	18	2.2%	60,061	1.5%	0.706	0.052
2008	23	2.8%	63,139	1.6%	1.243	0.085
2009	59	7.3%	180,038	4.5%	2.735	0.116
2010	52	6.4%	164,971	4.1%	2.253	0.101
2011	37	4.6%	151,689	3.8%	0.741	0.037
2012	50	6.2%	142,634	3.6%	2.568	0.120
2013	46	5.7%	147,426	3.7%	1.955	0.093
2014	41	5.0%	162,691	4.1%	0.957	0.046
2015	51	6.3%	222,478	5.6%	0.685	0.029
2016	75	9.2%	312,697	7.9%	1.371	0.049
2017	79	9.7%	530,183	13.3%	-3.599	-0.113
2018	67	8.2%	544,908	13.7%	-5.445	-0.175
2019	72	8.9%	519,760	13.1%	-4.198	-0.135
2020	76	9.3%	484,030	12.2%	-2.809	-0.091
2021	35	4.3%	172,033	4.3%	-0.016	-0.001
2022	32	3.9%	122,321	3.1%	0.864	0.047

Table 1ba. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	72	8.9%	258,282	6.5%	2.369	0.089
Term (259-280 days)	301	37.0%	1,784,602	44.8%	-7.799	-0.159
Post-Term (281-301 days)	131	16.1%	830,013	20.8%	-4.734	-0.122
Unknown Term	309	38.0%	1,108,594	27.8%	10.164	0.218
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.8	1.5	-0.143	-0.092
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.2	0.0	0.1	-7.768	-0.494
Mean number of dispensings in first trimester	1.8	1.0	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	813	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.3	1.8	0.581	0.286
	Number	Percent	Number	Percent		
Anxiety Disorders	169	20.8%	264,173	6.6%	14.152	0.420
Depressive Disorders	196	24.1%	233,924	5.9%	18.233	0.528
All other psychiatric and neurological conditions	148	18.2%	270,713	6.8%	11.405	0.350
Psychotropic medications	400	49.2%	377,025	9.5%	39.731	0.970
Obesity	95	11.7%	249,042	6.3%	5.430	0.191
Renal disease	82	10.1%	417,171	10.5%	-0.392	-0.013
Alcohol use or dependence	*****	*****	24,238	0.6%	0.621	0.065
Diabetes	20	2.5%	55,826	1.4%	1.058	0.077
Drug abuse or dependence	44	5.4%	87,442	2.2%	3.216	0.169
Gestational Diabetes	126	15.5%	480,341	12.1%	3.434	0.100

Table 1ba. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	103	12.7%	377,336	9.5%	3.192	0.102
Gestational Renal disease	*****	*****	35,099	0.9%	0.102	0.011
Hypertension	44	5.4%	102,694	2.6%	2.833	0.145
Smoking	113	13.9%	205,343	5.2%	8.742	0.301
Medical Product Use						
Antihypertensive medications	68	8.4%	93,152	2.3%	6.024	0.270
Opioids	103	12.7%	139,097	3.5%	9.176	0.342
Suspected teratogens	138	17.0%	406,066	10.2%	6.775	0.199
Antidiabetic medications	34	4.2%	69,654	1.7%	2.433	0.144
Buprenorphine	16	2.0%	13,490	0.3%	1.629	0.153
Insulin	14	1.7%	24,100	0.6%	1.117	0.104
Methadone	*****	*****	472	0.0%	0.111	0.043
Naloxone	0	0.0%	1,060	0.0%	NaN	NaN
Naltrexone	*****	*****	1,861	0.0%	0.445	0.086
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.1	2.1	3.7	2.267	0.450
Mean number of emergency room encounters	0.1	0.5	0.1	0.5	-0.009	-0.018
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.005	-0.033
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.0	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	0.6	2.4	0.228	0.090

Table 1ba. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.3	6.1	1.9	3.1	5.450	1.119
Mean number of generics dispensed	4.2	3.1	1.3	2.0	2.850	1.082
Mean number of unique drug classes dispensed	4.1	2.9	1.3	1.9	2.758	1.136

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bb. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	785	N/A	813	N/A	N/A	N/A
Pregnancies	813	100.0%	813	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.1	4.8	32.4	4.8	-0.250	-0.052
Age	Number	Percent	Number	Percent		
10-34 years	604	74.3%	580	71.3%	2.952	0.066
35-54 years	209	25.7%	233	28.7%	-2.952	-0.066
Sex						
Female	813	100.0%	813	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.123	0.029
Asian	*****	*****	*****	*****	0.000	0.000
Black or African American	27	3.3%	32	3.9%	-0.615	-0.033
Multi-racial	*****	*****	*****	*****	-0.246	-0.022
Native Hawaiian or Other Pacific Islander	*****	*****	*****	*****	0.000	0.000
Unknown	646	79.5%	641	78.8%	0.615	0.015
White	126	15.5%	125	15.4%	0.123	0.003
Hispanic origin						
Yes	*****	*****	16	2.0%	-0.861	-0.070
No	*****	*****	122	15.0%	-0.615	-0.017
Unknown	687	84.5%	675	83.0%	1.476	0.040
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bb. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	18	2.2%	17	2.1%	0.123	0.008
2008	23	2.8%	35	4.3%	-1.476	-0.080
2009	59	7.3%	74	9.1%	-1.845	-0.067
2010	52	6.4%	47	5.8%	0.615	0.026
2011	37	4.6%	40	4.9%	-0.369	-0.017
2012	50	6.2%	47	5.8%	0.369	0.016
2013	46	5.7%	44	5.4%	0.246	0.011
2014	41	5.0%	40	4.9%	0.123	0.006
2015	51	6.3%	42	5.2%	1.107	0.048
2016	75	9.2%	74	9.1%	0.123	0.004
2017	79	9.7%	77	9.5%	0.246	0.008
2018	67	8.2%	68	8.4%	-0.123	-0.004
2019	72	8.9%	67	8.2%	0.615	0.022
2020	76	9.3%	67	8.2%	1.107	0.039
2021	35	4.3%	38	4.7%	-0.369	-0.018
2022	32	3.9%	36	4.4%	-0.492	-0.025

Table 1bb. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	72	8.9%	73	9.0%	-0.123	-0.004
Term (259-280 days)	301	37.0%	281	34.6%	2.460	0.051
Post-Term (281-301 days)	131	16.1%	131	16.1%	0.000	0.000
Unknown Term	309	38.0%	328	40.3%	-2.337	-0.048
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.6	1.5	-0.010	-0.006
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.2	0.0	NaN	NaN	NaN
Mean number of dispensings in first trimester	1.8	1.0	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	813	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.9	2.4	-0.006	-0.003
	Number	Percent	Number	Percent		
Anxiety Disorders	169	20.8%	161	19.8%	0.984	0.024
Depressive Disorders	196	24.1%	188	23.1%	0.984	0.023
All other psychiatric and neurological conditions	148	18.2%	145	17.8%	0.369	0.010
Psychotropic medications	400	49.2%	407	50.1%	-0.861	-0.017
Obesity	95	11.7%	83	10.2%	1.476	0.047
Renal disease	82	10.1%	77	9.5%	0.615	0.021
Alcohol use or dependence	*****	*****	*****	*****	0.246	0.024
Diabetes	20	2.5%	17	2.1%	0.369	0.025
Drug abuse or dependence	44	5.4%	38	4.7%	0.738	0.034
Gestational Diabetes	126	15.5%	121	14.9%	0.615	0.017

Table 1bb. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	103	12.7%	105	12.9%	-0.246	-0.007
Gestational Renal disease	*****	*****	12	1.5%	-0.492	-0.045
Hypertension	44	5.4%	42	5.2%	0.246	0.011
Smoking	113	13.9%	115	14.1%	-0.246	-0.007
Medical Product Use						
Antihypertensive medications	68	8.4%	62	7.6%	0.738	0.027
Opioids	103	12.7%	99	12.2%	0.492	0.015
Suspected teratogens	138	17.0%	131	16.1%	0.861	0.023
Antidiabetic medications	34	4.2%	29	3.6%	0.615	0.032
Buprenorphine	16	2.0%	14	1.7%	0.246	0.018
Insulin	14	1.7%	11	1.4%	0.369	0.030
Methadone	*****	*****	*****	*****	0.000	0.000
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.246	0.041
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.1	3.6	5.0	0.834	0.149
Mean number of emergency room encounters	0.1	0.5	0.2	0.8	-0.036	-0.054
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.2	-0.012	-0.077
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.0	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	0.7	1.9	0.164	0.070

Table 1bb. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.3	6.1	4.4	5.9	2.907	0.484
Mean number of generics dispensed	4.2	3.1	2.7	3.1	1.480	0.477
Mean number of unique drug classes dispensed	4.1	2.9	2.6	2.9	1.442	0.503

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bc. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	586	N/A	580	N/A	N/A	N/A
Pregnancies	604	100.0%	580	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	30.0	3.3	30.0	3.4	0.004	0.001
Age	Number	Percent	Number	Percent		
10-34 years	604	100.0%	580	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	604	100.0%	580	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.007	-0.002
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	*****	*****	-0.496	-0.026
Multi-racial	*****	*****	*****	*****	-0.200	-0.023
Native Hawaiian or Other Pacific Islander	*****	*****	*****	*****	-0.007	-0.002
Unknown	483	80.0%	452	77.9%	2.036	0.050
White	93	15.4%	96	16.6%	-1.154	-0.032
Hispanic origin						
Yes	*****	*****	14	2.4%	-1.089	-0.080
No	*****	*****	95	16.4%	-1.810	-0.050
Unknown	508	84.1%	471	81.2%	2.899	0.077
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bc. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	16	2.6%	12	2.1%	0.580	0.038
2008	16	2.6%	21	3.6%	-0.972	-0.056
2009	46	7.6%	60	10.3%	-2.729	-0.096
2010	40	6.6%	30	5.2%	1.450	0.062
2011	26	4.3%	27	4.7%	-0.351	-0.017
2012	41	6.8%	32	5.5%	1.271	0.053
2013	31	5.1%	34	5.9%	-0.730	-0.032
2014	30	5.0%	28	4.8%	0.139	0.006
2015	37	6.1%	32	5.5%	0.609	0.026
2016	52	8.6%	58	10.0%	-1.391	-0.048
2017	59	9.8%	58	10.0%	-0.232	-0.008
2018	49	8.1%	43	7.4%	0.699	0.026
2019	58	9.6%	50	8.6%	0.982	0.034
2020	54	8.9%	48	8.3%	0.665	0.024
2021	23	3.8%	21	3.6%	0.187	0.010
2022	26	4.3%	26	4.5%	-0.178	-0.009

Table 1bc. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	49	8.1%	51	8.8%	-0.681	-0.024
Term (259-280 days)	221	36.6%	194	33.4%	3.141	0.066
Post-Term (281-301 days)	102	16.9%	103	17.8%	-0.871	-0.023
Unknown Term	232	38.4%	232	40.0%	-1.589	-0.033
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.6	39.7	1.5	-0.027	-0.017
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-8.3	24.0	0.0	NaN	NaN	NaN
Mean number of dispensings in first trimester	1.8	1.0	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	604	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.4	1.8	1.4	2.0	-0.012	-0.006
	Number	Percent	Number	Percent		
Anxiety Disorders	115	19.0%	112	19.3%	-0.271	-0.007
Depressive Disorders	132	21.9%	129	22.2%	-0.387	-0.009
All other psychiatric and neurological conditions	112	18.5%	107	18.4%	0.095	0.002
Psychotropic medications	273	45.2%	272	46.9%	-1.698	-0.034
Obesity	65	10.8%	56	9.7%	1.106	0.037
Renal disease	62	10.3%	60	10.3%	-0.080	-0.003
Alcohol use or dependence	*****	*****	*****	*****	-0.048	-0.004
Diabetes	12	2.0%	*****	*****	0.263	0.019
Drug abuse or dependence	38	6.3%	31	5.3%	0.947	0.040
Gestational Diabetes	75	12.4%	77	13.3%	-0.859	-0.026

Table 1bc. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	68	11.3%	77	13.3%	-2.018	-0.062
Gestational Renal disease	*****	*****	*****	*****	-0.214	-0.020
Hypertension	26	4.3%	26	4.5%	-0.178	-0.009
Smoking	77	12.7%	84	14.5%	-1.734	-0.051
Medical Product Use						
Antihypertensive medications	46	7.6%	45	7.8%	-0.143	-0.005
Opioids	71	11.8%	72	12.4%	-0.659	-0.020
Suspected teratogens	84	13.9%	79	13.6%	0.287	0.008
Antidiabetic medications	19	3.1%	21	3.6%	-0.475	-0.026
Buprenorphine	14	2.3%	12	2.1%	0.249	0.017
Insulin	*****	*****	*****	*****	-0.220	-0.020
Methadone	0	0.0%	*****	*****	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.490	0.076
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.5	3.4	5.0	1.006	0.173
Mean number of emergency room encounters	0.1	0.5	0.2	0.9	-0.071	-0.097
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.2	-0.016	-0.093
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.9	0.6	1.7	0.153	0.065

Table 1bc. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.8	5.7	4.1	5.7	2.718	0.478
Mean number of generics dispensed	4.0	3.0	2.6	3.0	1.448	0.479
Mean number of unique drug classes dispensed	3.9	2.8	2.5	2.8	1.419	0.508

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bd. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	456	N/A	469	N/A	N/A	N/A
Pregnancies	469	100.0%	469	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	30.2	3.3	30.2	3.2	-0.019	-0.006
Age	Number	Percent	Number	Percent		
10-34 years	469	100.0%	469	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	469	100.0%	469	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.000	0.000
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	-0.853	-0.046
Multi-racial	*****	*****	*****	*****	0.213	0.038
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	387	82.5%	389	82.9%	-0.426	-0.011
White	63	13.4%	59	12.6%	0.853	0.025
Hispanic origin						
Yes	*****	*****	*****	*****	-0.426	-0.038
No	*****	*****	*****	*****	0.426	0.013
Unknown	400	85.3%	400	85.3%	0.000	0.000
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bd. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	11	2.3%	11	2.3%	0.000	0.000
2008	16	3.4%	19	4.1%	-0.640	-0.034
2009	42	9.0%	47	10.0%	-1.066	-0.036
2010	26	5.5%	25	5.3%	0.213	0.009
2011	22	4.7%	21	4.5%	0.213	0.010
2012	31	6.6%	28	6.0%	0.640	0.026
2013	26	5.5%	27	5.8%	-0.213	-0.009
2014	27	5.8%	28	6.0%	-0.213	-0.009
2015	28	6.0%	30	6.4%	-0.426	-0.018
2016	43	9.2%	41	8.7%	0.426	0.015
2017	47	10.0%	46	9.8%	0.213	0.007
2018	39	8.3%	36	7.7%	0.640	0.024
2019	43	9.2%	35	7.5%	1.706	0.062
2020	36	7.7%	38	8.1%	-0.426	-0.016
2021	14	3.0%	14	3.0%	0.000	0.000
2022	18	3.8%	23	4.9%	-1.066	-0.052

Table 1bd. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	38	8.1%	39	8.3%	-0.213	-0.008
Term (259-280 days)	162	34.5%	147	31.3%	3.198	0.068
Post-Term (281-301 days)	78	16.6%	86	18.3%	-1.706	-0.045
Unknown Term	191	40.7%	197	42.0%	-1.279	-0.026
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.5	39.7	1.5	-0.070	-0.046
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-8.4	25.2	0.0	NaN	NaN	NaN
Mean number of dispensings in first trimester	1.8	1.0	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	469	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.3	1.8	1.3	1.9	0.011	0.006
	Number	Percent	Number	Percent		
Anxiety Disorders	88	18.8%	84	17.9%	0.853	0.022
Depressive Disorders	100	21.3%	97	20.7%	0.640	0.016
All other psychiatric and neurological conditions	76	16.2%	77	16.4%	-0.213	-0.006
Psychotropic medications	205	43.7%	201	42.9%	0.853	0.017
Obesity	35	7.5%	42	9.0%	-1.493	-0.054
Renal disease	44	9.4%	44	9.4%	0.000	0.000
Alcohol use or dependence	*****	*****	*****	*****	-0.213	-0.025
Diabetes	*****	*****	*****	*****	-0.213	-0.020
Drug abuse or dependence	22	4.7%	23	4.9%	-0.213	-0.010
Gestational Diabetes	48	10.2%	50	10.7%	-0.426	-0.014

Table 1bd. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	54	11.5%	51	10.9%	0.640	0.020
Gestational Renal disease	*****	*****	*****	*****	0.213	0.022
Hypertension	20	4.3%	21	4.5%	-0.213	-0.010
Smoking	53	11.3%	61	13.0%	-1.706	-0.052
Medical Product Use						
Antihypertensive medications	29	6.2%	34	7.2%	-1.066	-0.043
Opioids	53	11.3%	55	11.7%	-0.426	-0.013
Suspected teratogens	61	13.0%	59	12.6%	0.426	0.013
Antidiabetic medications	13	2.8%	12	2.6%	0.213	0.013
Buprenorphine	*****	*****	*****	*****	0.426	0.031
Insulin	*****	*****	*****	*****	-0.213	-0.025
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.000	0.000
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.1	5.6	3.2	4.9	0.953	0.181
Mean number of emergency room encounters	0.1	0.4	0.2	1.0	-0.092	-0.119
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.2	-0.021	-0.140
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of other ambulatory encounters	0.8	3.2	0.6	1.8	0.141	0.055

Table 1bd. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.6	5.5	3.8	5.5	2.834	0.513
Mean number of generics dispensed	3.9	2.9	2.3	2.9	1.546	0.533
Mean number of unique drug classes dispensed	3.8	2.7	2.3	2.7	1.510	0.557

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1be. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	204	N/A	233	N/A	N/A	N/A
Pregnancies	209	100.0%	233	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.2	2.8	38.3	2.6	-0.037	-0.014
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	209	100.0%	233	100.0%	0.000	NaN
Sex						
Female	209	100.0%	233	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	0	0.0%	NaN	NaN
Asian	*****	*****	*****	*****	0.528	0.064
Black or African American	*****	*****	*****	*****	-1.041	-0.062
Multi-racial	*****	*****	*****	*****	-0.183	-0.012
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	163	78.0%	189	81.1%	-3.125	-0.078
White	33	15.8%	29	12.4%	3.343	0.096
Hispanic origin						
Yes	*****	*****	*****	*****	-0.380	-0.047
No	*****	*****	*****	*****	2.288	0.069
Unknown	179	85.6%	204	87.6%	-1.908	-0.056
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1be. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	-1.189	-0.096
2008	*****	*****	14	6.0%	-2.659	-0.126
2009	13	6.2%	14	6.0%	0.212	0.009
2010	12	5.7%	17	7.3%	-1.555	-0.063
2011	11	5.3%	13	5.6%	-0.316	-0.014
2012	*****	*****	15	6.4%	-2.132	-0.095
2013	15	7.2%	*****	*****	2.885	0.124
2014	11	5.3%	12	5.2%	0.113	0.005
2015	14	6.7%	*****	*****	2.407	0.106
2016	23	11.0%	16	6.9%	4.138	0.145
2017	20	9.6%	19	8.2%	1.415	0.050
2018	18	8.6%	25	10.7%	-2.117	-0.072
2019	14	6.7%	17	7.3%	-0.598	-0.023
2020	22	10.5%	19	8.2%	2.372	0.082
2021	12	5.7%	17	7.3%	-1.555	-0.063
2022	*****	*****	*****	*****	-1.421	-0.077

Table 1be. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	23	11.0%	22	9.4%	1.563	0.052
Term (259-280 days)	80	38.3%	87	37.3%	0.938	0.019
Post-Term (281-301 days)	29	13.9%	28	12.0%	1.858	0.055
Unknown Term	77	36.8%	96	41.2%	-4.360	-0.089
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.5	39.5	1.5	0.020	0.013
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-6.2	15.7	0.0	NaN	NaN	NaN
Mean number of dispensings in first trimester	1.9	1.0	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	209	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	3.4	2.5	3.2	2.7	0.220	0.085
	Number	Percent	Number	Percent		
Anxiety Disorders	54	25.8%	49	21.0%	4.807	0.114
Depressive Disorders	64	30.6%	59	25.3%	5.300	0.118
All other psychiatric and neurological conditions	36	17.2%	38	16.3%	0.916	0.025
Psychotropic medications	127	60.8%	135	57.9%	2.826	0.058
Obesity	30	14.4%	27	11.6%	2.766	0.082
Renal disease	20	9.6%	17	7.3%	2.273	0.082
Alcohol use or dependence	*****	*****	*****	*****	1.006	0.105
Diabetes	*****	*****	*****	*****	0.823	0.045
Drug abuse or dependence	*****	*****	*****	*****	-0.133	-0.008
Gestational Diabetes	51	24.4%	44	18.9%	5.518	0.134

Table 1be. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	35	16.7%	28	12.0%	4.729	0.135
Gestational Renal disease	*****	*****	*****	*****	-1.189	-0.096
Hypertension	18	8.6%	16	6.9%	1.745	0.065
Smoking	36	17.2%	31	13.3%	3.920	0.109
Medical Product Use						
Antihypertensive medications	22	10.5%	17	7.3%	3.230	0.114
Opioids	32	15.3%	27	11.6%	3.723	0.109
Suspected teratogens	54	25.8%	52	22.3%	3.520	0.082
Antidiabetic medications	15	7.2%	*****	*****	3.744	0.168
Buprenorphine	*****	*****	*****	*****	0.099	0.010
Insulin	*****	*****	*****	*****	2.062	0.137
Methadone	*****	*****	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	*****	*****	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.5	4.6	4.1	5.2	0.422	0.086
Mean number of emergency room encounters	0.1	0.5	0.1	0.4	0.054	0.130
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.003	-0.023
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.9	2.1	0.7	2.3	0.209	0.094

Table 1be. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.8	7.0	5.2	6.2	3.575	0.540
Mean number of generics dispensed	4.8	3.3	3.1	3.2	1.637	0.506
Mean number of unique drug classes dispensed	4.6	3.0	3.0	3.0	1.571	0.525

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bf. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	113	N/A	116	N/A	N/A	N/A
Pregnancies	116	100.0%	116	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.3	2.5	38.4	2.9	-0.182	-0.067
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	116	100.0%	116	100.0%	0.000	NaN
Sex						
Female	116	100.0%	116	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	0	0.0%	0	0.0%	NaN	NaN
Asian	*****	*****	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	0.000	0.000
Multi-racial	*****	*****	*****	*****	0.000	0.000
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	104	89.7%	103	88.8%	0.862	0.028
White	*****	*****	*****	*****	-1.724	-0.064
Hispanic origin						
Yes	0	0.0%	0	0.0%	NaN	NaN
No	*****	*****	*****	*****	0.000	0.000
Unknown	*****	*****	*****	*****	0.000	0.000
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bf. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.862	0.076
2008	*****	*****	*****	*****	0.000	0.000
2009	*****	*****	*****	*****	0.000	0.000
2010	*****	*****	12	10.3%	-3.448	-0.123
2011	*****	*****	*****	*****	-1.724	-0.072
2012	*****	*****	*****	*****	2.586	0.113
2013	*****	*****	*****	*****	0.000	0.000
2014	*****	*****	*****	*****	0.862	0.037
2015	*****	*****	*****	*****	0.000	0.000
2016	*****	*****	*****	*****	0.000	0.000
2017	*****	*****	*****	*****	-0.862	-0.037
2018	16	13.8%	16	13.8%	0.000	0.000
2019	*****	*****	*****	*****	1.724	0.095
2020	*****	*****	*****	*****	0.000	0.000
2021	*****	*****	*****	*****	0.000	0.000
2022	*****	*****	*****	*****	0.000	0.000

Table 1bf. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	*****	*****	11	9.5%	-0.862	-0.030
Term (259-280 days)	39	33.6%	35	30.2%	3.448	0.074
Post-Term (281-301 days)	19	16.4%	15	12.9%	3.448	0.098
Unknown Term	48	41.4%	55	47.4%	-6.034	-0.122
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.4	39.6	1.5	0.172	0.117
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-4.6	14.1	0.0	NaN	NaN	NaN
Mean number of dispensings in first trimester	1.8	0.9	0.0	NaN	NaN	NaN
	Number	Percent	Number	Percent		
Exposed during first trimester	116	100.0%	0	0.0%	NaN	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	3.3	2.5	3.1	2.5	0.267	0.108
	Number	Percent	Number	Percent		
Anxiety Disorders	26	22.4%	25	21.6%	0.862	0.021
Depressive Disorders	27	23.3%	32	27.6%	-4.310	-0.099
All other psychiatric and neurological conditions	16	13.8%	17	14.7%	-0.862	-0.025
Psychotropic medications	59	50.9%	63	54.3%	-3.448	-0.069
Obesity	12	10.3%	*****	*****	2.586	0.090
Renal disease	11	9.5%	15	12.9%	-3.448	-0.109
Alcohol use or dependence	0	0.0%	0	0.0%	NaN	NaN
Diabetes	*****	*****	*****	*****	0.862	0.076
Drug abuse or dependence	*****	*****	*****	*****	0.862	0.076
Gestational Diabetes	24	20.7%	18	15.5%	5.172	0.135

Table 1bf. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Hypertension	15	12.9%	17	14.7%	-1.724	-0.050
Gestational Renal disease	*****	*****	*****	*****	-0.862	-0.076
Hypertension	*****	*****	*****	*****	0.862	0.041
Smoking	18	15.5%	18	15.5%	0.000	0.000
Medical Product Use						
Antihypertensive medications	*****	*****	*****	*****	0.000	0.000
Opioids	11	9.5%	13	11.2%	-1.724	-0.057
Suspected teratogens	23	19.8%	24	20.7%	-0.862	-0.021
Antidiabetic medications	*****	*****	*****	*****	1.724	0.085
Buprenorphine	0	0.0%	0	0.0%	NaN	NaN
Insulin	*****	*****	*****	*****	0.862	0.076
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.1	3.9	4.2	4.5	-0.078	-0.018
Mean number of emergency room encounters	0.1	0.5	0.1	0.4	0.017	0.039
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.009	0.077
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.7	1.2	0.6	1.1	0.129	0.116

Table 1bf. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Unexposed		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.5	6.2	5.0	6.4	2.440	0.388
Mean number of generics dispensed	4.3	3.2	3.1	3.6	1.164	0.346
Mean number of unique drug classes dispensed	4.1	2.8	3.0	3.3	1.112	0.364

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bg. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	785	N/A	5,402	N/A	N/A	N/A
Pregnancies	813	100.0%	5,630	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.1	4.8	28.8	5.9	3.313	0.618
Age	Number	Percent	Number	Percent		
10-34 years	604	74.3%	4,626	82.2%	-7.874	-0.192
35-54 years	209	25.7%	1,004	17.8%	7.874	0.192
Sex						
Female	813	100.0%	5,630	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	45	0.8%	-0.553	-0.077
Asian	*****	*****	*****	*****	-0.020	-0.004
Black or African American	27	3.3%	245	4.4%	-1.031	-0.054
Multi-racial	*****	*****	29	0.5%	0.592	0.066
Native Hawaiian or Other Pacific Islander	*****	*****	*****	*****	0.034	0.011
Unknown	646	79.5%	3,527	62.6%	16.812	0.377
White	126	15.5%	1,764	31.3%	-15.834	-0.381
Hispanic origin						
Yes	*****	*****	183	3.3%	-2.143	-0.147
No	*****	*****	1,850	32.9%	-18.469	-0.445
Unknown	687	84.5%	3,597	63.9%	20.612	0.485
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bg. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	18	2.2%	65	1.2%	1.059	0.082
2008	23	2.8%	93	1.7%	1.177	0.080
2009	59	7.3%	179	3.2%	4.078	0.184
2010	52	6.4%	201	3.6%	2.826	0.130
2011	37	4.6%	173	3.1%	1.478	0.077
2012	50	6.2%	182	3.2%	2.917	0.138
2013	46	5.7%	225	4.0%	1.662	0.078
2014	41	5.0%	218	3.9%	1.171	0.057
2015	51	6.3%	325	5.8%	0.500	0.021
2016	75	9.2%	483	8.6%	0.646	0.023
2017	79	9.7%	818	14.5%	-4.812	-0.148
2018	67	8.2%	718	12.8%	-4.512	-0.148
2019	72	8.9%	712	12.6%	-3.790	-0.123
2020	76	9.3%	702	12.5%	-3.121	-0.100
2021	35	4.3%	291	5.2%	-0.864	-0.041
2022	32	3.9%	245	4.4%	-0.416	-0.021

Table 1bg. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	72	8.9%	413	7.3%	1.520	0.056
Term (259-280 days)	301	37.0%	2,602	46.2%	-9.193	-0.187
Post-Term (281-301 days)	131	16.1%	1,164	20.7%	-4.562	-0.118
Unknown Term	309	38.0%	1,451	25.8%	12.235	0.265
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.7	1.6	-0.090	-0.058
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.2	-16.7	43.0	8.980	0.262
Mean number of dispensings in first trimester	1.8	1.0	2.1	1.2	-0.297	-0.265
	Number	Percent	Number	Percent		
Exposed during first trimester	813	100.0%	5,630	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.7	2.1	0.233	0.109
	Number	Percent	Number	Percent		
Anxiety Disorders	169	20.8%	1,663	29.5%	-8.751	-0.203
Depressive Disorders	196	24.1%	1,665	29.6%	-5.465	-0.124
All other psychiatric and neurological conditions	148	18.2%	3,692	65.6%	-47.373	-1.095
Psychotropic medications	400	49.2%	2,982	53.0%	-3.766	-0.075
Obesity	95	11.7%	411	7.3%	4.385	0.150
Renal disease	82	10.1%	655	11.6%	-1.548	-0.050
Alcohol use or dependence	*****	*****	119	2.1%	-0.884	-0.069
Diabetes	20	2.5%	77	1.4%	1.092	0.080
Drug abuse or dependence	44	5.4%	427	7.6%	-2.172	-0.088

Table 1bg. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	126	15.5%	632	11.2%	4.273	0.126
Gestational Hypertension	103	12.7%	699	12.4%	0.253	0.008
Gestational Renal disease	*****	*****	66	1.2%	-0.188	-0.018
Hypertension	44	5.4%	202	3.6%	1.824	0.088
Smoking	113	13.9%	902	16.0%	-2.122	-0.060
Number of dispensings in first trimester (0,90)						
One dispensing	403	49.6%	2,276	40.4%	9.143	0.185
Two or more dispensings	410	50.4%	3,354	59.6%	-9.143	-0.185
Medical Product Use						
Antihypertensive medications	68	8.4%	423	7.5%	0.851	0.031
Opioids	103	12.7%	463	8.2%	4.445	0.146
Suspected teratogens	138	17.0%	771	13.7%	3.280	0.091
Antidiabetic medications	34	4.2%	133	2.4%	1.820	0.102
Buprenorphine	16	2.0%	131	2.3%	-0.359	-0.025
Insulin	14	1.7%	30	0.5%	1.189	0.113
Methadone	*****	*****	*****	*****	0.016	0.005
Naloxone	0	0.0%	*****	*****	NaN	NaN
Naltrexone	*****	*****	26	0.5%	0.030	0.004
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.1	4.7	6.0	-0.290	-0.048
Mean number of emergency room encounters	0.1	0.5	0.2	0.6	-0.075	-0.141
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.3	-0.009	-0.043
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	1.3	4.7	-0.529	-0.138

Table 1bg. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.3	6.1	7.3	6.0	0.009	0.001
Mean number of generics dispensed	4.2	3.1	3.9	2.9	0.270	0.089
Mean number of unique drug classes dispensed	4.1	2.9	3.8	2.7	0.244	0.087

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bh. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	770	N/A	787	N/A	N/A	N/A
Pregnancies	798	100.0%	798	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.0	4.7	32.0	5.2	-0.023	-0.005
Age	Number	Percent	Number	Percent		
10-34 years	602	75.4%	573	71.8%	3.634	0.083
35-54 years	196	24.6%	225	28.2%	-3.634	-0.083
Sex						
Female	798	100.0%	798	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.376	-0.057
Asian	*****	*****	*****	*****	-0.125	-0.022
Black or African American	27	3.4%	23	2.9%	0.501	0.029
Multi-racial	*****	*****	*****	*****	-0.125	-0.012
Native Hawaiian or Other Pacific Islander	*****	*****	*****	*****	0.000	0.000
Unknown	634	79.4%	637	79.8%	-0.376	-0.009
White	123	15.4%	119	14.9%	0.501	0.014
Hispanic origin						
Yes	*****	*****	12	1.5%	-0.376	-0.033
No	*****	*****	115	14.4%	0.000	0.000
Unknown	674	84.5%	671	84.1%	0.376	0.010
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bh. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	18	2.3%	18	2.3%	0.000	0.000
2008	23	2.9%	17	2.1%	0.752	0.048
2009	58	7.3%	63	7.9%	-0.627	-0.024
2010	50	6.3%	55	6.9%	-0.627	-0.025
2011	36	4.5%	41	5.1%	-0.627	-0.029
2012	48	6.0%	55	6.9%	-0.877	-0.036
2013	46	5.8%	43	5.4%	0.376	0.016
2014	41	5.1%	35	4.4%	0.752	0.035
2015	49	6.1%	56	7.0%	-0.877	-0.035
2016	72	9.0%	63	7.9%	1.128	0.041
2017	78	9.8%	83	10.4%	-0.627	-0.021
2018	67	8.4%	68	8.5%	-0.125	-0.005
2019	72	9.0%	70	8.8%	0.251	0.009
2020	74	9.3%	70	8.8%	0.501	0.017
2021	35	4.4%	33	4.1%	0.251	0.012
2022	31	3.9%	28	3.5%	0.376	0.020

Table 1bh. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	71	8.9%	69	8.6%	0.251	0.009
Term (259-280 days)	295	37.0%	287	36.0%	1.003	0.021
Post-Term (281-301 days)	128	16.0%	125	15.7%	0.376	0.010
Unknown Term	304	38.1%	317	39.7%	-1.629	-0.033
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.7	1.7	-0.040	-0.024
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.4	-16.4	43.3	8.534	0.247
Mean number of dispensings in first trimester	1.8	1.0	2.0	1.1	-0.153	-0.144
	Number	Percent	Number	Percent		
Exposed during first trimester	798	100.0%	798	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.8	2.1	1.9	2.3	-0.081	-0.037
	Number	Percent	Number	Percent		
Anxiety Disorders	163	20.4%	158	19.8%	0.627	0.016
Depressive Disorders	192	24.1%	194	24.3%	-0.251	-0.006
All other psychiatric and neurological conditions	147	18.4%	149	18.7%	-0.251	-0.006
Psychotropic medications	388	48.6%	379	47.5%	1.128	0.023
Obesity	87	10.9%	90	11.3%	-0.376	-0.012
Renal disease	80	10.0%	77	9.6%	0.376	0.013
Alcohol use or dependence	*****	*****	*****	*****	0.125	0.012
Diabetes	17	2.1%	11	1.4%	0.752	0.057
Drug abuse or dependence	43	5.4%	41	5.1%	0.251	0.011

Table 1bh. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	120	15.0%	131	16.4%	-1.378	-0.038
Gestational Hypertension	96	12.0%	102	12.8%	-0.752	-0.023
Gestational Renal disease	*****	*****	*****	*****	0.000	0.000
Hypertension	39	4.9%	36	4.5%	0.376	0.018
Smoking	109	13.7%	116	14.5%	-0.877	-0.025
Number of dispensings in first trimester (0,90)						
One dispensing	397	49.7%	357	44.7%	5.013	0.101
Two or more dispensings	401	50.3%	441	55.3%	-5.013	-0.101
Medical Product Use						
Antihypertensive medications	62	7.8%	60	7.5%	0.251	0.009
Opioids	96	12.0%	94	11.8%	0.251	0.008
Suspected teratogens	132	16.5%	139	17.4%	-0.877	-0.023
Antidiabetic medications	31	3.9%	28	3.5%	0.376	0.020
Buprenorphine	16	2.0%	18	2.3%	-0.251	-0.017
Insulin	11	1.4%	*****	*****	0.627	0.061
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.000	0.000
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.3	6.0	3.8	4.7	0.573	0.107
Mean number of emergency room encounters	0.1	0.4	0.1	0.5	0.004	0.008
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.003	0.032
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.0	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	0.6	2.0	0.170	0.072

Table 1bh. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.2	5.9	7.1	5.6	0.104	0.018
Mean number of generics dispensed	4.1	3.0	3.9	3.0	0.226	0.076
Mean number of unique drug classes dispensed	4.0	2.8	3.8	2.8	0.232	0.084

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bi. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	584	N/A	566	N/A	N/A	N/A
Pregnancies	602	100.0%	573	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	30.0	3.3	29.7	3.9	0.338	0.092
Age	Number	Percent	Number	Percent		
10-34 years	602	100.0%	573	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	602	100.0%	573	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.532	-0.081
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	19	3.3%	0.339	0.018
Multi-racial	*****	*****	*****	*****	-0.557	-0.058
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	481	79.9%	457	79.8%	0.145	0.004
White	93	15.4%	84	14.7%	0.789	0.022
Hispanic origin						
Yes	*****	*****	*****	*****	-0.416	-0.034
No	*****	*****	*****	*****	0.133	0.004
Unknown	506	84.1%	480	83.8%	0.284	0.008
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bi. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	16	2.7%	*****	*****	0.040	0.002
2008	16	2.7%	*****	*****	1.087	0.076
2009	45	7.5%	46	8.0%	-0.553	-0.021
2010	40	6.6%	43	7.5%	-0.860	-0.034
2011	26	4.3%	31	5.4%	-1.091	-0.051
2012	41	6.8%	39	6.8%	0.004	0.000
2013	31	5.1%	31	5.4%	-0.261	-0.012
2014	30	5.0%	28	4.9%	0.097	0.004
2015	37	6.1%	49	8.6%	-2.405	-0.092
2016	52	8.6%	40	7.0%	1.657	0.062
2017	59	9.8%	63	11.0%	-1.194	-0.039
2018	49	8.1%	43	7.5%	0.635	0.024
2019	58	9.6%	49	8.6%	1.083	0.038
2020	53	8.8%	46	8.0%	0.776	0.028
2021	23	3.8%	23	4.0%	-0.193	-0.010
2022	26	4.3%	18	3.1%	1.178	0.062

Table 1bi. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	49	8.1%	44	7.7%	0.461	0.017
Term (259-280 days)	220	36.5%	197	34.4%	2.164	0.045
Post-Term (281-301 days)	101	16.8%	95	16.6%	0.198	0.005
Unknown Term	232	38.5%	237	41.4%	-2.823	-0.058
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.6	39.8	1.6	-0.105	-0.067
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-8.3	24.0	-14.2	38.6	5.846	0.182
Mean number of dispensings in first trimester	1.8	1.0	1.9	1.1	-0.165	-0.159
	Number	Percent	Number	Percent		
Exposed during first trimester	602	100.0%	573	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.4	1.8	1.4	2.0	-0.048	-0.025
	Number	Percent	Number	Percent		
Anxiety Disorders	113	18.8%	108	18.8%	-0.077	-0.002
Depressive Disorders	131	21.8%	134	23.4%	-1.625	-0.039
All other psychiatric and neurological conditions	111	18.4%	114	19.9%	-1.457	-0.037
Psychotropic medications	271	45.0%	262	45.7%	-0.708	-0.014
Obesity	64	10.6%	62	10.8%	-0.189	-0.006
Renal disease	61	10.1%	54	9.4%	0.709	0.024
Alcohol use or dependence	*****	*****	*****	*****	-0.050	-0.005
Diabetes	12	2.0%	*****	*****	0.946	0.077
Drug abuse or dependence	37	6.1%	30	5.2%	0.911	0.039

Table 1bi. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	74	12.3%	75	13.1%	-0.797	-0.024
Gestational Hypertension	67	11.1%	65	11.3%	-0.214	-0.007
Gestational Renal disease	*****	*****	*****	*****	0.124	0.013
Hypertension	26	4.3%	18	3.1%	1.178	0.062
Smoking	75	12.5%	78	13.6%	-1.154	-0.034
Number of dispensings in first trimester (0,90)						
One dispensing	312	51.8%	262	45.7%	6.103	0.122
Two or more dispensings	290	48.2%	311	54.3%	-6.103	-0.122
Medical Product Use						
Antihypertensive medications	45	7.5%	37	6.5%	1.018	0.040
Opioids	70	11.6%	69	12.0%	-0.414	-0.013
Suspected teratogens	83	13.8%	87	15.2%	-1.396	-0.040
Antidiabetic medications	19	3.2%	13	2.3%	0.887	0.055
Buprenorphine	14	2.3%	13	2.3%	0.057	0.004
Insulin	*****	*****	*****	*****	0.639	0.070
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	-0.025	-0.004
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.3	6.3	3.6	4.4	0.730	0.134
Mean number of emergency room encounters	0.1	0.4	0.2	0.5	-0.022	-0.047
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.001	0.018
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.0	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.9	0.6	2.1	0.134	0.053

Table 1bi. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.8	5.6	6.9	5.6	-0.131	-0.024
Mean number of generics dispensed	4.0	2.9	3.7	2.8	0.220	0.077
Mean number of unique drug classes dispensed	3.8	2.7	3.6	2.7	0.228	0.085

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bj. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	444	N/A	451	N/A	N/A	N/A
Pregnancies	455	100.0%	455	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	29.8	3.4	29.9	3.7	-0.072	-0.020
Age	Number	Percent	Number	Percent		
10-34 years	455	100.0%	455	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	455	100.0%	455	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.000	0.000
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	0.220	0.012
Multi-racial	*****	*****	*****	*****	-0.220	-0.030
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	367	80.7%	370	81.3%	-0.659	-0.017
White	68	14.9%	65	14.3%	0.659	0.019
Hispanic origin						
Yes	*****	*****	*****	*****	-0.220	-0.020
No	*****	*****	*****	*****	0.440	0.013
Unknown	384	84.4%	385	84.6%	-0.220	-0.006
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bj. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	-0.220	-0.013
2008	*****	*****	*****	*****	0.000	0.000
2009	36	7.9%	36	7.9%	0.000	0.000
2010	33	7.3%	29	6.4%	0.879	0.035
2011	21	4.6%	25	5.5%	-0.879	-0.040
2012	31	6.8%	32	7.0%	-0.220	-0.009
2013	26	5.7%	25	5.5%	0.220	0.010
2014	23	5.1%	26	5.7%	-0.659	-0.029
2015	28	6.2%	36	7.9%	-1.758	-0.069
2016	35	7.7%	38	8.4%	-0.659	-0.024
2017	49	10.8%	46	10.1%	0.659	0.022
2018	34	7.5%	34	7.5%	0.000	0.000
2019	47	10.3%	39	8.6%	1.758	0.060
2020	33	7.3%	34	7.5%	-0.220	-0.008
2021	20	4.4%	17	3.7%	0.659	0.033
2022	18	4.0%	16	3.5%	0.440	0.023

Table 1bj. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	37	8.1%	35	7.7%	0.440	0.016
Term (259-280 days)	167	36.7%	156	34.3%	2.418	0.051
Post-Term (281-301 days)	73	16.0%	77	16.9%	-0.879	-0.024
Unknown Term	178	39.1%	187	41.1%	-1.978	-0.040
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.8	1.5	-0.143	-0.094
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.0	19.7	-15.1	41.4	8.042	0.248
Mean number of dispensings in first trimester	1.7	1.0	1.9	1.1	-0.189	-0.185
	Number	Percent	Number	Percent		
Exposed during first trimester	455	100.0%	455	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.4	1.8	1.3	1.9	0.024	0.013
	Number	Percent	Number	Percent		
Anxiety Disorders	81	17.8%	86	18.9%	-1.099	-0.028
Depressive Disorders	97	21.3%	99	21.8%	-0.440	-0.011
All other psychiatric and neurological conditions	78	17.1%	82	18.0%	-0.879	-0.023
Psychotropic medications	202	44.4%	199	43.7%	0.659	0.013
Obesity	48	10.5%	43	9.5%	1.099	0.037
Renal disease	37	8.1%	42	9.2%	-1.099	-0.039
Alcohol use or dependence	*****	*****	*****	*****	0.220	0.030
Diabetes	*****	*****	*****	*****	0.000	0.000
Drug abuse or dependence	26	5.7%	23	5.1%	0.659	0.029

Table 1bj. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	52	11.4%	46	10.1%	1.319	0.043
Gestational Hypertension	51	11.2%	53	11.6%	-0.440	-0.014
Gestational Renal disease	*****	*****	*****	*****	0.220	0.030
Hypertension	12	2.6%	13	2.9%	-0.220	-0.013
Smoking	58	12.7%	61	13.4%	-0.659	-0.020
Number of dispensings in first trimester (0,90)						
One dispensing	242	53.2%	207	45.5%	7.692	0.154
Two or more dispensings	213	46.8%	248	54.5%	-7.692	-0.154
Medical Product Use						
Antihypertensive medications	25	5.5%	24	5.3%	0.220	0.010
Opioids	52	11.4%	56	12.3%	-0.879	-0.027
Suspected teratogens	66	14.5%	64	14.1%	0.440	0.013
Antidiabetic medications	*****	*****	*****	*****	0.000	0.000
Buprenorphine	11	2.4%	*****	*****	0.220	0.015
Insulin	*****	*****	*****	*****	0.000	0.000
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	-0.220	-0.038
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.2	5.7	3.5	4.5	0.705	0.137
Mean number of emergency room encounters	0.1	0.4	0.1	0.5	-0.024	-0.054
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.0	0.002	0.038
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	3.2	0.7	2.4	0.119	0.042

Table 1bj. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.6	5.2	6.7	5.3	-0.114	-0.022
Mean number of generics dispensed	3.9	2.8	3.6	2.7	0.255	0.093
Mean number of unique drug classes dispensed	3.7	2.6	3.5	2.5	0.262	0.102

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bk. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	191	N/A	222	N/A	N/A	N/A
Pregnancies	196	100.0%	225	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.2	2.7	38.1	2.3	0.108	0.042
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	196	100.0%	225	100.0%	0.000	NaN
Sex						
Female	196	100.0%	225	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.066	0.010
Asian	*****	*****	*****	*****	0.576	0.068
Black or African American	*****	*****	*****	*****	0.773	0.053
Multi-racial	*****	*****	*****	*****	1.218	0.088
Native Hawaiian or Other Pacific Islander	0	0.0%	*****	*****	NaN	NaN
Unknown	153	78.1%	180	80.0%	-1.939	-0.048
White	30	15.3%	*****	*****	-0.249	-0.007
Hispanic origin						
Yes	*****	*****	*****	*****	-0.379	-0.045
No	*****	*****	*****	*****	-0.447	-0.013
Unknown	168	85.7%	191	84.9%	0.825	0.023
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bk. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	-0.313	-0.029
2008	*****	*****	*****	*****	0.016	0.001
2009	13	6.6%	17	7.6%	-0.923	-0.036
2010	*****	*****	12	5.3%	-0.231	-0.010
2011	*****	*****	*****	*****	0.658	0.031
2012	*****	*****	16	7.1%	-3.540	-0.158
2013	15	7.7%	12	5.3%	2.320	0.094
2014	11	5.6%	*****	*****	2.501	0.123
2015	12	6.1%	*****	*****	3.011	0.144
2016	20	10.2%	23	10.2%	-0.018	-0.001
2017	19	9.7%	20	8.9%	0.805	0.028
2018	18	9.2%	25	11.1%	-1.927	-0.064
2019	14	7.1%	21	9.3%	-2.190	-0.080
2020	21	10.7%	24	10.7%	0.048	0.002
2021	12	6.1%	*****	*****	1.678	0.075
2022	*****	*****	*****	*****	-1.893	-0.103

Table 1bk. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	22	11.2%	25	11.1%	0.113	0.004
Term (259-280 days)	75	38.3%	90	40.0%	-1.735	-0.036
Post-Term (281-301 days)	27	13.8%	30	13.3%	0.442	0.013
Unknown Term	72	36.7%	80	35.6%	1.179	0.025
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.5	39.4	2.1	0.106	0.058
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-6.3	16.2	-22.0	53.5	15.635	0.396
Mean number of dispensings in first trimester	1.9	1.0	2.0	1.2	-0.104	-0.093
	Number	Percent	Number	Percent		
Exposed during first trimester	196	100.0%	225	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	3.3	2.4	3.2	2.5	0.081	0.033
	Number	Percent	Number	Percent		
Anxiety Disorders	50	25.5%	50	22.2%	3.288	0.077
Depressive Disorders	61	31.1%	60	26.7%	4.456	0.098
All other psychiatric and neurological conditions	36	18.4%	35	15.6%	2.812	0.075
Psychotropic medications	117	59.7%	117	52.0%	7.694	0.155
Obesity	23	11.7%	28	12.4%	-0.710	-0.022
Renal disease	19	9.7%	23	10.2%	-0.528	-0.018
Alcohol use or dependence	*****	*****	*****	*****	0.642	0.059
Diabetes	*****	*****	*****	*****	0.329	0.022
Drug abuse or dependence	*****	*****	11	4.9%	-1.828	-0.094

Table 1bk. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	46	23.5%	56	24.9%	-1.420	-0.033
Gestational Hypertension	29	14.8%	37	16.4%	-1.649	-0.045
Gestational Renal disease	*****	*****	*****	*****	-0.313	-0.029
Hypertension	13	6.6%	18	8.0%	-1.367	-0.053
Smoking	34	17.3%	38	16.9%	0.458	0.012
Number of dispensings in first trimester (0,90)						
One dispensing	85	43.4%	95	42.2%	1.145	0.023
Two or more dispensings	111	56.6%	130	57.8%	-1.145	-0.023
Medical Product Use						
Antihypertensive medications	17	8.7%	23	10.2%	-1.549	-0.053
Opioids	26	13.3%	25	11.1%	2.154	0.066
Suspected teratogens	49	25.0%	52	23.1%	1.889	0.044
Antidiabetic medications	12	6.1%	15	6.7%	-0.544	-0.022
Buprenorphine	*****	*****	*****	*****	-1.202	-0.095
Insulin	*****	*****	*****	*****	0.707	0.055
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	4.6	4.2	5.2	0.189	0.038
Mean number of emergency room encounters	0.1	0.4	0.1	0.3	0.070	0.194
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.006	0.069
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.9	2.2	0.6	1.5	0.284	0.152

Table 1bk. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.4	6.7	7.5	5.6	0.915	0.148
Mean number of generics dispensed	4.6	3.2	4.3	3.2	0.319	0.101
Mean number of unique drug classes dispensed	4.4	2.9	4.1	3.0	0.317	0.108

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1b. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	104	N/A	105	N/A	N/A	N/A
Pregnancies	106	100.0%	106	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.1	2.7	37.9	2.2	0.199	0.080
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	106	100.0%	106	100.0%	0.000	NaN
Sex						
Female	106	100.0%	106	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	0	0.0%	0	0.0%	NaN	NaN
Asian	*****	*****	*****	*****	0.000	0.000
Black or African American	*****	*****	*****	*****	0.000	0.000
Multi-racial	*****	*****	*****	*****	0.943	0.080
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	87	82.1%	90	84.9%	-2.830	-0.076
White	*****	*****	*****	*****	1.887	0.058
Hispanic origin						
Yes	0	0.0%	*****	*****	NaN	NaN
No	12	11.3%	*****	*****	0.000	0.000
Unknown	94	88.7%	93	87.7%	0.943	0.029
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1b. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.943	0.080
2008	*****	*****	*****	*****	0.000	0.000
2009	*****	*****	*****	*****	0.943	0.043
2010	*****	*****	*****	*****	0.943	0.043
2011	*****	*****	*****	*****	0.943	0.039
2012	*****	*****	*****	*****	-0.943	-0.043
2013	*****	*****	*****	*****	0.000	0.000
2014	*****	*****	*****	*****	0.943	0.053
2015	*****	*****	*****	*****	-0.943	-0.047
2016	13	12.3%	*****	*****	2.830	0.091
2017	*****	*****	*****	*****	-3.774	-0.143
2018	*****	*****	*****	*****	0.000	0.000
2019	*****	*****	*****	*****	-1.887	-0.068
2020	11	10.4%	11	10.4%	0.000	0.000
2021	*****	*****	*****	*****	-0.943	-0.039
2022	*****	*****	*****	*****	0.943	0.062

Table 1b. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	*****	*****	*****	*****	-0.943	-0.035
Term (259-280 days)	41	38.7%	39	36.8%	1.887	0.039
Post-Term (281-301 days)	17	16.0%	20	18.9%	-2.830	-0.075
Unknown Term	40	37.7%	38	35.8%	1.887	0.039
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.5	39.8	1.5	-0.085	-0.057
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.0	19.7	-22.9	61.8	15.811	0.344
Mean number of dispensings in first trimester	1.9	1.0	1.9	1.0	-0.019	-0.018
	Number	Percent	Number	Percent		
Exposed during first trimester	106	100.0%	106	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	2.9	2.1	2.9	2.0	0.057	0.028
	Number	Percent	Number	Percent		
Anxiety Disorders	24	22.6%	24	22.6%	0.000	0.000
Depressive Disorders	31	29.2%	33	31.1%	-1.887	-0.041
All other psychiatric and neurological conditions	14	13.2%	12	11.3%	1.887	0.058
Psychotropic medications	59	55.7%	57	53.8%	1.887	0.038
Obesity	*****	*****	*****	*****	-0.943	-0.033
Renal disease	*****	*****	*****	*****	0.000	0.000
Alcohol use or dependence	0	0.0%	0	0.0%	NaN	NaN
Diabetes	*****	*****	*****	*****	0.943	0.080
Drug abuse or dependence	*****	*****	*****	*****	-1.887	-0.114

Table 1b. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	23	21.7%	22	20.8%	0.943	0.023
Gestational Hypertension	15	14.2%	15	14.2%	0.000	0.000
Gestational Renal disease	*****	*****	0	0.0%	NaN	NaN
Hypertension	*****	*****	*****	*****	2.830	0.118
Smoking	19	17.9%	21	19.8%	-1.887	-0.048
Number of dispensings in first trimester (0,90)						
One dispensing	43	40.6%	47	44.3%	-3.774	-0.076
Two or more dispensings	63	59.4%	59	55.7%	3.774	0.076
Medical Product Use						
Antihypertensive medications	*****	*****	*****	*****	1.887	0.071
Opioids	13	12.3%	12	11.3%	0.943	0.029
Suspected teratogens	21	19.8%	22	20.8%	-0.943	-0.023
Antidiabetic medications	*****	*****	*****	*****	1.887	0.099
Buprenorphine	*****	*****	*****	*****	0.000	0.000
Insulin	*****	*****	*****	*****	0.943	0.080
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.1	4.1	4.2	5.2	-0.047	-0.010
Mean number of emergency room encounters	0.1	0.4	0.1	0.2	0.066	0.197
Mean number of inpatient hospital encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.9	2.2	0.5	1.2	0.415	0.230

Table 1b. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.6	5.5	6.8	5.6	0.755	0.137
Mean number of generics dispensed	4.4	2.9	3.8	3.0	0.613	0.205
Mean number of unique drug classes dispensed	4.2	2.7	3.7	2.8	0.547	0.200

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bm. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	391	N/A	355	N/A	N/A	N/A
Pregnancies	397	100.0%	357	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	31.7	4.7	31.7	5.3	-0.047	-0.009
Age	Number	Percent	Number	Percent		
10-34 years	312	78.6%	262	73.4%	5.200	0.122
35-54 years	85	21.4%	95	26.6%	-5.200	-0.122
Sex						
Female	397	100.0%	357	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.588	-0.080
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	*****	*****	0.921	0.048
Multi-racial	*****	*****	*****	*****	0.167	0.017
Native Hawaiian or Other Pacific Islander	0	0.0%	*****	*****	NaN	NaN
Unknown	322	81.1%	293	82.1%	-0.965	-0.025
White	53	13.4%	44	12.3%	1.025	0.031
Hispanic origin						
Yes	*****	*****	*****	*****	-0.421	-0.035
No	*****	*****	*****	*****	-0.571	-0.017
Unknown	342	86.1%	304	85.2%	0.992	0.028
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bm. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.083	0.006
2008	*****	*****	*****	*****	0.782	0.049
2009	31	7.8%	33	9.2%	-1.435	-0.051
2010	31	7.8%	23	6.4%	1.366	0.053
2011	18	4.5%	21	5.9%	-1.348	-0.061
2012	23	5.8%	31	8.7%	-2.890	-0.112
2013	21	5.3%	23	6.4%	-1.153	-0.049
2014	21	5.3%	16	4.5%	0.808	0.037
2015	27	6.8%	20	5.6%	1.199	0.050
2016	33	8.3%	30	8.4%	-0.091	-0.003
2017	37	9.3%	33	9.2%	0.076	0.003
2018	35	8.8%	32	9.0%	-0.147	-0.005
2019	29	7.3%	25	7.0%	0.302	0.012
2020	42	10.6%	30	8.4%	2.176	0.074
2021	15	3.8%	14	3.9%	-0.143	-0.007
2022	15	3.8%	12	3.4%	0.417	0.022

Table 1bm. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	32	8.1%	31	8.7%	-0.623	-0.022
Term (259-280 days)	144	36.3%	113	31.7%	4.619	0.098
Post-Term (281-301 days)	67	16.9%	57	16.0%	0.910	0.025
Unknown Term	154	38.8%	156	43.7%	-4.907	-0.100
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.5	39.6	1.9	0.069	0.041
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-1.0	7.6	-3.3	24.0	2.271	0.128
Mean number of dispensings in first trimester	1.0	0.1	1.0	0.1	-0.011	-0.127
	Number	Percent	Number	Percent		
Exposed during first trimester	397	100.0%	357	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.8	2.1	1.8	2.3	-0.014	-0.006
	Number	Percent	Number	Percent		
Anxiety Disorders	80	20.2%	59	16.5%	3.625	0.094
Depressive Disorders	84	21.2%	78	21.8%	-0.690	-0.017
All other psychiatric and neurological conditions	64	16.1%	56	15.7%	0.435	0.012
Psychotropic medications	174	43.8%	155	43.4%	0.411	0.008
Obesity	44	11.1%	41	11.5%	-0.401	-0.013
Renal disease	39	9.8%	31	8.7%	1.140	0.039
Alcohol use or dependence	*****	*****	*****	*****	1.231	0.131
Diabetes	11	2.8%	*****	*****	1.930	0.145
Drug abuse or dependence	13	3.3%	12	3.4%	-0.087	-0.005

Table 1bm. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	56	14.1%	46	12.9%	1.221	0.036
Gestational Hypertension	49	12.3%	49	13.7%	-1.383	-0.041
Gestational Renal disease	*****	*****	*****	*****	-0.645	-0.062
Hypertension	17	4.3%	13	3.6%	0.641	0.033
Smoking	49	12.3%	44	12.3%	0.018	0.001
Number of dispensings in first trimester (0,90)						
One dispensing	397	100.0%	357	100.0%	0.000	NaN
Two or more dispensings	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Antihypertensive medications	27	6.8%	21	5.9%	0.919	0.038
Opioids	46	11.6%	37	10.4%	1.223	0.039
Suspected teratogens	64	16.1%	57	16.0%	0.155	0.004
Antidiabetic medications	16	4.0%	13	3.6%	0.389	0.020
Buprenorphine	*****	*****	*****	*****	-0.085	-0.010
Insulin	*****	*****	*****	*****	1.231	0.131
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.224	0.036
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.0	3.6	4.4	0.753	0.144
Mean number of emergency room encounters	0.1	0.4	0.1	0.4	0.020	0.048
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.004	0.051
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of other ambulatory encounters	0.8	3.4	0.7	2.4	0.137	0.046

Table 1bm. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	5.9	5.4	5.5	5.0	0.387	0.074
Mean number of generics dispensed	3.7	2.9	3.6	3.0	0.136	0.046
Mean number of unique drug classes dispensed	3.6	2.7	3.5	2.8	0.120	0.043

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bn. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	275	N/A	275	N/A	N/A	N/A
Pregnancies	277	100.0%	277	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	31.7	4.7	31.9	5.2	-0.241	-0.048
Age	Number	Percent	Number	Percent		
10-34 years	218	78.7%	202	72.9%	5.776	0.135
35-54 years	59	21.3%	75	27.1%	-5.776	-0.135
Sex						
Female	277	100.0%	277	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.361	-0.049
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	0.361	0.024
Multi-racial	*****	*****	*****	*****	0.361	0.038
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	239	86.3%	237	85.6%	0.722	0.021
White	27	9.7%	*****	*****	-1.083	-0.036
Hispanic origin						
Yes	*****	*****	*****	*****	0.361	0.029
No	*****	*****	*****	*****	0.000	0.000
Unknown	247	89.2%	248	89.5%	-0.361	-0.012
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bn. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.361	0.024
2008	*****	*****	*****	*****	0.361	0.022
2009	28	10.1%	27	9.7%	0.361	0.012
2010	24	8.7%	23	8.3%	0.361	0.013
2011	15	5.4%	19	6.9%	-1.444	-0.060
2012	19	6.9%	16	5.8%	1.083	0.045
2013	16	5.8%	17	6.1%	-0.361	-0.015
2014	13	4.7%	15	5.4%	-0.722	-0.033
2015	14	5.1%	15	5.4%	-0.361	-0.016
2016	24	8.7%	24	8.7%	0.000	0.000
2017	25	9.0%	24	8.7%	0.361	0.013
2018	25	9.0%	24	8.7%	0.361	0.013
2019	17	6.1%	17	6.1%	0.000	0.000
2020	23	8.3%	24	8.7%	-0.361	-0.013
2021	*****	*****	*****	*****	0.000	0.000
2022	*****	*****	*****	*****	0.000	0.000

Table 1bn. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	22	7.9%	21	7.6%	0.361	0.013
Term (259-280 days)	94	33.9%	85	30.7%	3.249	0.070
Post-Term (281-301 days)	44	15.9%	45	16.2%	-0.361	-0.010
Unknown Term	117	42.2%	126	45.5%	-3.249	-0.066
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.5	39.7	1.8	0.011	0.007
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-0.8	6.4	-3.0	21.8	2.188	0.136
Mean number of dispensings in first trimester	1.0	0.1	1.0	0.1	-0.007	-0.086
	Number	Percent	Number	Percent		
Exposed during first trimester	277	100.0%	277	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.7	2.2	1.7	2.3	-0.054	-0.024
	Number	Percent	Number	Percent		
Anxiety Disorders	39	14.1%	47	17.0%	-2.888	-0.080
Depressive Disorders	57	20.6%	59	21.3%	-0.722	-0.018
All other psychiatric and neurological conditions	35	12.6%	35	12.6%	0.000	0.000
Psychotropic medications	115	41.5%	118	42.6%	-1.083	-0.022
Obesity	33	11.9%	28	10.1%	1.805	0.058
Renal disease	19	6.9%	19	6.9%	0.000	0.000
Alcohol use or dependence	*****	*****	*****	*****	0.000	0.000
Diabetes	*****	*****	*****	*****	0.000	0.000
Drug abuse or dependence	*****	*****	*****	*****	0.000	0.000

Table 1bn. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	34	12.3%	34	12.3%	0.000	0.000
Gestational Hypertension	33	11.9%	38	13.7%	-1.805	-0.054
Gestational Renal disease	*****	*****	*****	*****	0.361	0.038
Hypertension	12	4.3%	*****	*****	0.722	0.037
Smoking	31	11.2%	30	10.8%	0.361	0.012
Number of dispensings in first trimester (0,90)						
One dispensing	277	100.0%	277	100.0%	0.000	NaN
Two or more dispensings	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Antihypertensive medications	16	5.8%	16	5.8%	0.000	0.000
Opioids	27	9.7%	26	9.4%	0.361	0.012
Suspected teratogens	51	18.4%	45	16.2%	2.166	0.057
Antidiabetic medications	*****	*****	*****	*****	0.000	0.000
Buprenorphine	0	0.0%	0	0.0%	NaN	NaN
Insulin	*****	*****	*****	*****	0.000	0.000
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	3.8	4.1	3.5	4.4	0.347	0.082
Mean number of emergency room encounters	0.1	0.3	0.1	0.3	0.000	0.000
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.000	0.000
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of other ambulatory encounters	0.7	1.2	0.5	1.0	0.188	0.170

Table 1bn. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	5.6	5.2	5.3	5.0	0.303	0.059
Mean number of generics dispensed	3.5	2.8	3.5	3.0	0.061	0.021
Mean number of unique drug classes dispensed	3.4	2.6	3.3	2.8	0.087	0.032

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bo. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	388	N/A	436	N/A	N/A	N/A
Pregnancies	401	100.0%	441	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.4	4.7	32.3	5.1	0.059	0.012
Age	Number	Percent	Number	Percent		
10-34 years	290	72.3%	311	70.5%	1.798	0.040
35-54 years	111	27.7%	130	29.5%	-1.798	-0.040
Sex						
Female	401	100.0%	441	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.204	-0.035
Asian	*****	*****	*****	*****	0.045	0.007
Black or African American	*****	*****	11	2.5%	-0.001	-0.000
Multi-racial	*****	*****	*****	*****	-0.340	-0.029
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	312	77.8%	344	78.0%	-0.199	-0.005
White	70	17.5%	75	17.0%	0.450	0.012
Hispanic origin						
Yes	*****	*****	*****	*****	-0.363	-0.034
No	*****	*****	*****	*****	0.790	0.022
Unknown	332	82.8%	367	83.2%	-0.427	-0.011
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bo. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	11	2.7%	*****	*****	0.022	0.001
2008	11	2.7%	*****	*****	0.702	0.046
2009	27	6.7%	30	6.8%	-0.070	-0.003
2010	19	4.7%	32	7.3%	-2.518	-0.106
2011	18	4.5%	20	4.5%	-0.046	-0.002
2012	25	6.2%	24	5.4%	0.792	0.034
2013	25	6.2%	20	4.5%	1.699	0.075
2014	20	5.0%	19	4.3%	0.679	0.032
2015	22	5.5%	36	8.2%	-2.677	-0.106
2016	39	9.7%	33	7.5%	2.243	0.080
2017	41	10.2%	50	11.3%	-1.113	-0.036
2018	32	8.0%	36	8.2%	-0.183	-0.007
2019	43	10.7%	45	10.2%	0.519	0.017
2020	32	8.0%	40	9.1%	-1.090	-0.039
2021	20	5.0%	19	4.3%	0.679	0.032
2022	16	4.0%	16	3.6%	0.362	0.019

Table 1bo. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	39	9.7%	38	8.6%	1.109	0.038
Term (259-280 days)	151	37.7%	174	39.5%	-1.800	-0.037
Post-Term (281-301 days)	61	15.2%	68	15.4%	-0.208	-0.006
Unknown Term	150	37.4%	161	36.5%	0.899	0.019
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.6	39.7	1.6	-0.145	-0.090
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-14.6	29.2	-27.0	51.9	12.376	0.294
Mean number of dispensings in first trimester	2.6	0.9	2.7	0.9	-0.122	-0.134
	Number	Percent	Number	Percent		
Exposed during first trimester	401	100.0%	441	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.1	2.0	2.3	-0.125	-0.057
	Number	Percent	Number	Percent		
Anxiety Disorders	83	20.7%	99	22.4%	-1.751	-0.043
Depressive Disorders	108	26.9%	116	26.3%	0.629	0.014
All other psychiatric and neurological conditions	83	20.7%	93	21.1%	-0.390	-0.010
Psychotropic medications	214	53.4%	224	50.8%	2.573	0.052
Obesity	43	10.7%	49	11.1%	-0.388	-0.012
Renal disease	41	10.2%	46	10.4%	-0.206	-0.007
Alcohol use or dependence	*****	*****	*****	*****	-0.839	-0.078
Diabetes	*****	*****	*****	*****	-0.318	-0.025
Drug abuse or dependence	30	7.5%	29	6.6%	0.905	0.035

Table 1bo. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	64	16.0%	85	19.3%	-3.314	-0.087
Gestational Hypertension	47	11.7%	53	12.0%	-0.297	-0.009
Gestational Renal disease	*****	*****	*****	*****	0.567	0.058
Hypertension	22	5.5%	23	5.2%	0.271	0.012
Smoking	60	15.0%	72	16.3%	-1.364	-0.038
Number of dispensings in first trimester (0,90)						
One dispensing	0	0.0%	0	0.0%	NaN	NaN
Two or more dispensings	401	100.0%	441	100.0%	0.000	NaN
Medical Product Use						
Antihypertensive medications	35	8.7%	39	8.8%	-0.115	-0.004
Opioids	50	12.5%	57	12.9%	-0.456	-0.014
Suspected teratogens	68	17.0%	82	18.6%	-1.636	-0.043
Antidiabetic medications	15	3.7%	15	3.4%	0.339	0.018
Buprenorphine	13	3.2%	15	3.4%	-0.159	-0.009
Insulin	*****	*****	*****	*****	0.113	0.010
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	-0.204	-0.035
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.3	6.0	3.9	4.9	0.423	0.077
Mean number of emergency room encounters	0.1	0.4	0.1	0.5	-0.008	-0.017
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.000	0.007
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	1.8	0.6	1.5	0.199	0.117

Table 1bo. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.5	6.2	8.3	5.6	0.109	0.018
Mean number of generics dispensed	4.5	3.0	4.1	2.9	0.372	0.126
Mean number of unique drug classes dispensed	4.4	2.8	4.0	2.7	0.396	0.144

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bp. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	296	N/A	299	N/A	N/A	N/A
Pregnancies	301	100.0%	301	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.4	4.5	32.4	4.9	0.004	0.001
Age	Number	Percent	Number	Percent		
10-34 years	219	72.8%	210	69.8%	2.990	0.066
35-54 years	82	27.2%	91	30.2%	-2.990	-0.066
Sex						
Female	301	100.0%	301	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.000	0.000
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	*****	*****	0.997	0.064
Multi-racial	*****	*****	*****	*****	0.000	0.000
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	242	80.4%	242	80.4%	0.000	0.000
White	46	15.3%	48	15.9%	-0.664	-0.018
Hispanic origin						
Yes	*****	*****	*****	*****	-0.664	-0.067
No	*****	*****	*****	*****	0.000	0.000
Unknown	255	84.7%	253	84.1%	0.664	0.018
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bp. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	11	3.7%	0.000	0.000
2008	*****	*****	*****	*****	0.664	0.044
2009	23	7.6%	23	7.6%	0.000	0.000
2010	16	5.3%	20	6.6%	-1.329	-0.056
2011	14	4.7%	13	4.3%	0.332	0.016
2012	18	6.0%	17	5.6%	0.332	0.014
2013	17	5.6%	15	5.0%	0.664	0.030
2014	11	3.7%	*****	*****	0.332	0.018
2015	19	6.3%	20	6.6%	-0.332	-0.013
2016	28	9.3%	27	9.0%	0.332	0.012
2017	30	10.0%	31	10.3%	-0.332	-0.011
2018	27	9.0%	26	8.6%	0.332	0.012
2019	29	9.6%	31	10.3%	-0.664	-0.022
2020	24	8.0%	24	8.0%	0.000	0.000
2021	14	4.7%	15	5.0%	-0.332	-0.016
2022	12	4.0%	12	4.0%	0.000	0.000

Table 1bp. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	28	9.3%	23	7.6%	1.661	0.060
Term (259-280 days)	111	36.9%	122	40.5%	-3.654	-0.075
Post-Term (281-301 days)	48	15.9%	44	14.6%	1.329	0.037
Unknown Term	114	37.9%	112	37.2%	0.664	0.014
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.7	1.6	-0.116	-0.072
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-14.4	30.5	-26.0	47.9	11.598	0.289
Mean number of dispensings in first trimester	2.5	0.8	2.7	0.9	-0.196	-0.230
	Number	Percent	Number	Percent		
Exposed during first trimester	301	100.0%	301	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.1	1.9	2.2	0.056	0.026
	Number	Percent	Number	Percent		
Anxiety Disorders	58	19.3%	64	21.3%	-1.993	-0.050
Depressive Disorders	76	25.2%	73	24.3%	0.997	0.023
All other psychiatric and neurological conditions	54	17.9%	61	20.3%	-2.326	-0.059
Psychotropic medications	153	50.8%	150	49.8%	0.997	0.020
Obesity	35	11.6%	38	12.6%	-0.997	-0.031
Renal disease	29	9.6%	29	9.6%	0.000	0.000
Alcohol use or dependence	*****	*****	*****	*****	0.000	0.000
Diabetes	*****	*****	*****	*****	0.332	0.047
Drug abuse or dependence	20	6.6%	17	5.6%	0.997	0.042

Table 1bp. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	51	16.9%	58	19.3%	-2.326	-0.060
Gestational Hypertension	37	12.3%	38	12.6%	-0.332	-0.010
Gestational Renal disease	*****	*****	*****	*****	0.332	0.037
Hypertension	14	4.7%	14	4.7%	0.000	0.000
Smoking	46	15.3%	42	14.0%	1.329	0.038
Number of dispensings in first trimester (0,90)						
One dispensing	0	0.0%	0	0.0%	NaN	NaN
Two or more dispensings	301	100.0%	301	100.0%	0.000	NaN
Medical Product Use						
Antihypertensive medications	22	7.3%	25	8.3%	-0.997	-0.037
Opioids	38	12.6%	36	12.0%	0.664	0.020
Suspected teratogens	53	17.6%	48	15.9%	1.661	0.044
Antidiabetic medications	*****	*****	*****	*****	1.329	0.083
Buprenorphine	*****	*****	*****	*****	0.997	0.060
Insulin	*****	*****	*****	*****	0.000	0.000
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	*****	*****	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.3	6.6	3.7	5.0	0.645	0.111
Mean number of emergency room encounters	0.1	0.4	0.1	0.4	0.003	0.008
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.003	-0.047
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	1.9	0.5	1.4	0.262	0.160

Table 1bp. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Methylphenidate		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.1	5.8	8.0	5.5	0.050	0.009
Mean number of generics dispensed	4.4	2.8	4.0	2.8	0.395	0.141
Mean number of unique drug classes dispensed	4.2	2.6	3.8	2.7	0.405	0.153

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bq. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	785	N/A	37,913	N/A	N/A	N/A
Pregnancies	813	100.0%	40,621	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.1	4.8	30.2	4.9	1.979	0.408
Age	Number	Percent	Number	Percent		
10-34 years	604	74.3%	33,836	83.3%	-9.004	-0.222
35-54 years	209	25.7%	6,785	16.7%	9.004	0.222
Sex						
Female	813	100.0%	40,621	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	176	0.4%	-0.187	-0.032
Asian	*****	*****	130	0.3%	-0.074	-0.014
Black or African American	27	3.3%	1,203	3.0%	0.360	0.021
Multi-racial	*****	*****	250	0.6%	0.492	0.053
Native Hawaiian or Other Pacific Islander	*****	*****	24	0.1%	0.064	0.021
Unknown	646	79.5%	26,973	66.4%	13.057	0.297
White	126	15.5%	11,865	29.2%	-13.711	-0.334
Hispanic origin						
Yes	*****	*****	1,044	2.6%	-1.463	-0.109
No	*****	*****	11,355	28.0%	-13.562	-0.337
Unknown	687	84.5%	28,222	69.5%	15.025	0.363
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bq. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	*****	*****	NaN	NaN
2007	18	2.2%	*****	*****	1.874	0.168
2008	23	2.8%	211	0.5%	2.310	0.181
2009	59	7.3%	727	1.8%	5.467	0.265
2010	52	6.4%	837	2.1%	4.336	0.217
2011	37	4.6%	998	2.5%	2.094	0.114
2012	50	6.2%	1,144	2.8%	3.334	0.162
2013	46	5.7%	1,227	3.0%	2.637	0.130
2014	41	5.0%	1,676	4.1%	0.917	0.044
2015	51	6.3%	2,163	5.3%	0.948	0.041
2016	75	9.2%	3,506	8.6%	0.594	0.021
2017	79	9.7%	5,294	13.0%	-3.316	-0.105
2018	67	8.2%	5,482	13.5%	-5.254	-0.169
2019	72	8.9%	5,670	14.0%	-5.102	-0.161
2020	76	9.3%	5,913	14.6%	-5.208	-0.161
2021	35	4.3%	3,220	7.9%	-3.622	-0.152
2022	32	3.9%	2,413	5.9%	-2.004	-0.093

Table 1bq. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	72	8.9%	3,203	7.9%	0.971	0.035
Term (259-280 days)	301	37.0%	21,948	54.0%	-17.008	-0.347
Post-Term (281-301 days)	131	16.1%	7,507	18.5%	-2.367	-0.063
Unknown Term	309	38.0%	7,963	19.6%	18.404	0.415
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.6	1.6	0.017	0.011
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.2	-21.4	45.2	13.602	0.382
Mean number of dispensings in first trimester	1.8	1.0	2.5	1.3	-0.707	-0.602
	Number	Percent	Number	Percent		
Exposed during first trimester	813	100.0%	40,621	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.7	2.1	0.218	0.101
	Number	Percent	Number	Percent		
Anxiety Disorders	169	20.8%	10,791	26.6%	-5.778	-0.136
Depressive Disorders	196	24.1%	8,969	22.1%	2.029	0.048
All other psychiatric and neurological conditions	148	18.2%	27,420	67.5%	-49.298	-1.149
Psychotropic medications	400	49.2%	18,051	44.4%	4.763	0.096
Obesity	95	11.7%	2,771	6.8%	4.864	0.168
Renal disease	82	10.1%	4,435	10.9%	-0.832	-0.027
Alcohol use or dependence	*****	*****	604	1.5%	-0.257	-0.022
Diabetes	20	2.5%	466	1.1%	1.313	0.099
Drug abuse or dependence	44	5.4%	2,546	6.3%	-0.856	-0.036

Table 1bq. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	126	15.5%	4,219	10.4%	5.112	0.153
Gestational Hypertension	103	12.7%	5,872	14.5%	-1.786	-0.052
Gestational Renal disease	*****	*****	409	1.0%	-0.023	-0.002
Hypertension	44	5.4%	1,433	3.5%	1.884	0.091
Smoking	113	13.9%	6,229	15.3%	-1.435	-0.041
Number of dispensings in first trimester (0,90)						
One dispensing	403	49.6%	10,889	26.8%	22.763	0.482
Two or more dispensings	410	50.4%	29,732	73.2%	-22.763	-0.482
Medical Product Use						
Antihypertensive medications	68	8.4%	2,433	6.0%	2.375	0.092
Opioids	103	12.7%	3,344	8.2%	4.437	0.145
Suspected teratogens	138	17.0%	5,966	14.7%	2.287	0.063
Antidiabetic medications	34	4.2%	677	1.7%	2.515	0.150
Buprenorphine	16	2.0%	790	1.9%	0.023	0.002
Insulin	14	1.7%	199	0.5%	1.232	0.118
Methadone	*****	*****	28	0.1%	0.054	0.017
Naloxone	0	0.0%	46	0.1%	NaN	NaN
Naltrexone	*****	*****	59	0.1%	0.347	0.062
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.1	3.6	5.0	0.813	0.146
Mean number of emergency room encounters	0.1	0.5	0.2	0.5	-0.031	-0.063
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.003	-0.025
Mean number of non-acute institutional encounters	0.0	NaN	0.0	0.0	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	0.9	3.4	-0.047	-0.015

Table 1bq. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.3	6.1	7.0	5.4	0.268	0.046
Mean number of generics dispensed	4.2	3.1	3.7	2.8	0.523	0.177
Mean number of unique drug classes dispensed	4.1	2.9	3.6	2.6	0.480	0.176

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1br. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	781	N/A	808	N/A	N/A	N/A
Pregnancies	809	100.0%	809	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.1	4.8	32.1	4.9	0.005	0.001
Age	Number	Percent	Number	Percent		
10-34 years	603	74.5%	592	73.2%	1.360	0.031
35-54 years	206	25.5%	217	26.8%	-1.360	-0.031
Sex						
Female	809	100.0%	809	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.371	-0.057
Asian	*****	*****	*****	*****	0.124	0.029
Black or African American	27	3.3%	37	4.6%	-1.236	-0.063
Multi-racial	*****	*****	*****	*****	0.000	0.000
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	643	79.5%	650	80.3%	-0.865	-0.022
White	125	15.5%	107	13.2%	2.225	0.064
Hispanic origin						
Yes	*****	*****	13	1.6%	-0.494	-0.043
No	*****	*****	119	14.7%	-0.247	-0.007
Unknown	683	84.4%	677	83.7%	0.742	0.020
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1br. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	18	2.2%	12	1.5%	0.742	0.055
2008	23	2.8%	23	2.8%	0.000	0.000
2009	58	7.2%	47	5.8%	1.360	0.055
2010	51	6.3%	57	7.0%	-0.742	-0.030
2011	37	4.6%	48	5.9%	-1.360	-0.061
2012	50	6.2%	43	5.3%	0.865	0.037
2013	46	5.7%	47	5.8%	-0.124	-0.005
2014	41	5.1%	35	4.3%	0.742	0.035
2015	50	6.2%	47	5.8%	0.371	0.016
2016	75	9.3%	66	8.2%	1.112	0.039
2017	79	9.8%	87	10.8%	-0.989	-0.033
2018	67	8.3%	63	7.8%	0.494	0.018
2019	72	8.9%	70	8.7%	0.247	0.009
2020	76	9.4%	86	10.6%	-1.236	-0.041
2021	35	4.3%	43	5.3%	-0.989	-0.046
2022	31	3.8%	35	4.3%	-0.494	-0.025

Table 1br. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	71	8.8%	71	8.8%	0.000	0.000
Term (259-280 days)	299	37.0%	311	38.4%	-1.483	-0.031
Post-Term (281-301 days)	131	16.2%	127	15.7%	0.494	0.014
Unknown Term	308	38.1%	300	37.1%	0.989	0.020
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.6	1.6	39.7	1.7	-0.028	-0.018
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	22.3	-18.4	40.2	10.604	0.327
Mean number of dispensings in first trimester	1.8	1.0	2.3	1.2	-0.489	-0.432
	Number	Percent	Number	Percent		
Exposed during first trimester	809	100.0%	809	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.9	2.3	0.010	0.004
	Number	Percent	Number	Percent		
Anxiety Disorders	168	20.8%	161	19.9%	0.865	0.021
Depressive Disorders	195	24.1%	206	25.5%	-1.360	-0.031
All other psychiatric and neurological conditions	148	18.3%	146	18.0%	0.247	0.006
Psychotropic medications	397	49.1%	373	46.1%	2.967	0.059
Obesity	91	11.2%	99	12.2%	-0.989	-0.031
Renal disease	81	10.0%	74	9.1%	0.865	0.029
Alcohol use or dependence	*****	*****	12	1.5%	-0.247	-0.021
Diabetes	16	2.0%	11	1.4%	0.618	0.048
Drug abuse or dependence	44	5.4%	44	5.4%	0.000	0.000

Table 1br. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	123	15.2%	128	15.8%	-0.618	-0.017
Gestational Hypertension	101	12.5%	120	14.8%	-2.349	-0.068
Gestational Renal disease	*****	*****	*****	*****	-0.247	-0.025
Hypertension	43	5.3%	43	5.3%	0.000	0.000
Smoking	111	13.7%	102	12.6%	1.112	0.033
Number of dispensings in first trimester (0,90)						
One dispensing	402	49.7%	272	33.6%	16.069	0.330
Two or more dispensings	407	50.3%	537	66.4%	-16.069	-0.330
Medical Product Use						
Antihypertensive medications	65	8.0%	76	9.4%	-1.360	-0.048
Opioids	103	12.7%	106	13.1%	-0.371	-0.011
Suspected teratogens	135	16.7%	142	17.6%	-0.865	-0.023
Antidiabetic medications	30	3.7%	26	3.2%	0.494	0.027
Buprenorphine	16	2.0%	14	1.7%	0.247	0.018
Insulin	*****	*****	*****	*****	0.247	0.024
Methadone	*****	*****	*****	*****	0.000	0.000
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.247	0.041
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.1	3.2	4.0	1.180	0.229
Mean number of emergency room encounters	0.1	0.5	0.1	0.4	0.059	0.143
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.001	0.010
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.7	0.6	1.5	0.214	0.098

Table 1br. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.3	6.1	7.5	6.3	-0.251	-0.040
Mean number of generics dispensed	4.2	3.1	3.9	3.1	0.240	0.077
Mean number of unique drug classes dispensed	4.0	2.8	3.8	2.9	0.227	0.080

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bs. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	585	N/A	591	N/A	N/A	N/A
Pregnancies	603	100.0%	592	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	30.0	3.3	29.9	3.5	0.113	0.033
Age	Number	Percent	Number	Percent		
10-34 years	603	100.0%	592	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	603	100.0%	592	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.510	-0.079
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	31	5.2%	-1.588	-0.077
Multi-racial	*****	*****	*****	*****	-0.857	-0.083
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	482	79.9%	467	78.9%	1.049	0.026
White	93	15.4%	80	13.5%	1.909	0.054
Hispanic origin						
Yes	*****	*****	*****	*****	-0.194	-0.016
No	*****	*****	*****	*****	-1.285	-0.036
Unknown	507	84.1%	489	82.6%	1.478	0.040
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bs. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	16	2.7%	*****	*****	0.964	0.066
2008	16	2.7%	*****	*****	-0.725	-0.042
2009	45	7.5%	40	6.8%	0.706	0.027
2010	40	6.6%	45	7.6%	-0.968	-0.038
2011	26	4.3%	38	6.4%	-2.107	-0.094
2012	41	6.8%	32	5.4%	1.394	0.058
2013	31	5.1%	35	5.9%	-0.771	-0.034
2014	30	5.0%	24	4.1%	0.921	0.044
2015	37	6.1%	34	5.7%	0.393	0.017
2016	52	8.6%	47	7.9%	0.684	0.025
2017	59	9.8%	63	10.6%	-0.857	-0.028
2018	49	8.1%	44	7.4%	0.694	0.026
2019	58	9.6%	52	8.8%	0.835	0.029
2020	54	9.0%	60	10.1%	-1.180	-0.040
2021	23	3.8%	26	4.4%	-0.578	-0.029
2022	26	4.3%	22	3.7%	0.596	0.030

Table 1bs. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	48	8.0%	45	7.6%	0.359	0.013
Term (259-280 days)	221	36.7%	216	36.5%	0.164	0.003
Post-Term (281-301 days)	102	16.9%	100	16.9%	0.024	0.001
Unknown Term	232	38.5%	231	39.0%	-0.546	-0.011
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.6	39.7	1.6	-0.082	-0.052
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-8.3	24.0	-18.3	37.3	9.974	0.318
Mean number of dispensings in first trimester	1.8	1.0	2.3	1.3	-0.557	-0.489
	Number	Percent	Number	Percent		
Exposed during first trimester	603	100.0%	592	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.4	1.8	1.4	2.0	-0.025	-0.013
	Number	Percent	Number	Percent		
Anxiety Disorders	114	18.9%	111	18.8%	0.155	0.004
Depressive Disorders	132	21.9%	142	24.0%	-2.096	-0.050
All other psychiatric and neurological conditions	112	18.6%	110	18.6%	-0.007	-0.000
Psychotropic medications	272	45.1%	265	44.8%	0.344	0.007
Obesity	64	10.6%	69	11.7%	-1.042	-0.033
Renal disease	61	10.1%	53	9.0%	1.163	0.040
Alcohol use or dependence	*****	*****	11	1.9%	-0.697	-0.057
Diabetes	11	1.8%	*****	*****	0.473	0.038
Drug abuse or dependence	38	6.3%	30	5.1%	1.234	0.053

Table 1bs. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	74	12.3%	80	13.5%	-1.242	-0.037
Gestational Hypertension	68	11.3%	82	13.9%	-2.574	-0.078
Gestational Renal disease	*****	*****	*****	*****	-0.184	-0.019
Hypertension	26	4.3%	24	4.1%	0.258	0.013
Smoking	77	12.8%	65	11.0%	1.790	0.055
Number of dispensings in first trimester (0,90)						
One dispensing	312	51.7%	199	33.6%	18.126	0.373
Two or more dispensings	291	48.3%	393	66.4%	-18.126	-0.373
Medical Product Use						
Antihypertensive medications	45	7.5%	44	7.4%	0.030	0.001
Opioids	71	11.8%	79	13.3%	-1.570	-0.047
Suspected teratogens	83	13.8%	96	16.2%	-2.452	-0.069
Antidiabetic medications	18	3.0%	17	2.9%	0.113	0.007
Buprenorphine	14	2.3%	12	2.0%	0.295	0.020
Insulin	*****	*****	*****	*****	0.319	0.035
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.326	0.046
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.5	3.0	3.9	1.362	0.254
Mean number of emergency room encounters	0.1	0.5	0.1	0.4	0.045	0.103
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	0.005	0.041
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	2.9	0.6	1.5	0.202	0.088

Table 1bs. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.8	5.7	7.2	6.2	-0.398	-0.067
Mean number of generics dispensed	4.0	3.0	3.7	3.0	0.259	0.085
Mean number of unique drug classes dispensed	3.9	2.8	3.6	2.8	0.244	0.088

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bt. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics^{2,3,4}	Number	Percent	Number	Percent		
Patients	462	N/A	471	N/A	N/A	N/A
Pregnancies	472	100.0%	472	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	30.0	3.3	29.9	3.5	0.084	0.025
Age	Number	Percent	Number	Percent		
10-34 years	472	100.0%	472	100.0%	0.000	NaN
35-54 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	472	100.0%	472	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.212	-0.038
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	-0.636	-0.030
Multi-racial	*****	*****	*****	*****	0.636	0.088
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	379	80.3%	377	79.9%	0.424	0.011
White	67	14.2%	68	14.4%	-0.212	-0.006
Hispanic origin						
Yes	*****	*****	*****	*****	0.636	0.055
No	*****	*****	*****	*****	-0.424	-0.012
Unknown	392	83.1%	393	83.3%	-0.212	-0.006
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bt. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.000	0.000
2008	*****	*****	*****	*****	0.000	0.000
2009	35	7.4%	35	7.4%	0.000	0.000
2010	32	6.8%	30	6.4%	0.424	0.017
2011	26	5.5%	22	4.7%	0.847	0.039
2012	34	7.2%	30	6.4%	0.847	0.034
2013	25	5.3%	25	5.3%	0.000	0.000
2014	20	4.2%	24	5.1%	-0.847	-0.040
2015	30	6.4%	27	5.7%	0.636	0.027
2016	42	8.9%	43	9.1%	-0.212	-0.007
2017	50	10.6%	51	10.8%	-0.212	-0.007
2018	34	7.2%	35	7.4%	-0.212	-0.008
2019	38	8.1%	42	8.9%	-0.847	-0.030
2020	44	9.3%	46	9.7%	-0.424	-0.014
2021	18	3.8%	19	4.0%	-0.212	-0.011
2022	19	4.0%	18	3.8%	0.212	0.011

Table 1bt. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	39	8.3%	36	7.6%	0.636	0.024
Term (259-280 days)	168	35.6%	175	37.1%	-1.483	-0.031
Post-Term (281-301 days)	82	17.4%	83	17.6%	-0.212	-0.006
Unknown Term	183	38.8%	178	37.7%	1.059	0.022
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.6	39.8	1.5	-0.091	-0.058
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-7.8	23.0	-19.1	38.9	11.339	0.355
Mean number of dispensings in first trimester	1.8	1.0	2.3	1.3	-0.576	-0.498
	Number	Percent	Number	Percent		
Exposed during first trimester	472	100.0%	472	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.3	1.8	1.3	1.9	0.061	0.033
	Number	Percent	Number	Percent		
Anxiety Disorders	79	16.7%	80	16.9%	-0.212	-0.006
Depressive Disorders	97	20.6%	101	21.4%	-0.847	-0.021
All other psychiatric and neurological conditions	85	18.0%	82	17.4%	0.636	0.017
Psychotropic medications	208	44.1%	205	43.4%	0.636	0.013
Obesity	50	10.6%	48	10.2%	0.424	0.014
Renal disease	44	9.3%	44	9.3%	0.000	0.000
Alcohol use or dependence	*****	*****	*****	*****	0.000	0.000
Diabetes	*****	*****	*****	*****	0.000	0.000
Drug abuse or dependence	25	5.3%	22	4.7%	0.636	0.029

Table 1bt. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	55	11.7%	58	12.3%	-0.636	-0.020
Gestational Hypertension	56	11.9%	51	10.8%	1.059	0.033
Gestational Renal disease	*****	*****	*****	*****	0.212	0.025
Hypertension	16	3.4%	16	3.4%	0.000	0.000
Smoking	49	10.4%	45	9.5%	0.847	0.028
Number of dispensings in first trimester (0,90)						
One dispensing	243	51.5%	157	33.3%	18.220	0.375
Two or more dispensings	229	48.5%	315	66.7%	-18.220	-0.375
Medical Product Use						
Antihypertensive medications	30	6.4%	26	5.5%	0.847	0.036
Opioids	62	13.1%	61	12.9%	0.212	0.006
Suspected teratogens	61	12.9%	64	13.6%	-0.636	-0.019
Antidiabetic medications	14	3.0%	11	2.3%	0.636	0.040
Buprenorphine	12	2.5%	11	2.3%	0.212	0.014
Insulin	*****	*****	*****	*****	0.212	0.029
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.000	0.000
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	3.9	4.0	2.8	3.3	1.165	0.318
Mean number of emergency room encounters	0.1	0.4	0.1	0.4	0.028	0.066
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.002	-0.029
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	3.2	0.5	1.6	0.301	0.118

Table 1bt. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	6.7	5.5	7.0	6.1	-0.364	-0.062
Mean number of generics dispensed	3.9	2.9	3.6	3.0	0.280	0.095
Mean number of unique drug classes dispensed	3.8	2.7	3.5	2.8	0.278	0.102

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bu. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	201	N/A	217	N/A	N/A	N/A
Pregnancies	206	100.0%	217	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.2	2.8	38.1	2.4	0.126	0.049
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	206	100.0%	217	100.0%	0.000	NaN
Sex						
Female	206	100.0%	217	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	0.025	0.004
Asian	*****	*****	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	-0.338	-0.021
Multi-racial	*****	*****	0	0.0%	NaN	NaN
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	161	78.2%	183	84.3%	-6.176	-0.159
White	32	15.5%	*****	*****	3.092	0.089
Hispanic origin						
Yes	*****	*****	*****	*****	-1.358	-0.127
No	*****	*****	*****	*****	2.557	0.077
Unknown	176	85.4%	188	86.6%	-1.199	-0.035
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bu. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.049	0.005
2008	*****	*****	*****	*****	2.016	0.132
2009	13	6.3%	*****	*****	3.085	0.145
2010	11	5.3%	12	5.5%	-0.190	-0.008
2011	11	5.3%	*****	*****	0.732	0.034
2012	*****	*****	11	5.1%	-0.700	-0.033
2013	15	7.3%	12	5.5%	1.752	0.072
2014	11	5.3%	11	5.1%	0.271	0.012
2015	13	6.3%	13	6.0%	0.320	0.013
2016	23	11.2%	19	8.8%	2.409	0.081
2017	20	9.7%	24	11.1%	-1.351	-0.044
2018	18	8.7%	19	8.8%	-0.018	-0.001
2019	14	6.8%	18	8.3%	-1.499	-0.057
2020	22	10.7%	26	12.0%	-1.302	-0.041
2021	12	5.8%	17	7.8%	-2.009	-0.080
2022	*****	*****	13	6.0%	-3.564	-0.178

Table 1bu. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	23	11.2%	26	12.0%	-0.817	-0.026
Term (259-280 days)	78	37.9%	95	43.8%	-5.915	-0.121
Post-Term (281-301 days)	29	14.1%	27	12.4%	1.635	0.048
Unknown Term	76	36.9%	69	31.8%	5.096	0.107
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.5	39.4	1.8	0.110	0.065
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-6.3	15.8	-18.7	47.4	12.428	0.352
Mean number of dispensings in first trimester	1.9	1.0	2.2	1.2	-0.300	-0.271
	Number	Percent	Number	Percent		
Exposed during first trimester	206	100.0%	217	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	3.4	2.5	3.2	2.6	0.209	0.083
	Number	Percent	Number	Percent		
Anxiety Disorders	54	26.2%	50	23.0%	3.172	0.074
Depressive Disorders	63	30.6%	64	29.5%	1.089	0.024
All other psychiatric and neurological conditions	36	17.5%	36	16.6%	0.886	0.024
Psychotropic medications	125	60.7%	108	49.8%	10.910	0.221
Obesity	27	13.1%	30	13.8%	-0.718	-0.021
Renal disease	20	9.7%	21	9.7%	0.031	0.001
Alcohol use or dependence	*****	*****	*****	*****	0.995	0.102
Diabetes	*****	*****	*****	*****	1.045	0.076
Drug abuse or dependence	*****	*****	14	6.5%	-3.539	-0.168

Table 1bu. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	49	23.8%	48	22.1%	1.667	0.040
Gestational Hypertension	33	16.0%	38	17.5%	-1.492	-0.040
Gestational Renal disease	*****	*****	*****	*****	-0.412	-0.038
Hypertension	17	8.3%	19	8.8%	-0.503	-0.018
Smoking	34	16.5%	37	17.1%	-0.546	-0.015
Number of dispensings in first trimester (0,90)						
One dispensing	90	43.7%	73	33.6%	10.049	0.207
Two or more dispensings	116	56.3%	144	66.4%	-10.049	-0.207
Medical Product Use						
Antihypertensive medications	20	9.7%	32	14.7%	-5.038	-0.154
Opioids	32	15.5%	27	12.4%	3.092	0.089
Suspected teratogens	52	25.2%	46	21.2%	4.045	0.096
Antidiabetic medications	12	5.8%	*****	*****	1.678	0.077
Buprenorphine	*****	*****	*****	*****	0.049	0.005
Insulin	*****	*****	*****	*****	0.098	0.007
Methadone	*****	*****	*****	*****	0.025	0.004
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.5	4.6	3.8	4.2	0.693	0.158
Mean number of emergency room encounters	0.1	0.4	0.0	0.2	0.099	0.288
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.009	-0.075
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.9	2.2	0.7	1.3	0.255	0.145

Table 1bu. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.7	7.0	8.4	6.7	0.247	0.036
Mean number of generics dispensed	4.7	3.2	4.5	3.2	0.225	0.070
Mean number of unique drug classes dispensed	4.5	3.0	4.3	3.0	0.217	0.072

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bv. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	99	N/A	102	N/A	N/A	N/A
Pregnancies	102	100.0%	102	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	38.3	2.6	38.0	2.4	0.270	0.109
Age	Number	Percent	Number	Percent		
10-34 years	0	0.0%	0	0.0%	NaN	NaN
35-54 years	102	100.0%	102	100.0%	0.000	NaN
Sex						
Female	102	100.0%	102	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	0	0.0%	NaN	NaN
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	0.980	0.082
Multi-racial	0	0.0%	0	0.0%	NaN	NaN
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	91	89.2%	*****	*****	-2.941	-0.101
White	*****	*****	*****	*****	0.980	0.038
Hispanic origin						
Yes	0	0.0%	0	0.0%	NaN	NaN
No	*****	*****	*****	*****	0.000	0.000
Unknown	*****	*****	*****	*****	0.000	0.000
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bv. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.980	0.082
2008	*****	*****	*****	*****	0.000	0.000
2009	*****	*****	*****	*****	0.000	0.000
2010	*****	*****	*****	*****	0.000	0.000
2011	*****	*****	*****	*****	-1.961	-0.083
2012	*****	*****	*****	*****	1.961	0.101
2013	*****	*****	*****	*****	0.980	0.035
2014	*****	*****	*****	*****	-0.980	-0.043
2015	*****	*****	*****	*****	-0.980	-0.048
2016	11	10.8%	*****	*****	3.922	0.139
2017	*****	*****	12	11.8%	-2.941	-0.097
2018	*****	*****	*****	*****	2.941	0.107
2019	*****	*****	*****	*****	0.980	0.048
2020	12	11.8%	17	16.7%	-4.902	-0.141
2021	*****	*****	*****	*****	-0.980	-0.035
2022	*****	*****	*****	*****	0.980	0.054

Table 1bv. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	*****	*****	*****	*****	1.961	0.069
Term (259-280 days)	37	36.3%	43	42.2%	-5.882	-0.121
Post-Term (281-301 days)	22	21.6%	14	13.7%	7.843	0.207
Unknown Term	33	32.4%	37	36.3%	-3.922	-0.083
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.8	1.5	39.7	1.4	0.059	0.042
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-6.3	19.5	-20.0	48.9	13.676	0.367
Mean number of dispensings in first trimester	1.8	1.1	2.2	1.3	-0.402	-0.342
	Number	Percent	Number	Percent		
Exposed during first trimester	102	100.0%	102	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	3.2	2.4	2.8	2.4	0.392	0.165
	Number	Percent	Number	Percent		
Anxiety Disorders	22	21.6%	27	26.5%	-4.902	-0.115
Depressive Disorders	31	30.4%	27	26.5%	3.922	0.087
All other psychiatric and neurological conditions	16	15.7%	15	14.7%	0.980	0.027
Psychotropic medications	53	52.0%	57	55.9%	-3.922	-0.079
Obesity	*****	*****	13	12.7%	-4.902	-0.162
Renal disease	*****	*****	*****	*****	-0.980	-0.034
Alcohol use or dependence	*****	*****	0	0.0%	NaN	NaN
Diabetes	*****	*****	0	0.0%	NaN	NaN
Drug abuse or dependence	*****	*****	*****	*****	0.000	0.000

Table 1bv. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	21	20.6%	19	18.6%	1.961	0.049
Gestational Hypertension	14	13.7%	14	13.7%	0.000	0.000
Gestational Renal disease	*****	*****	*****	*****	0.000	0.000
Hypertension	*****	*****	*****	*****	0.980	0.038
Smoking	14	13.7%	15	14.7%	-0.980	-0.028
Number of dispensings in first trimester (0,90)						
One dispensing	53	52.0%	39	38.2%	13.725	0.279
Two or more dispensings	49	48.0%	63	61.8%	-13.725	-0.279
Medical Product Use						
Antihypertensive medications	11	10.8%	11	10.8%	0.000	0.000
Opioids	11	10.8%	12	11.8%	-0.980	-0.031
Suspected teratogens	23	22.5%	17	16.7%	5.882	0.149
Antidiabetic medications	*****	*****	*****	*****	0.980	0.063
Buprenorphine	0	0.0%	0	0.0%	NaN	NaN
Insulin	*****	*****	0	0.0%	NaN	NaN
Methadone	*****	*****	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.0	4.5	3.5	3.8	0.461	0.111
Mean number of emergency room encounters	0.1	0.3	0.0	0.2	0.020	0.084
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.2	-0.020	-0.142
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.7	0.9	0.5	1.1	0.127	0.122

Table 1bv. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	7.6	6.5	8.2	5.9	-0.627	-0.101
Mean number of generics dispensed	4.3	3.2	4.3	2.8	0.049	0.016
Mean number of unique drug classes dispensed	4.2	3.1	4.2	2.6	0.049	0.017

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bw. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	396	N/A	272	N/A	N/A	N/A
Pregnancies	402	100.0%	272	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	31.8	4.7	32.1	4.9	-0.301	-0.062
Age	Number	Percent	Number	Percent		
10-34 years	312	77.6%	199	73.2%	4.450	0.103
35-54 years	90	22.4%	73	26.8%	-4.450	-0.103
Sex						
Female	402	100.0%	272	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	0	0.0%	NaN	NaN
Asian	0	0.0%	*****	*****	NaN	NaN
Black or African American	*****	*****	*****	*****	2.023	0.115
Multi-racial	*****	*****	*****	*****	-0.108	-0.011
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	326	81.1%	239	87.9%	-6.773	-0.188
White	54	13.4%	*****	*****	4.977	0.160
Hispanic origin						
Yes	*****	*****	*****	*****	-2.065	-0.139
No	*****	*****	*****	*****	5.334	0.178
Unknown	346	86.1%	243	89.3%	-3.269	-0.100
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bw. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	-0.097	-0.007
2008	*****	*****	*****	*****	-0.691	-0.039
2009	31	7.7%	18	6.6%	1.094	0.042
2010	32	8.0%	18	6.6%	1.343	0.052
2011	18	4.5%	11	4.0%	0.433	0.021
2012	24	6.0%	16	5.9%	0.088	0.004
2013	21	5.2%	21	7.7%	-2.497	-0.102
2014	21	5.2%	13	4.8%	0.444	0.020
2015	28	7.0%	17	6.3%	0.715	0.029
2016	35	8.7%	24	8.8%	-0.117	-0.004
2017	37	9.2%	22	8.1%	1.116	0.040
2018	35	8.7%	21	7.7%	0.986	0.036
2019	29	7.2%	20	7.4%	-0.139	-0.005
2020	42	10.4%	29	10.7%	-0.214	-0.007
2021	15	3.7%	13	4.8%	-1.048	-0.052
2022	15	3.7%	14	5.1%	-1.416	-0.069

Table 1bw. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	31	7.7%	24	8.8%	-1.112	-0.040
Term (259-280 days)	147	36.6%	97	35.7%	0.905	0.019
Post-Term (281-301 days)	68	16.9%	48	17.6%	-0.732	-0.019
Unknown Term	156	38.8%	103	37.9%	0.938	0.019
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.5	39.7	1.6	0.022	0.014
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-1.0	7.5	-1.5	10.4	0.418	0.046
Mean number of dispensings in first trimester	1.0	0.0	1.0	0.1	-0.012	-0.132
	Number	Percent	Number	Percent		
Exposed during first trimester	402	100.0%	272	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.8	2.2	1.8	2.3	0.052	0.023
	Number	Percent	Number	Percent		
Anxiety Disorders	83	20.6%	37	13.6%	7.044	0.188
Depressive Disorders	85	21.1%	57	21.0%	0.188	0.005
All other psychiatric and neurological conditions	64	15.9%	32	11.8%	4.156	0.121
Psychotropic medications	177	44.0%	99	36.4%	7.633	0.156
Obesity	44	10.9%	34	12.5%	-1.555	-0.048
Renal disease	38	9.5%	19	7.0%	2.467	0.090
Alcohol use or dependence	*****	*****	*****	*****	0.022	0.002
Diabetes	*****	*****	*****	*****	1.385	0.104
Drug abuse or dependence	13	3.2%	*****	*****	-0.443	-0.024

Table 1bw. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	58	14.4%	45	16.5%	-2.116	-0.059
Gestational Hypertension	51	12.7%	33	12.1%	0.554	0.017
Gestational Renal disease	*****	*****	*****	*****	-0.605	-0.068
Hypertension	20	5.0%	11	4.0%	0.931	0.045
Smoking	50	12.4%	30	11.0%	1.408	0.044
Number of dispensings in first trimester (0,90)						
One dispensing	402	100.0%	272	100.0%	0.000	NaN
Two or more dispensings	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Antihypertensive medications	28	7.0%	13	4.8%	2.186	0.093
Opioids	49	12.2%	25	9.2%	2.998	0.097
Suspected teratogens	65	16.2%	45	16.5%	-0.375	-0.010
Antidiabetic medications	15	3.7%	*****	*****	1.525	0.090
Buprenorphine	*****	*****	*****	*****	0.011	0.001
Insulin	*****	*****	*****	*****	0.508	0.051
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.0	3.1	4.0	1.290	0.254
Mean number of emergency room encounters	0.1	0.4	0.1	0.4	0.073	0.189
Mean number of inpatient hospital encounters	0.0	0.1	0.0	0.1	-0.001	-0.011
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	3.4	0.6	1.3	0.234	0.091

Table 1bw. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	5.9	5.4	5.2	4.5	0.615	0.124
Mean number of generics dispensed	3.7	2.9	3.3	2.6	0.374	0.135
Mean number of unique drug classes dispensed	3.6	2.7	3.2	2.5	0.354	0.137

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bx. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	195	N/A	197	N/A	N/A	N/A
Pregnancies	197	100.0%	197	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.0	4.6	32.2	5.0	-0.255	-0.053
Age	Number	Percent	Number	Percent		
10-34 years	153	77.7%	141	71.6%	6.091	0.140
35-54 years	44	22.3%	56	28.4%	-6.091	-0.140
Sex						
Female	197	100.0%	197	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	0	0.0%	0	0.0%	NaN	NaN
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	-0.508	-0.045
Multi-racial	*****	*****	*****	*****	0.508	0.058
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	179	90.9%	179	90.9%	0.000	0.000
White	*****	*****	*****	*****	0.000	0.000
Hispanic origin						
Yes	*****	*****	*****	*****	-1.523	-0.136
No	*****	*****	*****	*****	-0.508	-0.022
Unknown	185	93.9%	181	91.9%	2.030	0.079
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bx. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.000	0.000
2008	*****	*****	*****	*****	-0.508	-0.028
2009	13	6.6%	*****	*****	2.030	0.089
2010	16	8.1%	14	7.1%	1.015	0.038
2011	*****	*****	*****	*****	-1.015	-0.051
2012	12	6.1%	12	6.1%	0.000	0.000
2013	13	6.6%	12	6.1%	0.508	0.021
2014	12	6.1%	*****	*****	1.015	0.044
2015	15	7.6%	15	7.6%	0.000	0.000
2016	15	7.6%	16	8.1%	-0.508	-0.019
2017	14	7.1%	17	8.6%	-1.523	-0.057
2018	19	9.6%	19	9.6%	0.000	0.000
2019	13	6.6%	14	7.1%	-0.508	-0.020
2020	21	10.7%	20	10.2%	0.508	0.017
2021	*****	*****	*****	*****	-1.523	-0.080
2022	*****	*****	*****	*****	0.508	0.024

Table 1bx. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	17	8.6%	17	8.6%	0.000	0.000
Term (259-280 days)	68	34.5%	72	36.5%	-2.030	-0.042
Post-Term (281-301 days)	33	16.8%	34	17.3%	-0.508	-0.014
Unknown Term	79	40.1%	74	37.6%	2.538	0.052
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.7	1.7	39.8	1.4	-0.107	-0.070
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-0.7	6.6	-1.9	11.9	1.254	0.131
Mean number of dispensings in first trimester	1.0	0.1	1.0	0.1	-0.005	-0.058
	Number	Percent	Number	Percent		
Exposed during first trimester	197	100.0%	197	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.8	2.4	0.051	0.022
	Number	Percent	Number	Percent		
Anxiety Disorders	32	16.2%	28	14.2%	2.030	0.057
Depressive Disorders	33	16.8%	36	18.3%	-1.523	-0.040
All other psychiatric and neurological conditions	23	11.7%	25	12.7%	-1.015	-0.031
Psychotropic medications	72	36.5%	72	36.5%	0.000	0.000
Obesity	25	12.7%	26	13.2%	-0.508	-0.015
Renal disease	16	8.1%	13	6.6%	1.523	0.058
Alcohol use or dependence	*****	*****	*****	*****	0.000	0.000
Diabetes	0	0.0%	0	0.0%	NaN	NaN
Drug abuse or dependence	*****	*****	*****	*****	0.508	0.045

Table 1bx. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	30	15.2%	26	13.2%	2.030	0.058
Gestational Hypertension	25	12.7%	24	12.2%	0.508	0.015
Gestational Renal disease	0	0.0%	0	0.0%	NaN	NaN
Hypertension	*****	*****	*****	*****	-1.015	-0.051
Smoking	21	10.7%	21	10.7%	0.000	0.000
Number of dispensings in first trimester (0,90)						
One dispensing	197	100.0%	197	100.0%	0.000	NaN
Two or more dispensings	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Antihypertensive medications	*****	*****	*****	*****	-1.523	-0.075
Opioids	15	7.6%	14	7.1%	0.508	0.019
Suspected teratogens	35	17.8%	35	17.8%	0.000	0.000
Antidiabetic medications	*****	*****	*****	*****	0.508	0.034
Buprenorphine	*****	*****	0	0.0%	NaN	NaN
Insulin	0	0.0%	0	0.0%	NaN	NaN
Methadone	0	0.0%	0	0.0%	NaN	NaN
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	0	0.0%	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	3.8	3.7	3.3	4.3	0.503	0.125
Mean number of emergency room encounters	0.1	0.3	0.0	0.1	0.051	0.201
Mean number of inpatient hospital encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.6	1.0	0.6	1.4	-0.010	-0.009

Table 1bx. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	5.2	4.7	5.4	4.6	-0.162	-0.035
Mean number of generics dispensed	3.4	2.7	3.4	2.6	-0.030	-0.011
Mean number of unique drug classes dispensed	3.3	2.5	3.3	2.4	-0.015	-0.006

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1by. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	394	N/A	537	N/A	N/A	N/A
Pregnancies	407	100.0%	537	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.4	4.8	32.1	4.8	0.320	0.067
Age	Number	Percent	Number	Percent		
10-34 years	291	71.5%	393	73.2%	-1.686	-0.038
35-54 years	116	28.5%	144	26.8%	1.686	0.038
Sex						
Female	407	100.0%	537	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	*****	*****	-0.685	-0.090
Asian	*****	*****	0	0.0%	NaN	NaN
Black or African American	*****	*****	31	5.8%	-3.316	-0.168
Multi-racial	*****	*****	*****	*****	0.111	0.010
Native Hawaiian or Other Pacific Islander	*****	*****	0	0.0%	NaN	NaN
Unknown	317	77.9%	411	76.5%	1.351	0.032
White	71	17.4%	84	15.6%	1.802	0.049
Hispanic origin						
Yes	*****	*****	*****	*****	0.238	0.026
No	*****	*****	*****	*****	-2.220	-0.059
Unknown	337	82.8%	434	80.8%	1.982	0.051
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1by. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	11	2.7%	*****	*****	1.399	0.100
2008	11	2.7%	*****	*****	0.282	0.018
2009	27	6.6%	29	5.4%	1.234	0.052
2010	19	4.7%	39	7.3%	-2.594	-0.110
2011	19	4.7%	37	6.9%	-2.222	-0.095
2012	26	6.4%	27	5.0%	1.360	0.059
2013	25	6.1%	26	4.8%	1.301	0.057
2014	20	4.9%	22	4.1%	0.817	0.039
2015	22	5.4%	30	5.6%	-0.181	-0.008
2016	40	9.8%	42	7.8%	2.007	0.071
2017	42	10.3%	65	12.1%	-1.785	-0.057
2018	32	7.9%	42	7.8%	0.041	0.002
2019	43	10.6%	50	9.3%	1.254	0.042
2020	34	8.4%	57	10.6%	-2.261	-0.077
2021	20	4.9%	30	5.6%	-0.673	-0.030
2022	16	3.9%	21	3.9%	0.021	0.001

Table 1by. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	40	9.8%	47	8.8%	1.076	0.037
Term (259-280 days)	152	37.3%	214	39.9%	-2.505	-0.051
Post-Term (281-301 days)	63	15.5%	79	14.7%	0.768	0.021
Unknown Term	152	37.3%	197	36.7%	0.661	0.014
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.6	39.6	1.7	-0.101	-0.061
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-14.5	29.0	-27.0	46.4	12.512	0.323
Mean number of dispensings in first trimester	2.6	0.9	2.9	1.0	-0.345	-0.355
	Number	Percent	Number	Percent		
Exposed during first trimester	407	100.0%	537	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	2.0	2.2	1.9	2.3	0.026	0.012
	Number	Percent	Number	Percent		
Anxiety Disorders	85	20.9%	124	23.1%	-2.207	-0.053
Depressive Disorders	110	27.0%	149	27.7%	-0.720	-0.016
All other psychiatric and neurological conditions	84	20.6%	114	21.2%	-0.590	-0.015
Psychotropic medications	220	54.1%	274	51.0%	3.030	0.061
Obesity	47	11.5%	65	12.1%	-0.556	-0.017
Renal disease	43	10.6%	55	10.2%	0.323	0.011
Alcohol use or dependence	*****	*****	*****	*****	-0.507	-0.046
Diabetes	*****	*****	*****	*****	-0.016	-0.001
Drug abuse or dependence	31	7.6%	34	6.3%	1.285	0.050

Table 1by. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	65	16.0%	83	15.5%	0.514	0.014
Gestational Hypertension	50	12.3%	87	16.2%	-3.916	-0.112
Gestational Renal disease	*****	*****	*****	*****	0.111	0.010
Hypertension	23	5.7%	32	6.0%	-0.308	-0.013
Smoking	61	15.0%	72	13.4%	1.580	0.045
Number of dispensings in first trimester (0,90)						
One dispensing	0	0.0%	0	0.0%	NaN	NaN
Two or more dispensings	407	100.0%	537	100.0%	0.000	NaN
Medical Product Use						
Antihypertensive medications	37	9.1%	63	11.7%	-2.641	-0.087
Opioids	54	13.3%	81	15.1%	-1.816	-0.052
Suspected teratogens	70	17.2%	97	18.1%	-0.864	-0.023
Antidiabetic medications	15	3.7%	20	3.7%	-0.039	-0.002
Buprenorphine	13	3.2%	12	2.2%	0.959	0.059
Insulin	*****	*****	*****	*****	0.111	0.010
Methadone	*****	*****	*****	*****	0.059	0.013
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	*****	*****	0.119	0.018
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	4.4	6.3	3.3	3.9	1.132	0.216
Mean number of emergency room encounters	0.1	0.5	0.1	0.4	0.059	0.134
Mean number of inpatient hospital encounters	0.0	0.2	0.0	0.1	0.003	0.022
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.8	1.8	0.6	1.6	0.211	0.124

Table 1by. Aggregated Unadjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.7	6.5	8.7	6.8	-0.002	-0.000
Mean number of generics dispensed	4.6	3.2	4.2	3.3	0.397	0.122
Mean number of unique drug classes dispensed	4.5	2.9	4.1	3.0	0.382	0.128

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1bz. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
Mother Characteristics ^{2,3,4}	Number	Percent	Number	Percent		
Patients	305	N/A	313	N/A	N/A	N/A
Pregnancies	313	100.0%	313	100.0%	N/A	N/A
Demographic Characteristics	Mean	Standard Deviation	Mean	Standard Deviation		
Age (years)	32.2	4.9	32.2	4.8	-0.034	-0.007
Age	Number	Percent	Number	Percent		
10-34 years	233	74.4%	228	72.8%	1.597	0.036
35-54 years	80	25.6%	85	27.2%	-1.597	-0.036
Sex						
Female	313	100.0%	313	100.0%	0.000	NaN
Race ⁵						
American Indian or Alaska Native	*****	*****	0	0.0%	NaN	NaN
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	*****	*****	*****	*****	0.639	0.040
Multi-racial	*****	*****	*****	*****	-0.639	-0.057
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	NaN	NaN
Unknown	250	79.9%	253	80.8%	-0.958	-0.024
White	50	16.0%	48	15.3%	0.639	0.018
Hispanic origin						
Yes	*****	*****	*****	*****	0.000	0.000
No	*****	*****	*****	*****	0.319	0.009
Unknown	260	83.1%	261	83.4%	-0.319	-0.009
Year						
2000	0	0.0%	0	0.0%	NaN	NaN
2001	0	0.0%	0	0.0%	NaN	NaN
2002	0	0.0%	0	0.0%	NaN	NaN

Table 1bz. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
2003	0	0.0%	0	0.0%	NaN	NaN
2004	0	0.0%	0	0.0%	NaN	NaN
2005	0	0.0%	0	0.0%	NaN	NaN
2006	0	0.0%	0	0.0%	NaN	NaN
2007	*****	*****	*****	*****	0.319	0.021
2008	*****	*****	*****	*****	0.319	0.019
2009	19	6.1%	22	7.0%	-0.958	-0.039
2010	18	5.8%	14	4.5%	1.278	0.058
2011	17	5.4%	13	4.2%	1.278	0.060
2012	17	5.4%	22	7.0%	-1.597	-0.066
2013	16	5.1%	18	5.8%	-0.639	-0.028
2014	16	5.1%	14	4.5%	0.639	0.030
2015	21	6.7%	20	6.4%	0.319	0.013
2016	32	10.2%	28	8.9%	1.278	0.043
2017	36	11.5%	33	10.5%	0.958	0.031
2018	20	6.4%	22	7.0%	-0.639	-0.026
2019	30	9.6%	29	9.3%	0.319	0.011
2020	27	8.6%	33	10.5%	-1.917	-0.065
2021	14	4.5%	15	4.8%	-0.319	-0.015
2022	12	3.8%	14	4.5%	-0.639	-0.032

Table 1bz. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Pregnancy Characteristics						
Pre-Term (0-258 days)	31	9.9%	25	8.0%	1.917	0.067
Term (259-280 days)	114	36.4%	125	39.9%	-3.514	-0.072
Post-Term (281-301 days)	51	16.3%	46	14.7%	1.597	0.044
Unknown Term	117	37.4%	117	37.4%	0.000	0.000
	Mean	Standard Deviation	Mean	Standard Deviation		
Gestational age ⁶ at delivery (weeks)	39.5	1.6	39.7	1.5	-0.157	-0.100
Exposure Characteristics						
Gestational age ⁶ of first exposure (weeks)	-15.3	31.2	-27.7	48.7	12.412	0.303
Mean number of dispensings in first trimester	2.6	0.9	2.9	1.0	-0.371	-0.388
	Number	Percent	Number	Percent		
Exposed during first trimester	313	100.0%	313	100.0%	0.000	NaN
Health Characteristics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Obstetric comorbidity score	1.9	2.2	1.9	2.2	-0.045	-0.020
	Number	Percent	Number	Percent		
Anxiety Disorders	65	20.8%	64	20.4%	0.319	0.008
Depressive Disorders	83	26.5%	86	27.5%	-0.958	-0.022
All other psychiatric and neurological conditions	53	16.9%	54	17.3%	-0.319	-0.008
Psychotropic medications	160	51.1%	167	53.4%	-2.236	-0.045
Obesity	32	10.2%	38	12.1%	-1.917	-0.061
Renal disease	33	10.5%	24	7.7%	2.875	0.100
Alcohol use or dependence	*****	*****	*****	*****	0.319	0.036
Diabetes	*****	*****	*****	*****	-0.958	-0.091
Drug abuse or dependence	19	6.1%	18	5.8%	0.319	0.014

Table 1bz. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Number	Percent	Number	Percent		
Gestational Diabetes	48	15.3%	56	17.9%	-2.556	-0.069
Gestational Hypertension	38	12.1%	40	12.8%	-0.639	-0.019
Gestational Renal disease	*****	*****	*****	*****	-0.319	-0.030
Hypertension	16	5.1%	18	5.8%	-0.639	-0.028
Smoking	44	14.1%	44	14.1%	0.000	0.000
Number of dispensings in first trimester (0,90)						
One dispensing	0	0.0%	0	0.0%	NaN	NaN
Two or more dispensings	313	100.0%	313	100.0%	0.000	NaN
Medical Product Use						
Antihypertensive medications	28	8.9%	32	10.2%	-1.278	-0.043
Opioids	44	14.1%	44	14.1%	0.000	0.000
Suspected teratogens	51	16.3%	45	14.4%	1.917	0.053
Antidiabetic medications	*****	*****	*****	*****	-0.958	-0.059
Buprenorphine	*****	*****	*****	*****	0.000	0.000
Insulin	*****	*****	*****	*****	-0.639	-0.080
Methadone	*****	*****	*****	*****	0.000	0.000
Naloxone	0	0.0%	0	0.0%	NaN	NaN
Naltrexone	*****	*****	0	0.0%	NaN	NaN
Health Service Utilization Intensity Metrics						
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	3.9	4.1	3.0	3.7	0.955	0.245
Mean number of emergency room encounters	0.1	0.4	0.1	0.3	0.061	0.159
Mean number of inpatient hospital encounters	0.0	NaN	0.0	0.1	NaN	NaN
Mean number of non-acute institutional encounters	0.0	NaN	0.0	NaN	NaN	NaN
Mean number of other ambulatory encounters	0.9	2.0	0.6	1.7	0.208	0.111

Table 1bz. Aggregated Adjusted Characteristics of Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings¹

	Medical Product				Covariate Balance	
	Modafinil/Armodafinil		Amphetamines		Absolute Difference	Standardized Difference
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of filled prescriptions	8.2	6.0	8.5	6.5	-0.355	-0.057
Mean number of generics dispensed	4.4	2.9	4.1	3.0	0.284	0.097
Mean number of unique drug classes dispensed	4.3	2.7	4.0	2.8	0.265	0.097

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

²Covariates in blue show a standardized difference greater than 0.1.

³Baseline period in reference to user-defined index date (start of first valid exposed pregnancy resulting in live birth delivery, exposure date, or delivery date).

⁴All metrics are based on total number of episodes per cohort, except for sex and race, which are based on total number of unique patients; each baseline characteristic table represents one cohort.

⁵Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

⁶Gestational age estimated using a claims-based algorithm, previously validated in the Medication Exposure in Pregnancy Risk Evaluation Program (MEPREP), to identify pregnancies ending in a live birth. ICD-10-CM diagnosis codes indicative of weeks of gestation, and ICD-9-CM and ICD-10-CM diagnosis codes for pre-term and post-term deliveries, were used to calculate the length of the pregnancy episode. Codes had to occur within 7 days of a delivery date in the inpatient setting. In absence of pre-/post-term codes, pregnancy duration was set to 273 days.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 2a. Effect Estimates for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Site-Adjusted Analysis					
Modafinil/Armodafinil	813	37	45.51	3.25	1.04 (0.76, 1.43)
Unexposed	3,981,491	168,262	42.26		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	813	37	45.51	-3.69	0.93 (0.68, 1.26)
Unexposed	813	40	49.20		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	813	37	45.51	-3.69	0.93 (0.60, 1.43)
Unexposed	813	40	49.20		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

Table 2b. Effect Estimates for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type and Age Group¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference	
				per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Non-Cardiac for the Modafinil or Armodafinil and Unexposed					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	813	37	45.51	3.25	1.04 (0.76, 1.43)
Unexposed	3,981,491	168,262	42.26		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	813	37	45.51	-3.69	0.93 (0.68, 1.26)
Unexposed	813	40	49.20		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	813	37	45.51	-3.69	0.93 (0.60, 1.43)
Unexposed	813	40	49.20		
Non-Cardiac for the Modafinil or Armodafinil and Unexposed, Age Group: 10-34 years					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	604	29	48.01	-7.16	0.87 (0.53, 1.41)
Unexposed	580	32	55.17		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	469	27	57.57	10.66	1.23 (0.83, 1.82)
Unexposed	469	22	46.91		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	469	27	57.57	10.66	1.23 (0.71, 2.12)
Unexposed	469	22	46.91		
Non-Cardiac for the Modafinil or Armodafinil and Unexposed, Age Group: 35-54 years					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	209	*****	38.28	3.94	1.10 (0.42, 2.87)
Unexposed	233	*****	34.33		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	116	*****	51.72	8.62	1.20 (0.52, 2.79)
Unexposed	116	*****	43.10		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	116	*****	51.72	8.62	1.20 (0.38, 3.82)
Unexposed	116	*****	43.10		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 3a. Effect Estimates for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Site-Adjusted Analysis					
Modafinil/Armodafinil	813	37	45.51	-10.26	0.75 (0.54, 1.05)
Methylphenidate	5,630	314	55.77		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	798	36	45.11	-22.56	0.67 (0.50, 0.89)
Methylphenidate	798	54	67.67		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	798	36	45.11	-22.56	0.67 (0.44, 1.00)
Methylphenidate	798	54	67.67		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

Table 3b. Effect Estimates for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type and Age Group¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference	Risk Ratio (95% Confidence Interval)
				per 1,000 Pregnant Patients	
Non-Cardiac for the Modafinil or Armodafinil and Methylphenidate					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	813	37	45.51	-10.26	0.75 (0.54, 1.05)
Methylphenidate	5,630	314	55.77		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	798	36	45.11	-22.56	0.67 (0.50, 0.89)
Methylphenidate	798	54	67.67		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	798	36	45.11	-22.56	0.67 (0.44, 1.00)
Methylphenidate	798	54	67.67		
Non-Cardiac for the Modafinil or Armodafinil and Methylphenidate, Age Group: 10-34 years					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	602	29	48.17	-21.64	0.69 (0.43, 1.09)
Methylphenidate	573	40	69.81		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	455	24	52.75	-13.19	0.80 (0.55, 1.16)
Methylphenidate	455	30	65.93		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	455	24	52.75	-13.19	0.80 (0.48, 1.34)
Methylphenidate	455	30	65.93		
Non-Cardiac for the Modafinil or Armodafinil and Methylphenidate, Age Group: 35-54 years					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	196	*****	35.71	-26.51	0.56 (0.23, 1.34)
Methylphenidate	225	14	62.22		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	106	*****	37.74	-37.74	0.50 (0.20, 1.22)
Methylphenidate	106	*****	75.47		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	106	*****	37.74	-37.74	0.50 (0.16, 1.60)
Methylphenidate	106	*****	75.47		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 3c. Effect Estimates for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type and Dispensings¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference	Risk Ratio (95% Confidence Interval)
				per 1,000 Pregnant Patients	
Non-Cardiac for the Modafinil or Armodafinil and Methylphenidate					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	813	37	45.51	-10.26	0.75 (0.54, 1.05)
Methylphenidate	5,630	314	55.77		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	798	36	45.11	-22.56	0.67 (0.50, 0.89)
Methylphenidate	798	54	67.67		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	798	36	45.11	-22.56	0.67 (0.44, 1.00)
Methylphenidate	798	54	67.67		
Non-Cardiac for the Modafinil or Armodafinil and Methylphenidate, One Dispensing					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	397	20	50.38	-33.66	0.58 (0.34, 1.01)
Methylphenidate	357	30	84.03		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	277	15	54.15	-25.27	0.68 (0.43, 1.08)
Methylphenidate	277	22	79.42		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	277	15	54.15	-25.27	0.68 (0.36, 1.28)
Methylphenidate	277	22	79.42		
Non-Cardiac for the Modafinil or Armodafinil and Methylphenidate, Two or More Dispensings					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	401	16	39.90	-14.52	0.73 (0.40, 1.36)
Methylphenidate	441	24	54.42		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	301	11	36.54	-3.32	0.92 (0.54, 1.55)
Methylphenidate	301	12	39.87		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	301	11	36.54	-3.32	0.92 (0.41, 2.04)
Methylphenidate	301	12	39.87		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

Table 4a. Effect Estimates for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Site-Adjusted Analysis					
Modafinil/Armodafinil	813	37	45.51	-4.00	0.90 (0.65, 1.23)
Amphetamines	40,621	2,011	49.51		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	809	36	44.50	3.71	1.09 (0.78, 1.52)
Amphetamines	809	33	40.79		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	809	36	44.50	3.71	1.09 (0.69, 1.73)
Amphetamines	809	33	40.79		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

Table 4b. Effect Estimates for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type and Age Group¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference	
				per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Non-Cardiac for the Modafinil or Armodafinil and Amphetamines					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	813	37	45.51	-4.00	0.90 (0.65, 1.23)
Amphetamines	40,621	2,011	49.51		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	809	36	44.50	3.71	1.09 (0.78, 1.52)
Amphetamines	809	33	40.79		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	809	36	44.50	3.71	1.09 (0.69, 1.73)
Amphetamines	809	33	40.79		
Non-Cardiac for the Modafinil or Armodafinil and Amphetamines, Age Group: 10-34 years					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	603	29	48.09	7.55	1.19 (0.70, 2.01)
Amphetamines	592	24	40.54		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	472	24	50.85	14.83	1.41 (0.90, 2.20)
Amphetamines	472	17	36.02		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	472	24	50.85	14.83	1.41 (0.77, 2.59)
Amphetamines	472	17	36.02		
Non-Cardiac for the Modafinil or Armodafinil and Amphetamines, Age Group: 35-54 years					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	206	*****	33.98	-7.49	0.82 (0.31, 2.16)
Amphetamines	217	*****	41.47		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	102	*****	49.02	29.41	2.50 (0.71, 8.83)
Amphetamines	102	*****	19.61		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	102	*****	49.02	29.41	2.50 (0.50, 12.59)
Amphetamines	102	*****	19.61		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 4c. Effect Estimates for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type and Dispensings¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference	Risk Ratio (95% Confidence Interval)
				per 1,000 Pregnant Patients	
Non-Cardiac for the Modafinil or Armodafinil and Amphetamines					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	813	37	45.51	-4.00	0.90 (0.65, 1.23)
Amphetamines	40,621	2,011	49.51		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	809	36	44.50	3.71	1.09 (0.78, 1.52)
Amphetamines	809	33	40.79		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	809	36	44.50	3.71	1.09 (0.69, 1.73)
Amphetamines	809	33	40.79		
Non-Cardiac for the Modafinil or Armodafinil and Amphetamines, One Dispensing					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	402	20	49.75	12.99	1.33 (0.62, 2.84)
Amphetamines	272	*****	36.76		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	197	*****	50.76	5.08	1.11 (0.63, 1.96)
Amphetamines	197	*****	45.69		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	197	*****	50.76	5.08	1.11 (0.46, 2.67)
Amphetamines	197	*****	45.69		
Non-Cardiac for the Modafinil or Armodafinil and Amphetamines, Two or More Dispensings					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	407	16	39.31	-3.52	0.92 (0.49, 1.72)
Amphetamines	537	23	42.83		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	313	13	41.53	-9.58	0.81 (0.48, 1.37)
Amphetamines	313	16	51.12		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	313	13	41.53	-9.58	0.81 (0.40, 1.65)
Amphetamines	313	16	51.12		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 5a. Effect Estimates for Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Site-Adjusted Analysis					
Modafinil/Armodafinil	813	*****	8.61	2.86	1.50 (0.72, 3.14)
Unexposed	3,981,491	22,876	5.75		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	813	*****	8.61	1.23	1.17 (0.54, 2.53)
Unexposed	813	*****	7.38		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	813	*****	8.61	1.23	1.17 (0.39, 3.46)
Unexposed	813	*****	7.38		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 5b. Effect Estimates for Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type and Age Group¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference		Risk Ratio (95% Confidence Interval)
				per 1,000 Pregnant Patients		
Urinary for the Modafinil or Armodafinil and Unexposed						
<i>Site-Adjusted Analysis</i>						
Modafinil/Armodafinil	813	*****	8.61			
Unexposed	3,981,491	22,876	5.75	2.86		1.50 (0.72, 3.14)
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>						
Modafinil/Armodafinil	813	*****	8.61			
Unexposed	813	*****	7.38	1.23		1.17 (0.54, 2.53)
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>						
Modafinil/Armodafinil	813	*****	8.61			
Unexposed	813	*****	7.38	1.23		1.17 (0.39, 3.46)
Urinary for the Modafinil or Armodafinil and Unexposed, Age Group: 10-34 years						
<i>Site-Adjusted Analysis</i>						
Modafinil/Armodafinil	604	*****	9.93			
Unexposed	580	*****	6.90	3.04		1.43 (0.41, 4.99)
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>						
Modafinil/Armodafinil	469	*****	10.66			
Unexposed	469	*****	6.40	4.26		1.67 (0.59, 4.73)
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>						
Modafinil/Armodafinil	469	*****	10.66			
Unexposed	469	*****	6.40	4.26		1.67 (0.40, 6.92)
Urinary for the Modafinil or Armodafinil and Unexposed, Age Group: 35-54 years						
<i>Site-Adjusted Analysis</i>						
Modafinil/Armodafinil	209	*****	4.78			
Unexposed	233	*****	8.58	-3.80		0.56 (0.05, 5.85)
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>						
Modafinil/Armodafinil	116	0	0.00			
Unexposed	116	*****	17.24	-17.24		NaN
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>						
Modafinil/Armodafinil	116	0	0.00			
Unexposed	116	*****	17.24	-17.24		NaN

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 6a. Effect Estimates for Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Site-Adjusted Analysis					
Modafinil/Armodafinil	813	*****	8.61	3.81	1.65 (0.72, 3.75)
Methylphenidate	5,630	27	4.80		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	798	*****	7.52	2.51	1.50 (0.60, 3.74)
Methylphenidate	798	*****	5.01		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	798	*****	7.52	2.51	1.50 (0.43, 5.29)
Methylphenidate	798	*****	5.01		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 6b. Effect Estimates for Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type and Age Group¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference	
				per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Urinary for the Modafinil or Armodafinil and Methylphenidate					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	813	*****	8.61	3.81	1.65 (0.72, 3.75)
Methylphenidate	5,630	27	4.80		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	798	*****	7.52	2.51	1.50 (0.60, 3.74)
Methylphenidate	798	*****	5.01		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	798	*****	7.52	2.51	1.50 (0.43, 5.29)
Methylphenidate	798	*****	5.01		
Urinary for the Modafinil or Armodafinil and Methylphenidate, Age Group: 10-34 years					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	602	*****	9.97	6.48	2.83 (0.57, 13.98)
Methylphenidate	573	*****	3.49		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	455	*****	10.99	10.99	NaN
Methylphenidate	455	0	0.00		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	455	*****	10.99	10.99	NaN
Methylphenidate	455	0	0.00		
Urinary for the Modafinil or Armodafinil and Methylphenidate, Age Group: 35-54 years					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	196	0	0.00	-8.89	NaN
Methylphenidate	225	*****	8.89		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	106	0	0.00	-9.43	NaN
Methylphenidate	106	*****	9.43		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	106	0	0.00	-9.43	NaN
Methylphenidate	106	*****	9.43		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 6c. Effect Estimates for Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type and Dispensing¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference	
				per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Urinary for the Modafinil or Armodafinil and Methylphenidate					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	813	*****	8.61	3.81	1.65 (0.72, 3.75)
Methylphenidate	5,630	27	4.80		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	798	*****	7.52	2.51	1.50 (0.60, 3.74)
Methylphenidate	798	*****	5.01		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	798	*****	7.52	2.51	1.50 (0.43, 5.29)
Methylphenidate	798	*****	5.01		
Urinary for the Modafinil or Armodafinil and Methylphenidate, One Dispensing					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	397	*****	12.59	6.99	2.16 (0.43, 10.99)
Methylphenidate	357	*****	5.60		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	277	*****	14.44	14.44	NaN
Methylphenidate	277	0	0.00		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	277	*****	14.44	14.44	NaN
Methylphenidate	277	0	0.00		
Urinary for the Modafinil or Armodafinil and Methylphenidate, Two or More Dispensings					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	401	*****	2.49	-2.04	0.57 (0.05, 6.49)
Methylphenidate	441	*****	4.54		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	301	*****	3.32	3.32	NaN
Methylphenidate	301	0	0.00		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	301	*****	3.32	3.32	NaN
Methylphenidate	301	0	0.00		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 7a. Effect Estimates for Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Site-Adjusted Analysis					
Modafinil/Armodafinil	813	*****	8.61	2.53	1.43 (0.68, 3.01)
Amphetamines	40,621	247	6.08		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	809	*****	7.42	2.47	1.50 (0.60, 3.74)
Amphetamines	809	*****	4.94		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	809	*****	7.42	2.47	1.50 (0.43, 5.28)
Amphetamines	809	*****	4.94		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 7b. Effect Estimates for Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type and Age Group¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference	
				per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Urinary for the Modafinil or Armodafinil and Amphetamines					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	813	*****	8.61	2.53	1.43 (0.68, 3.01)
Amphetamines	40,621	247	6.08		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	809	*****	7.42	2.47	1.50 (0.60, 3.74)
Amphetamines	809	*****	4.94		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	809	*****	7.42	2.47	1.50 (0.43, 5.28)
Amphetamines	809	*****	4.94		
Urinary for the Modafinil or Armodafinil and Amphetamines, Age Group: 10-34 years					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	603	*****	9.95	6.57	2.93 (0.59, 14.41)
Amphetamines	592	*****	3.38		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	472	*****	10.59	6.36	2.50 (0.71, 8.83)
Amphetamines	472	*****	4.24		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	472	*****	10.59	6.36	2.50 (0.49, 12.79)
Amphetamines	472	*****	4.24		
Urinary for the Modafinil or Armodafinil and Amphetamines, Age Group: 35-54 years					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	206	0	0.00	-9.22	NaN
Amphetamines	217	*****	9.22		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	102	0	0.00	-19.61	NaN
Amphetamines	102	*****	19.61		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	102	0	0.00	-19.61	NaN
Amphetamines	102	*****	19.61		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 7c. Effect Estimates for Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type and Dispensing¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference	Risk Ratio (95% Confidence Interval)
				per 1,000 Pregnant Patients	
Urinary for the Modafinil or Armodafinil and Amphetamines					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	813	*****	8.61	2.53	1.43 (0.68, 3.01)
Amphetamines	40,621	247	6.08		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	809	*****	7.42	2.47	1.50 (0.60, 3.74)
Amphetamines	809	*****	4.94		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	809	*****	7.42	2.47	1.50 (0.43, 5.28)
Amphetamines	809	*****	4.94		
Urinary for the Modafinil or Armodafinil and Amphetamines, One Dispensing					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	402	*****	12.44	5.08	1.83 (0.36, 9.19)
Amphetamines	272	*****	7.35		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	197	*****	5.08	-5.08	0.50 (0.08, 2.99)
Amphetamines	197	*****	10.15		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	197	*****	5.08	-5.08	0.50 (0.05, 5.46)
Amphetamines	197	*****	10.15		
Urinary for the Modafinil or Armodafinil and Amphetamines, Two or More Dispensings					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	407	*****	2.46	-1.27	0.66 (0.06, 7.68)
Amphetamines	537	*****	3.72		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	313	*****	3.19	-3.19	0.50 (0.08, 2.99)
Amphetamines	313	*****	6.39		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	313	*****	3.19	-3.19	0.50 (0.05, 5.45)
Amphetamines	313	*****	6.39		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 8a. Effect Estimates for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference	Risk Ratio (95% Confidence Interval)
				per 1,000 Pregnant Patients	
Site-Adjusted Analysis					
Modafinil/Armodafinil	813	*****	9.84	-0.01	0.91 (0.46, 1.81)
Unexposed	3,981,491	39,221	9.85		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	813	*****	9.84	-3.69	0.73 (0.38, 1.40)
Unexposed	813	11	13.53		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	813	*****	9.84	-3.69	0.73 (0.29, 1.80)
Unexposed	813	11	13.53		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 8b. Effect Estimates for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type and Age Group¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference	
				per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Musculoskeletal for the Modafinil or Armodafinil and Unexposed					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	813	*****	9.84	-0.01	0.91 (0.46, 1.81)
Unexposed	3,981,491	39,221	9.85		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	813	*****	9.84	-3.69	0.73 (0.38, 1.40)
Unexposed	813	11	13.53		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	813	*****	9.84	-3.69	0.73 (0.29, 1.80)
Unexposed	813	11	13.53		
Musculoskeletal for the Modafinil or Armodafinil and Unexposed, Age Group: 10-34 years					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	604	*****	13.25	-4.00	0.77 (0.31, 1.93)
Unexposed	580	*****	17.24		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	469	*****	17.06	4.26	1.33 (0.63, 2.84)
Unexposed	469	*****	12.79		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	469	*****	17.06	4.26	1.33 (0.47, 3.81)
Unexposed	469	*****	12.79		
Musculoskeletal for the Modafinil or Armodafinil and Unexposed, Age Group: 35-54 years					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	209	0	0.00	-4.29	NaN
Unexposed	233	*****	4.29		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	116	0	0.00	-8.62	NaN
Unexposed	116	*****	8.62		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	116	0	0.00	-8.62	NaN
Unexposed	116	*****	8.62		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 9a. Effect Estimates for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Site-Adjusted Analysis					
Modafinil/Armodafinil	813	*****	9.84	-6.50	0.54 (0.26, 1.11)
Methylphenidate	5,630	92	16.34		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	798	*****	10.03	-10.03	0.50 (0.27, 0.92)
Methylphenidate	798	16	20.05		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	798	*****	10.03	-10.03	0.50 (0.22, 1.16)
Methylphenidate	798	16	20.05		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 9b. Effect Estimates for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type and Age Group¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference	
				per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Musculoskeletal for the Modafinil or Armodafinil and Methylphenidate					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	813	*****	9.84	-6.50	0.54 (0.26, 1.11)
Methylphenidate	5,630	92	16.34		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	798	*****	10.03	-10.03	0.50 (0.27, 0.92)
Methylphenidate	798	16	20.05		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	798	*****	10.03	-10.03	0.50 (0.22, 1.16)
Methylphenidate	798	16	20.05		
Musculoskeletal for the Modafinil or Armodafinil and Methylphenidate, Age Group: 10-34 years					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	602	*****	13.29	-7.65	0.63 (0.26, 1.54)
Methylphenidate	573	12	20.94		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	455	*****	15.38	-8.79	0.64 (0.32, 1.26)
Methylphenidate	455	11	24.18		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	455	*****	15.38	-8.79	0.64 (0.25, 1.62)
Methylphenidate	455	11	24.18		
Musculoskeletal for the Modafinil or Armodafinil and Methylphenidate, Age Group: 35-54 years					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	196	0	0.00	-17.78	NaN
Methylphenidate	225	*****	17.78		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	106	0	0.00	-28.30	NaN
Methylphenidate	106	*****	28.30		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	106	0	0.00	-28.30	NaN
Methylphenidate	106	*****	28.30		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 9c. Effect Estimates for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type and Dispensing¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Musculoskeletal for the Modafinil or Armodafinil and Methylphenidate					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	813	*****	9.84	-6.50	0.54 (0.26, 1.11)
Methylphenidate	5,630	92	16.34		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	798	*****	10.03	-10.03	0.50 (0.27, 0.92)
Methylphenidate	798	16	20.05		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	798	*****	10.03	-10.03	0.50 (0.22, 1.16)
Methylphenidate	798	16	20.05		
Musculoskeletal for the Modafinil or Armodafinil and Methylphenidate, One Dispensing					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	397	*****	10.08	-9.53	0.49 (0.14, 1.70)
Methylphenidate	357	*****	19.61		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	277	*****	14.44	-7.22	0.67 (0.27, 1.66)
Methylphenidate	277	*****	21.66		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	277	*****	14.44	-7.22	0.67 (0.19, 2.33)
Methylphenidate	277	*****	21.66		
Musculoskeletal for the Modafinil or Armodafinil and Methylphenidate, Two or More Dispensings					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	401	*****	9.98	-10.43	0.48 (0.15, 1.55)
Methylphenidate	441	*****	20.41		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	301	*****	6.64	0.00	1.00 (0.25, 4.00)
Methylphenidate	301	*****	6.64		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	301	*****	6.64	0.00	1.00 (0.14, 7.04)
Methylphenidate	301	*****	6.64		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 10a. Effect Estimates for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Site-Adjusted Analysis					
Modafinil/Armodafinil	813	*****	9.84	-1.90	0.76 (0.38, 1.53)
Amphetamines	40,621	477	11.74		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	809	*****	9.89	-1.24	0.89 (0.45, 1.75)
Amphetamines	809	*****	11.12		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05					
Modafinil/Armodafinil	809	*****	9.89	-1.24	0.89 (0.34, 2.29)
Amphetamines	809	*****	11.12		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 10b. Effect Estimates for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type and Age Group¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference	
				per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Musculoskeletal for the Modafinil or Armodafinil and Amphetamines					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	813	*****	9.84	-1.90	0.76 (0.38, 1.53)
Amphetamines	40,621	477	11.74		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	809	*****	9.89	-1.24	0.89 (0.45, 1.75)
Amphetamines	809	*****	11.12		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	809	*****	9.89	-1.24	0.89 (0.34, 2.29)
Amphetamines	809	*****	11.12		
Musculoskeletal for the Modafinil or Armodafinil and Amphetamines, Age Group: 10-34 years					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	603	*****	13.27	-0.25	0.98 (0.37, 2.59)
Amphetamines	592	*****	13.51		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	472	*****	12.71	0.00	1.00 (0.45, 2.23)
Amphetamines	472	*****	12.71		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	472	*****	12.71	0.00	1.00 (0.33, 3.07)
Amphetamines	472	*****	12.71		
Musculoskeletal for the Modafinil or Armodafinil and Amphetamines, Age Group: 35-54 years					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	206	0	0.00	-4.61	NaN
Amphetamines	217	*****	4.61		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	102	0	0.00	0.00	NaN
Amphetamines	102	0	0.00		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	102	0	0.00	0.00	NaN
Amphetamines	102	0	0.00		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 10c. Effect Estimates for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, by Analysis Type and Dispensing¹

Medical Product	Number of Pregnant Patients	Number of Events	Risk per 1,000 Pregnant Patients	Risk Difference	
				per 1,000 Pregnant Patients	Risk Ratio (95% Confidence Interval)
Musculoskeletal for the Modafinil or Armodafinil and Amphetamines					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	813	*****	9.84	-1.90	0.76 (0.38, 1.53)
Amphetamines	40,621	477	11.74		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	809	*****	9.89	-1.24	0.89 (0.45, 1.75)
Amphetamines	809	*****	11.12		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	809	*****	9.89	-1.24	0.89 (0.34, 2.29)
Amphetamines	809	*****	11.12		
Musculoskeletal for the Modafinil or Armodafinil and Amphetamines, One Dispensing					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	402	*****	9.95	2.60	1.21 (0.21, 6.97)
Amphetamines	272	*****	7.35		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	197	*****	15.23	5.08	1.50 (0.55, 4.08)
Amphetamines	197	*****	10.15		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	197	*****	15.23	5.08	1.50 (0.26, 8.68)
Amphetamines	197	*****	10.15		
Musculoskeletal for the Modafinil or Armodafinil and Amphetamines, Two or More Dispensings					
<i>Site-Adjusted Analysis</i>					
Modafinil/Armodafinil	407	*****	9.83	-3.21	0.74 (0.22, 2.51)
Amphetamines	537	*****	13.04		
<i>Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	313	*****	12.78	-6.39	0.67 (0.27, 1.66)
Amphetamines	313	*****	19.17		
<i>Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05</i>					
Modafinil/Armodafinil	313	*****	12.78	-6.39	0.67 (0.19, 2.33)
Amphetamines	313	*****	19.17		

¹Pregnancy is defined as a pregnancy that resulted in a live birth delivery identified using the method specified in the overview section of this report.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Figure 1a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Unadjusted Propensity Score Distribution

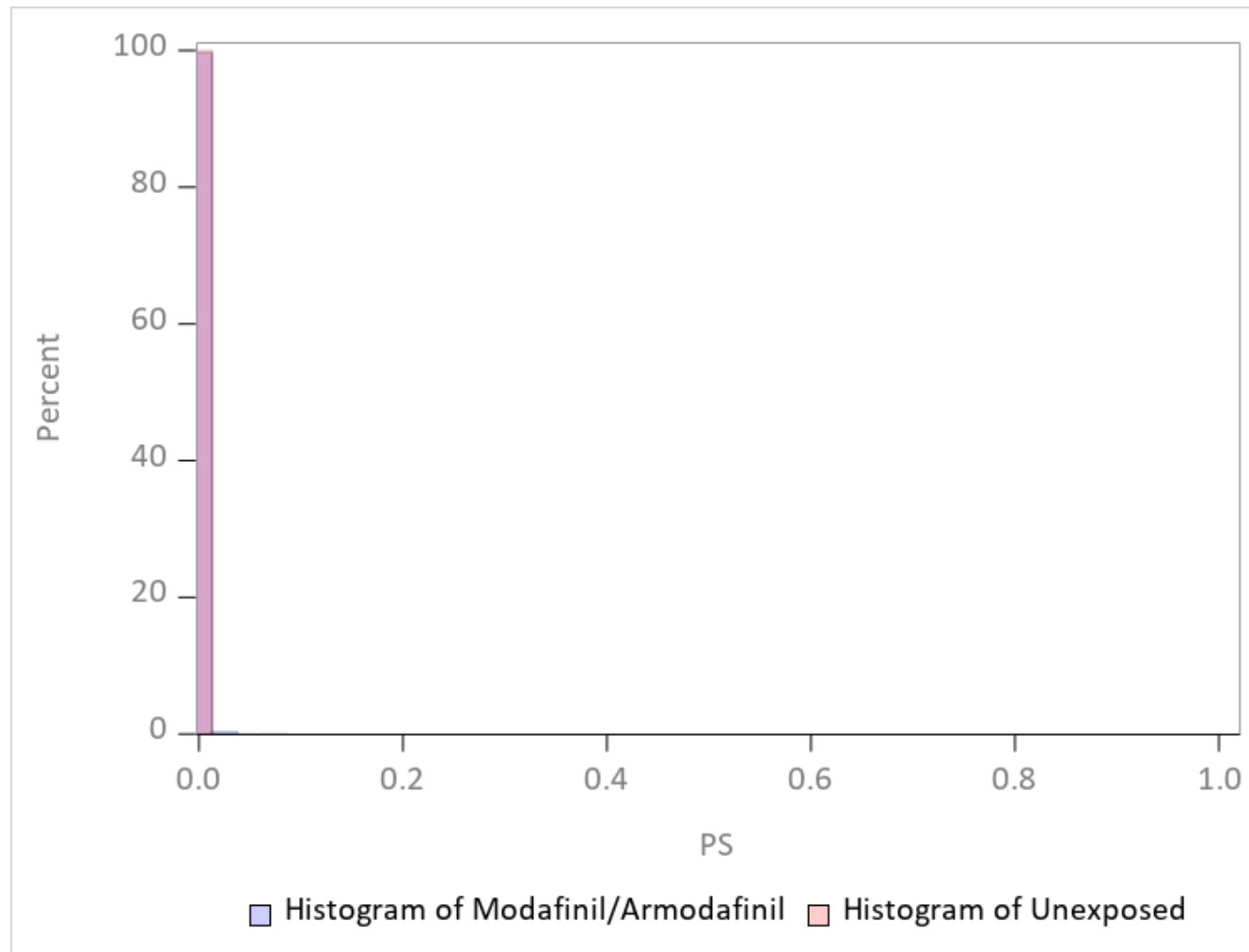


Figure 1a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

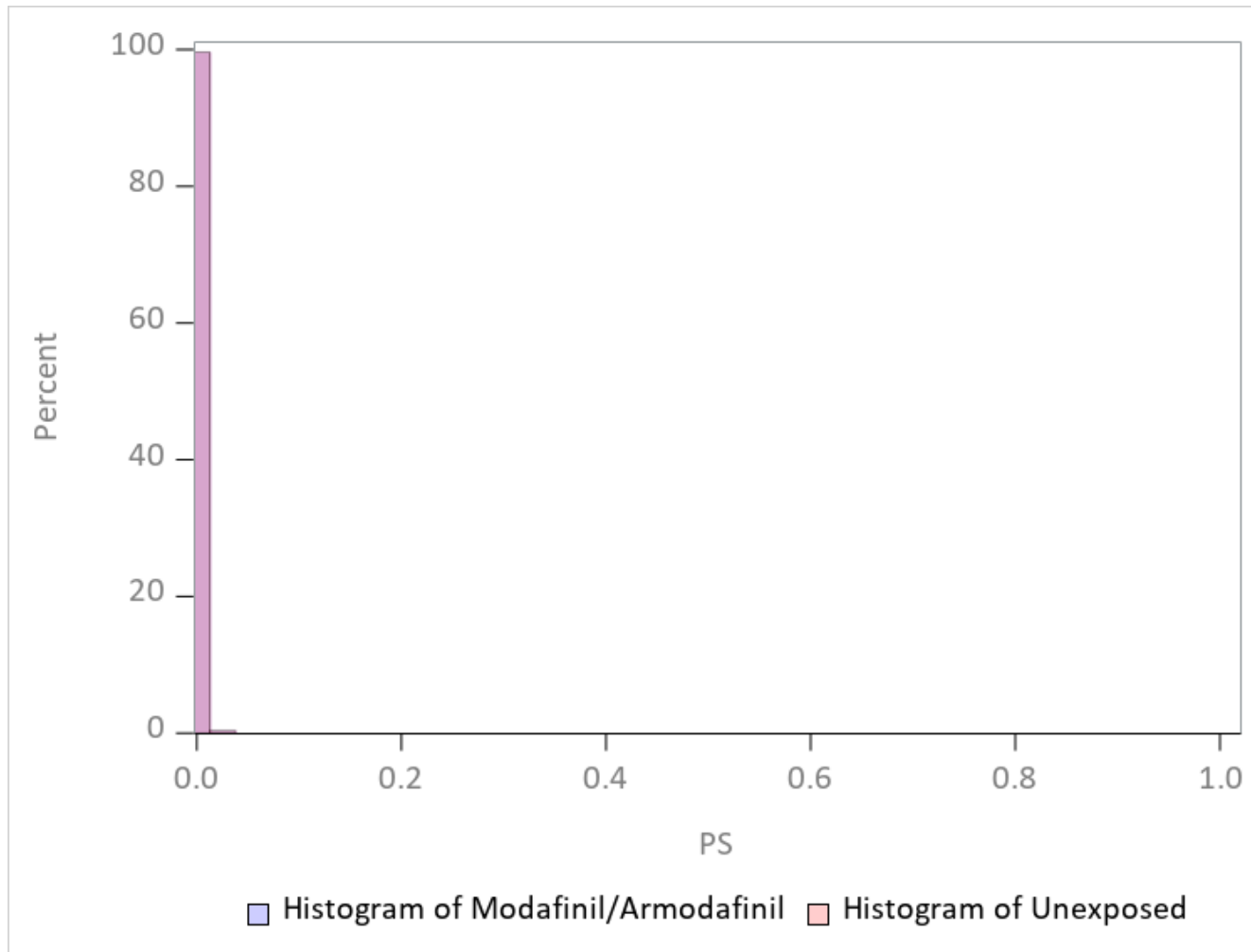


Figure 1b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Unadjusted Propensity Score Distribution

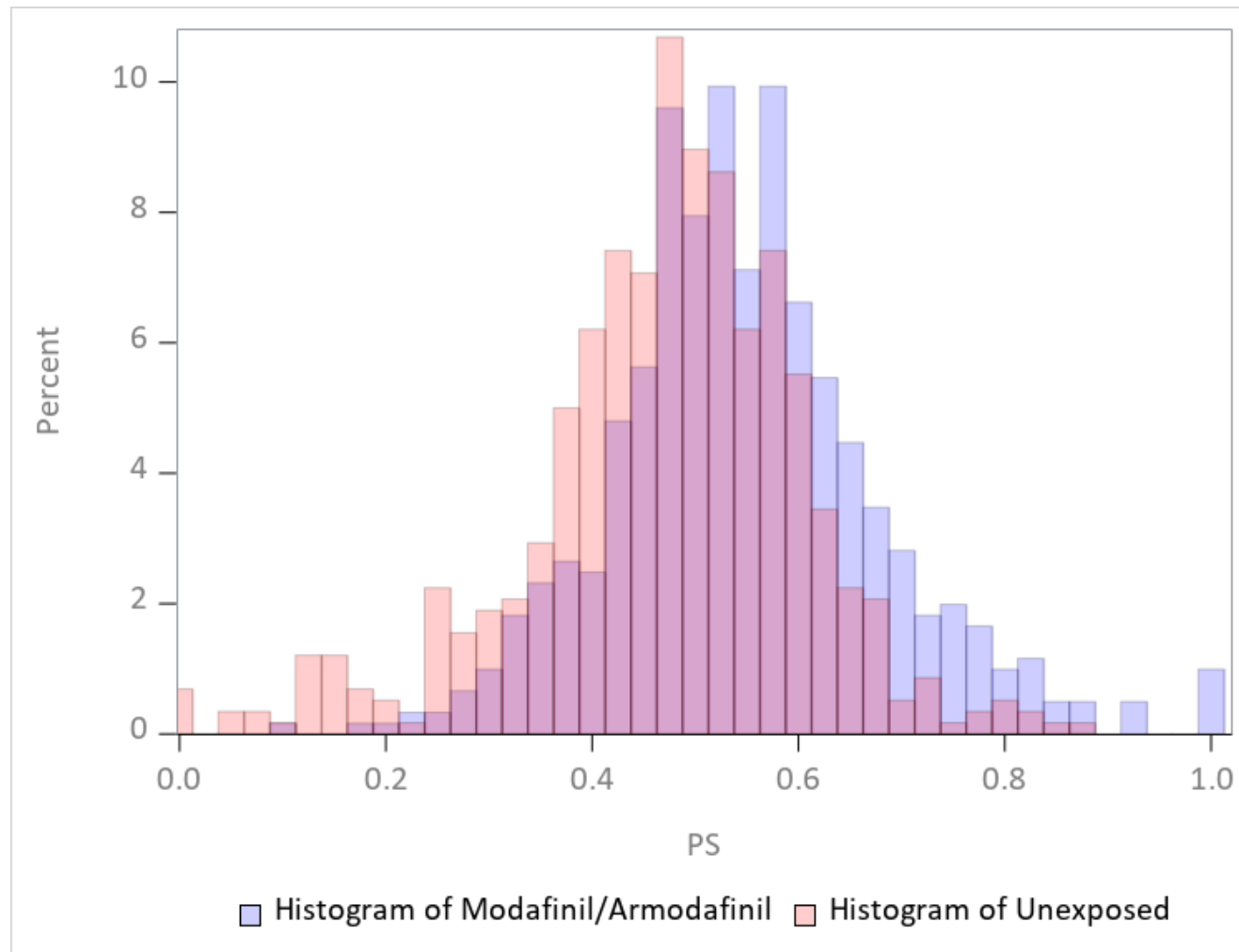


Figure 1b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

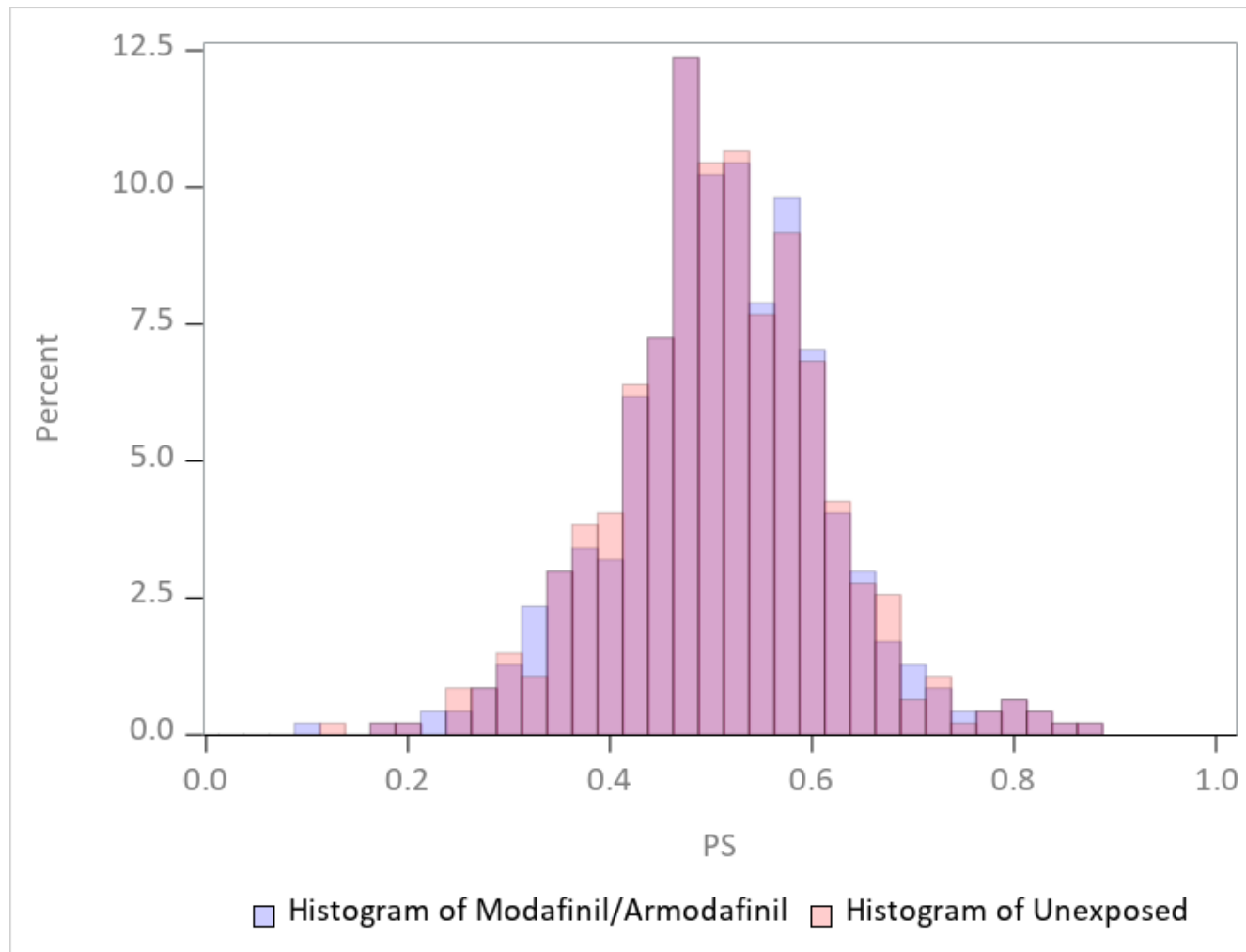


Figure 1c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Unadjusted Propensity Score Distribution

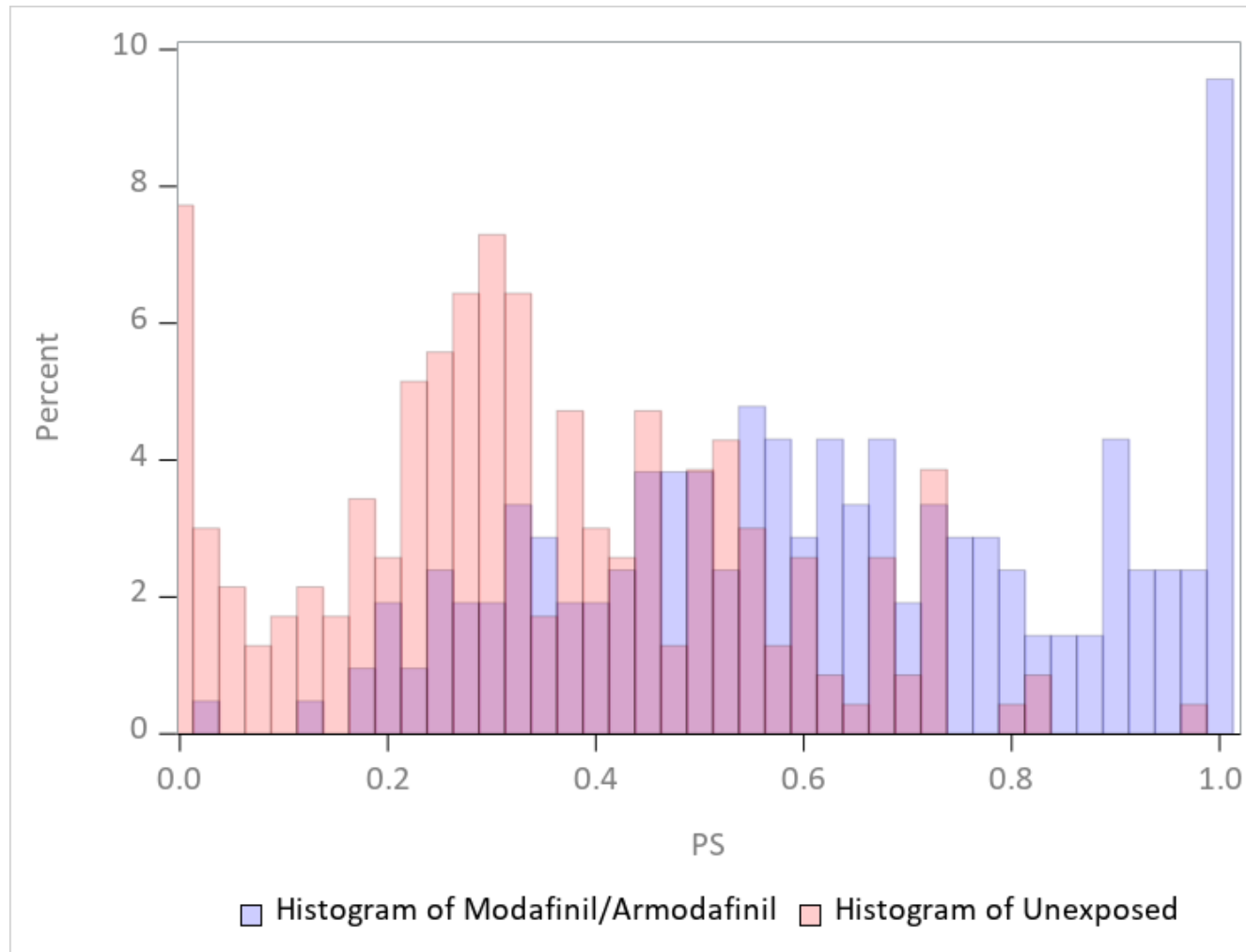


Figure 1c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

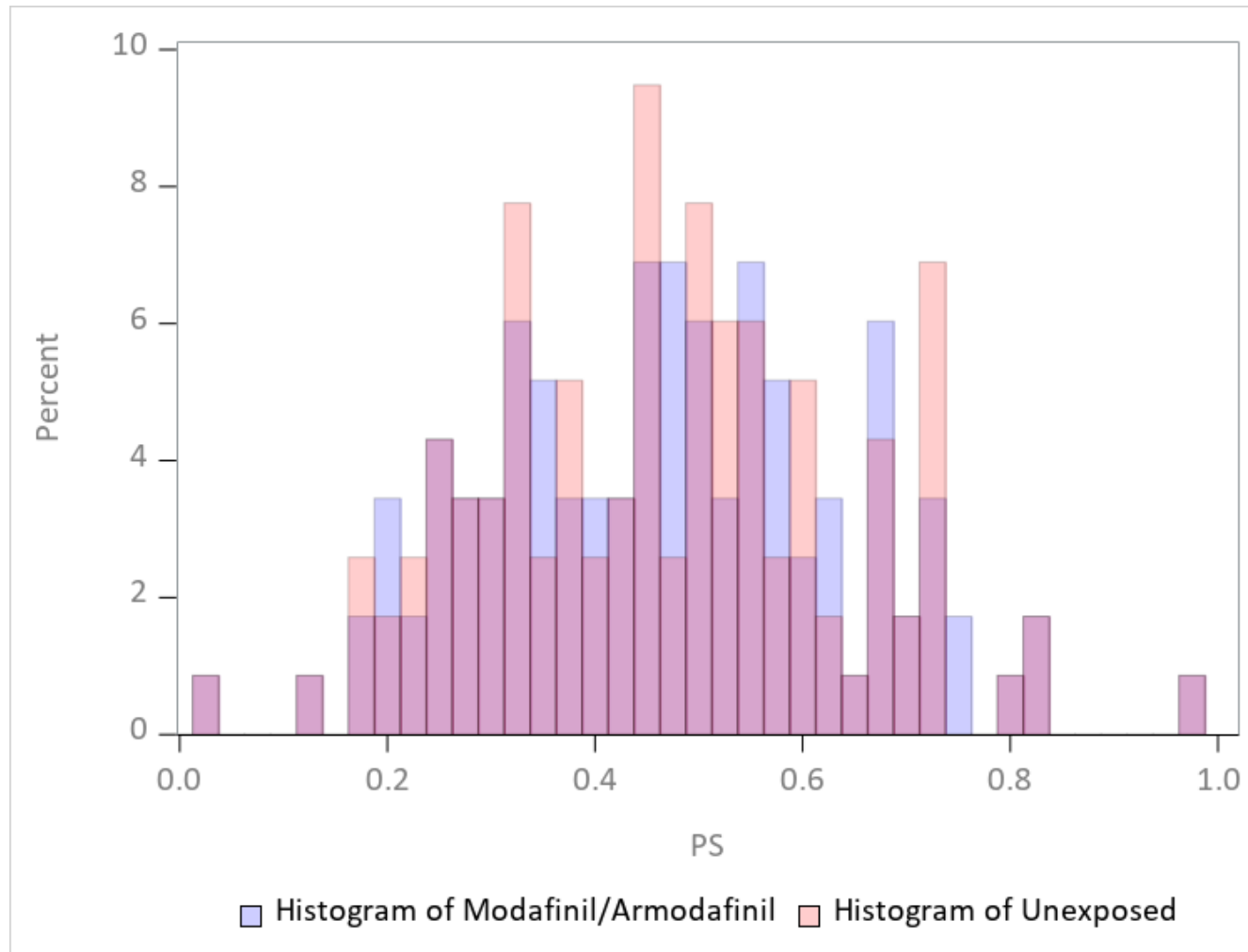


Figure 2a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Unadjusted Propensity Score Distribution

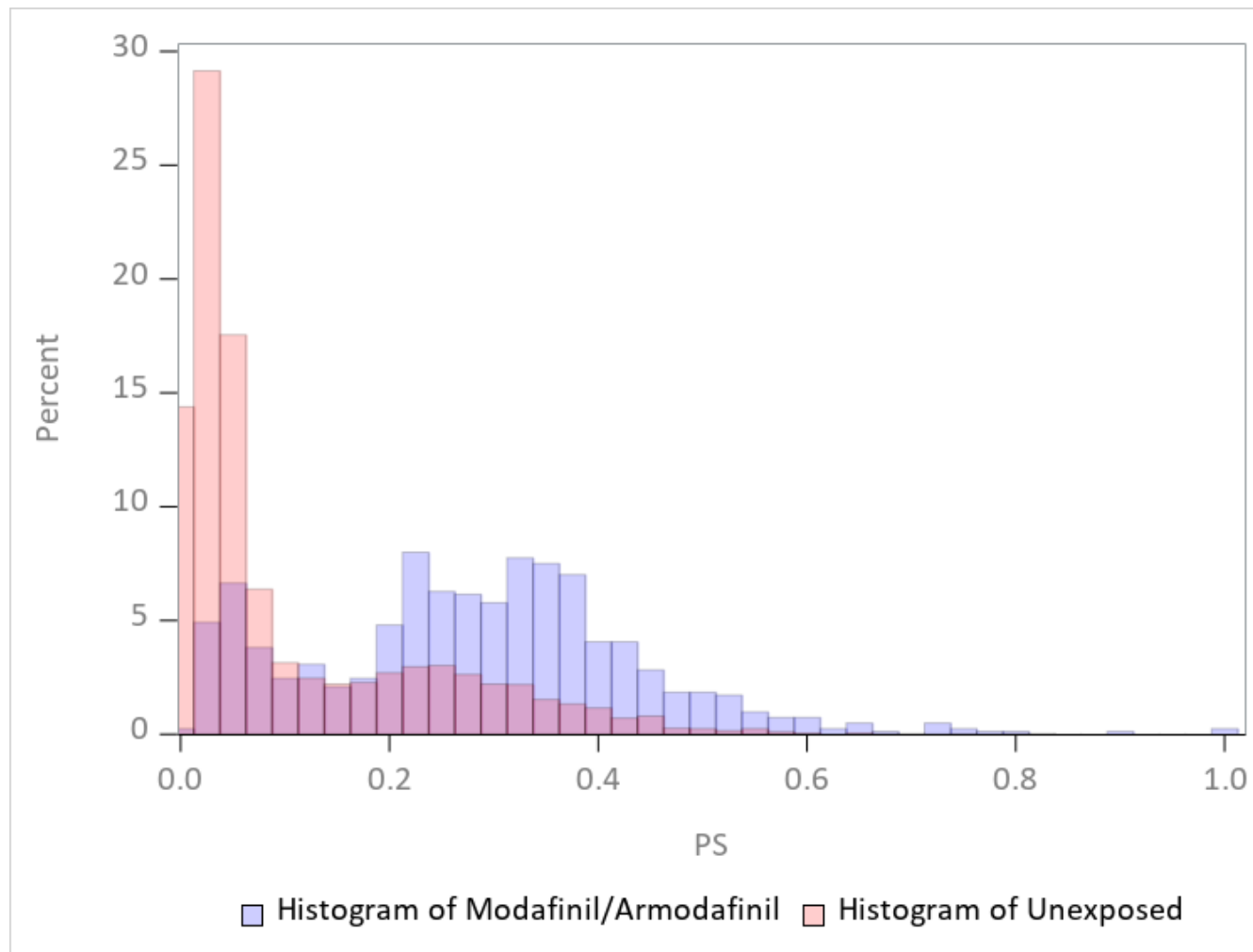


Figure 2a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

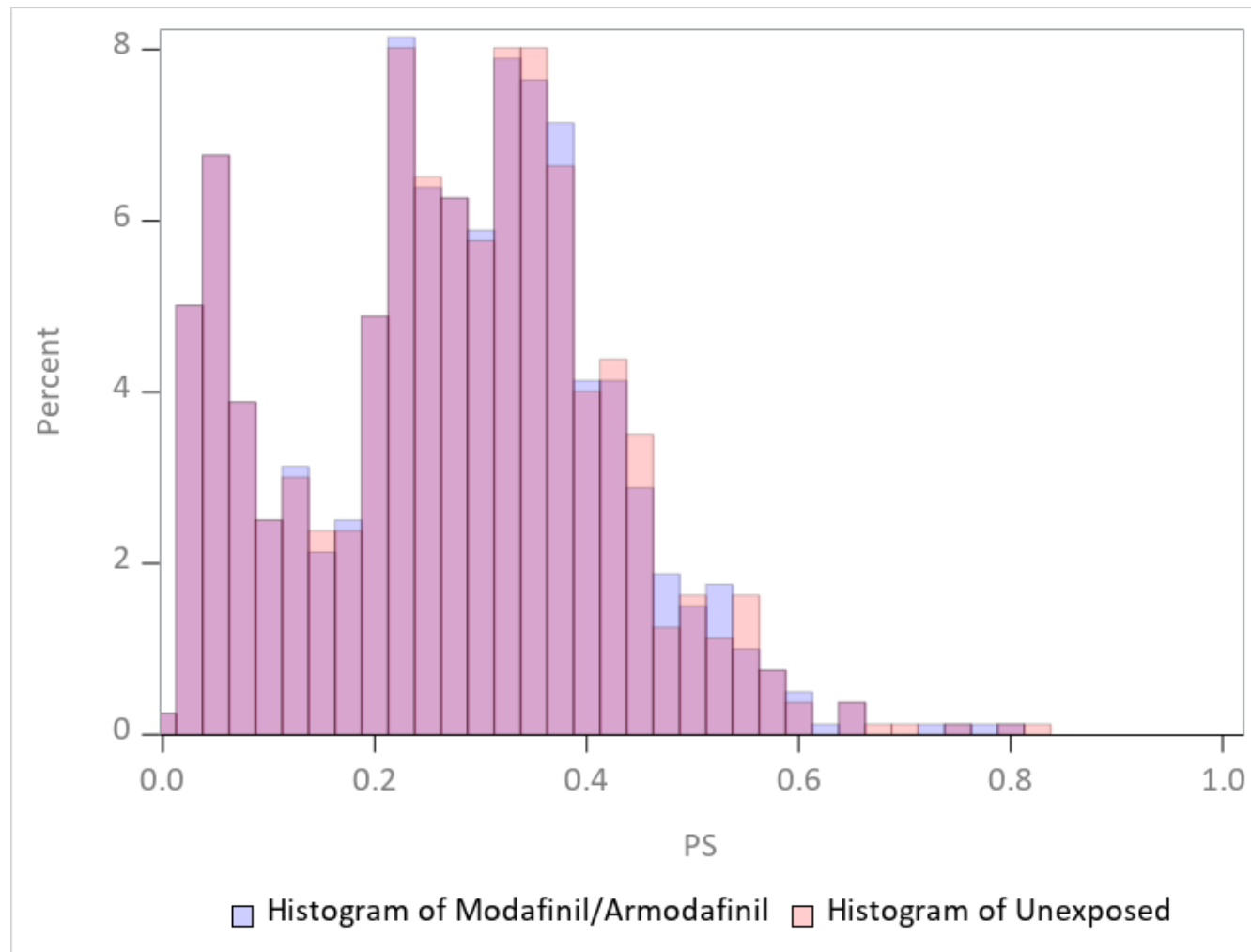


Figure 2b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Unadjusted Propensity Score Distribution

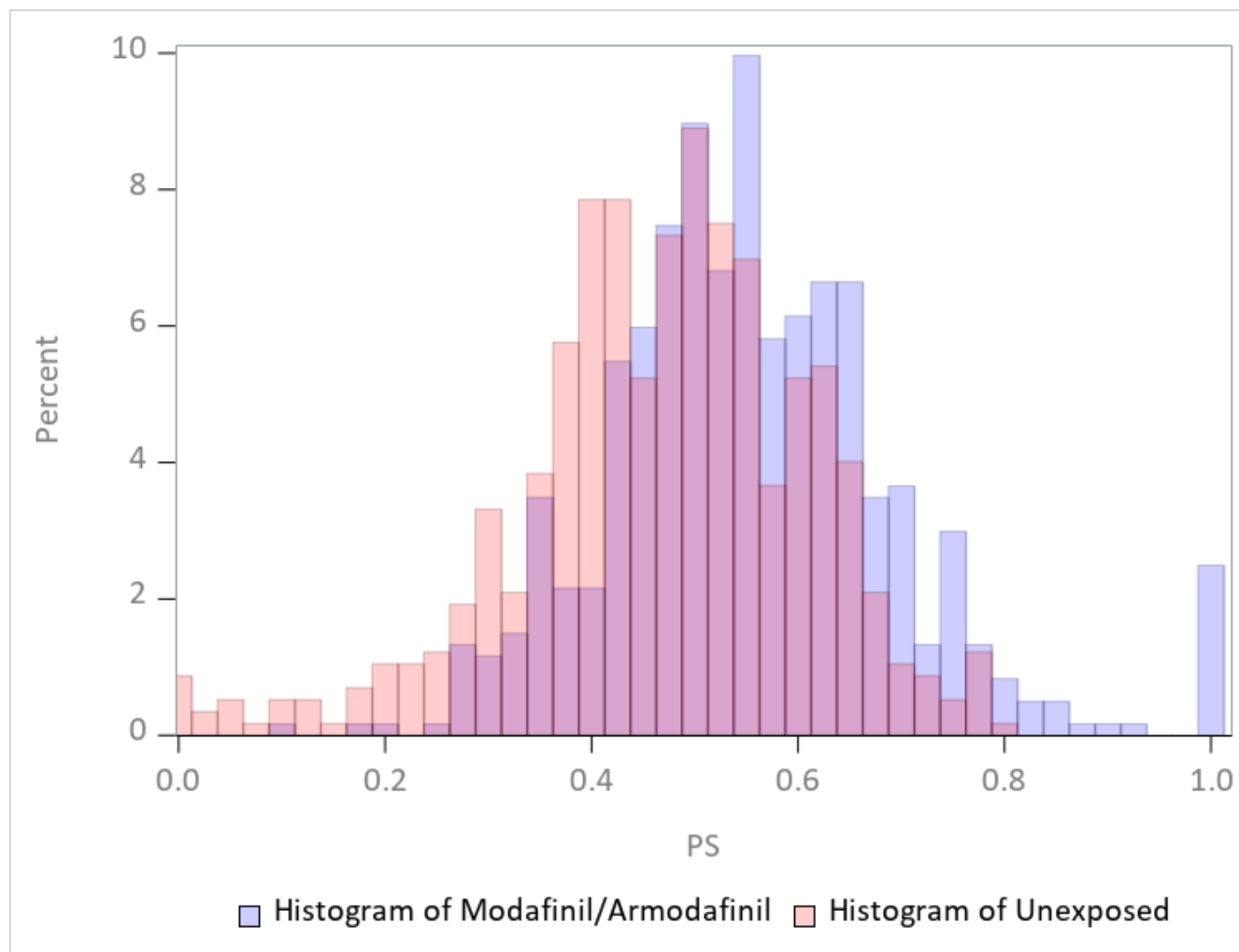


Figure 2b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

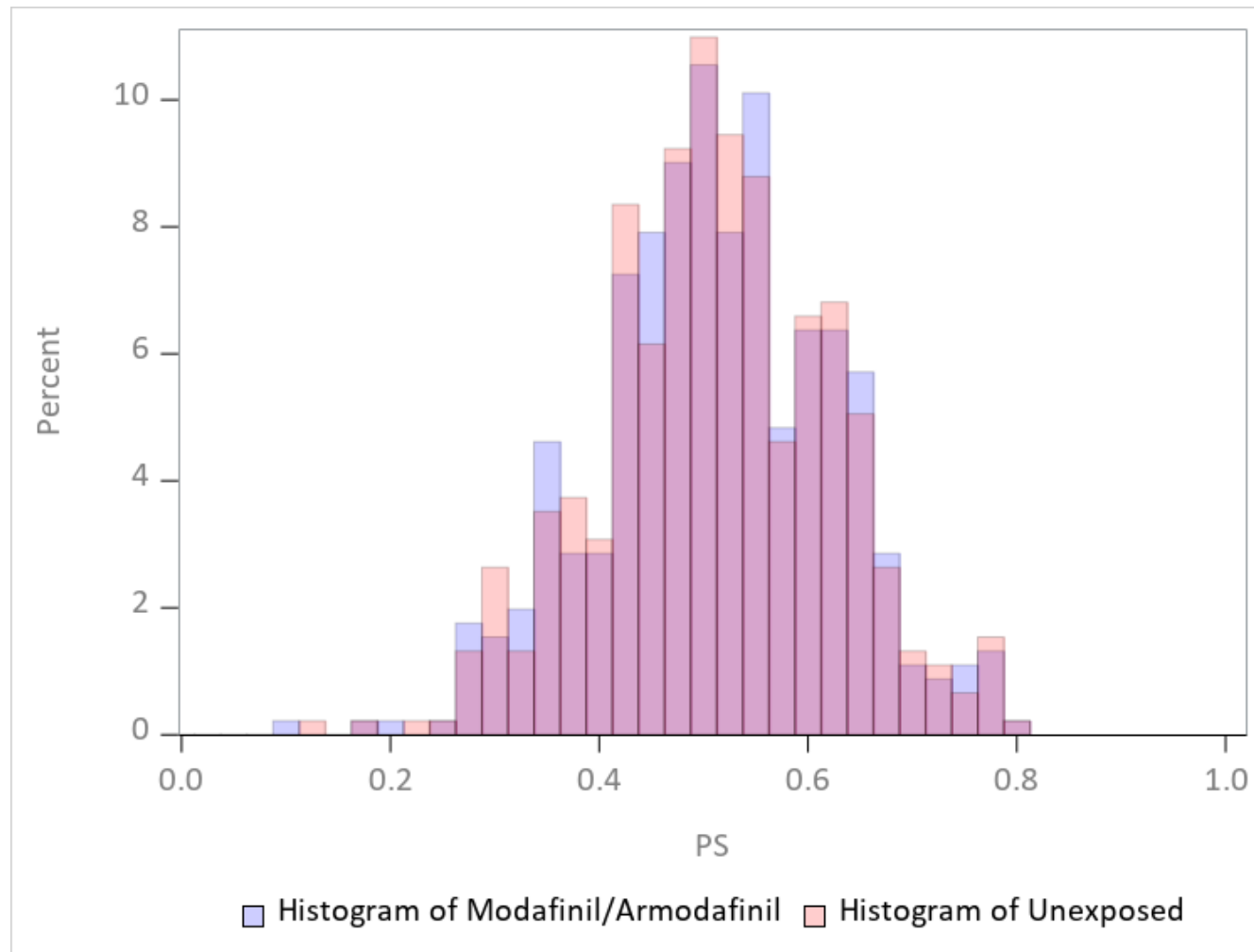


Figure 2c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Unadjusted Propensity Score Distribution

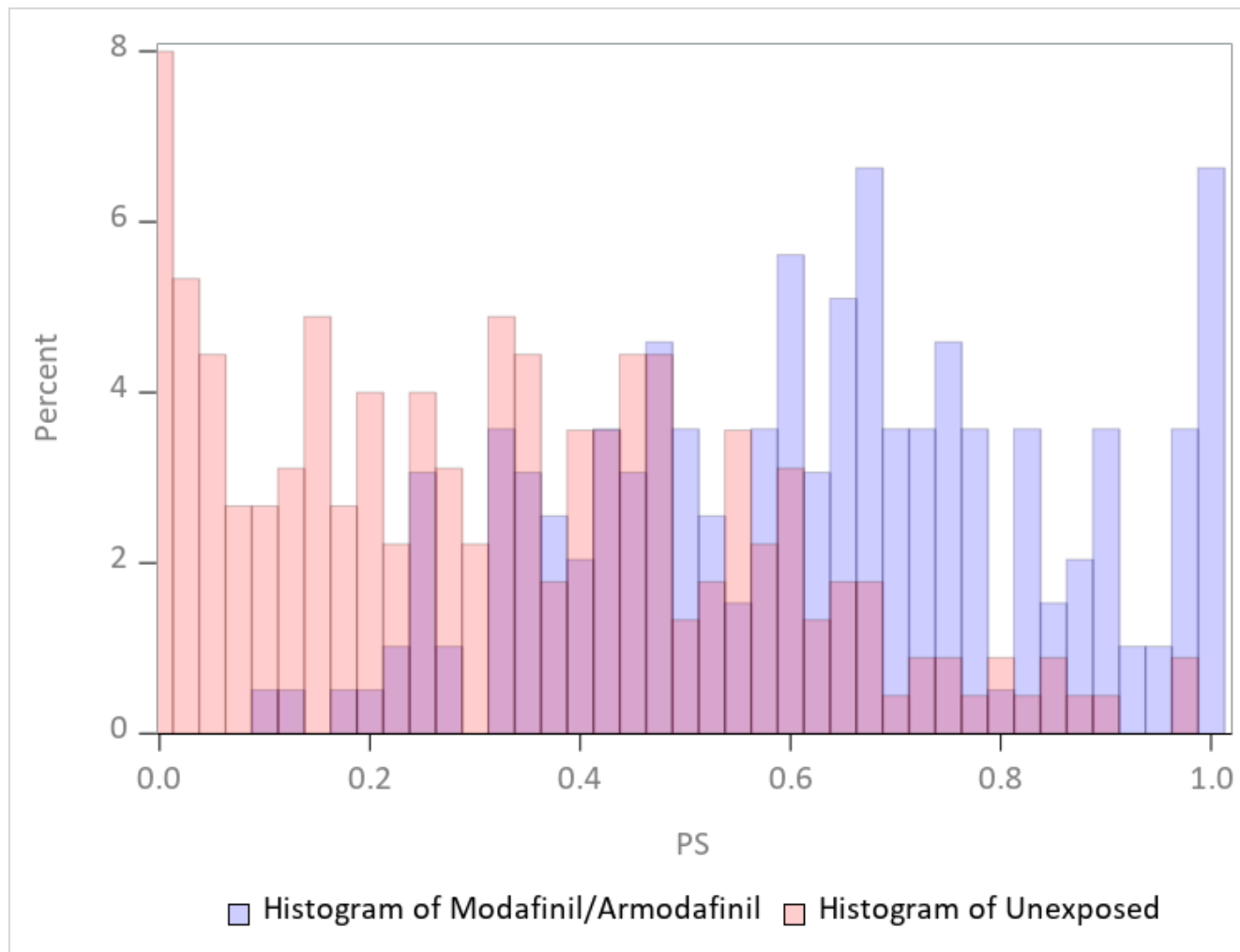


Figure 2c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

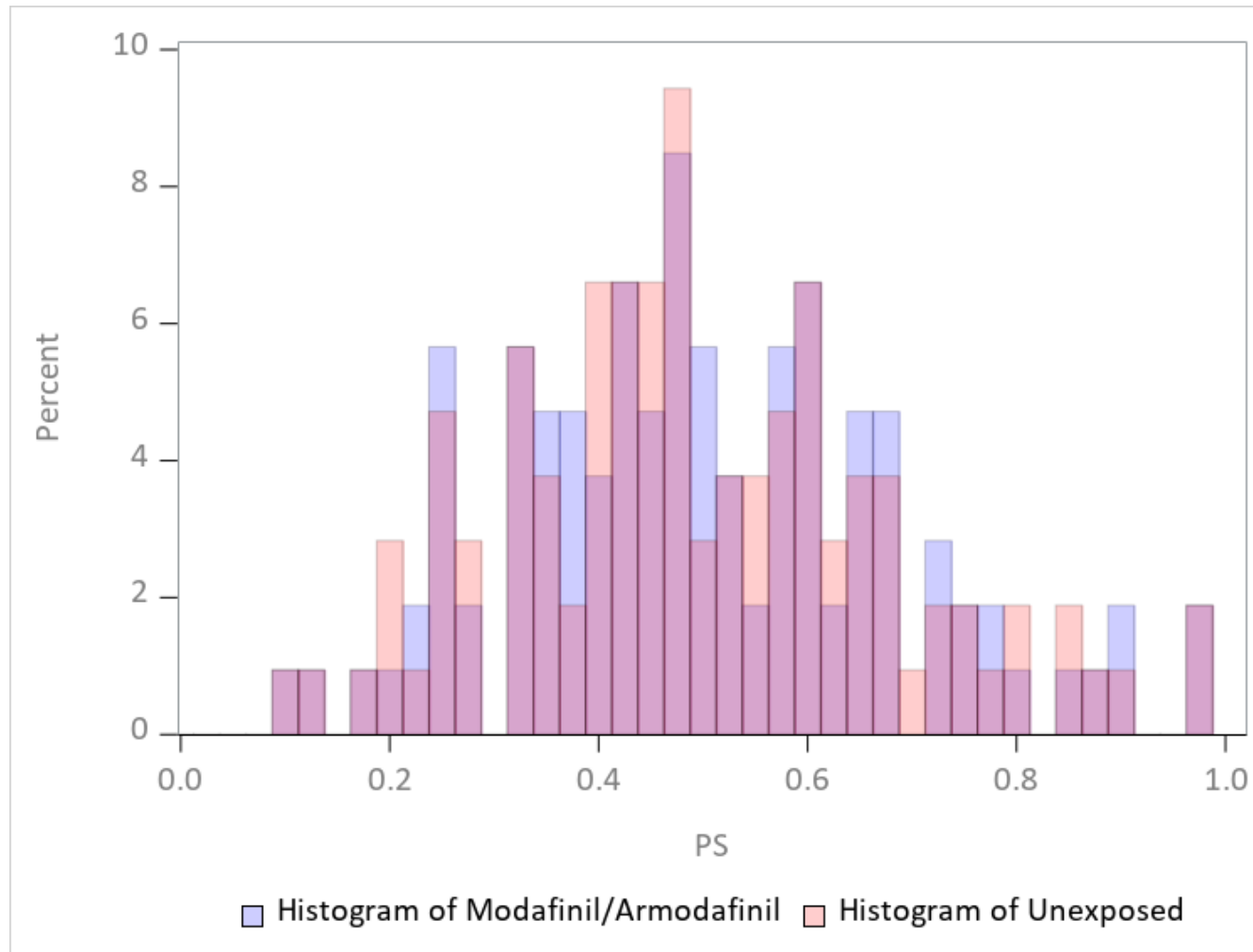


Figure 2d. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing

Unadjusted Propensity Score Distribution

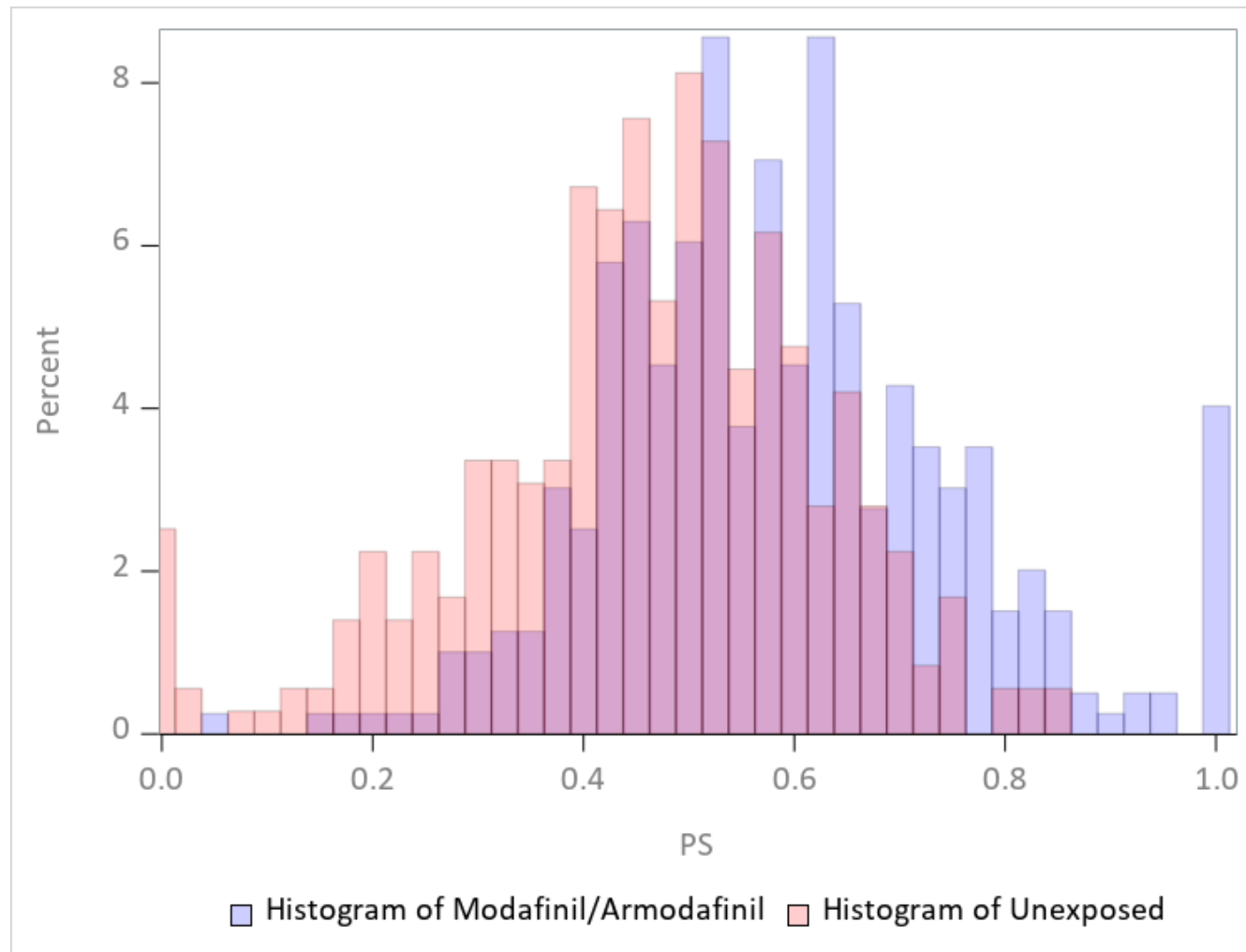


Figure 2d. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

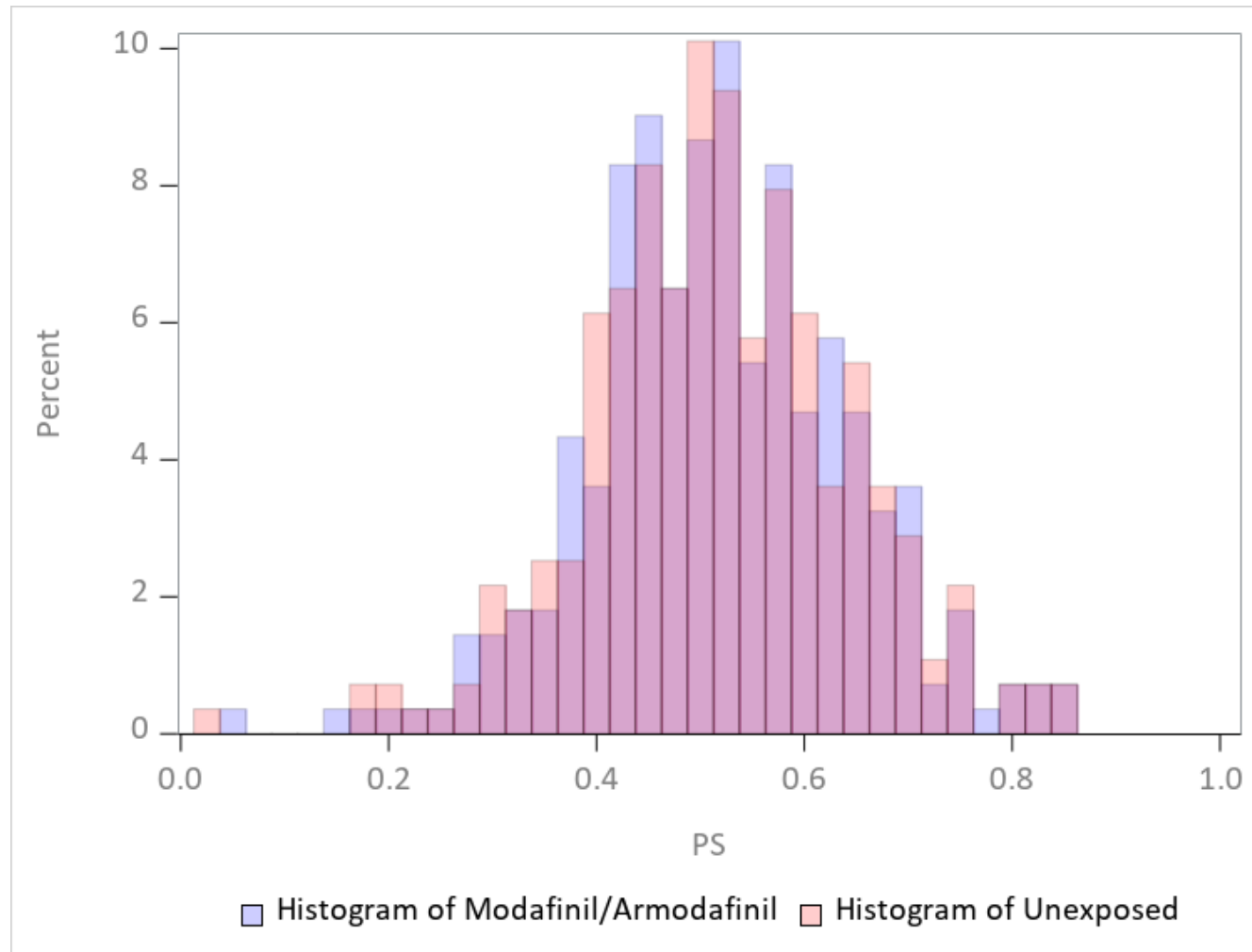


Figure 2e. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings

Unadjusted Propensity Score Distribution

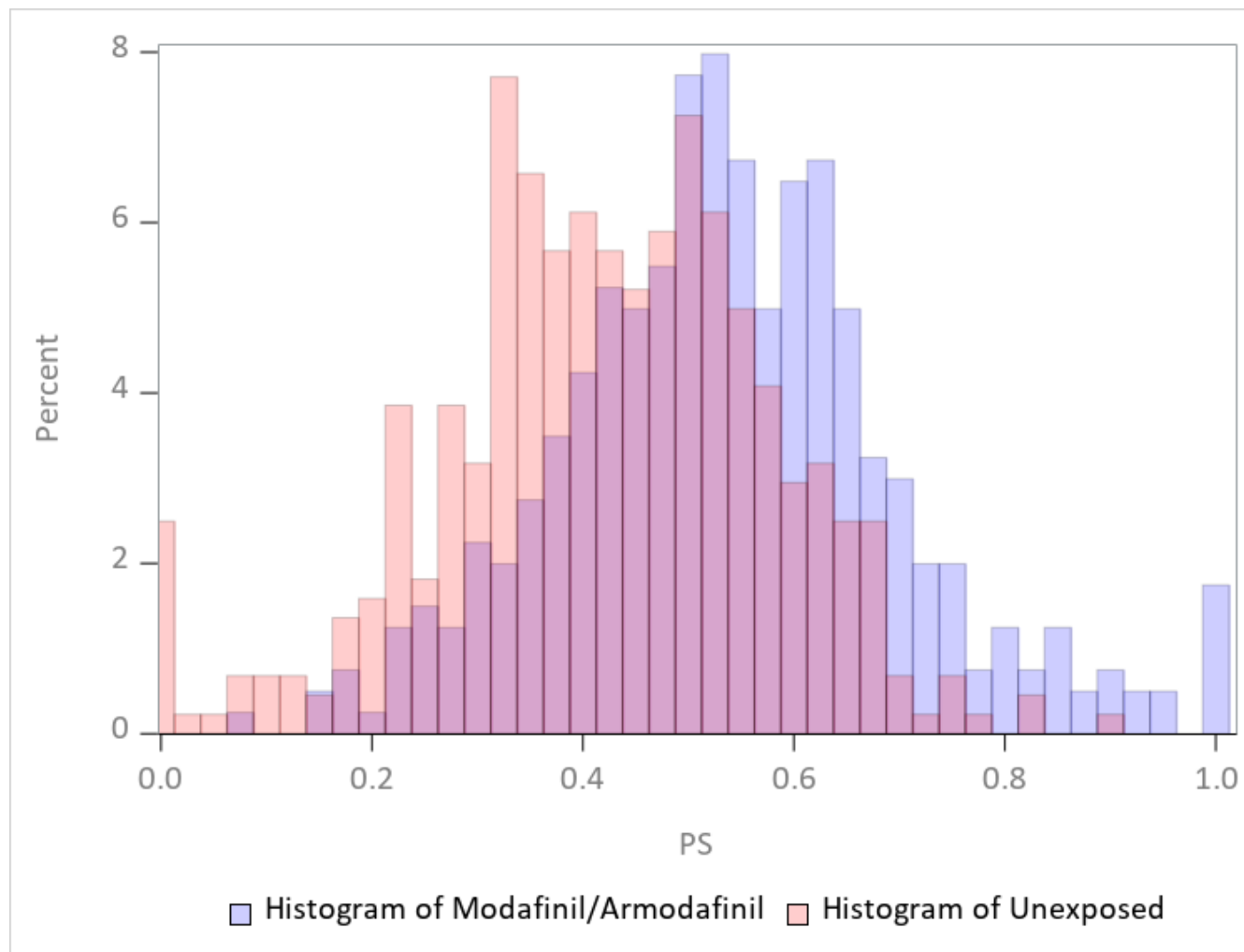


Figure 2e. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

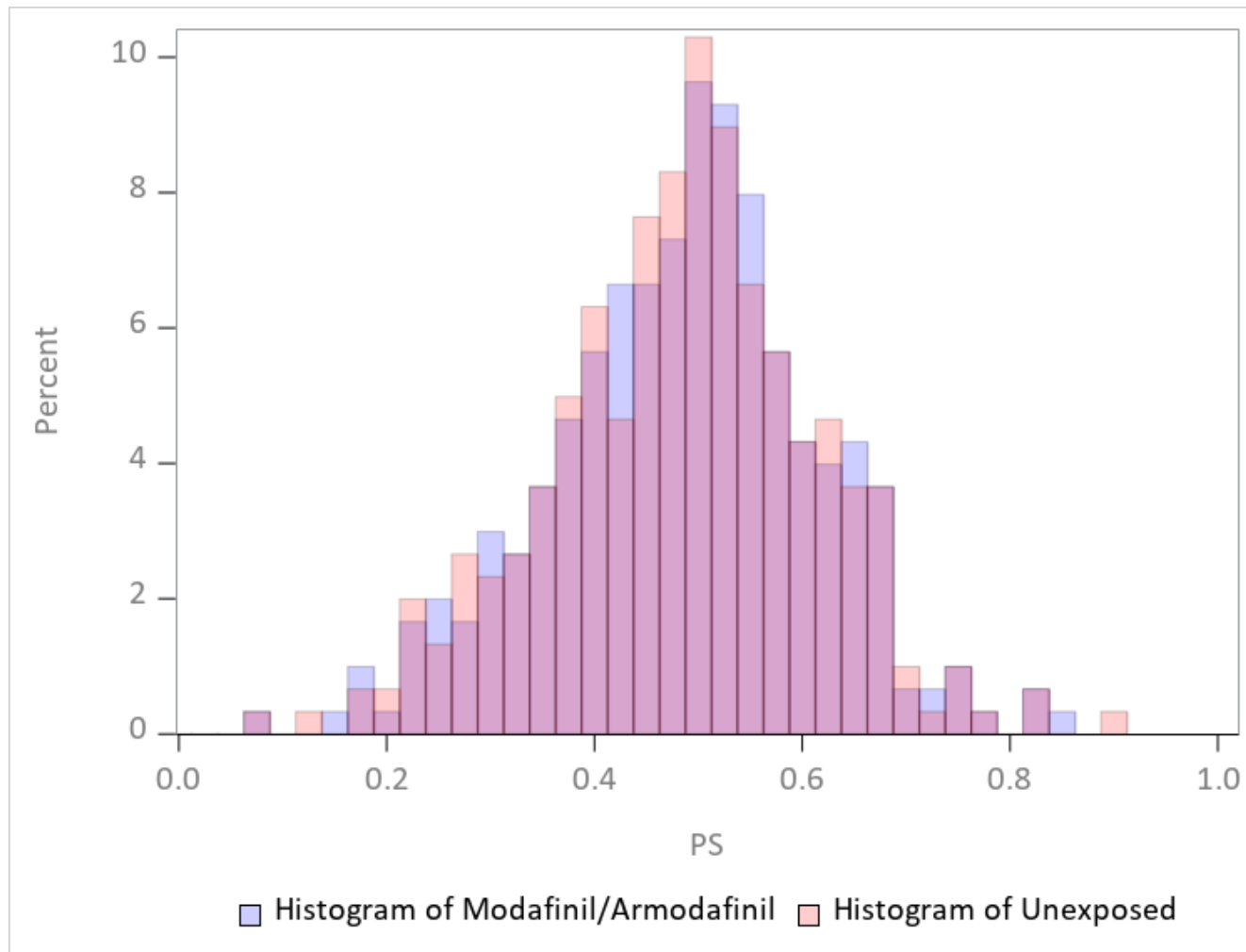


Figure 3a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Unadjusted Propensity Score Distribution

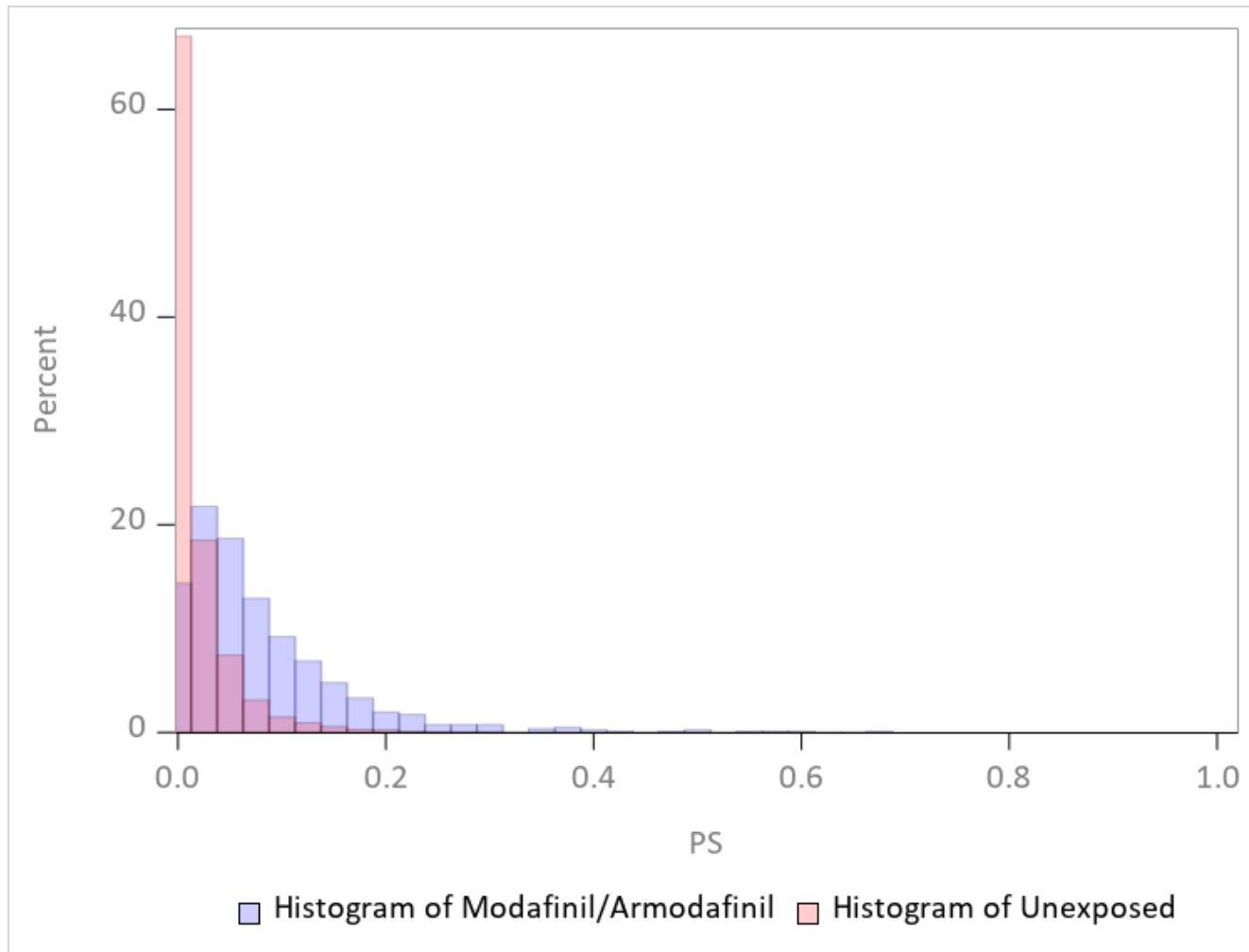


Figure 3a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

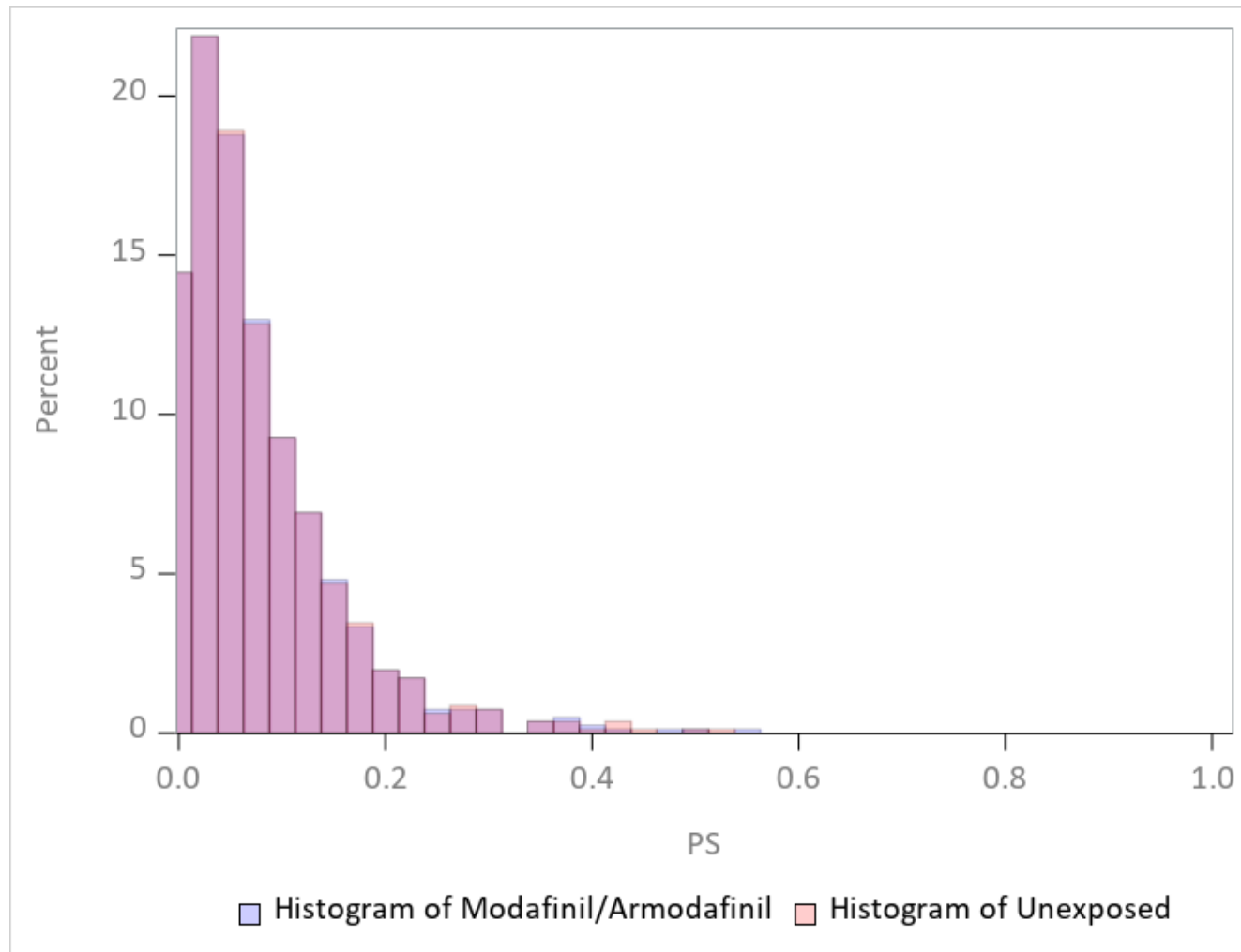


Figure 3b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Unadjusted Propensity Score Distribution

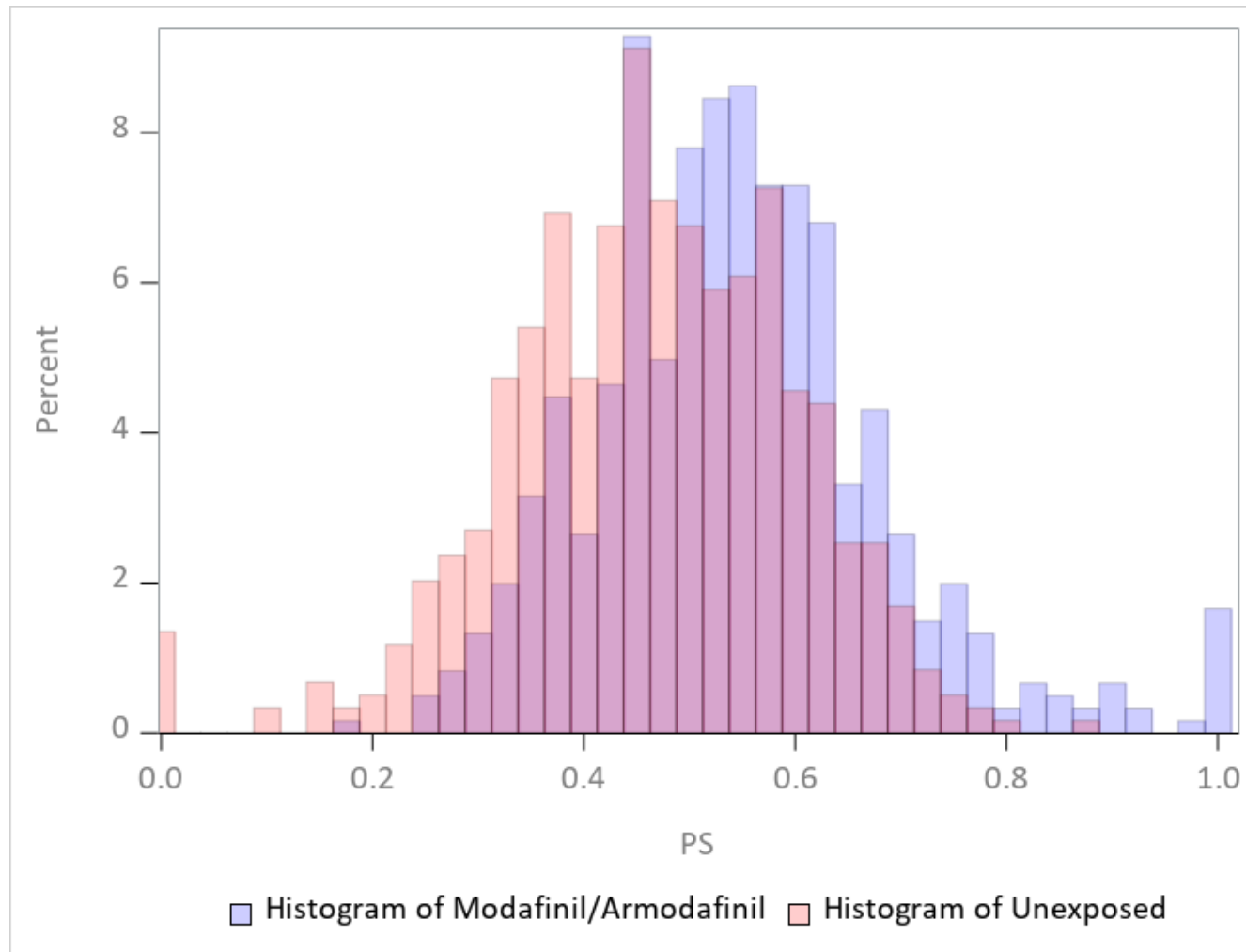


Figure 3b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

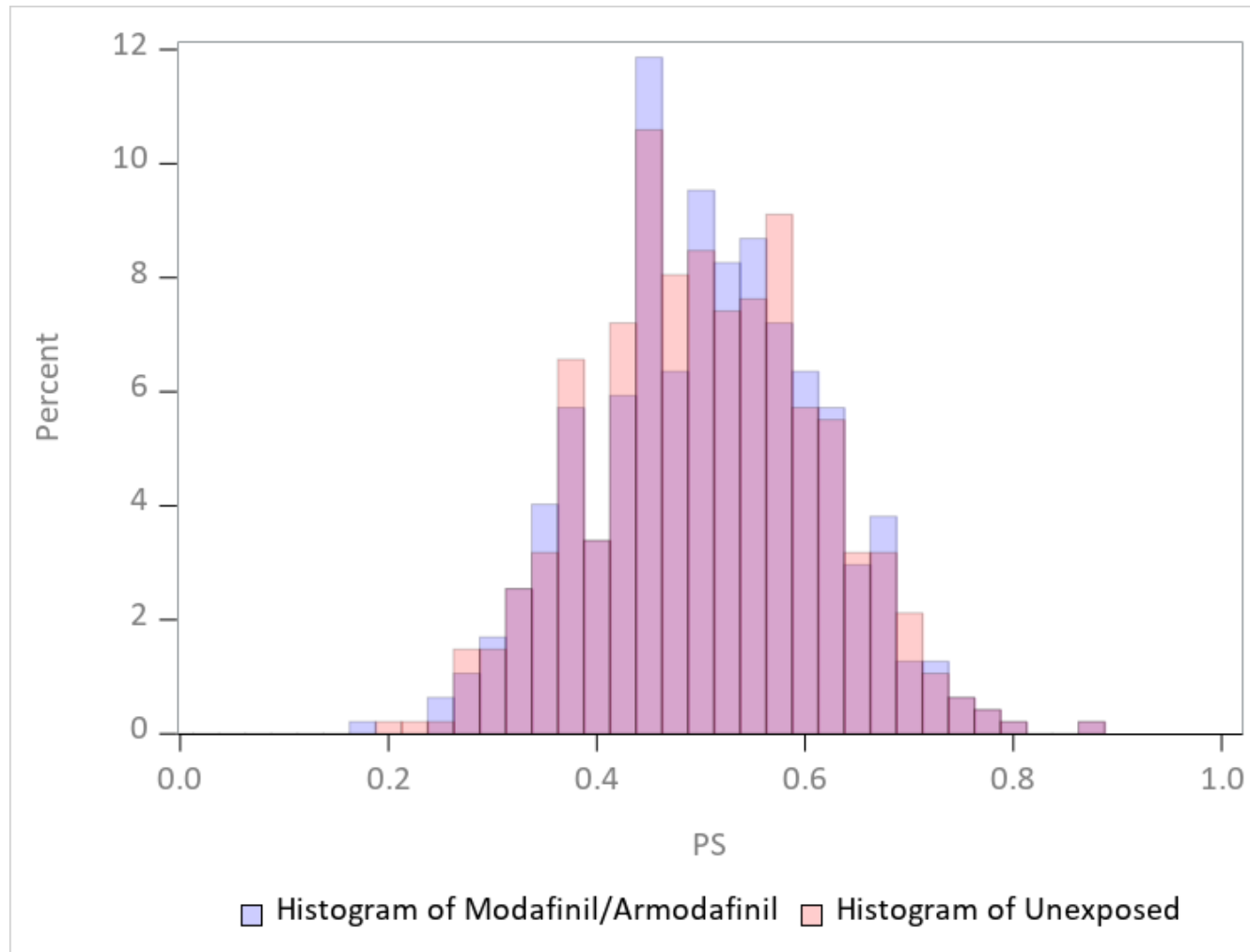


Figure 3c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Unadjusted Propensity Score Distribution

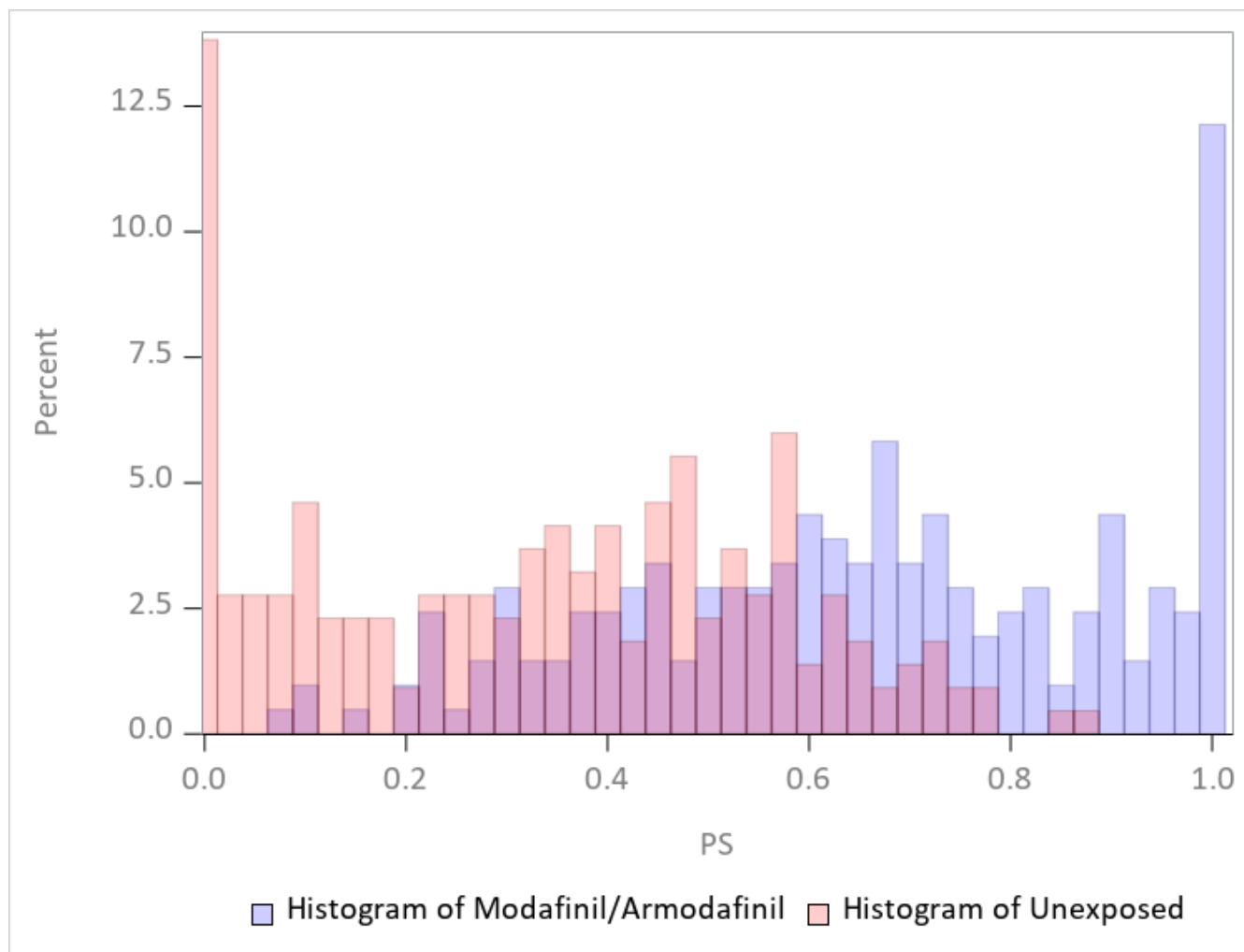


Figure 3c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

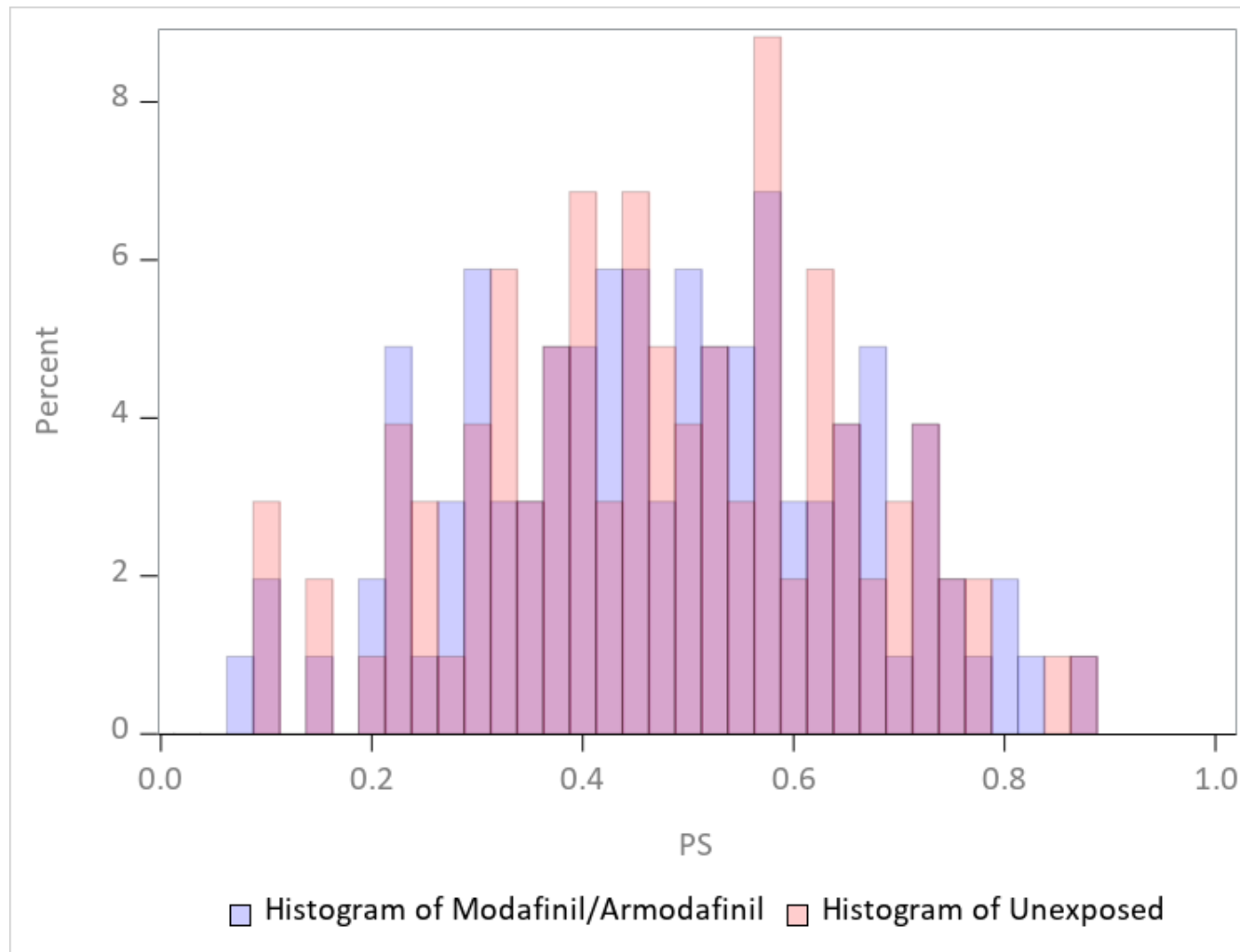


Figure 3d. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing

Unadjusted Propensity Score Distribution

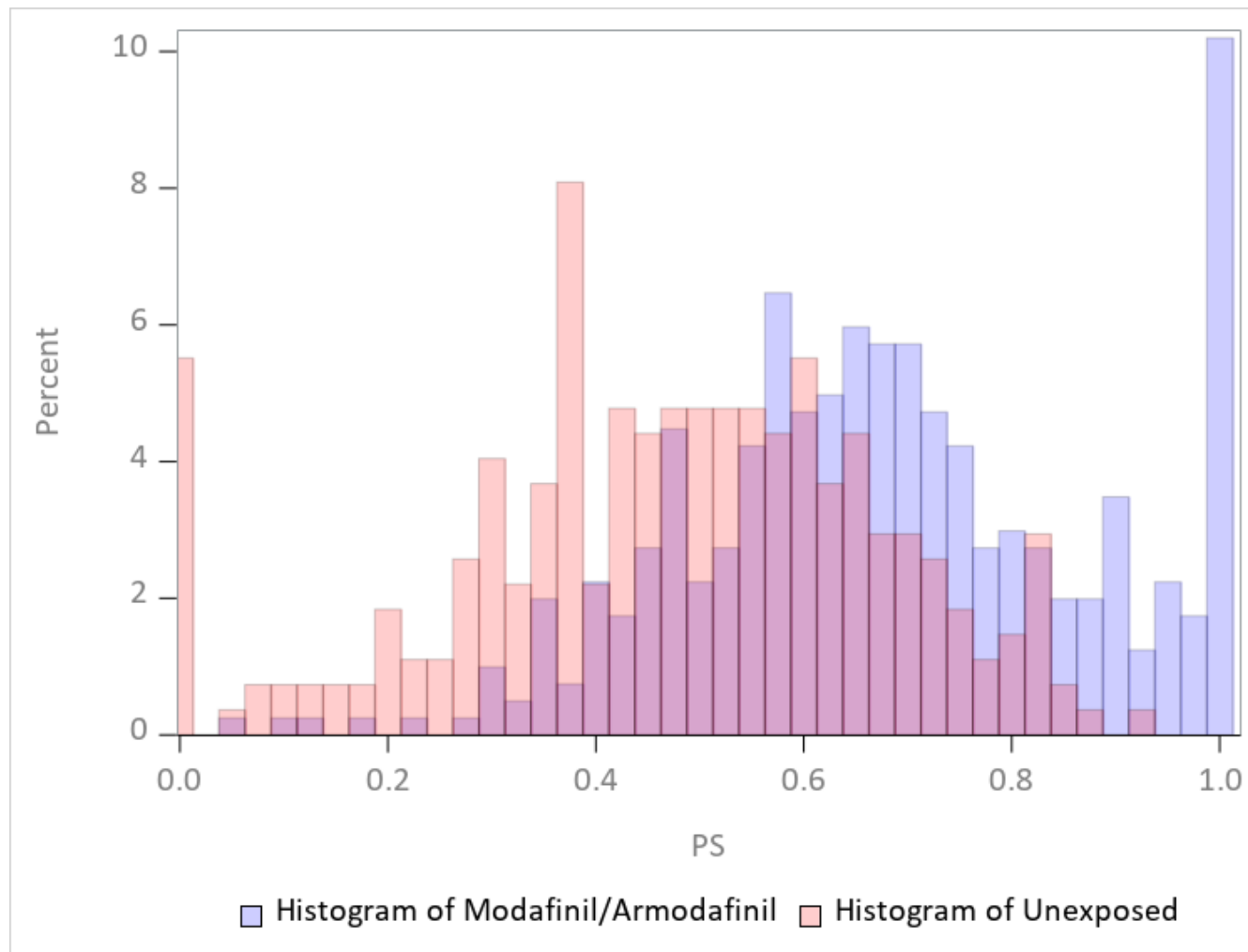


Figure 3d. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

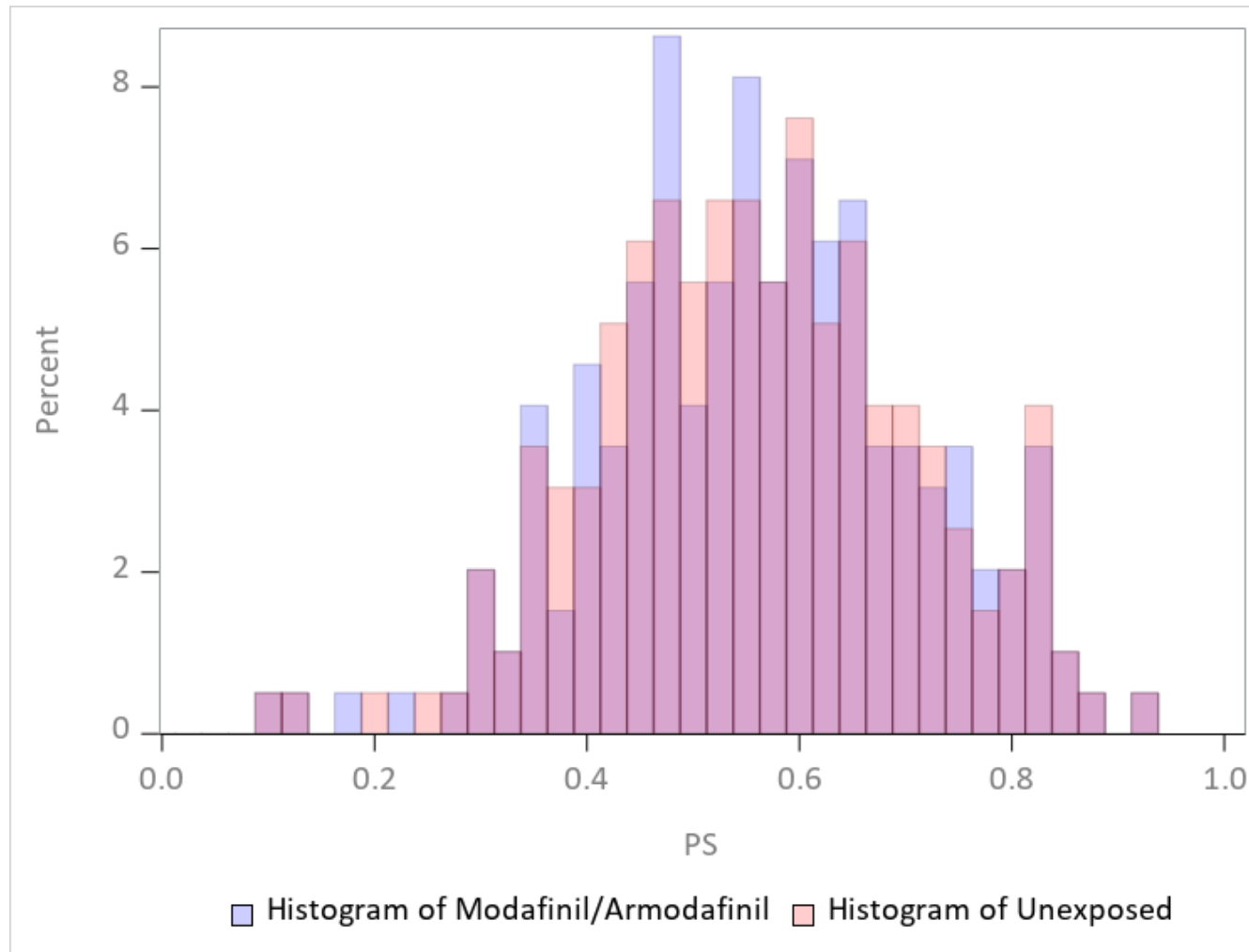


Figure 3e. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings

Unadjusted Propensity Score Distribution

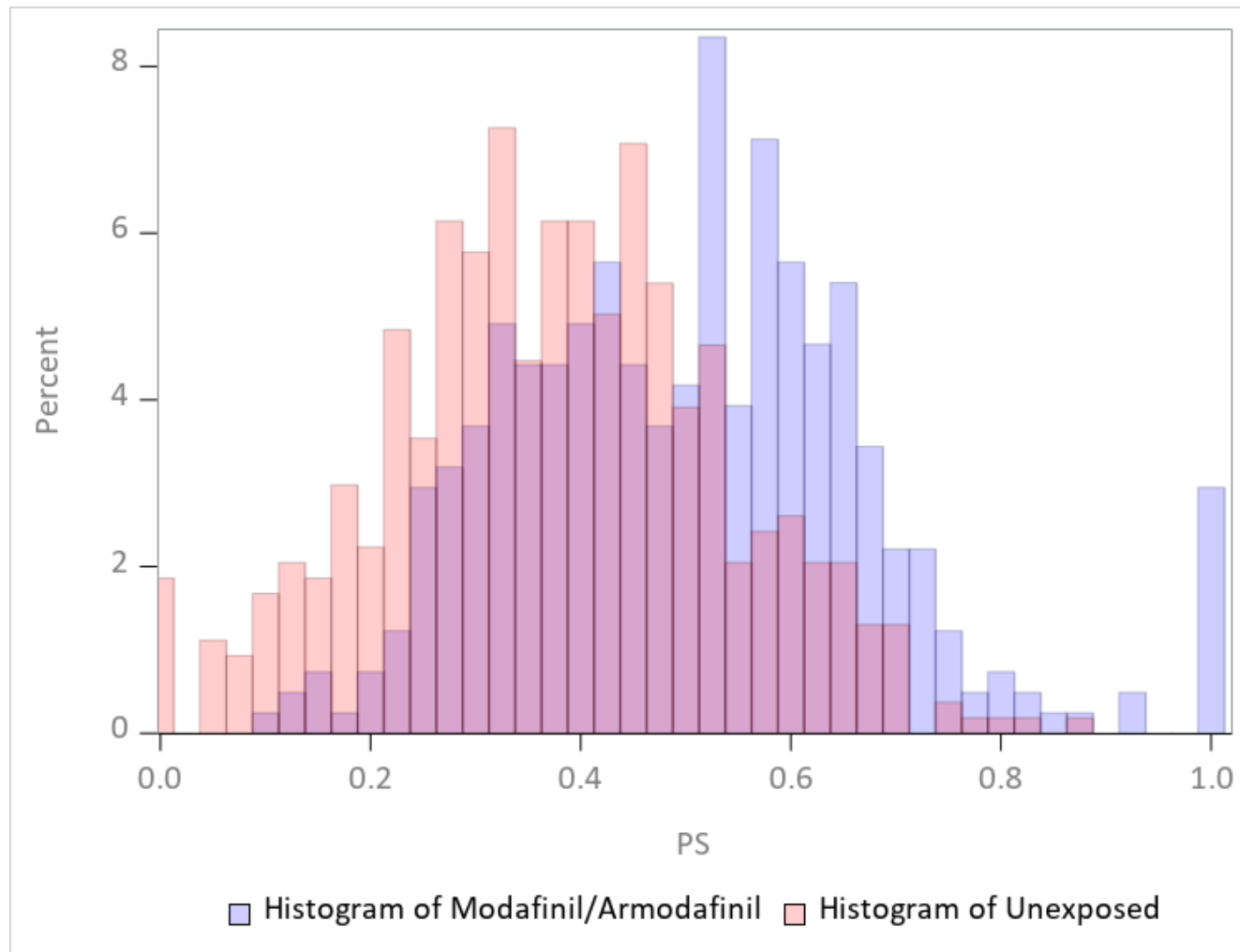


Figure 3e. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Non-Cardiac Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

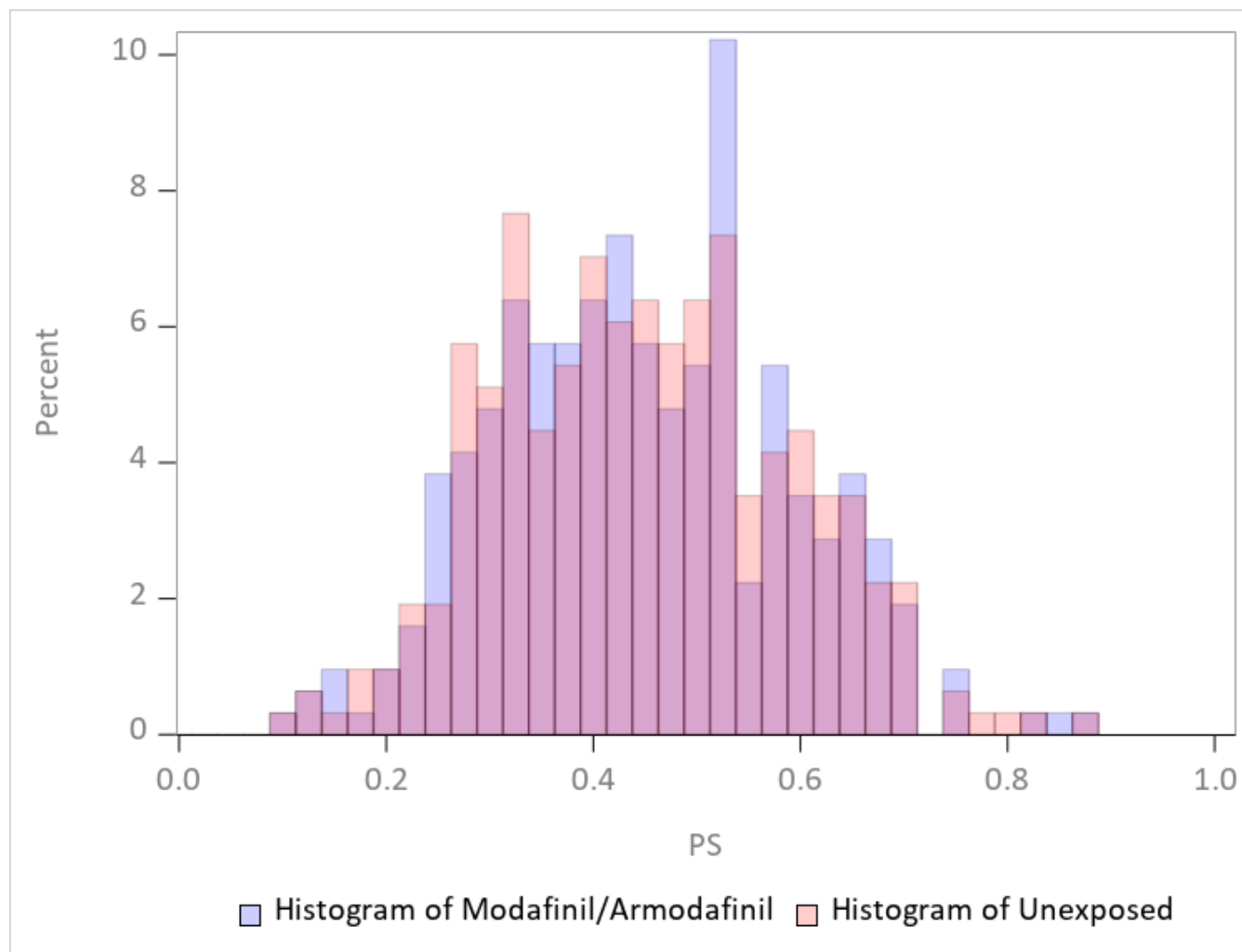


Figure 4a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Unadjusted Propensity Score Distribution

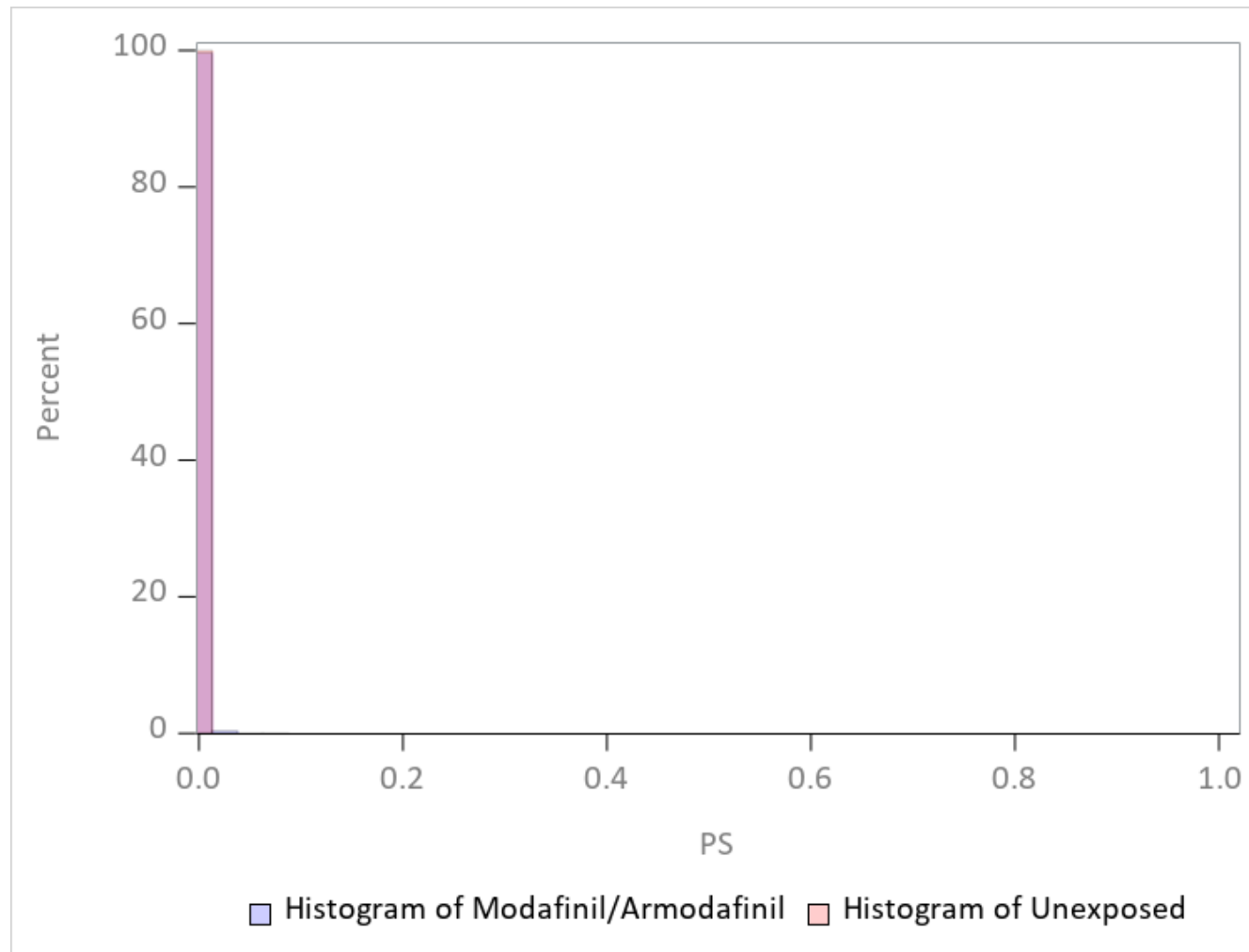


Figure 4a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

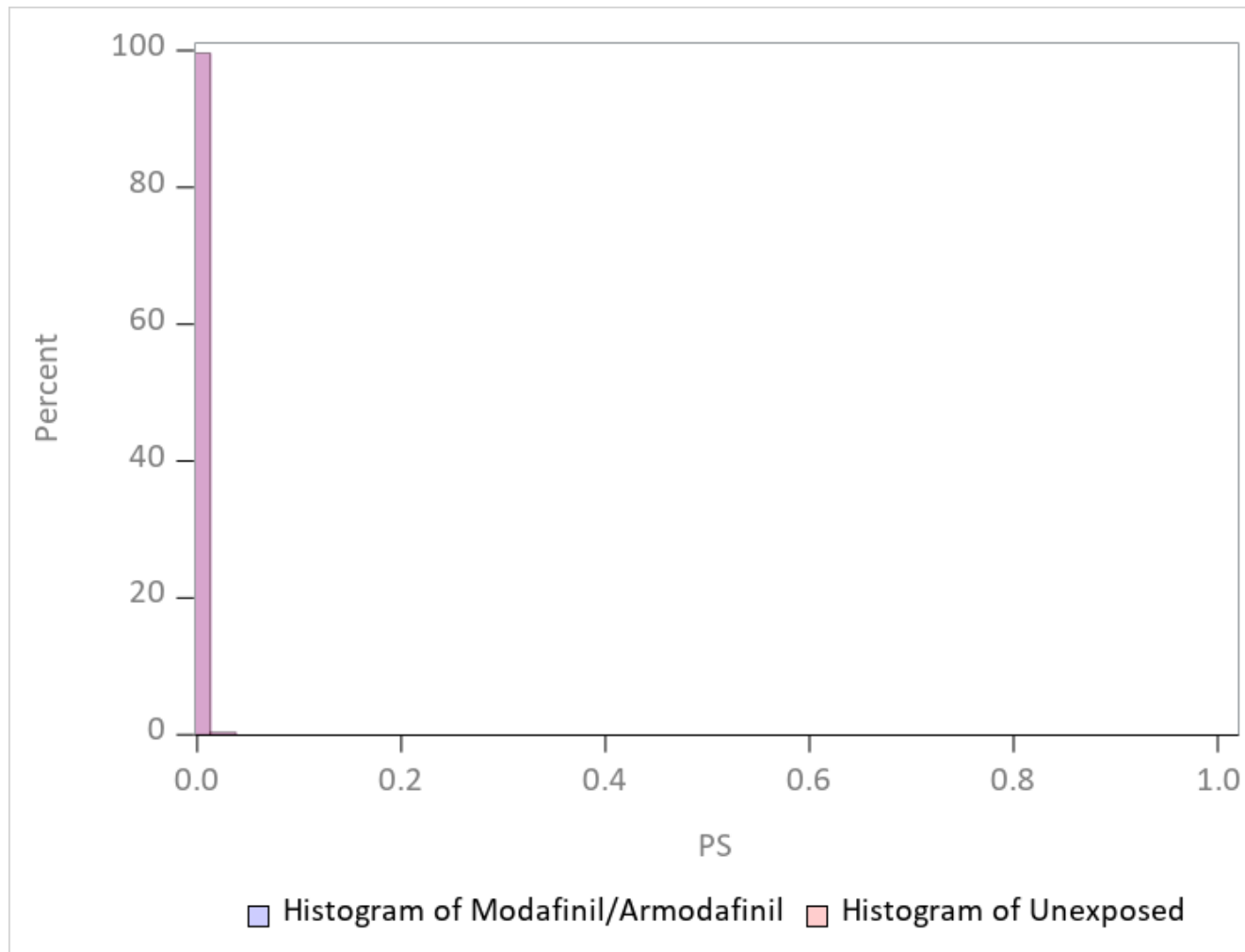


Figure 4b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Unadjusted Propensity Score Distribution

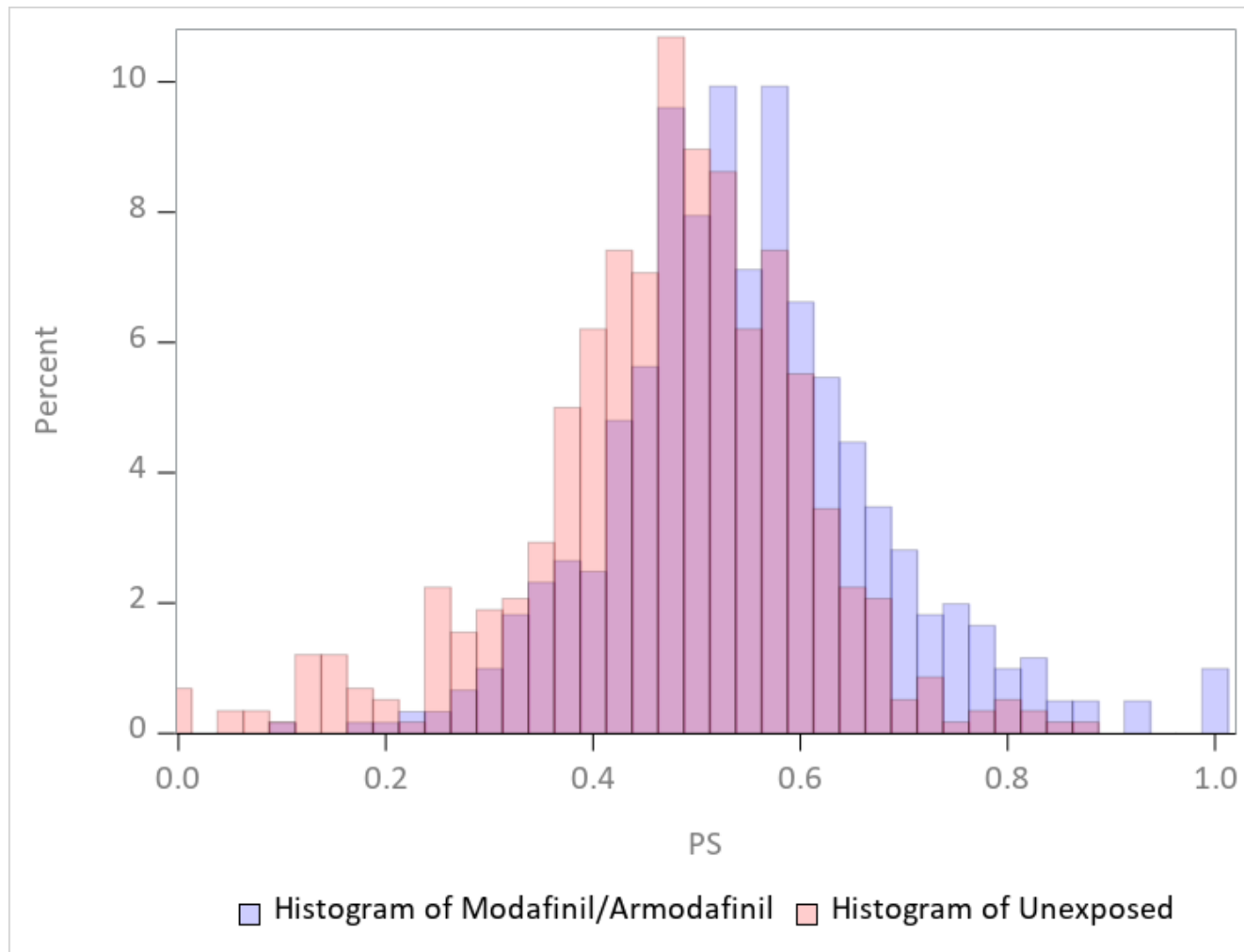


Figure 4b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

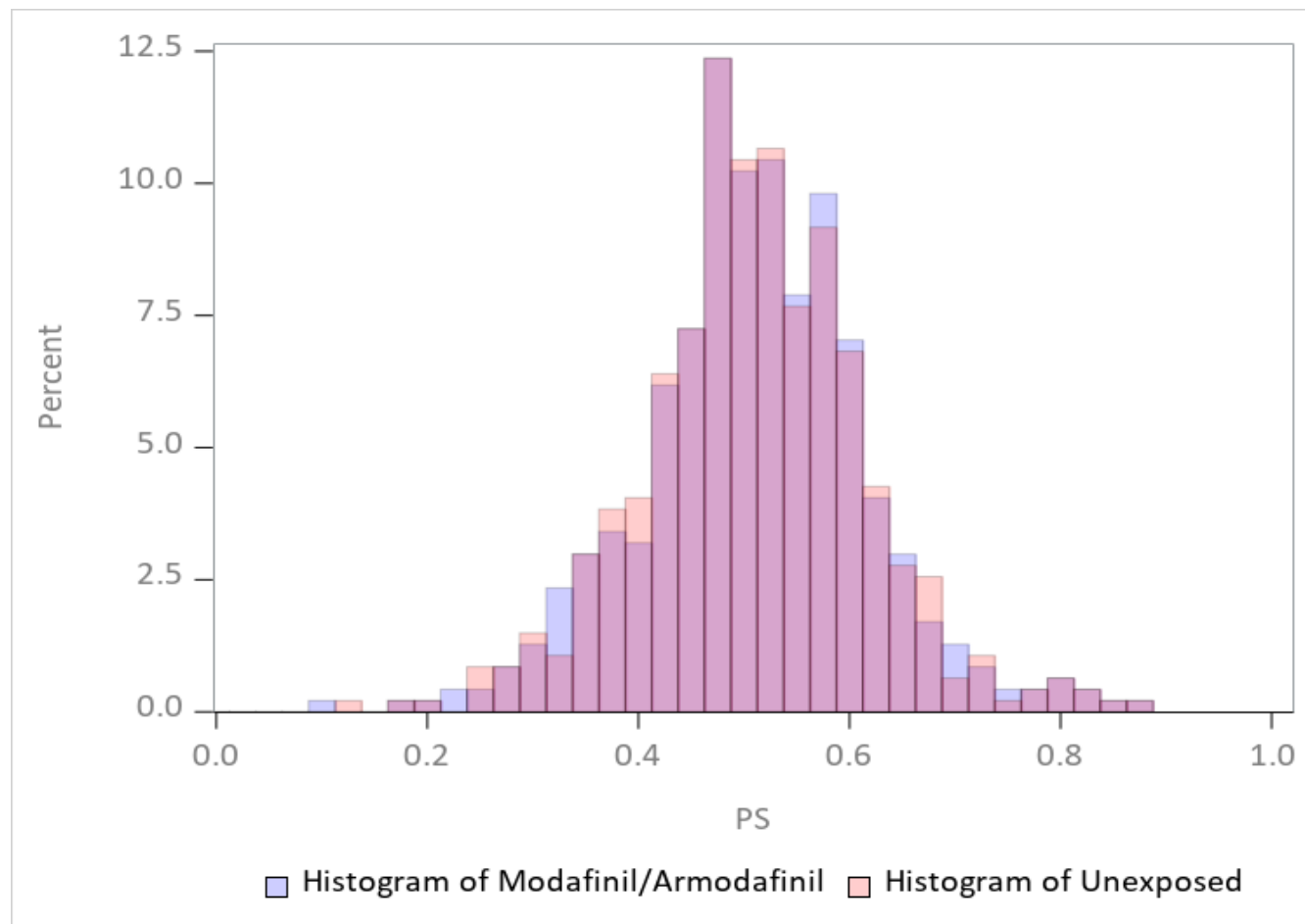


Figure 4c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Unadjusted Propensity Score Distribution

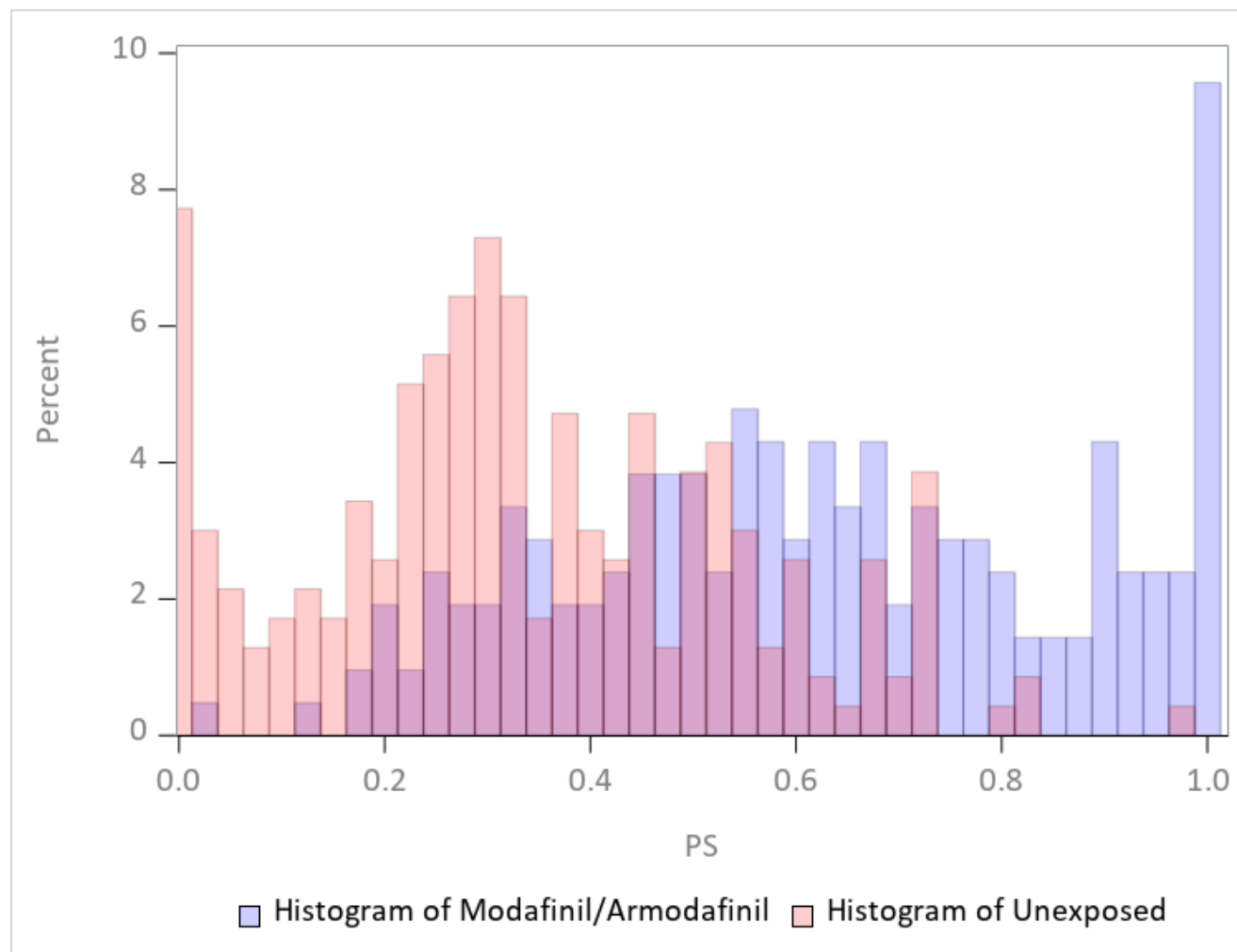


Figure 4c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

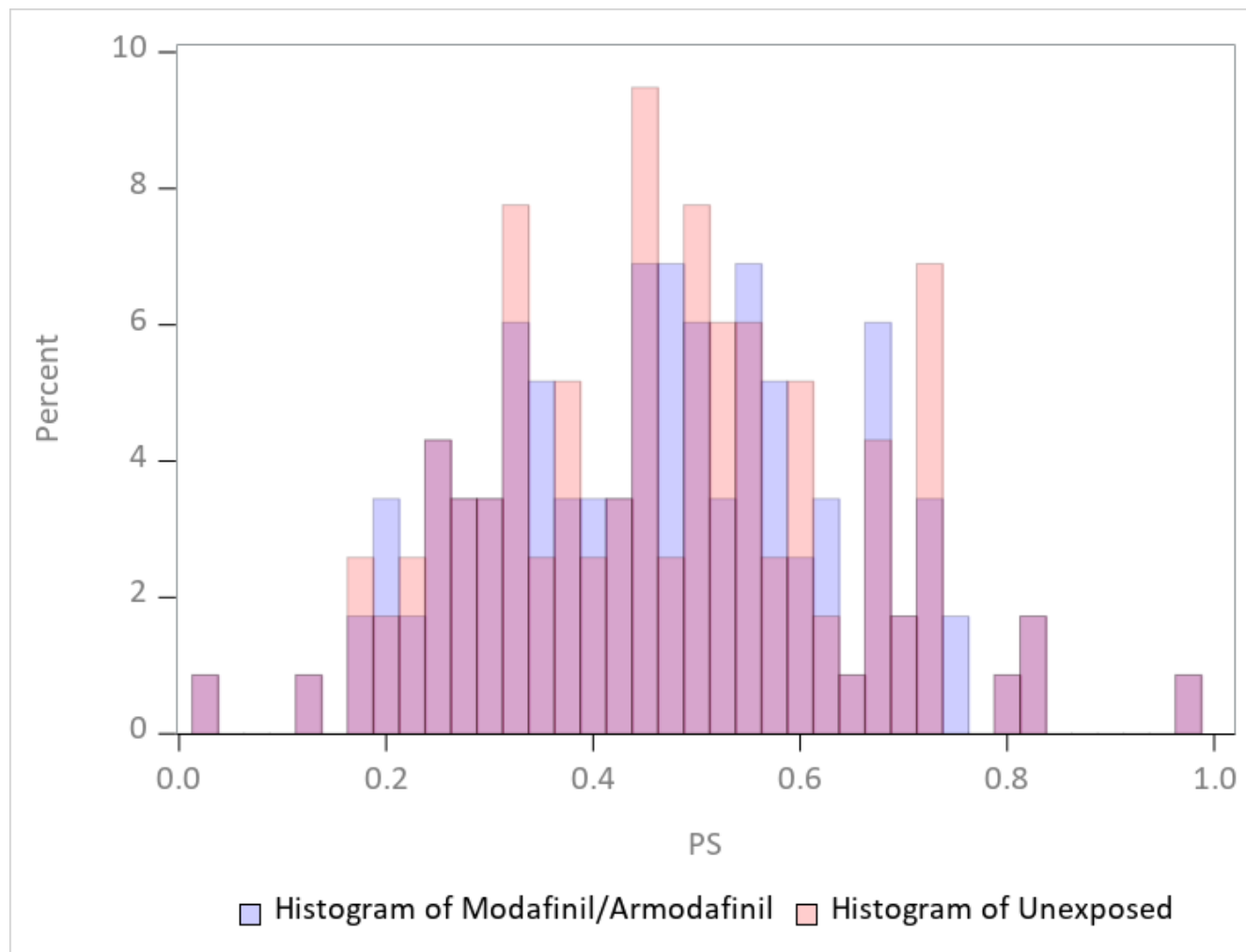


Figure 5a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Unadjusted Propensity Score Distribution

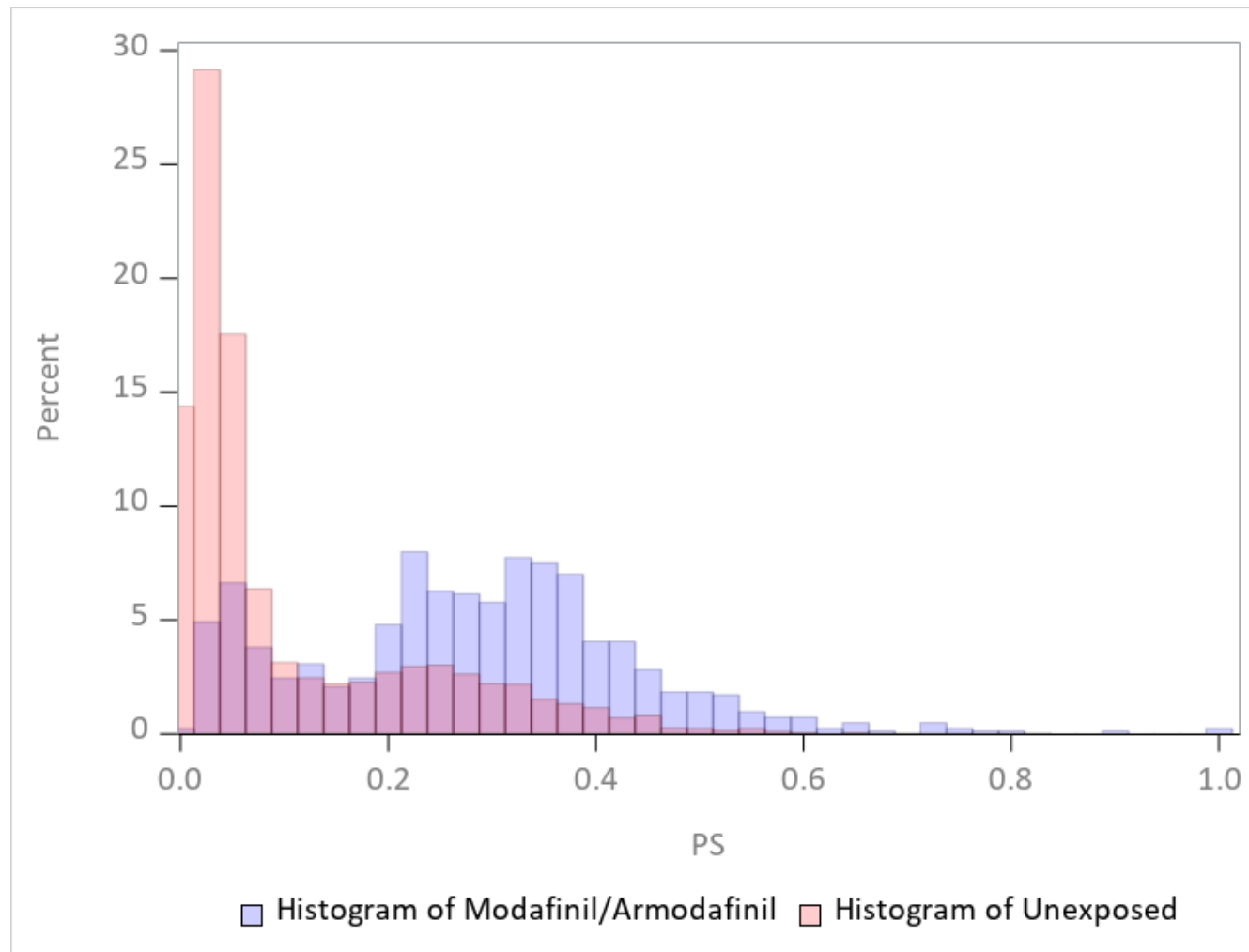


Figure 5a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

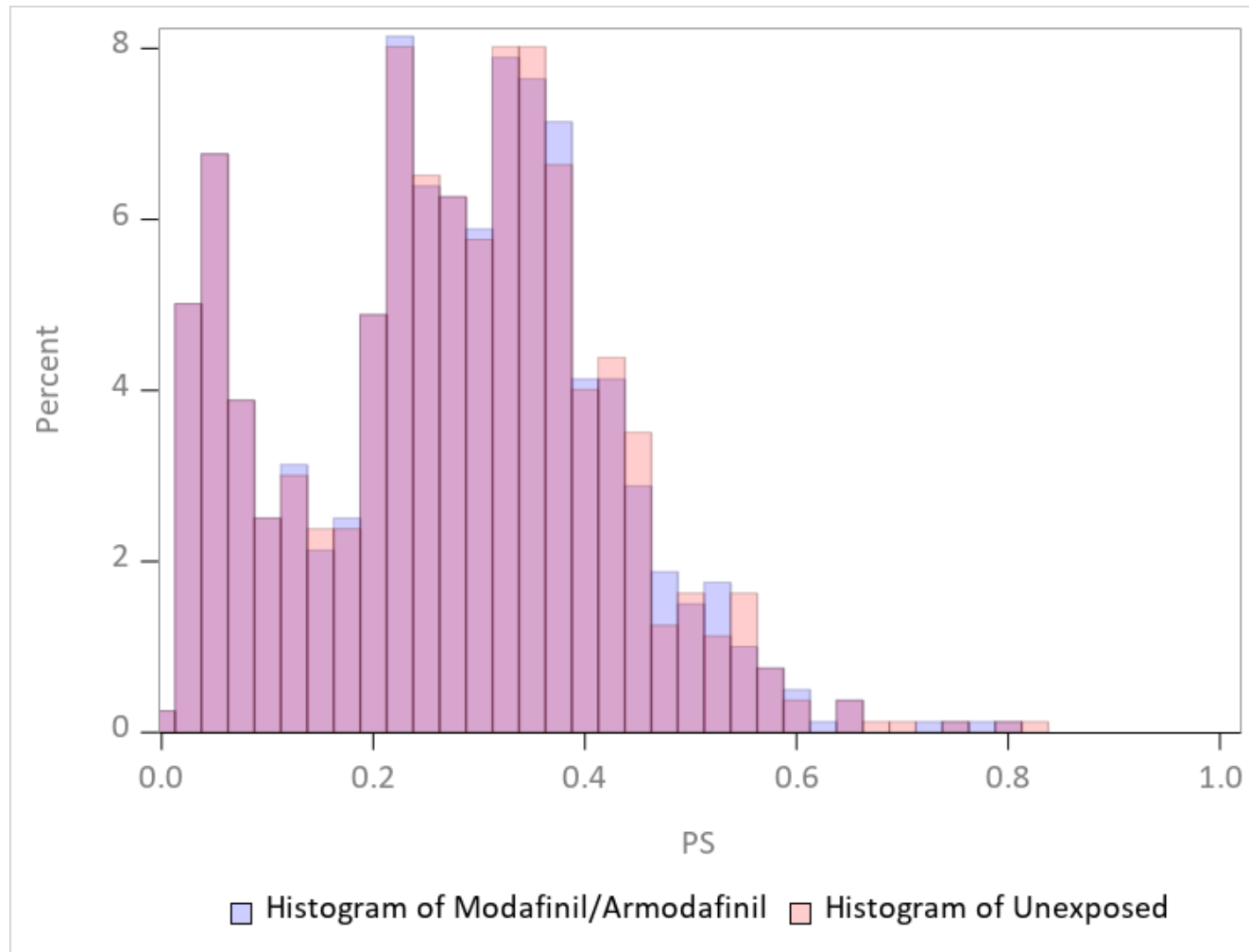


Figure 5b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Unadjusted Propensity Score Distribution

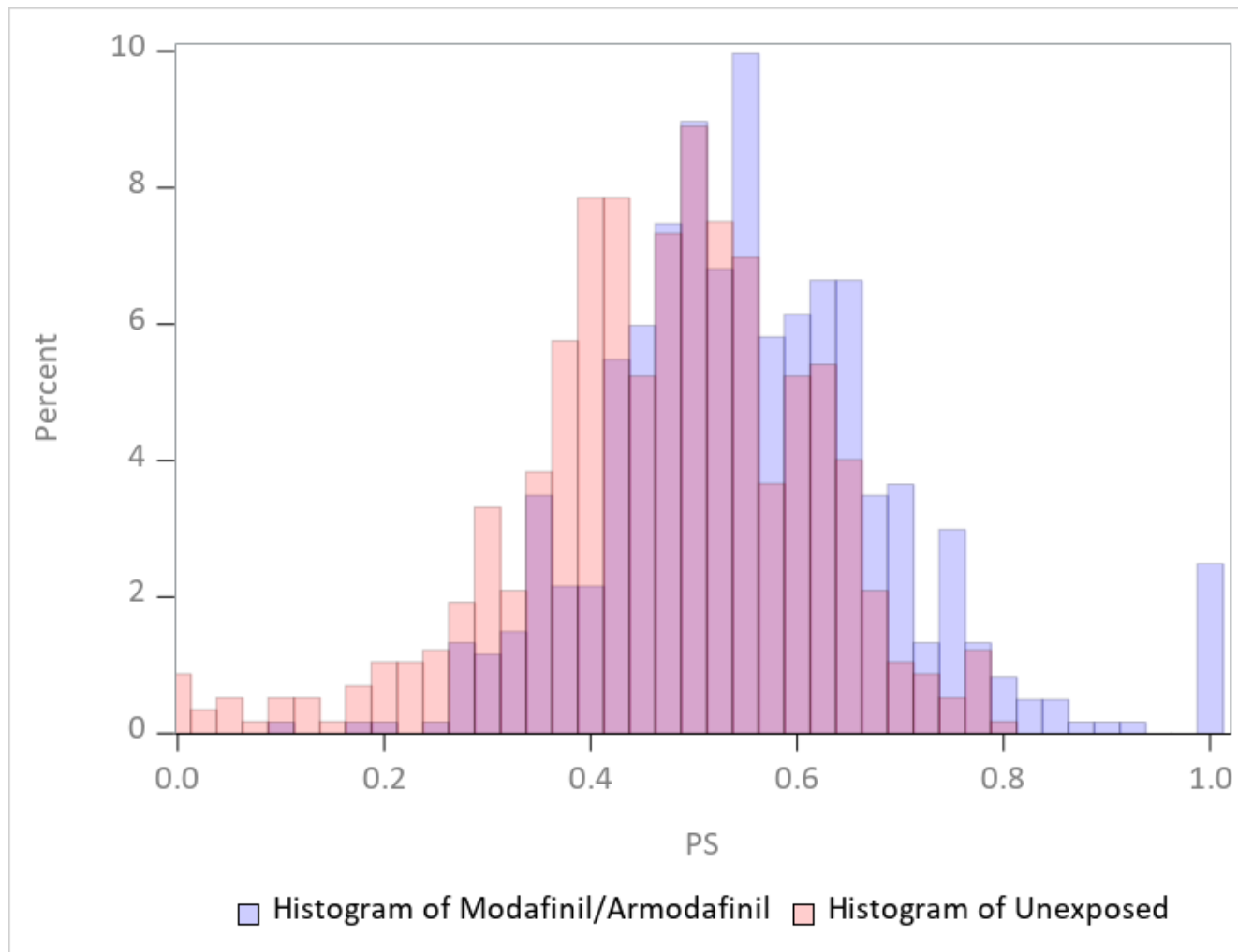


Figure 5b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

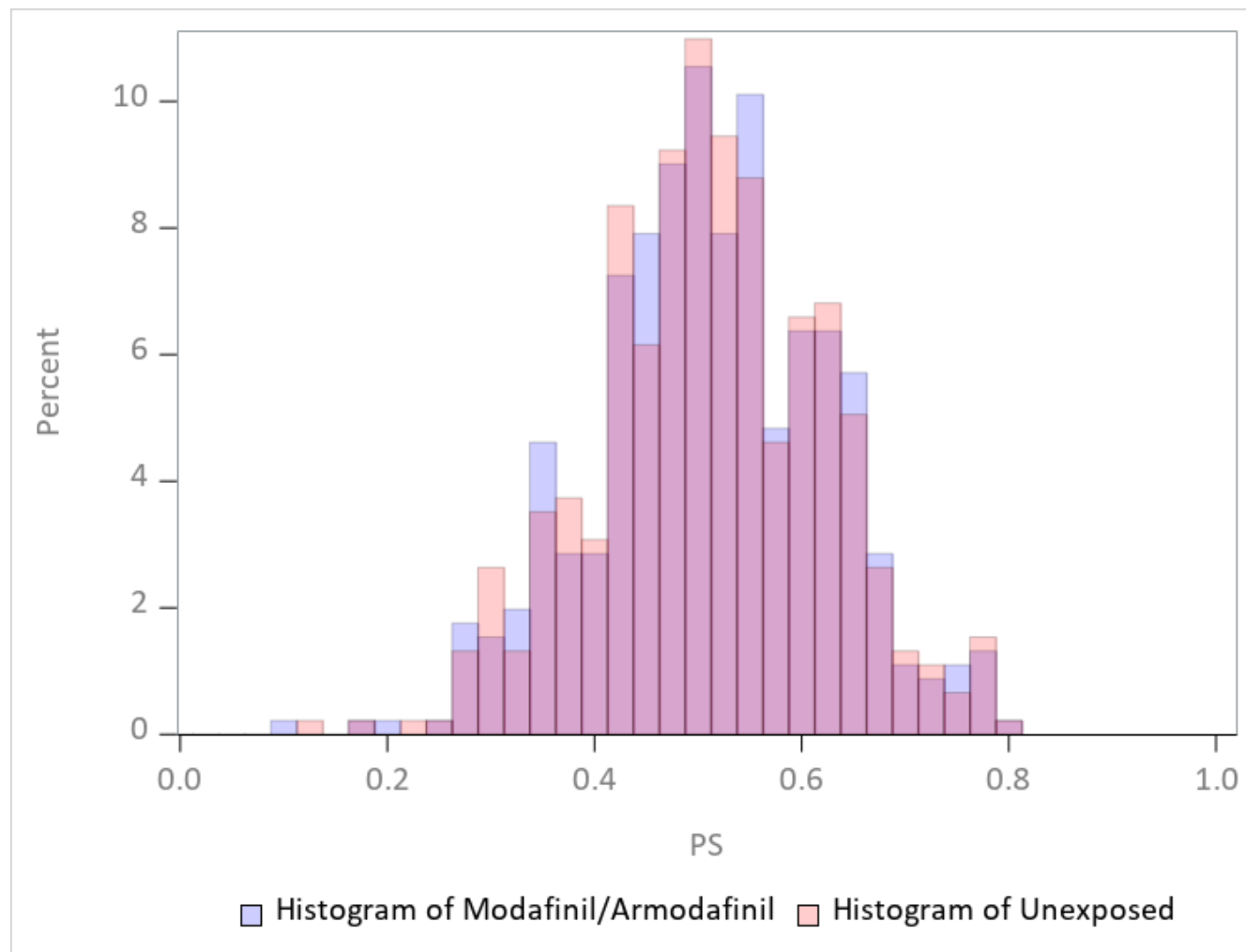


Figure 5c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Unadjusted Propensity Score Distribution

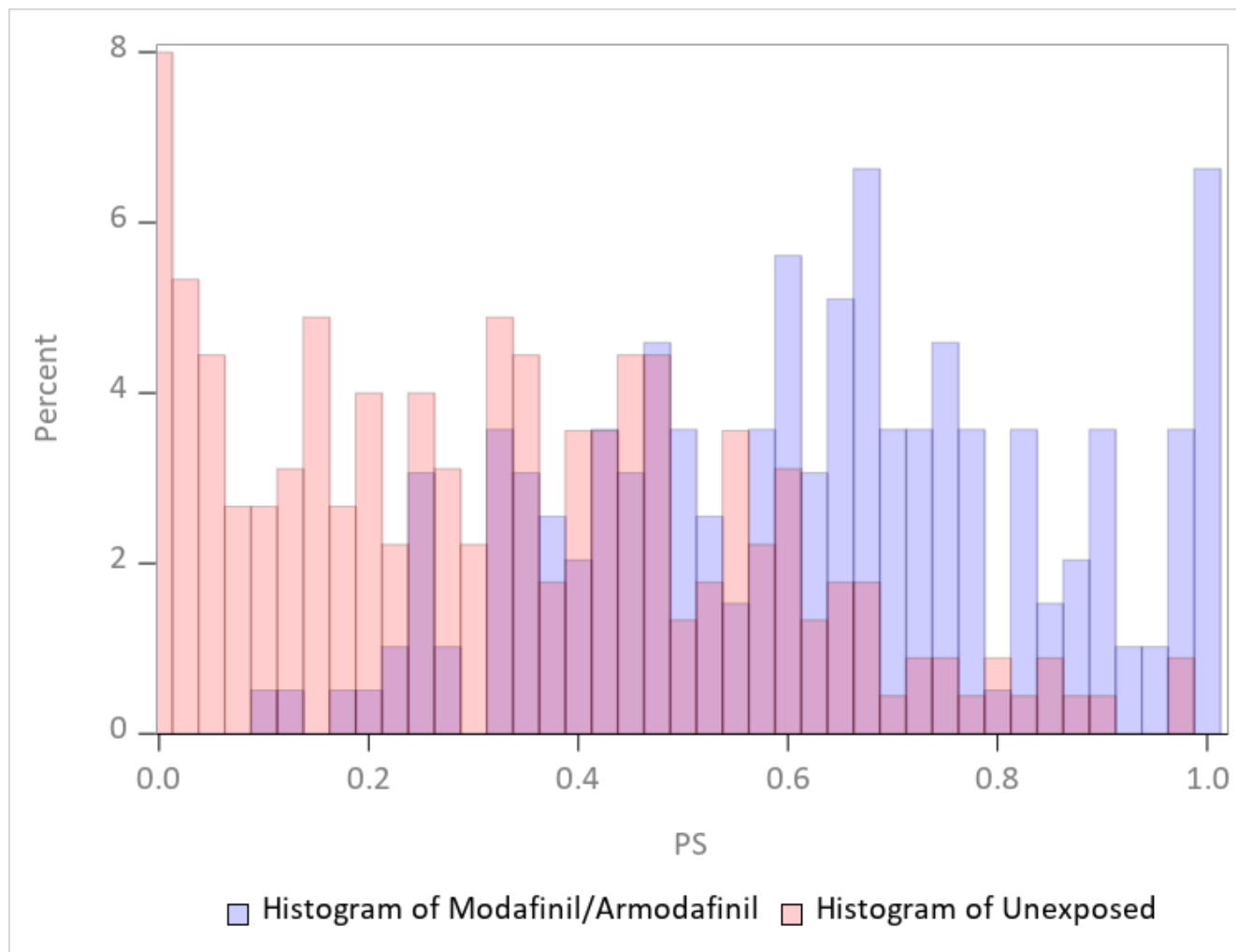


Figure 5c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

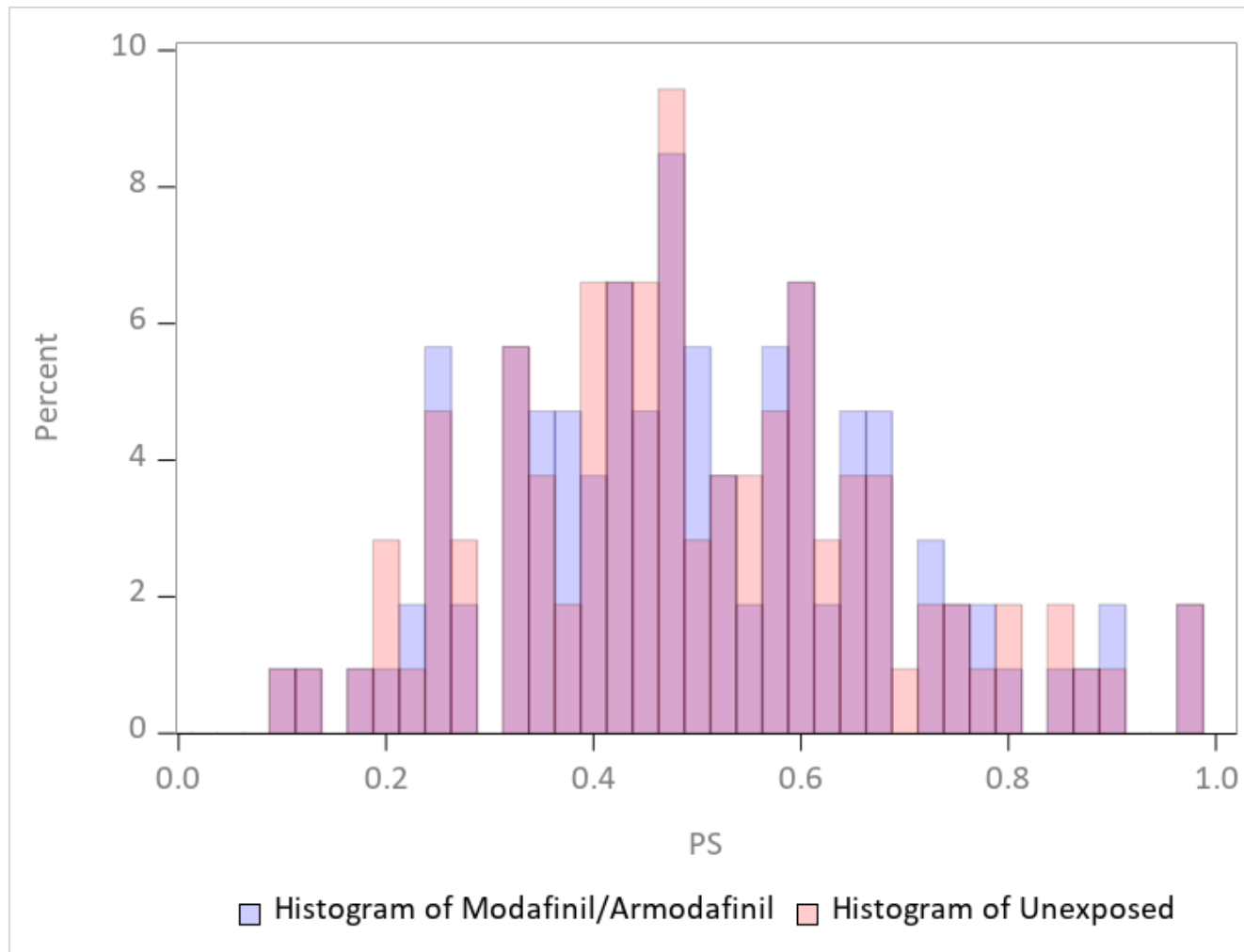


Figure 5d. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing

Unadjusted Propensity Score Distribution

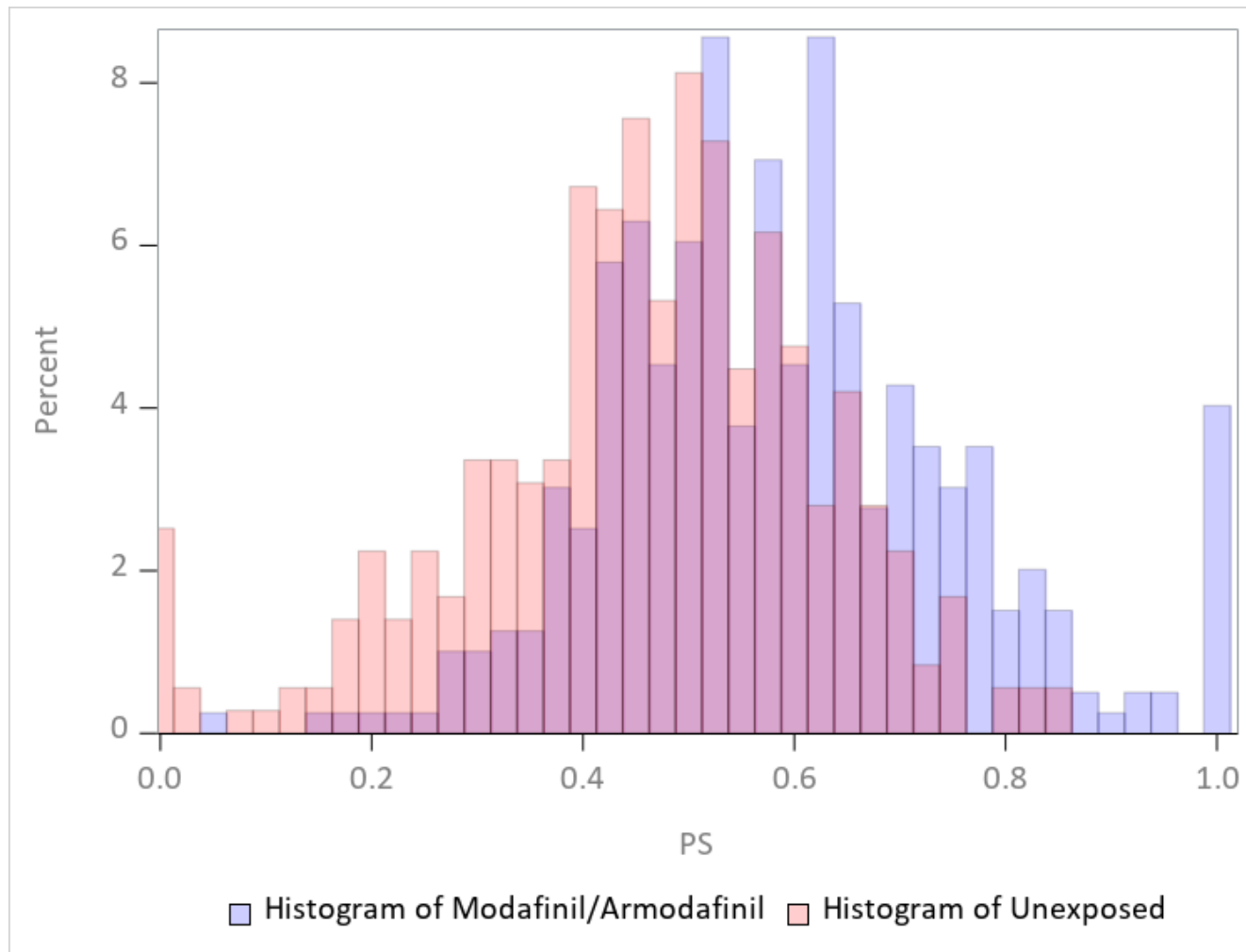


Figure 5d. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

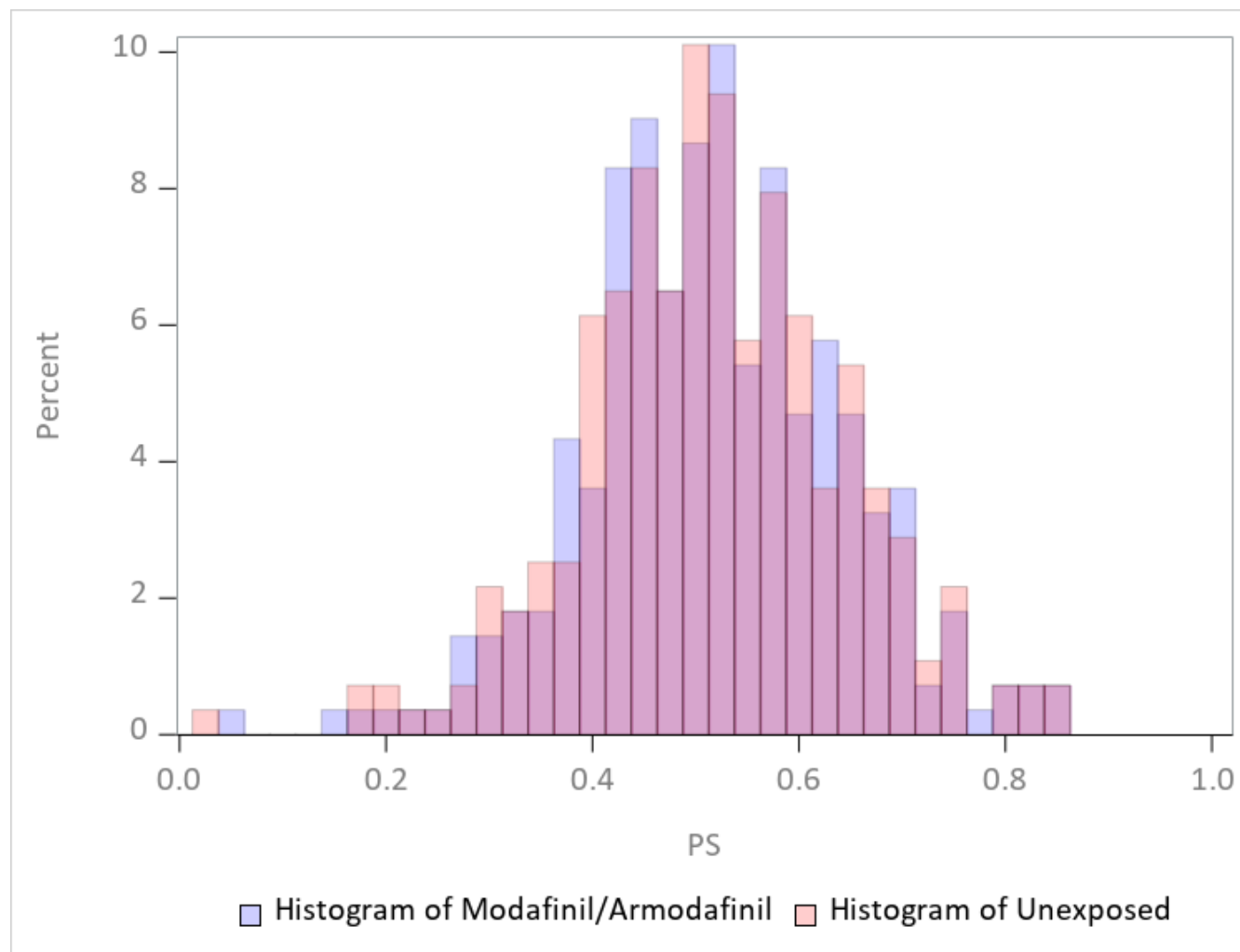


Figure 5e. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings

Unadjusted Propensity Score Distribution

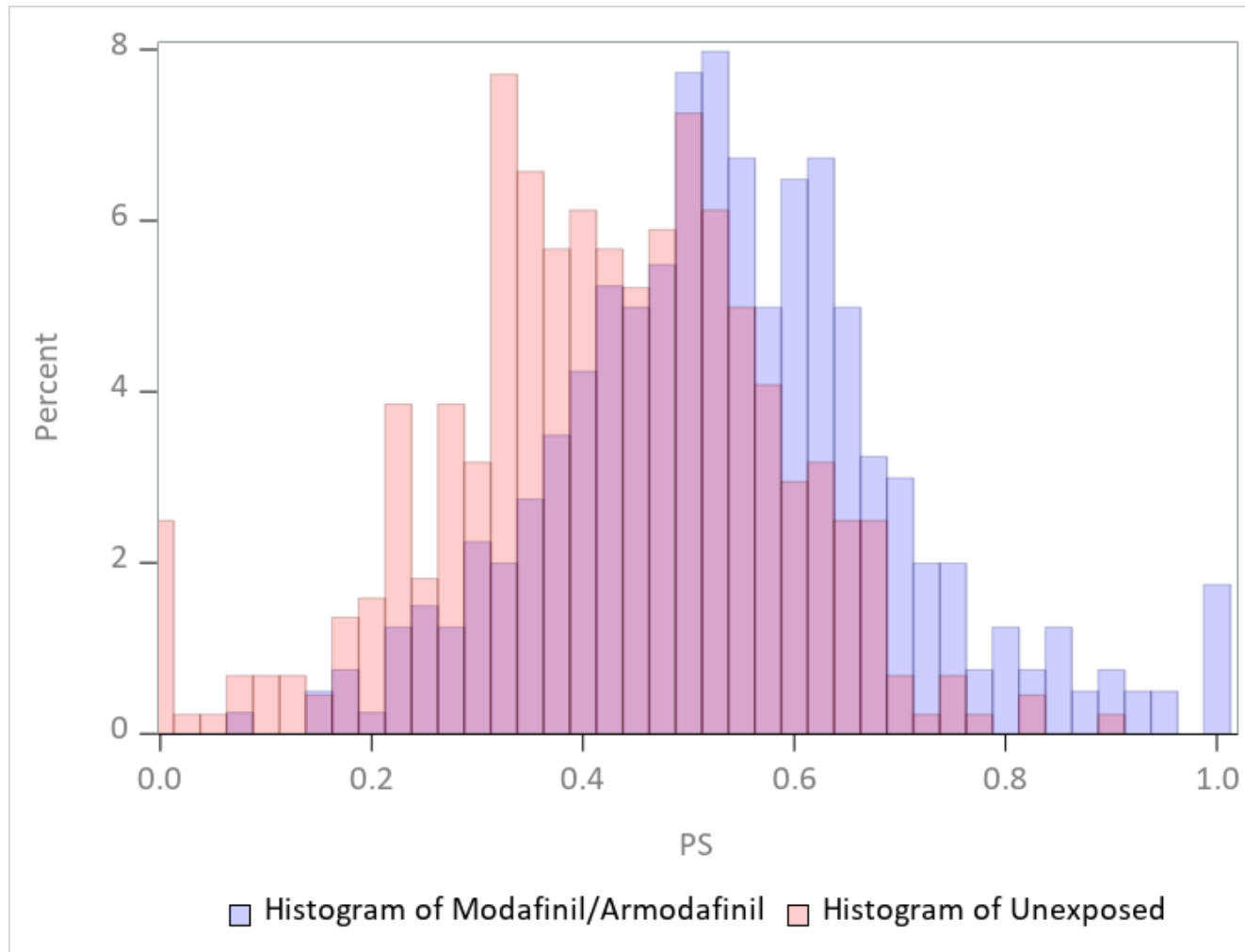


Figure 5e. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

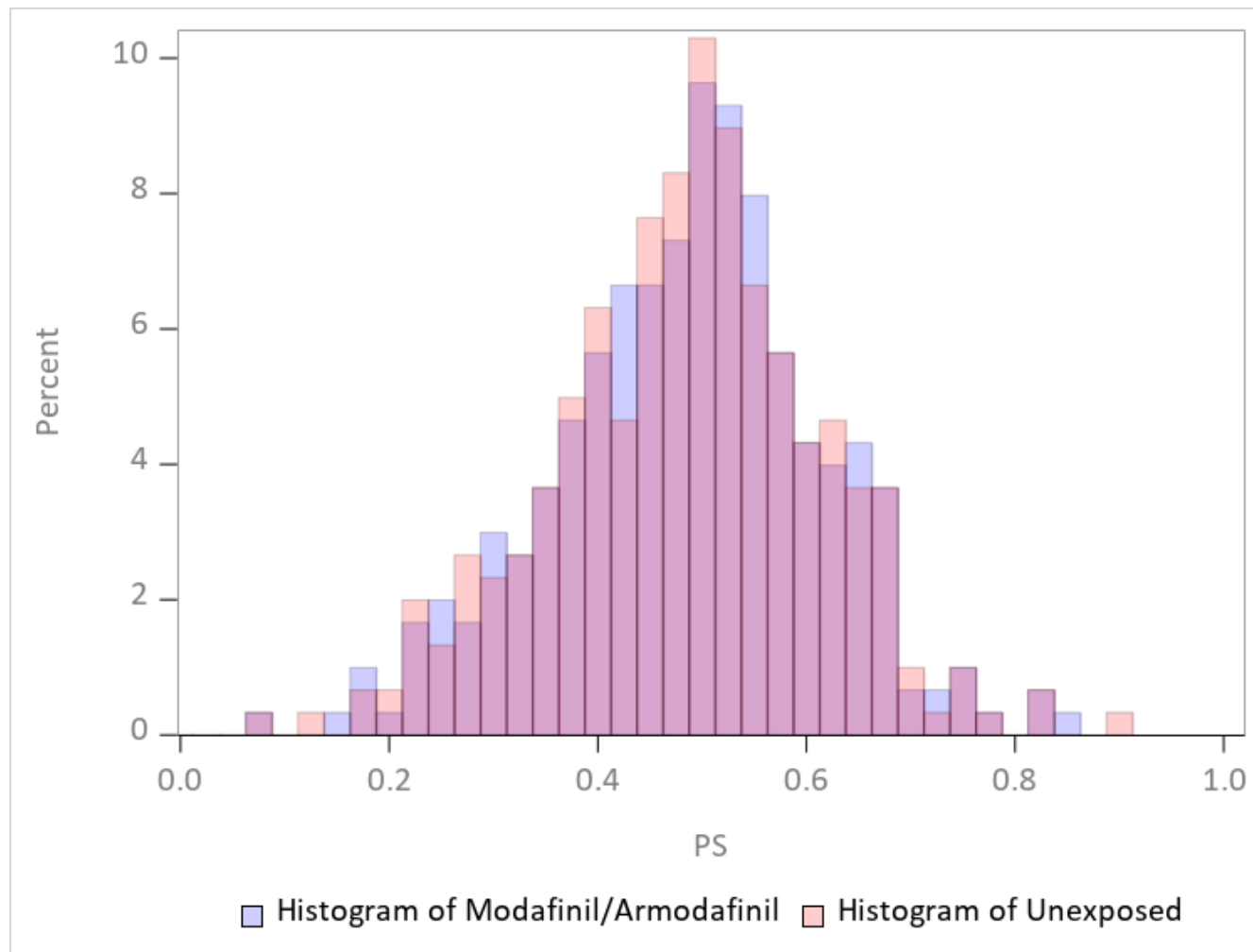


Figure 6a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Unadjusted Propensity Score Distribution

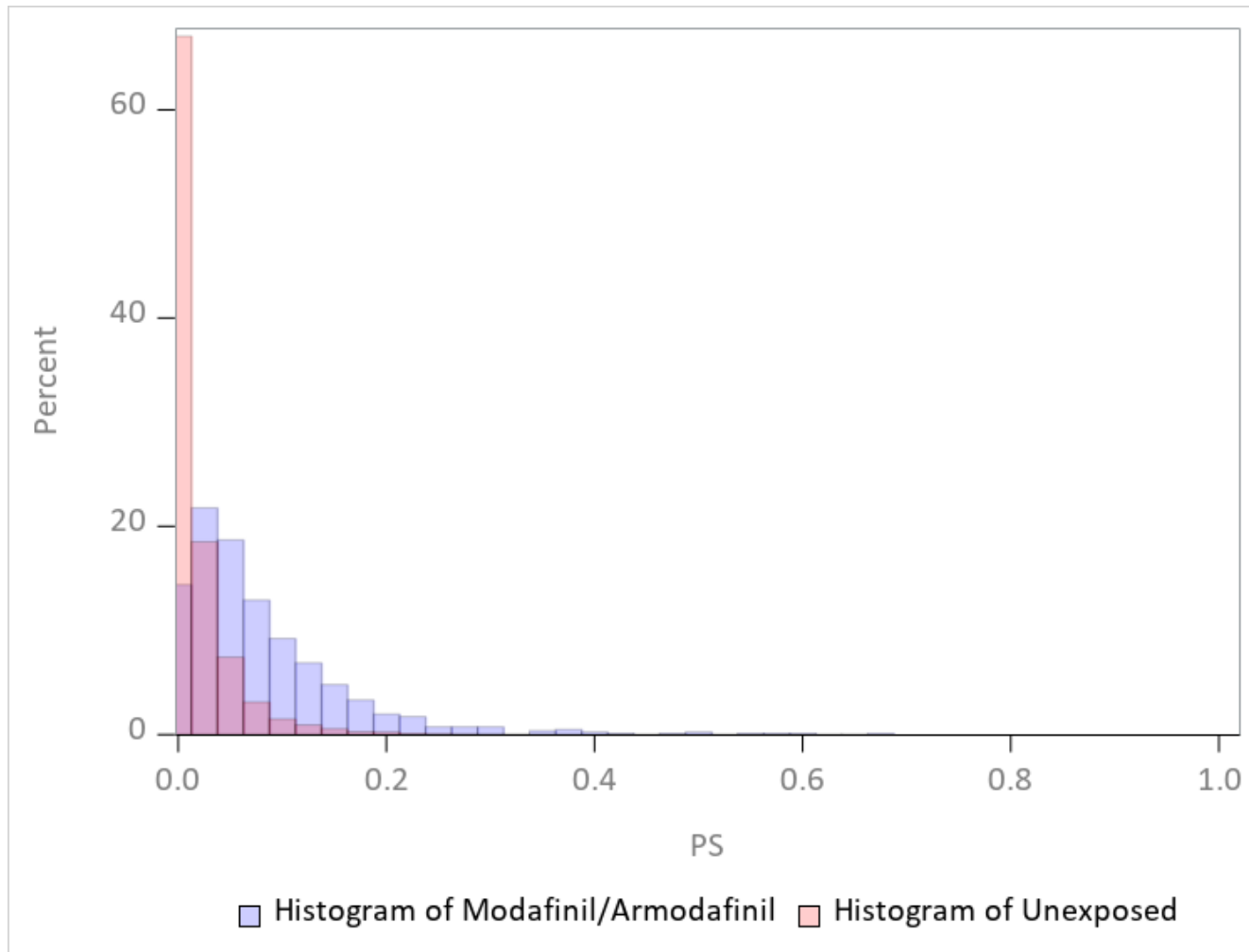


Figure 6a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

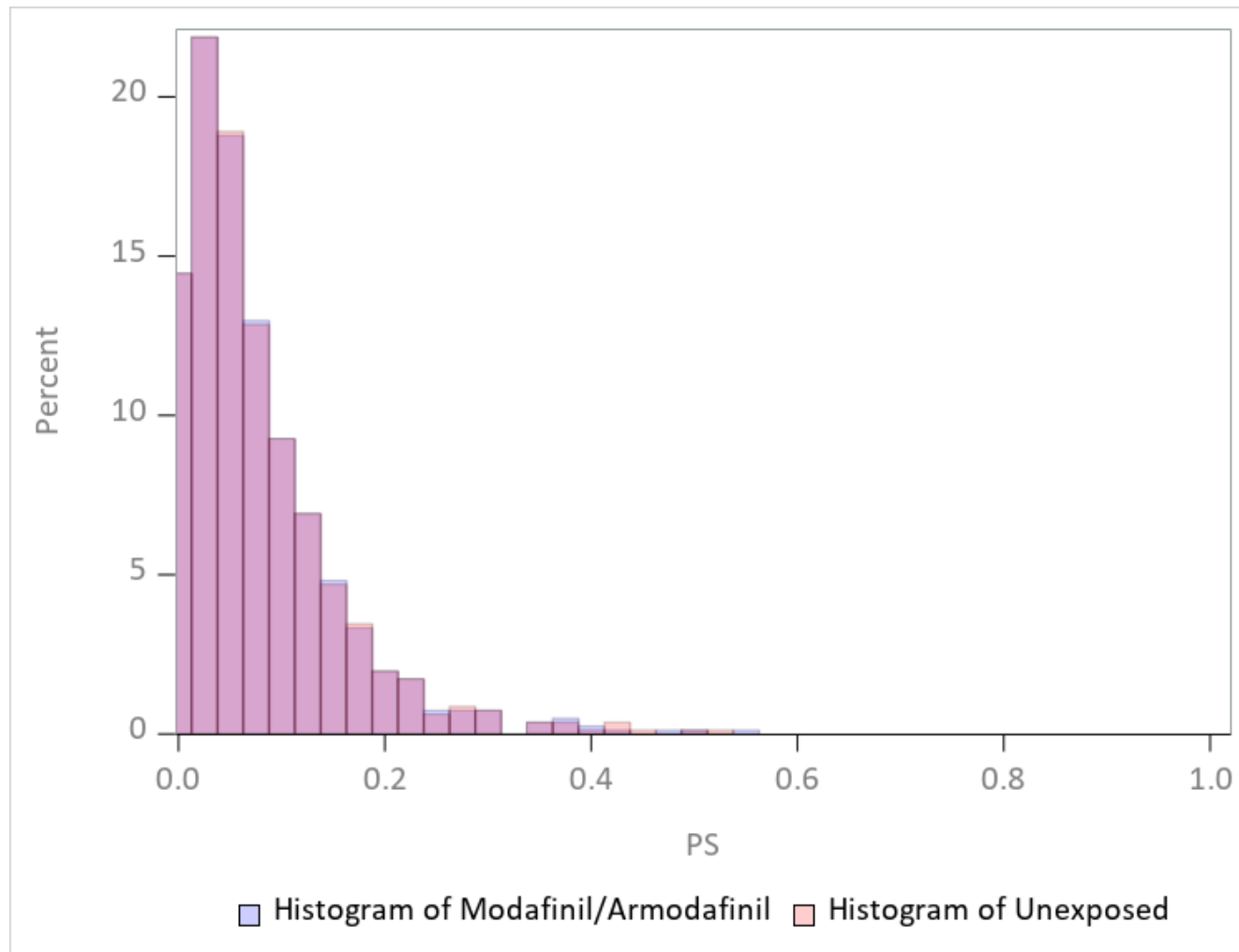


Figure 6b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Unadjusted Propensity Score Distribution

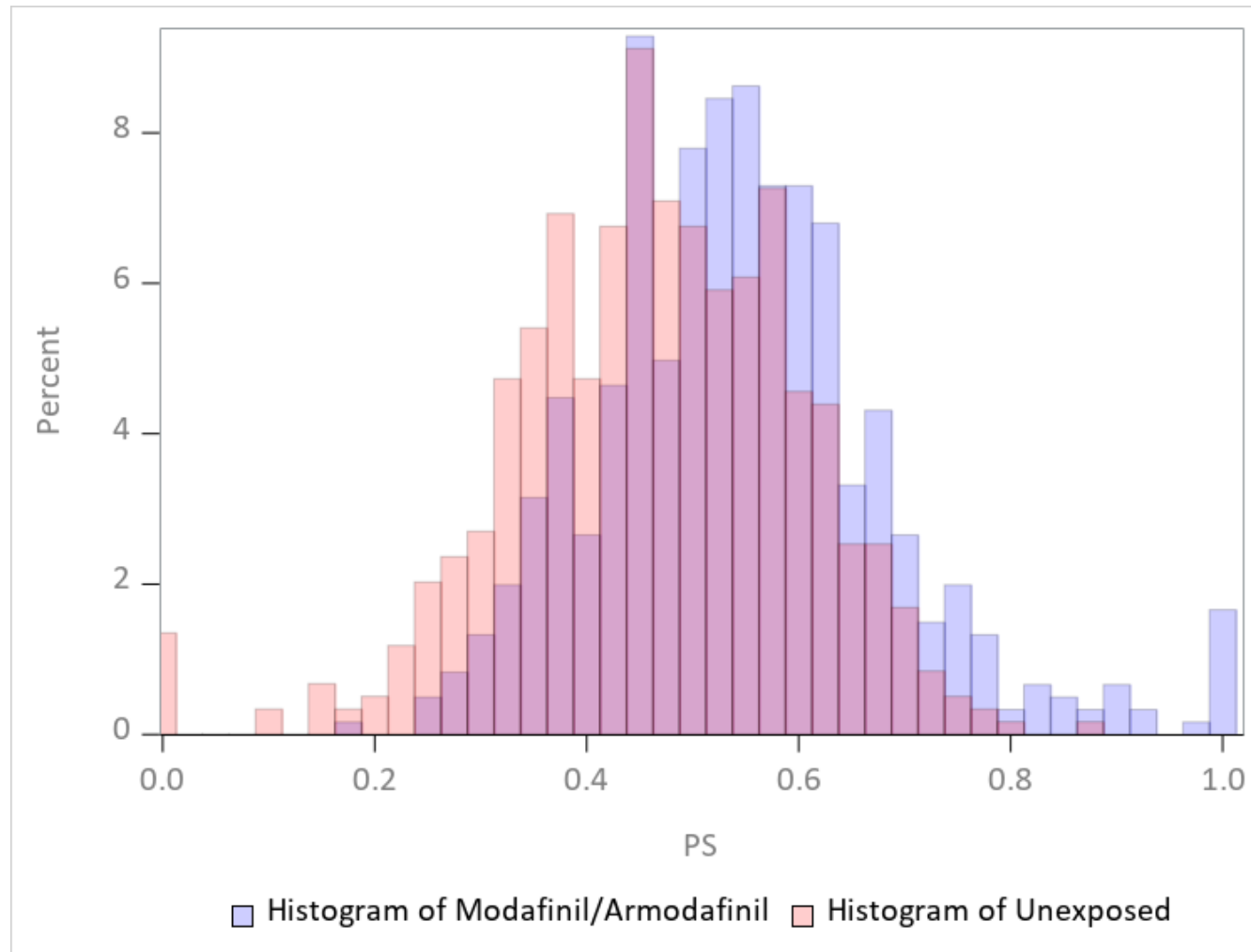


Figure 6b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

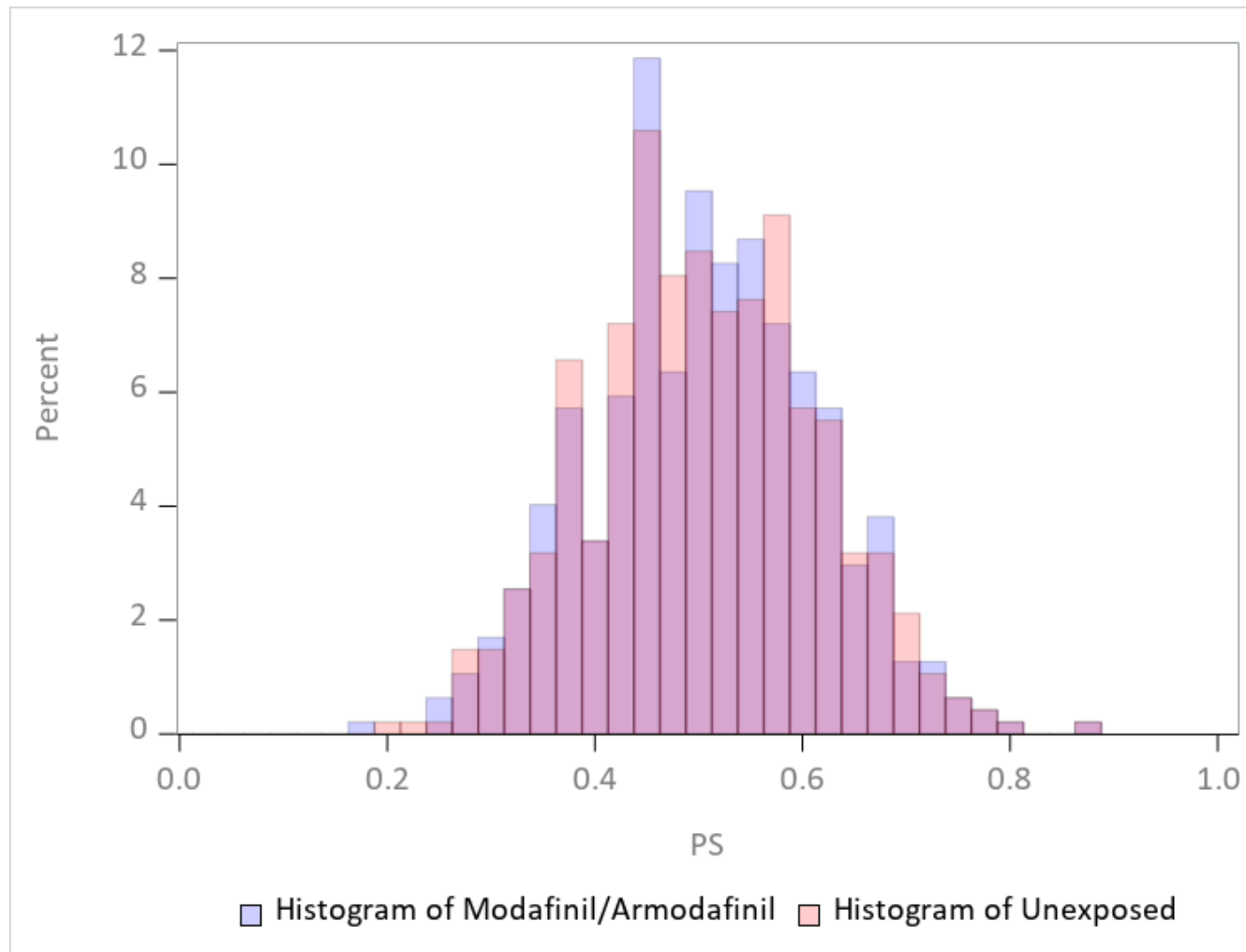


Figure 6c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Unadjusted Propensity Score Distribution

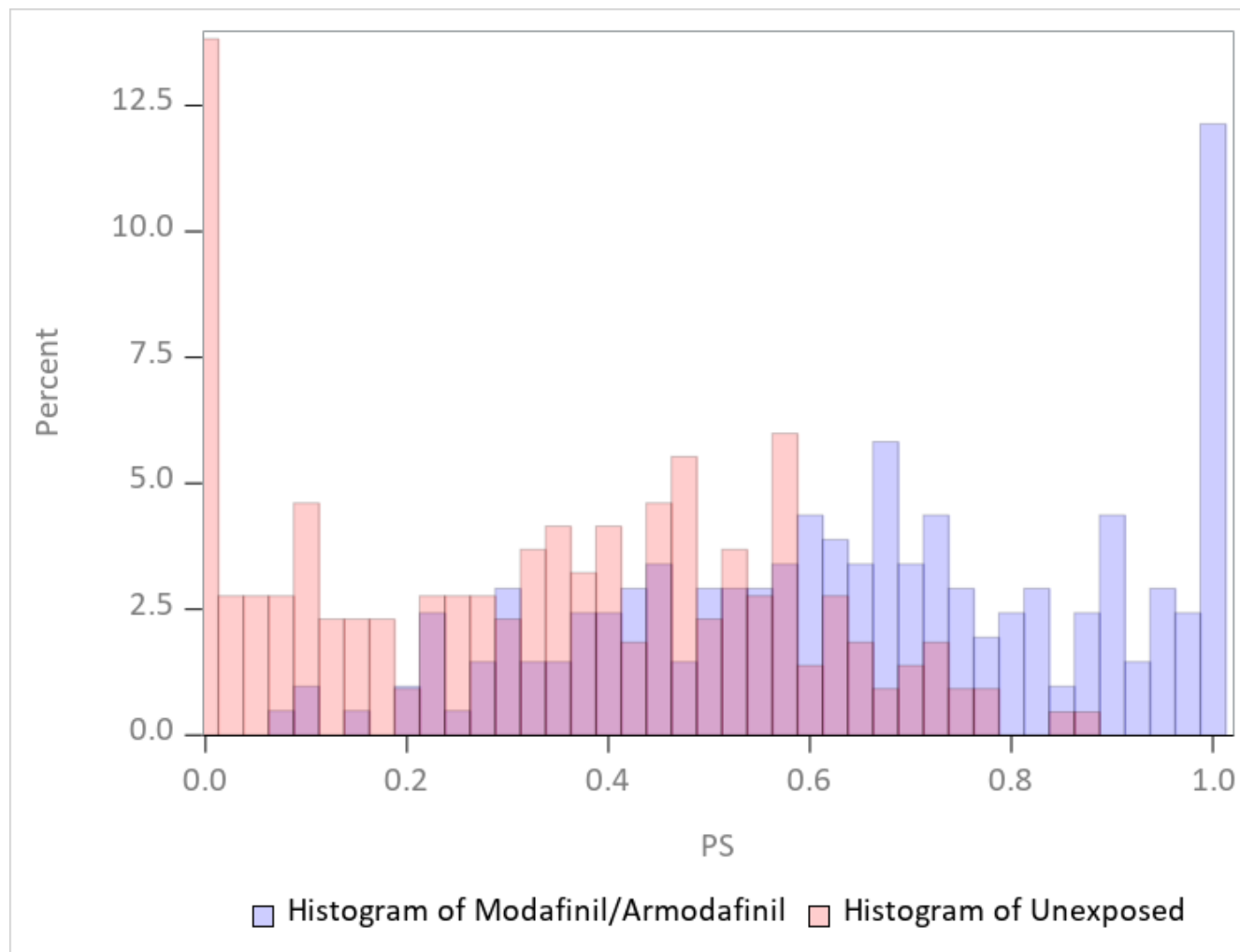


Figure 6c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

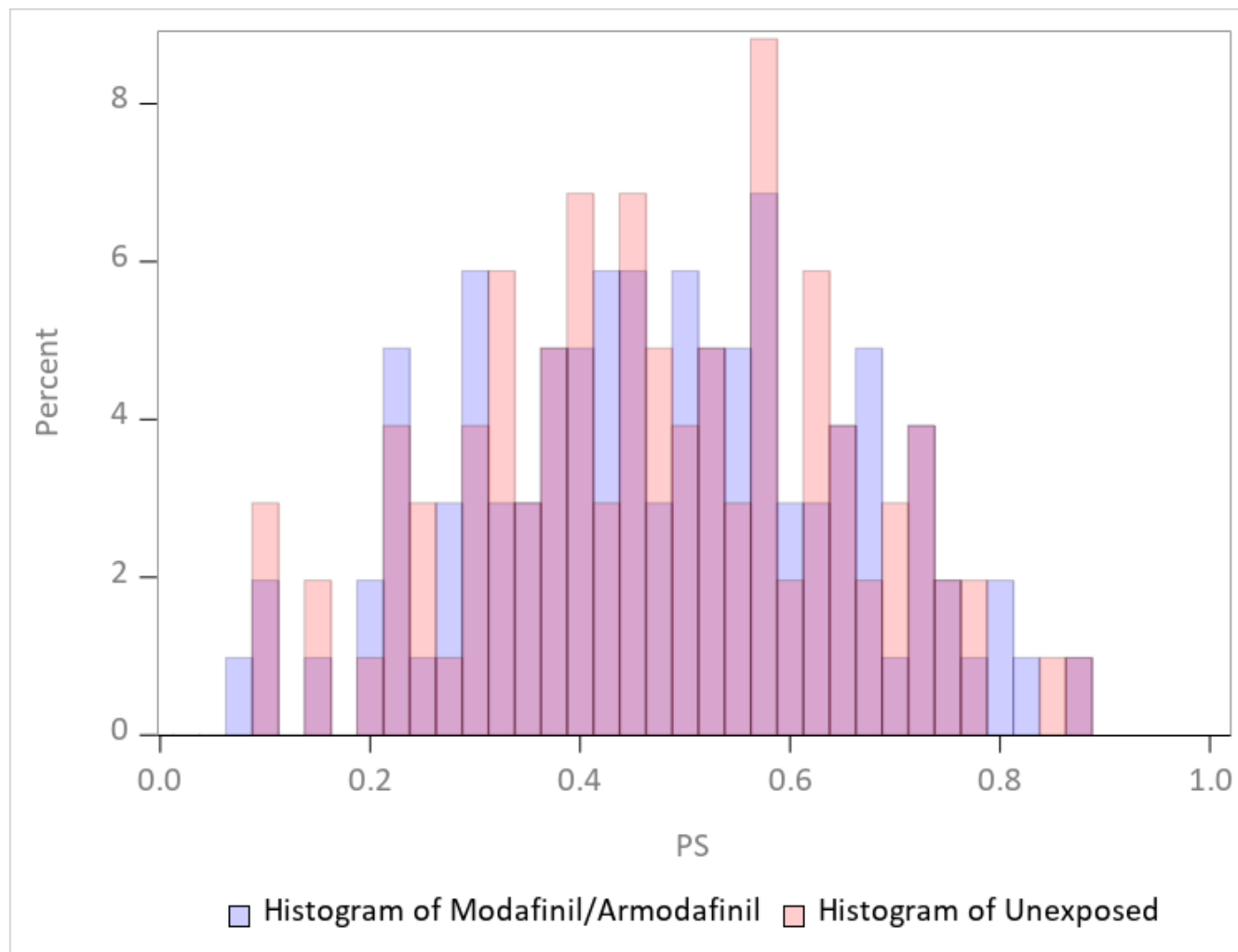


Figure 6d. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing

Unadjusted Propensity Score Distribution

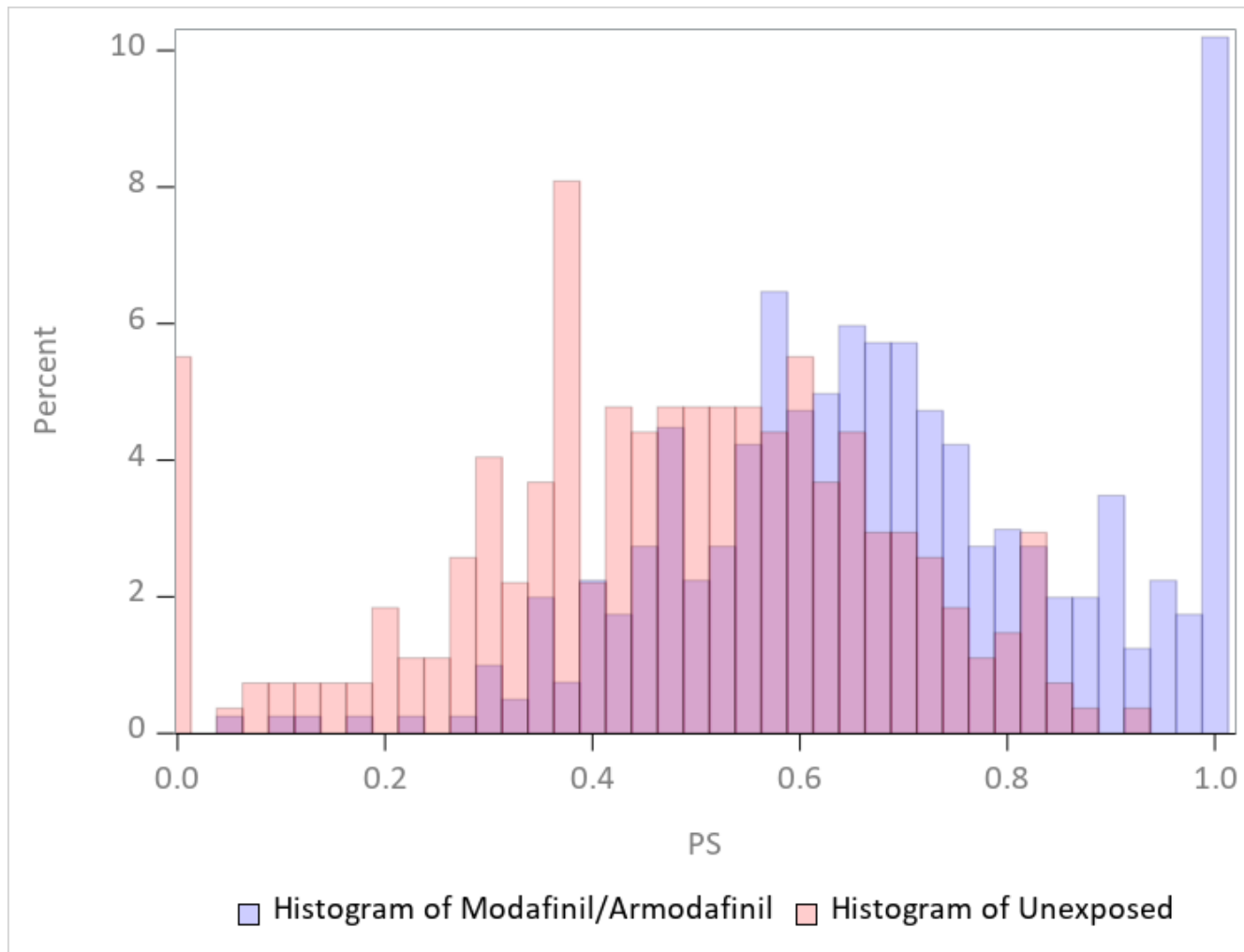


Figure 6d. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

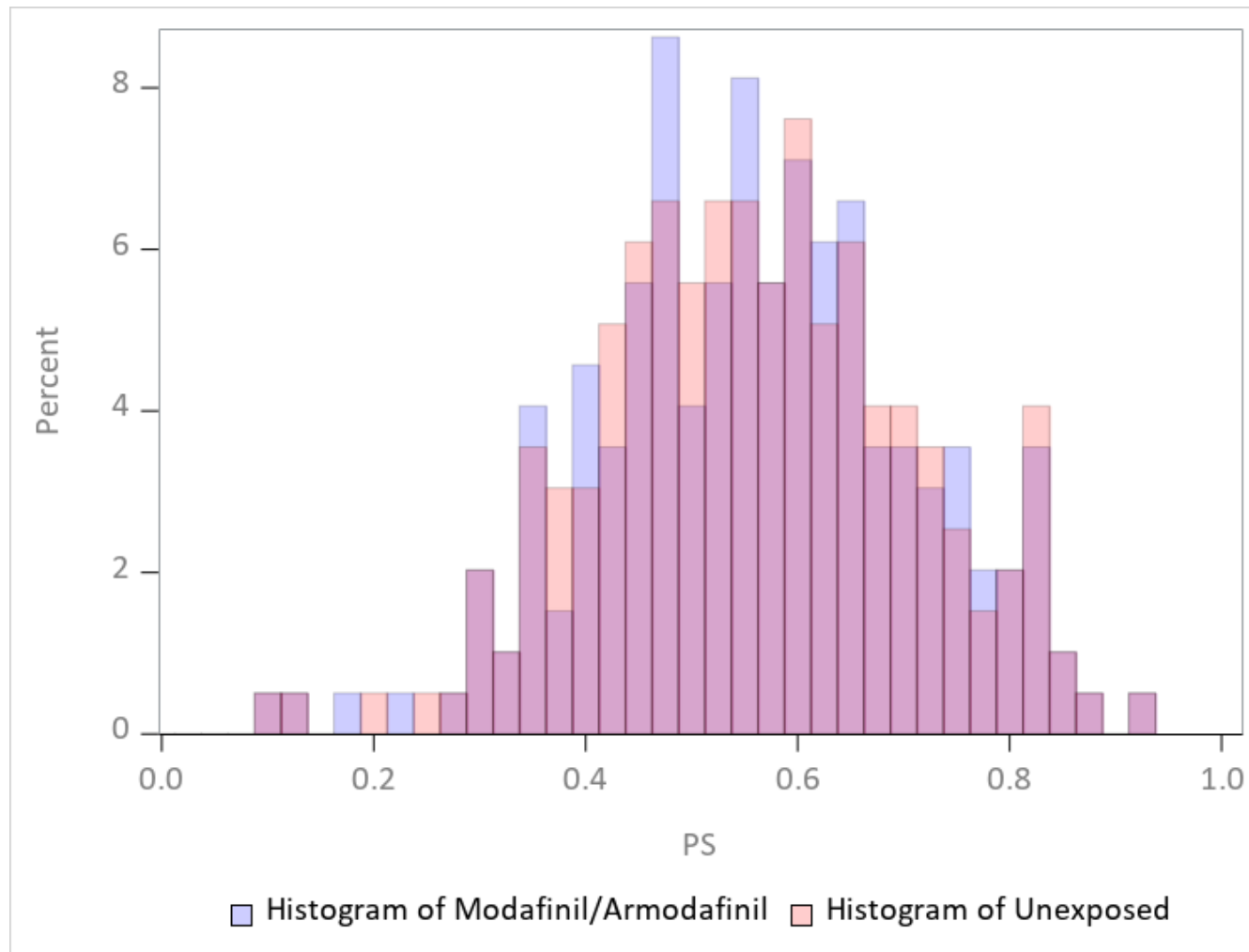


Figure 6e. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings

Unadjusted Propensity Score Distribution

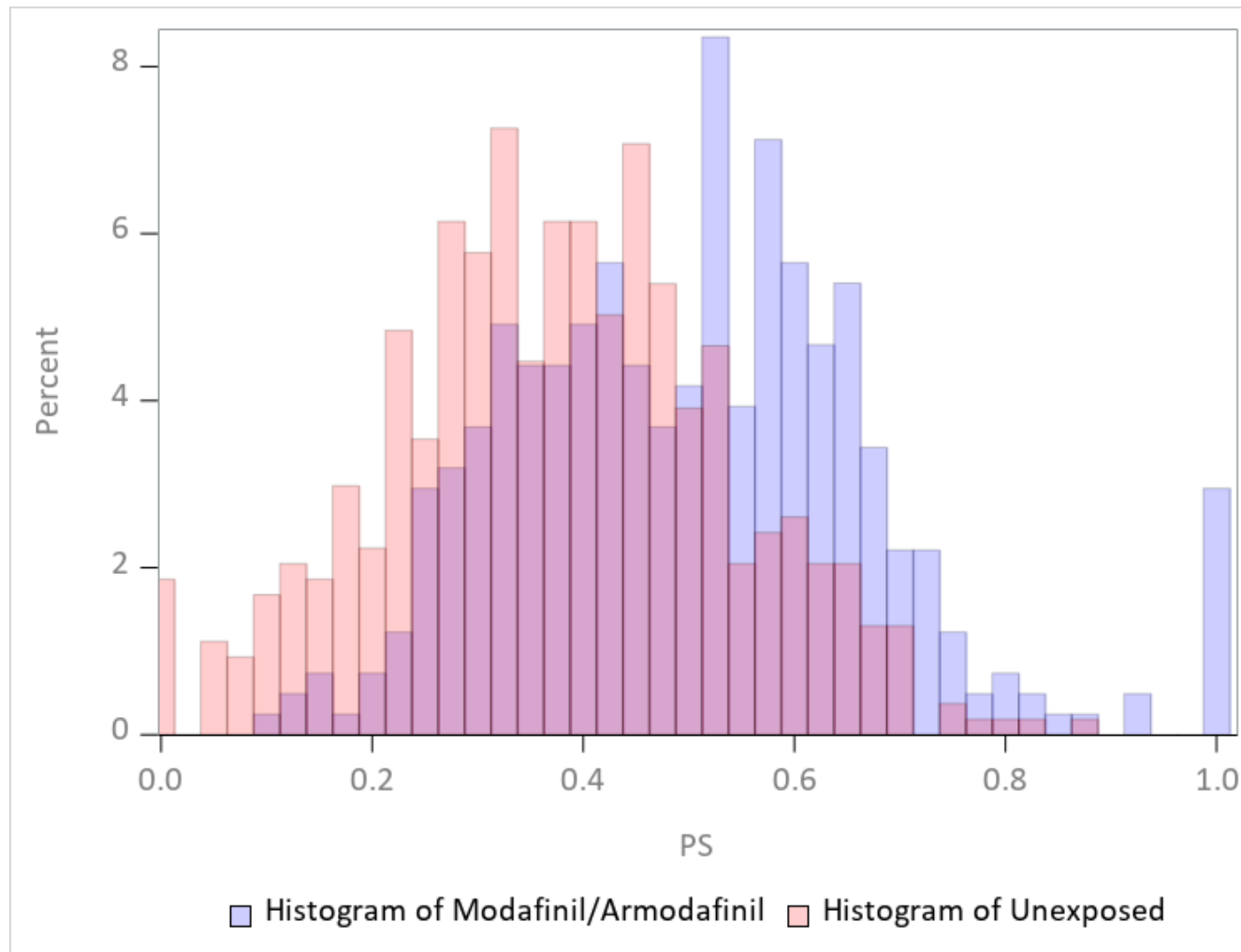


Figure 6e. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Urinary Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

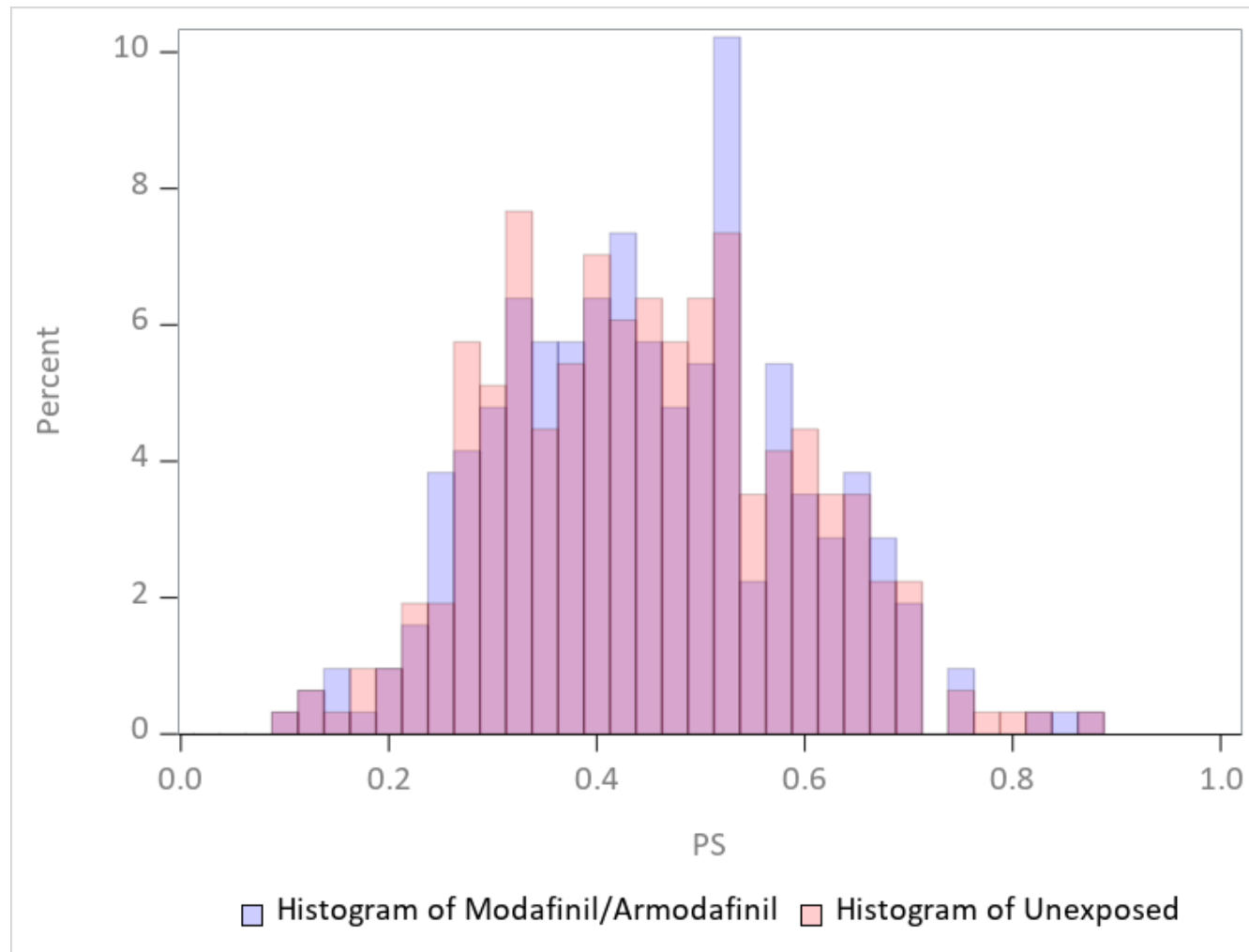


Figure 7a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Unadjusted Propensity Score Distribution

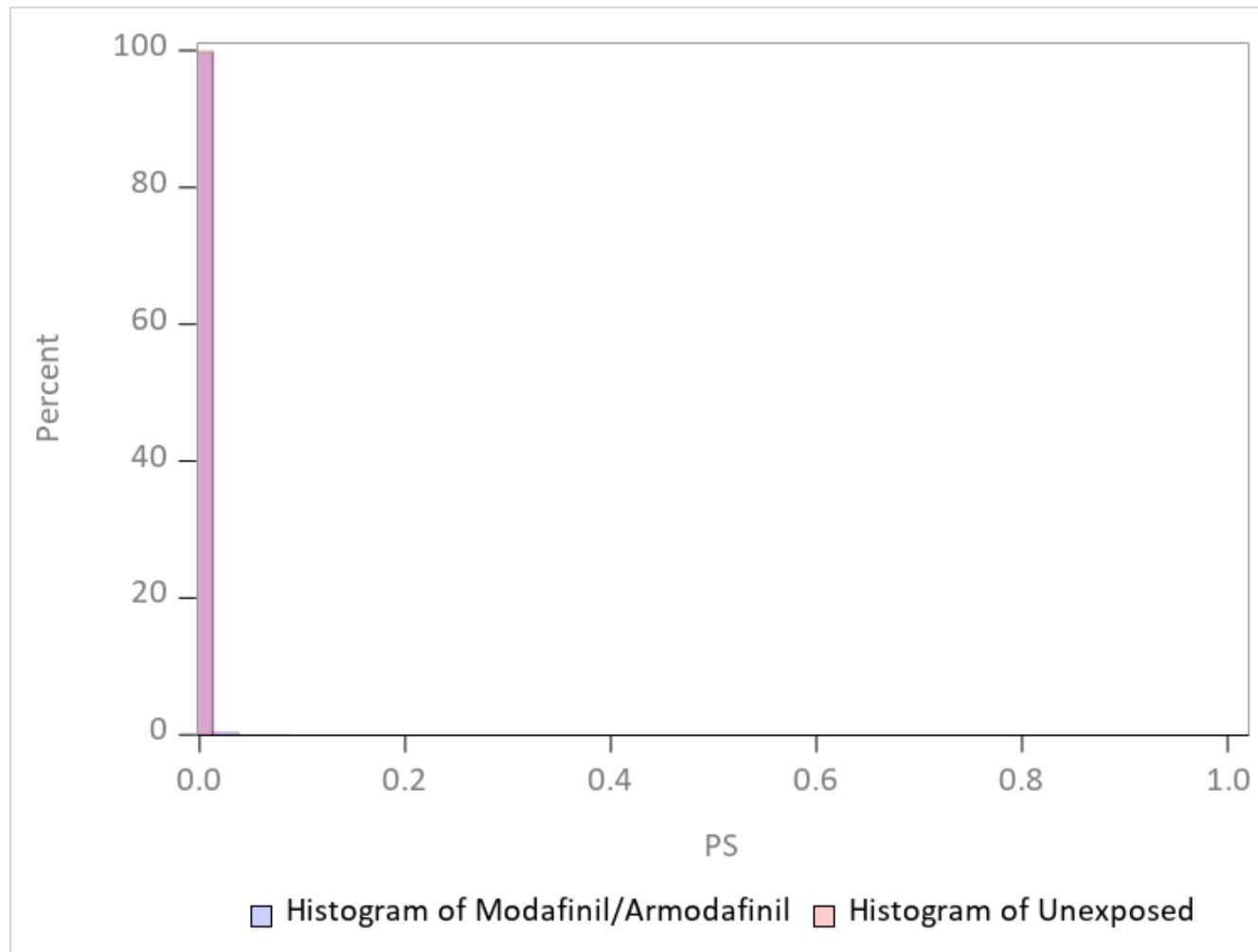


Figure 7a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

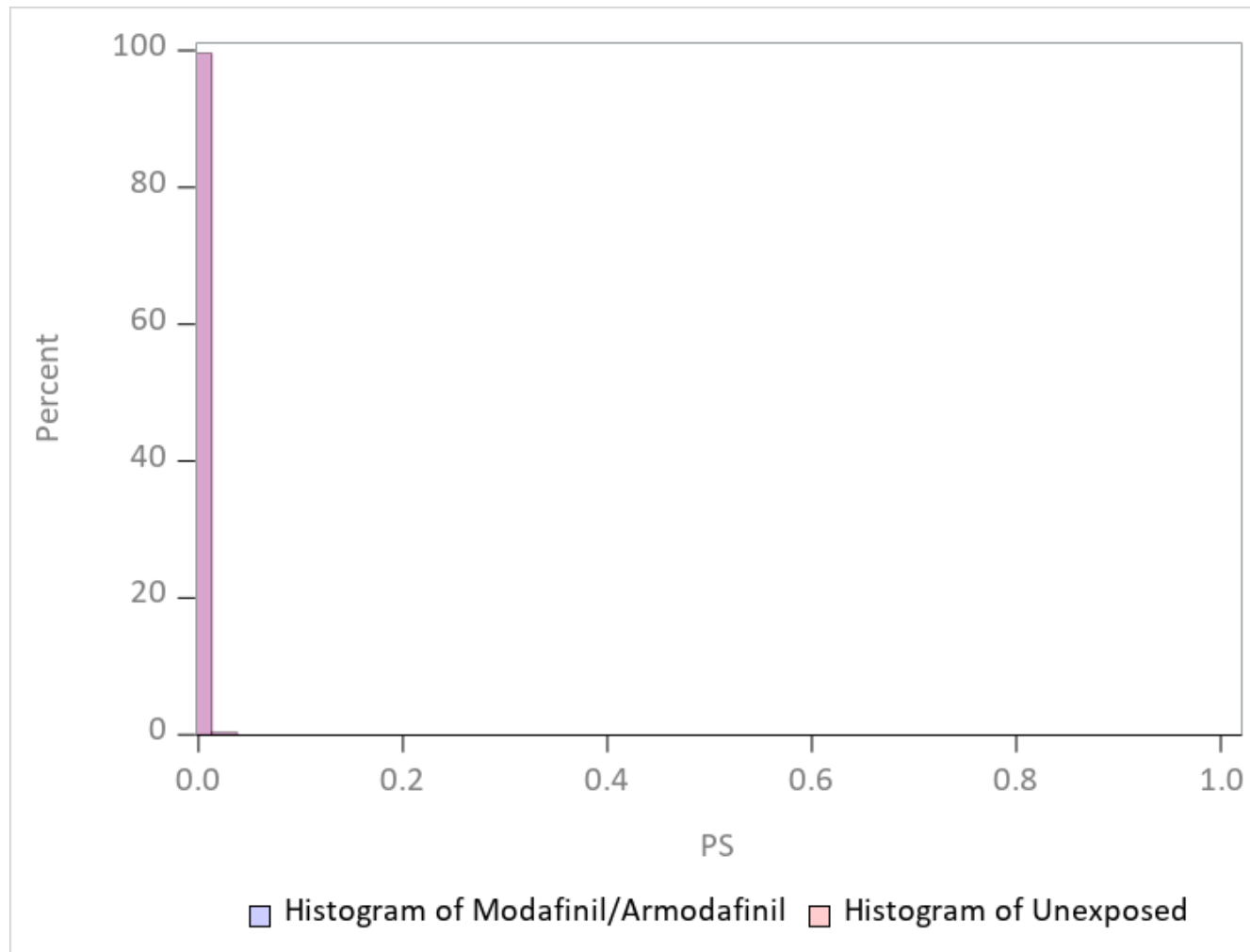


Figure 7b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Unadjusted Propensity Score Distribution

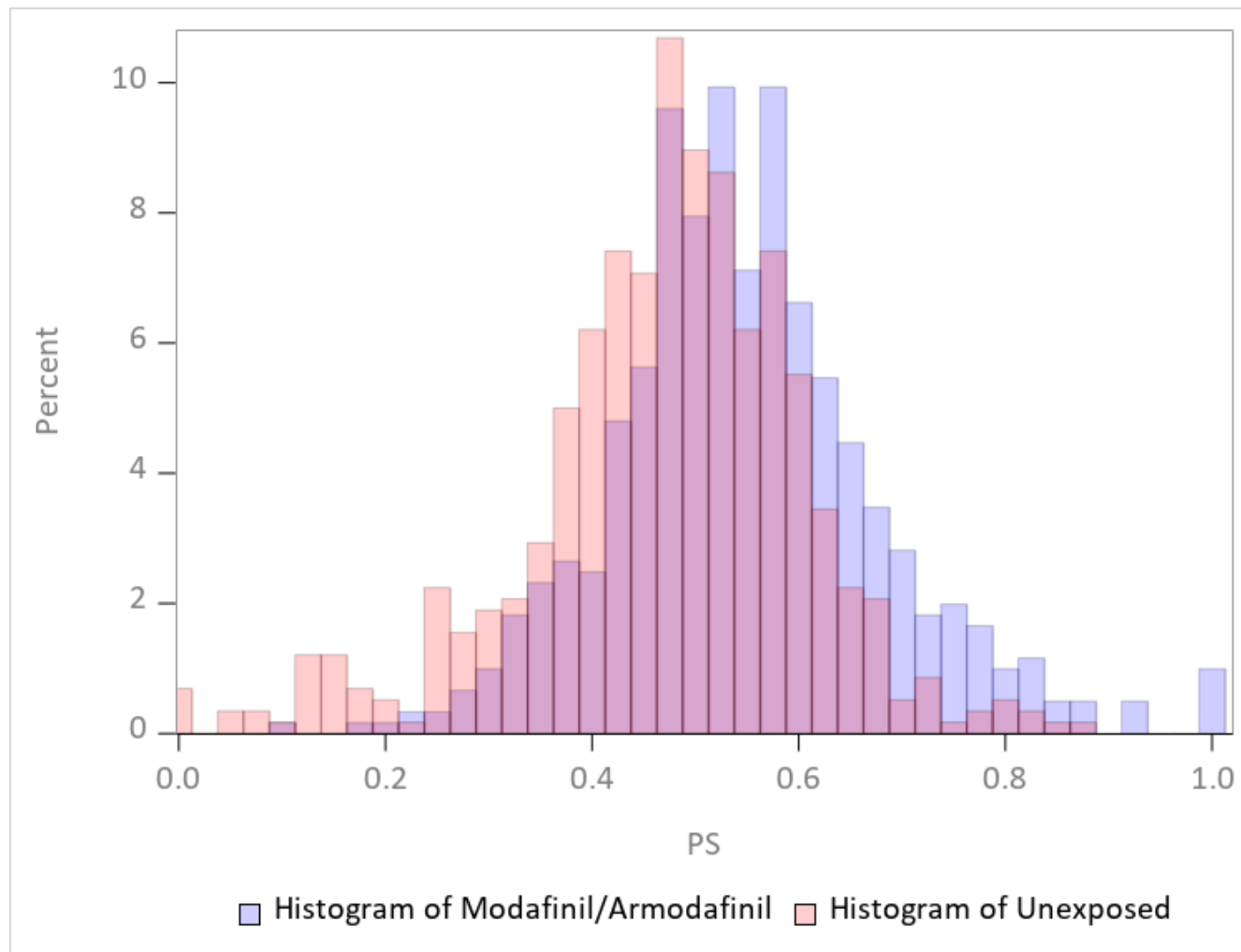


Figure 7b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

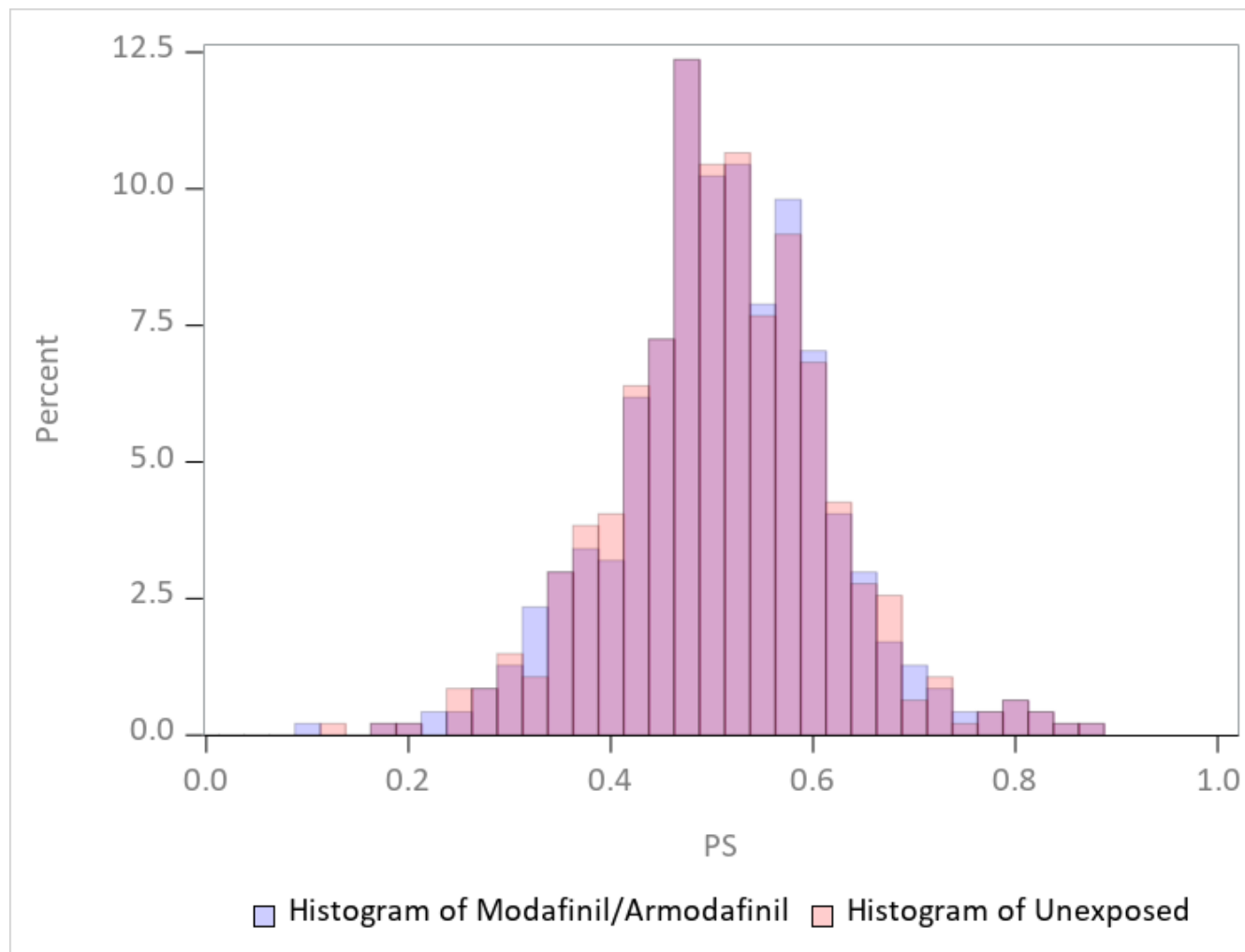


Figure 7c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Unadjusted Propensity Score Distribution

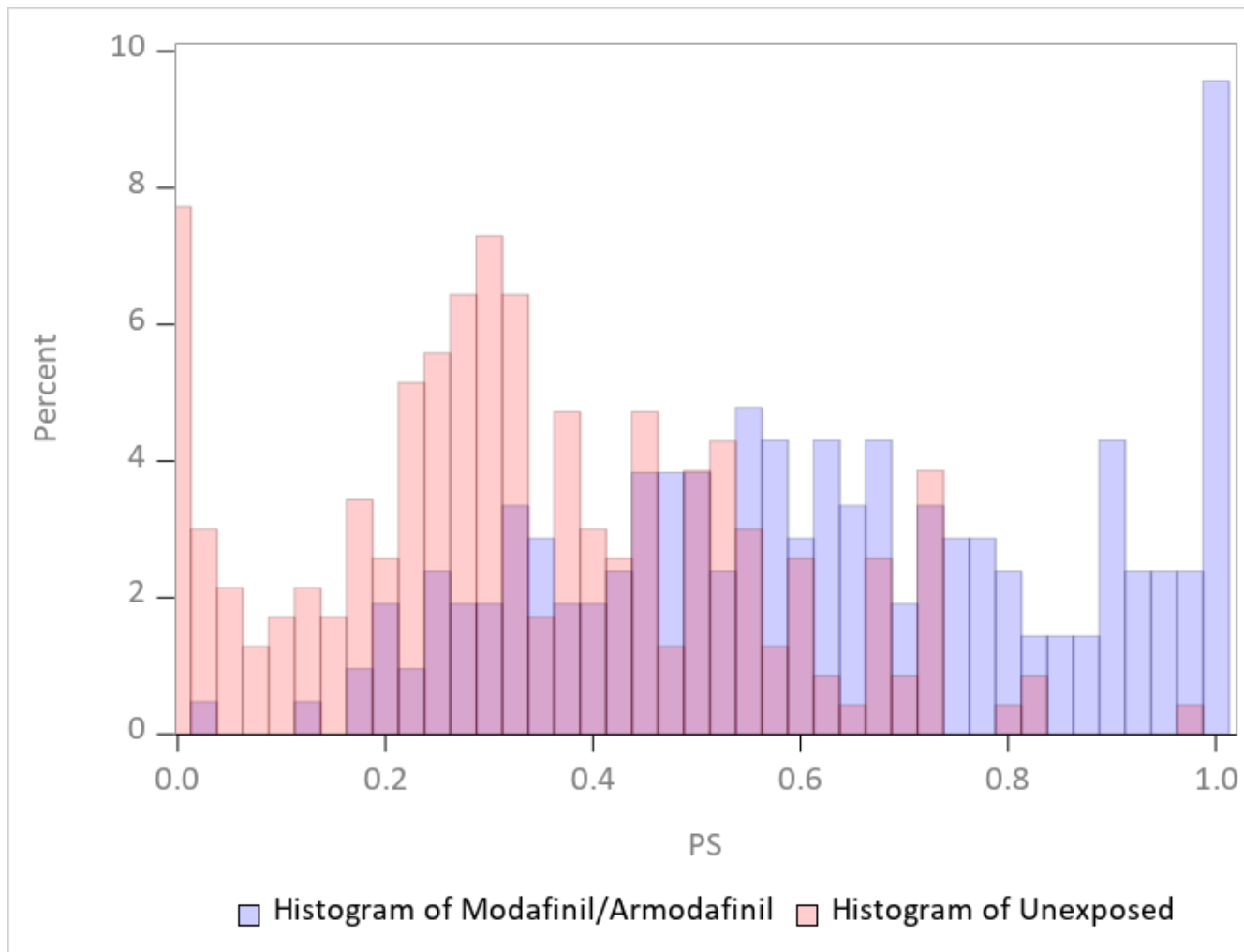


Figure 7c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Unexposed in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

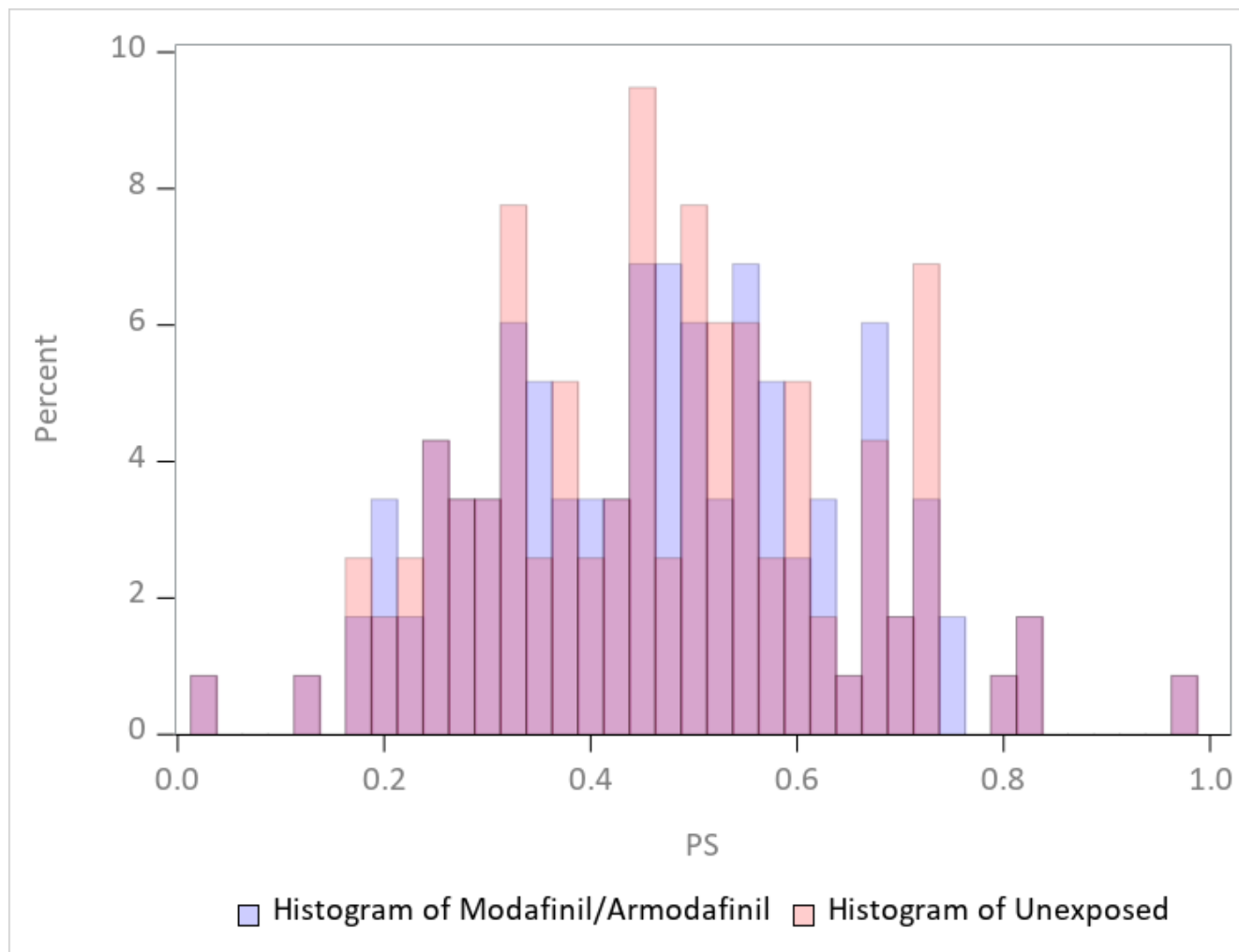


Figure 8a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Unadjusted Propensity Score Distribution

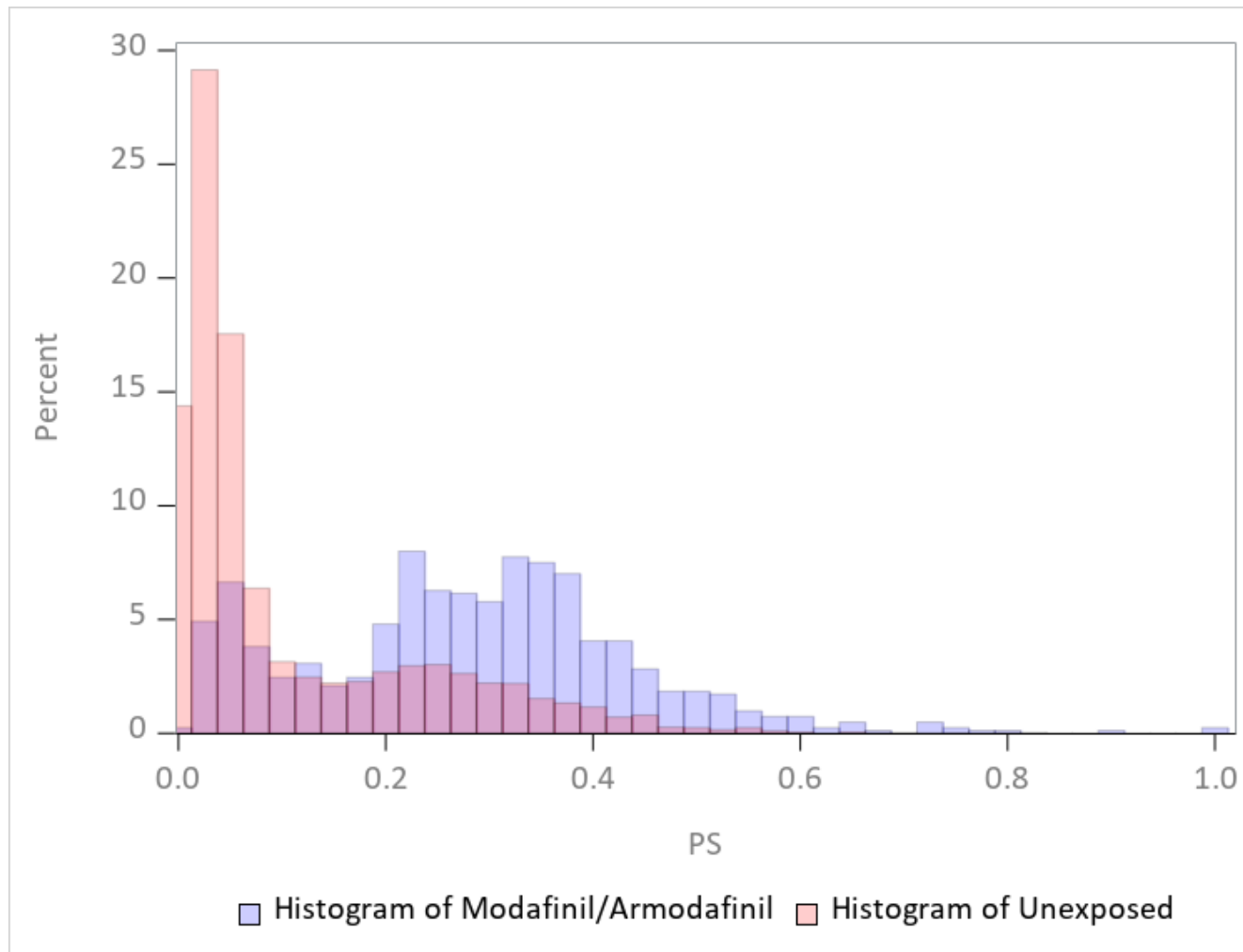


Figure 8a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

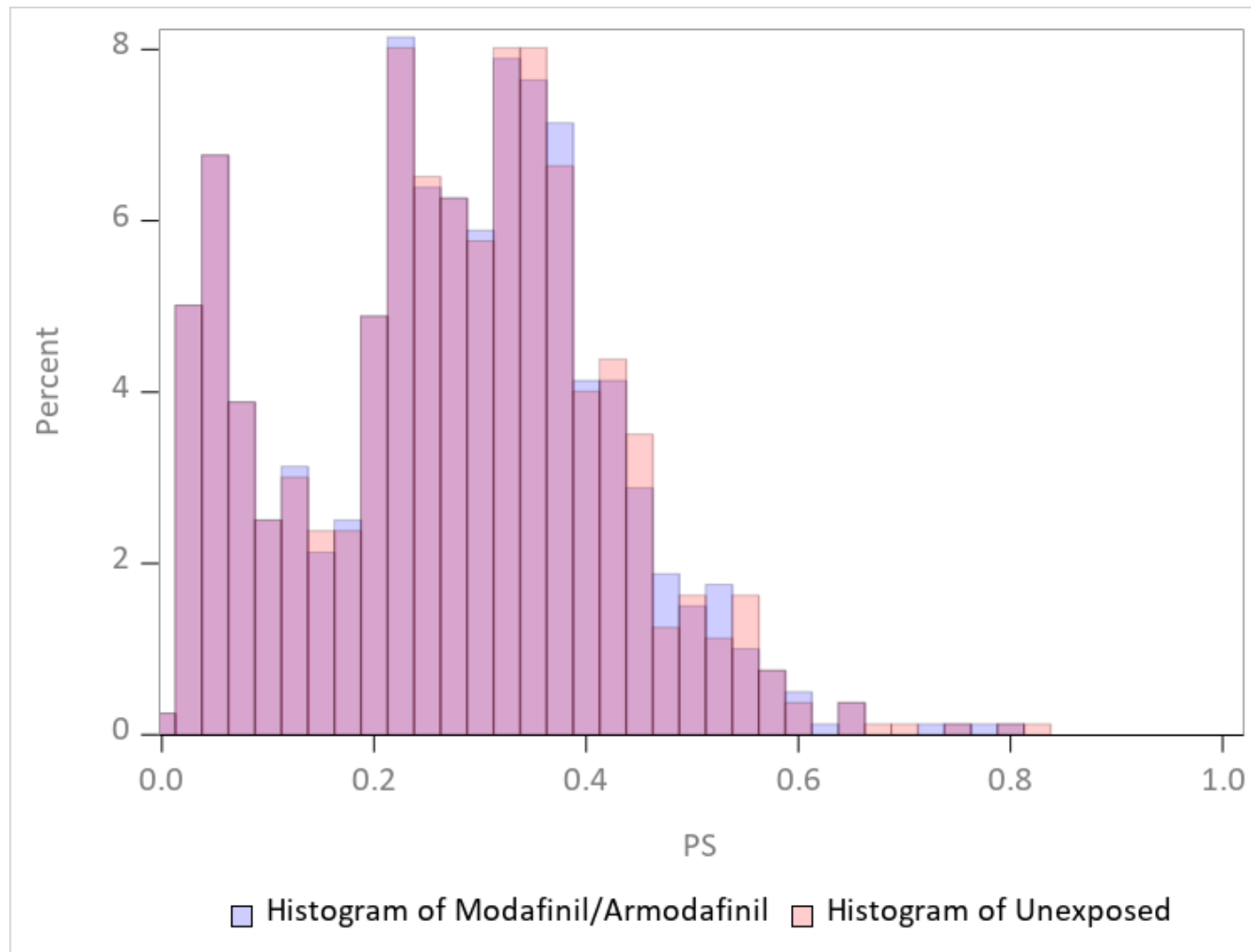


Figure 8b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Unadjusted Propensity Score Distribution

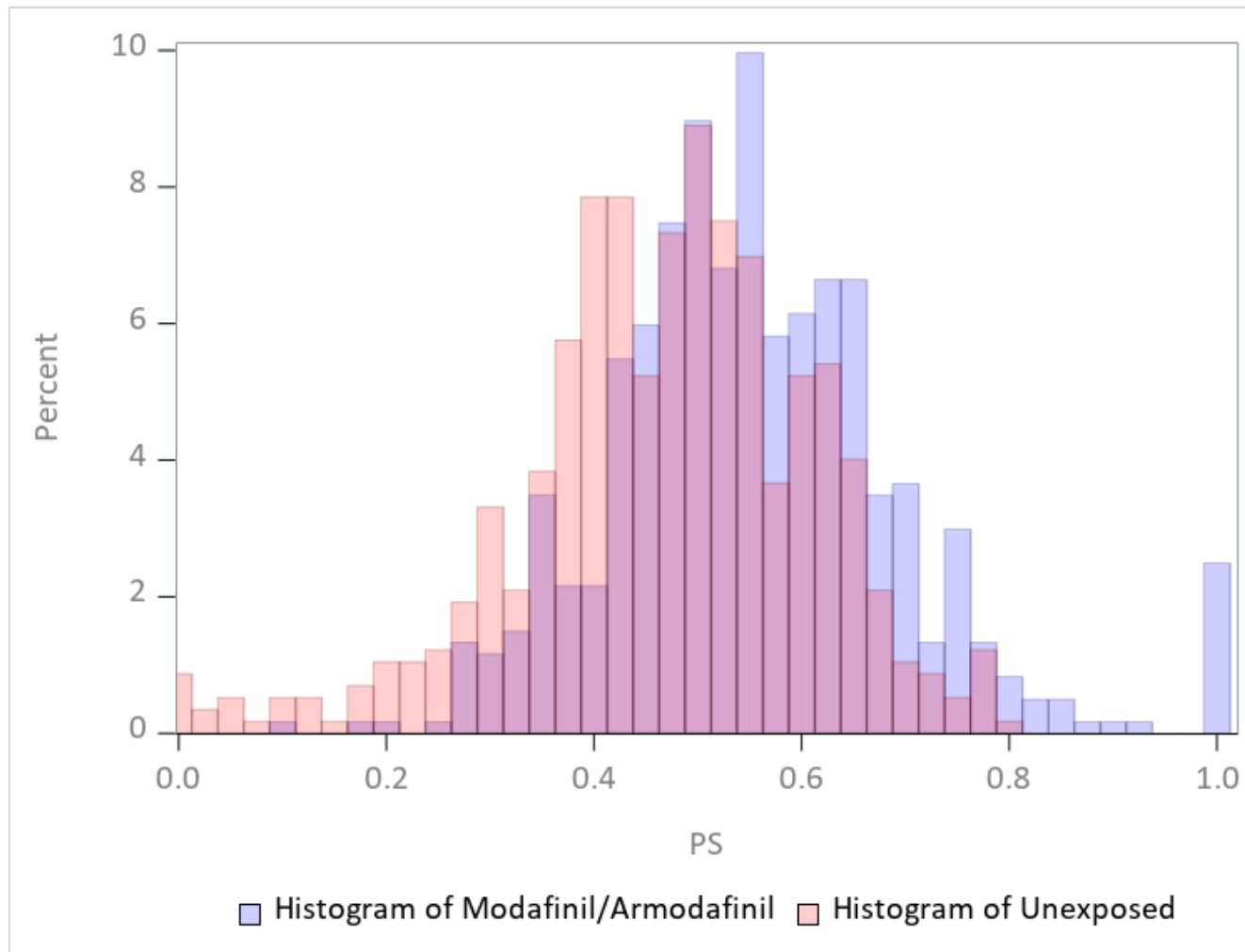


Figure 8b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

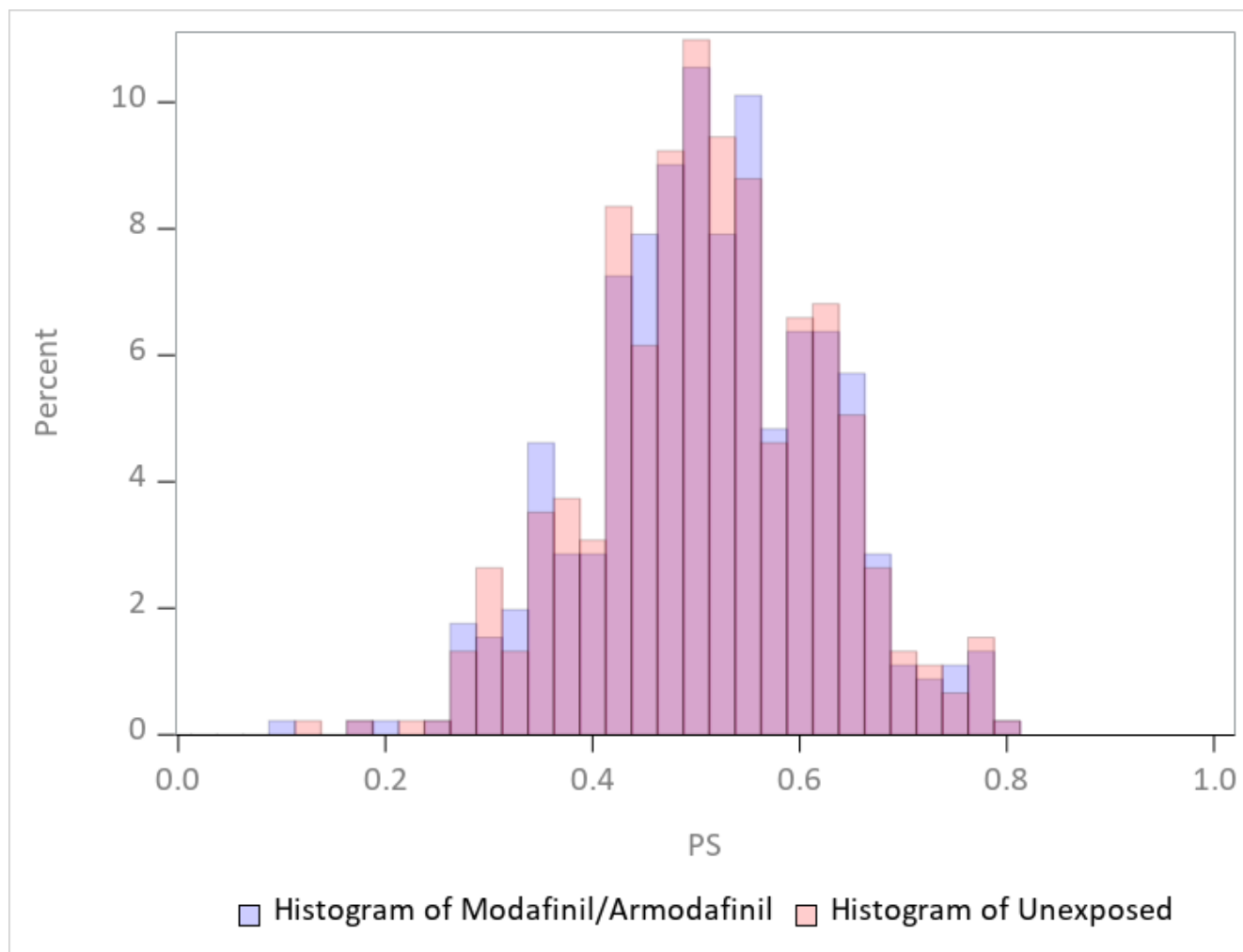


Figure 8c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Unadjusted Propensity Score Distribution

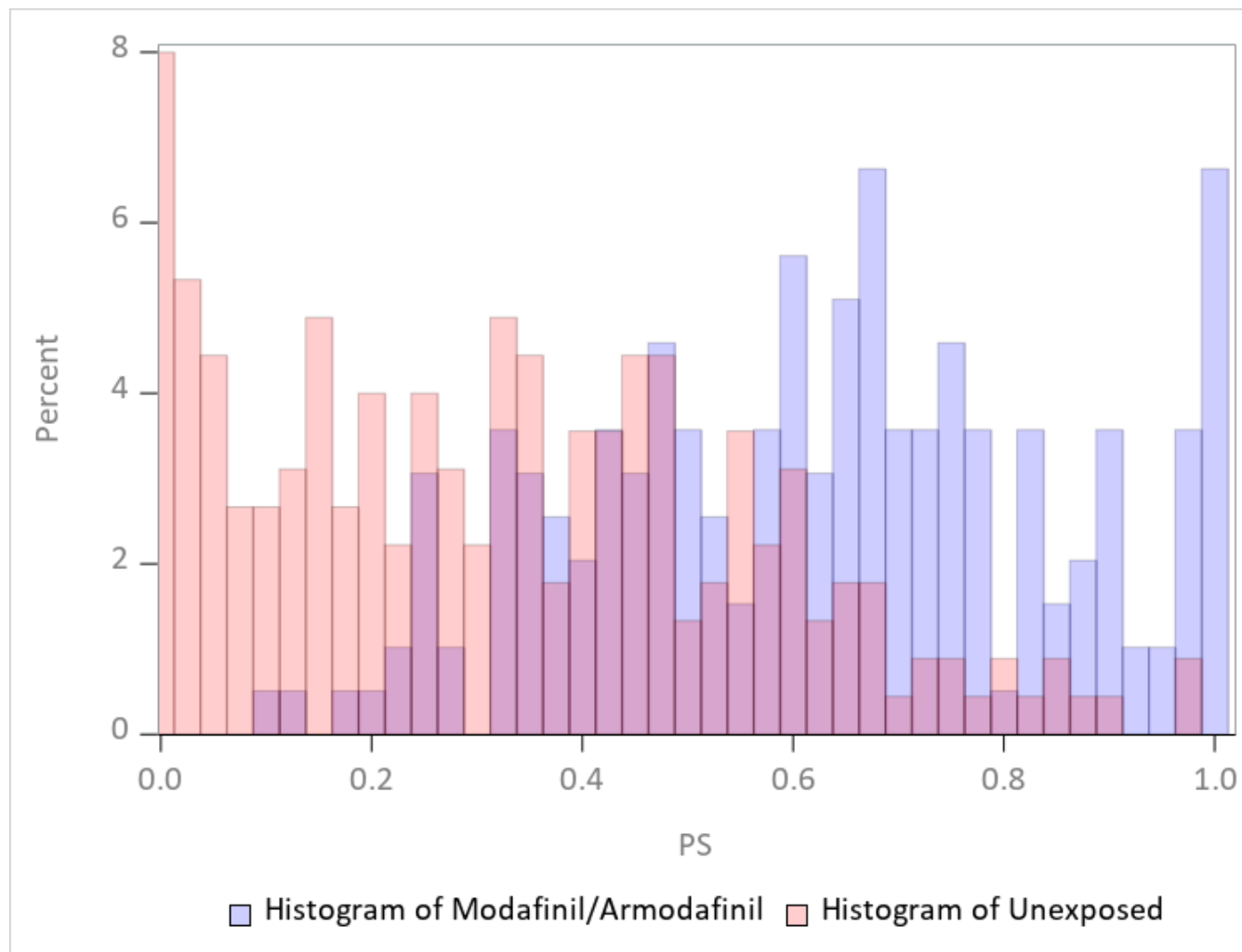


Figure 8c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

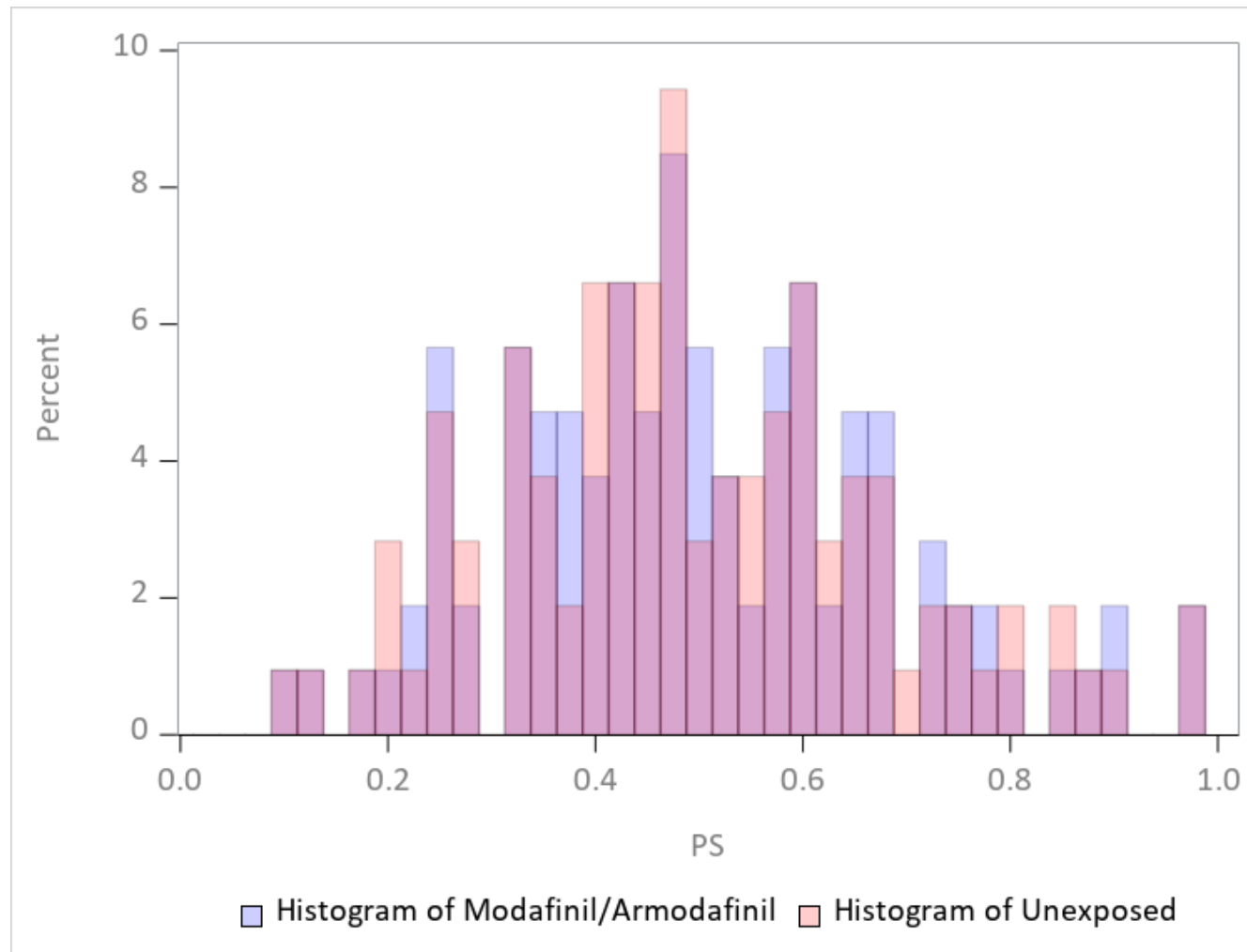


Figure 8d. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing

Unadjusted Propensity Score Distribution

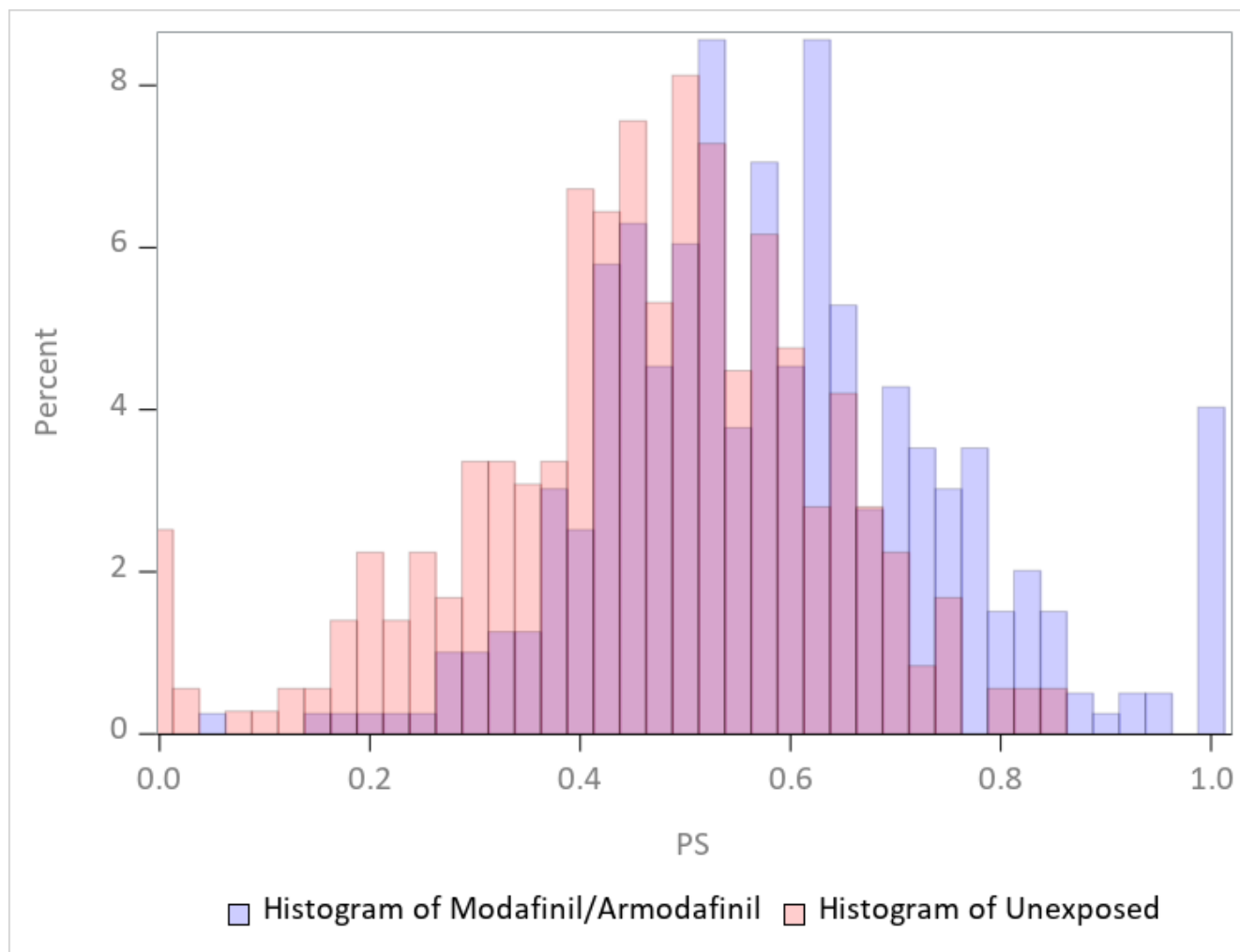


Figure 8d. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

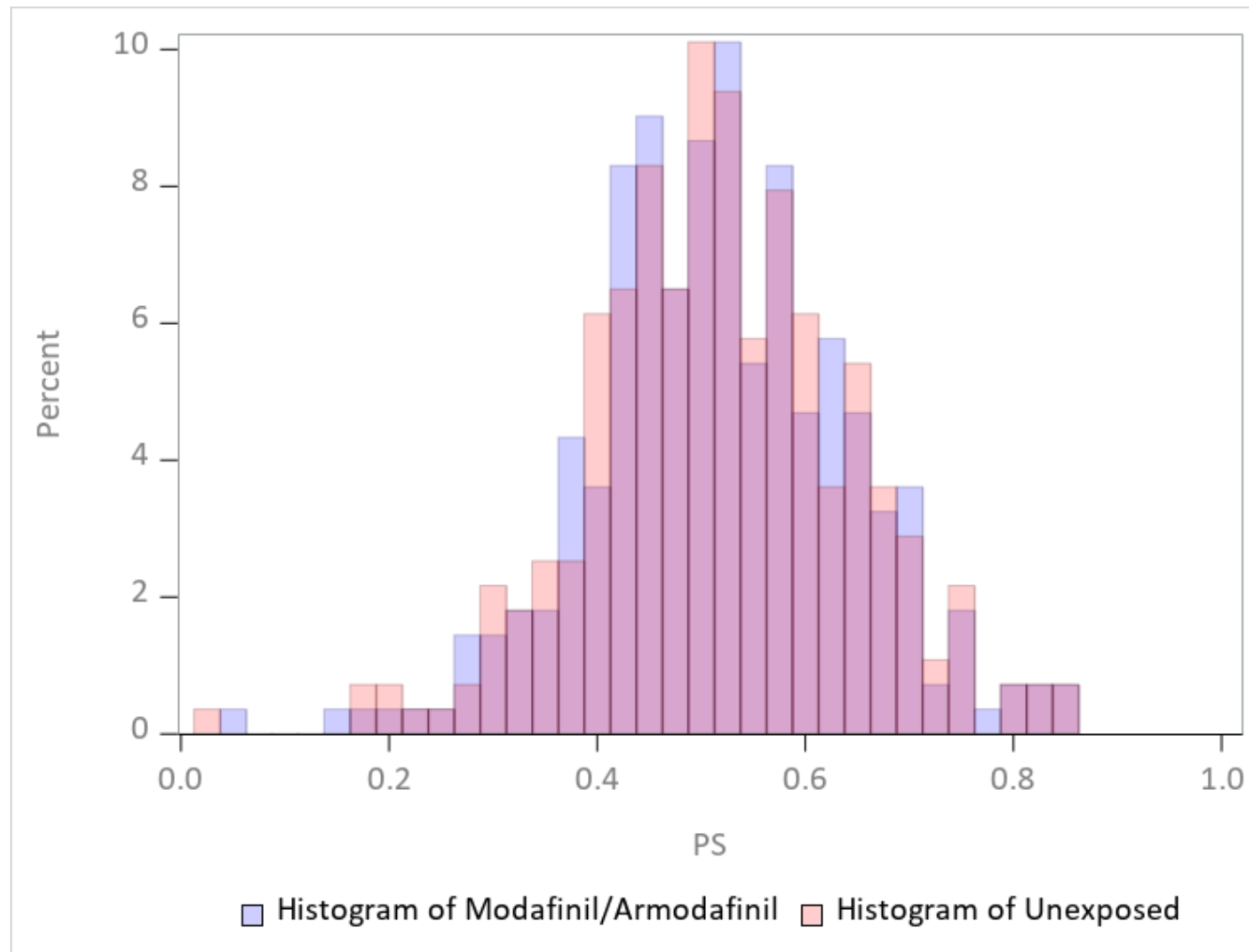


Figure 8e. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings

Unadjusted Propensity Score Distribution

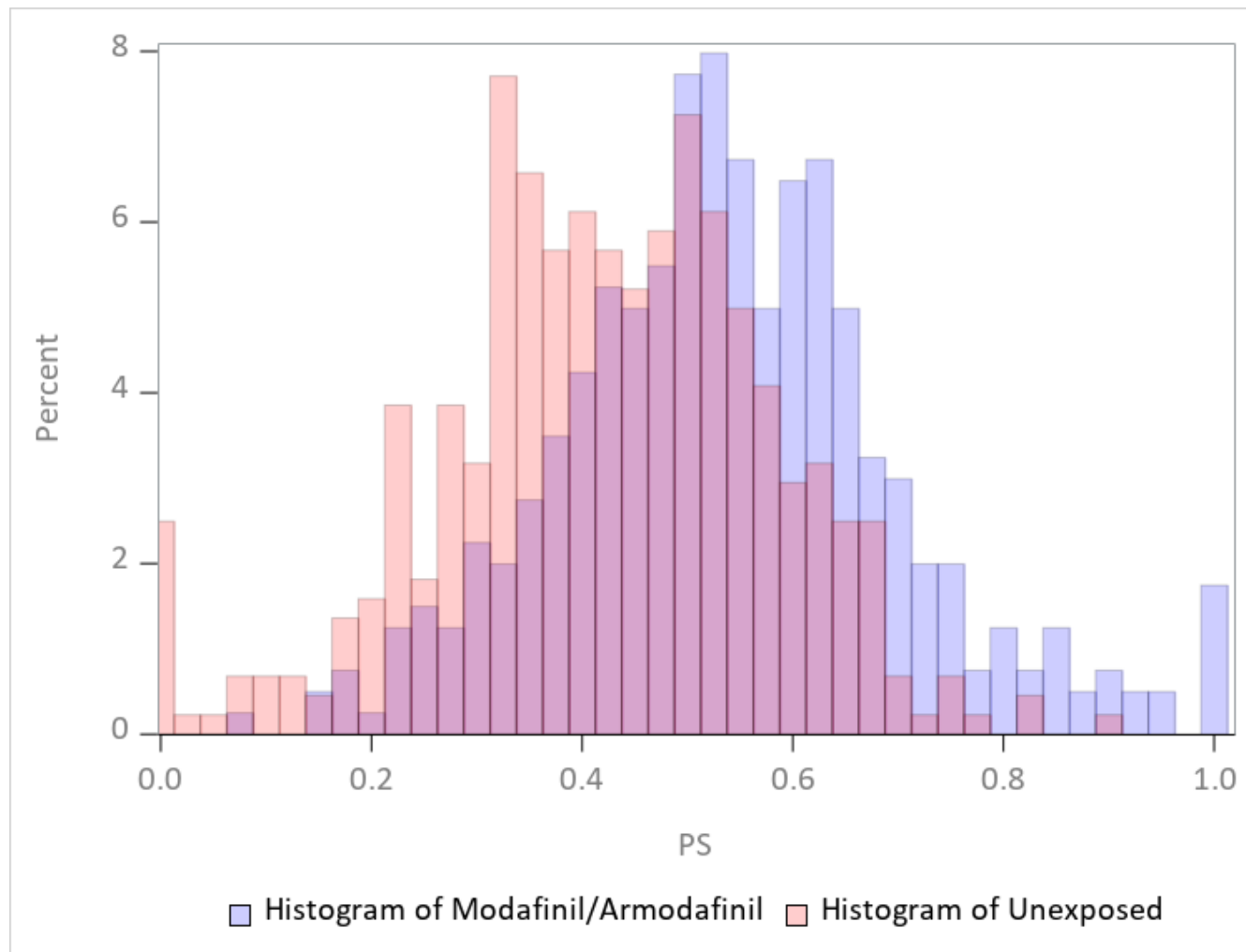


Figure 8e. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Methylphenidate in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings

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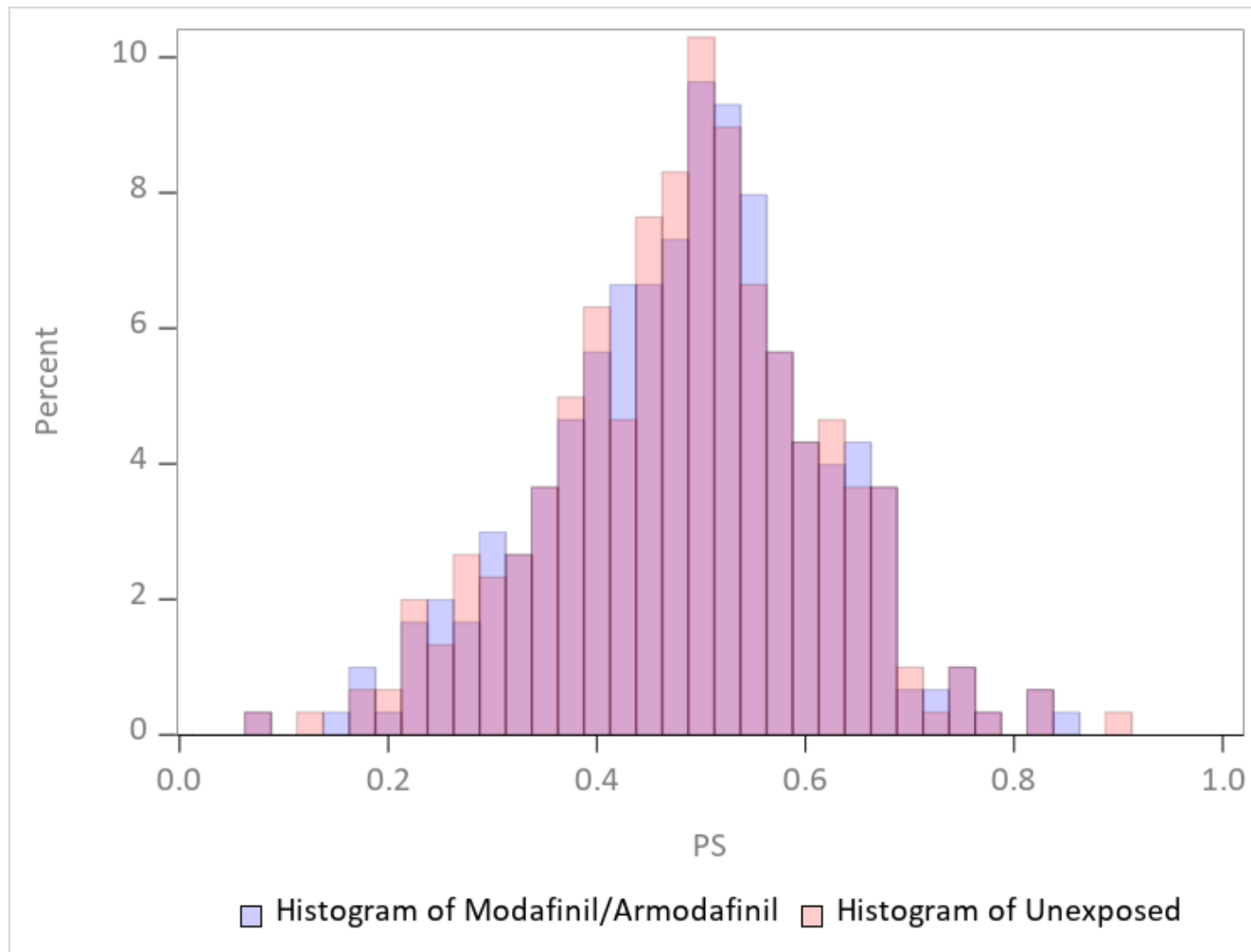


Figure 9a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Unadjusted Propensity Score Distribution

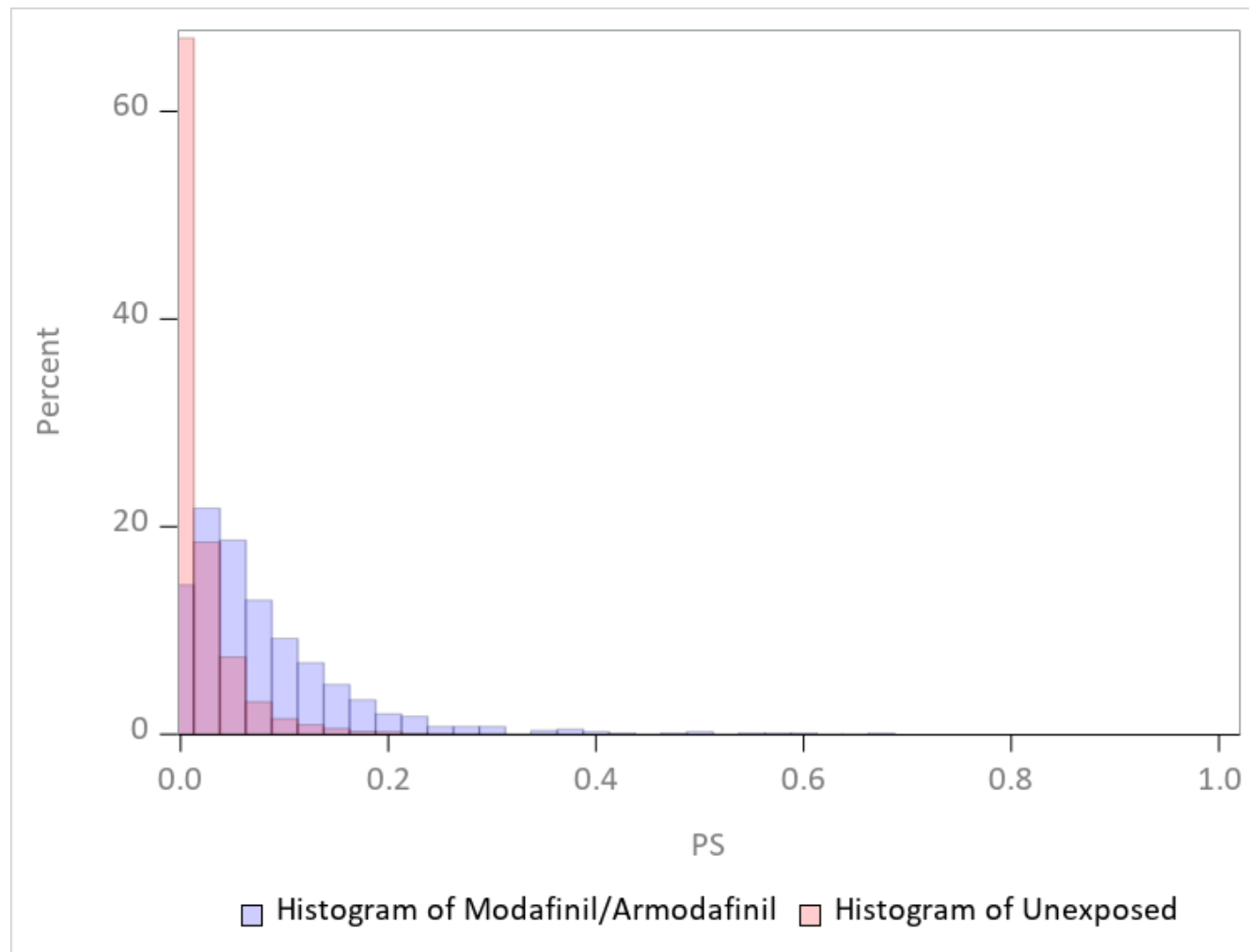


Figure 9a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

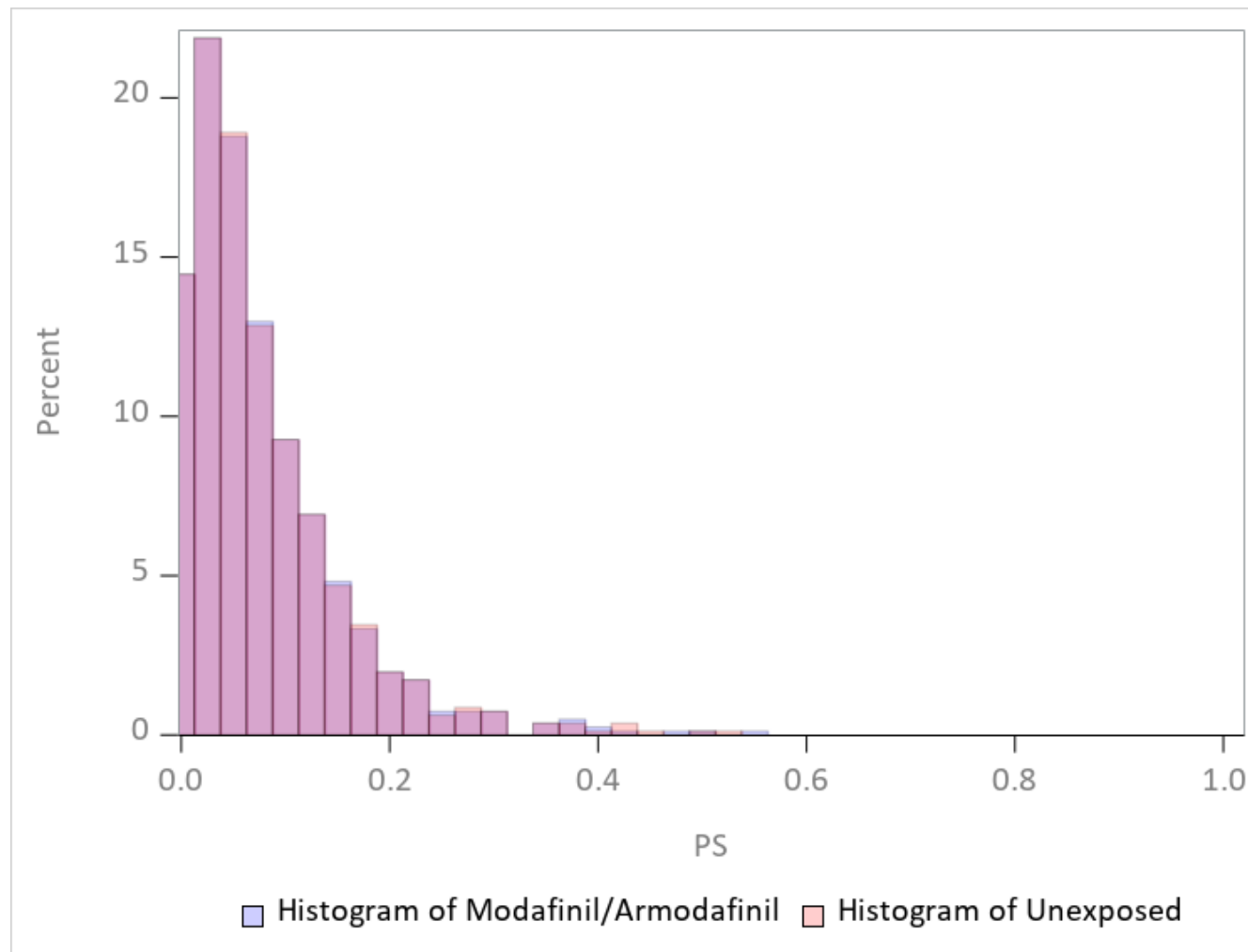


Figure 9b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Unadjusted Propensity Score Distribution

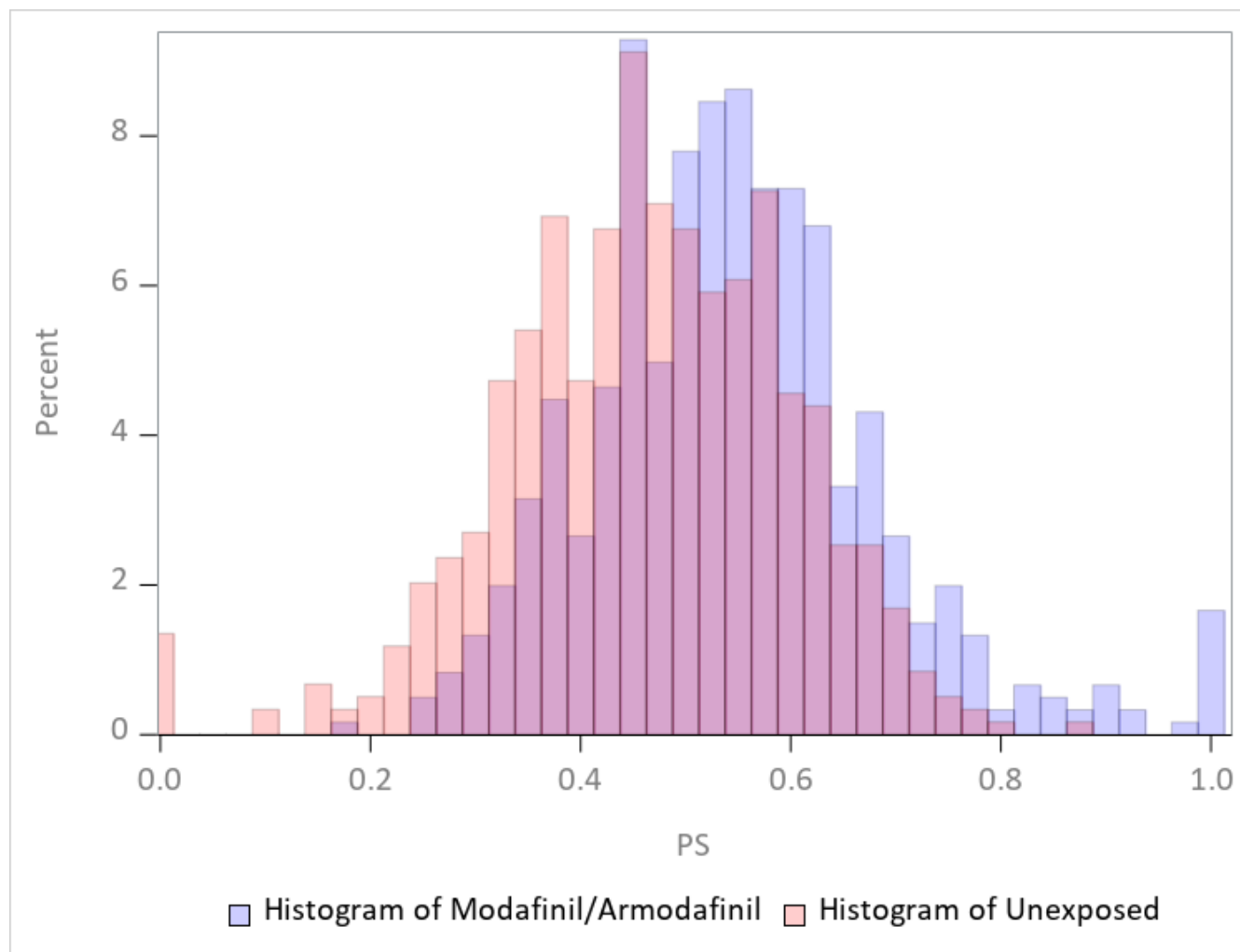


Figure 9b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 10-34 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

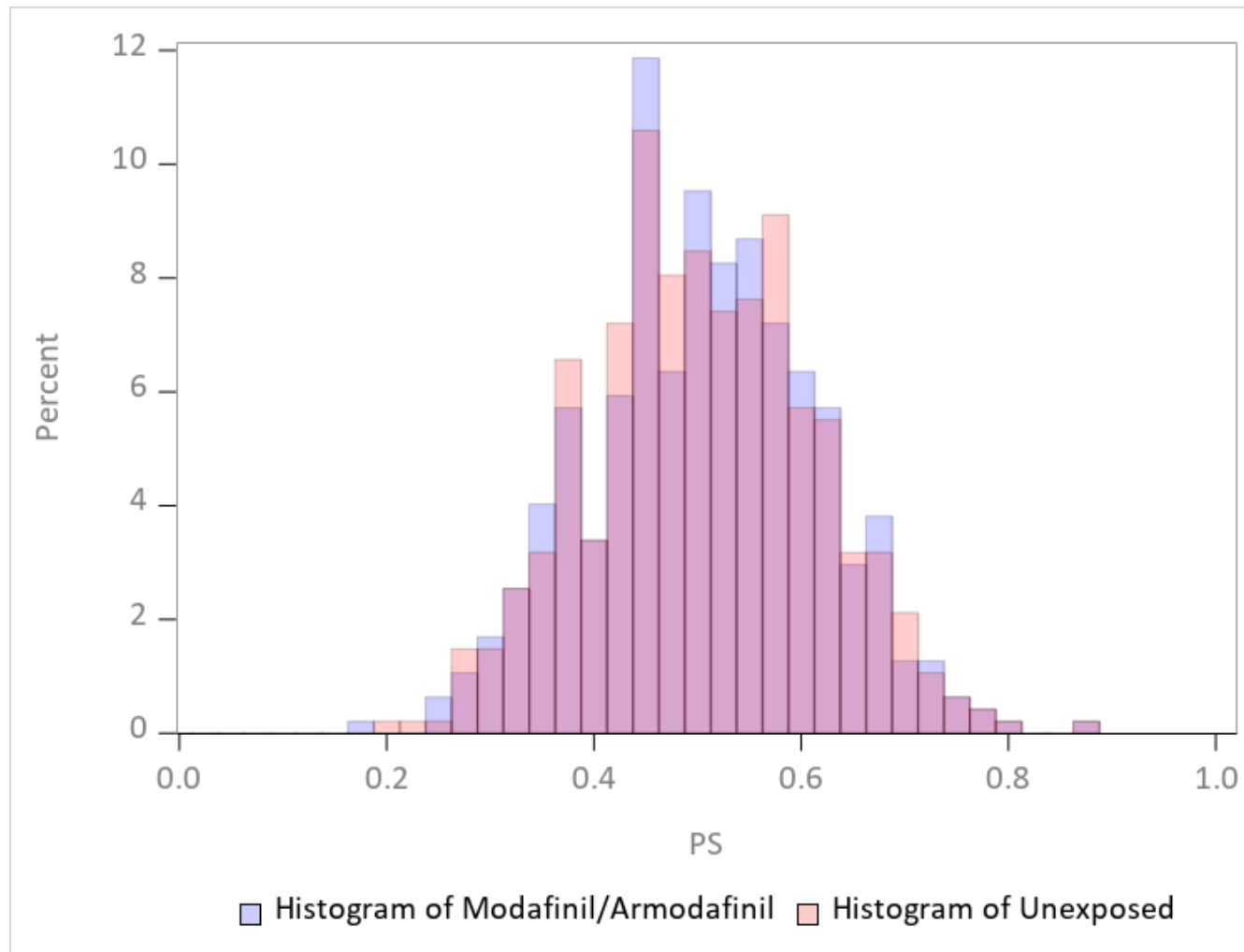


Figure 9c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Unadjusted Propensity Score Distribution

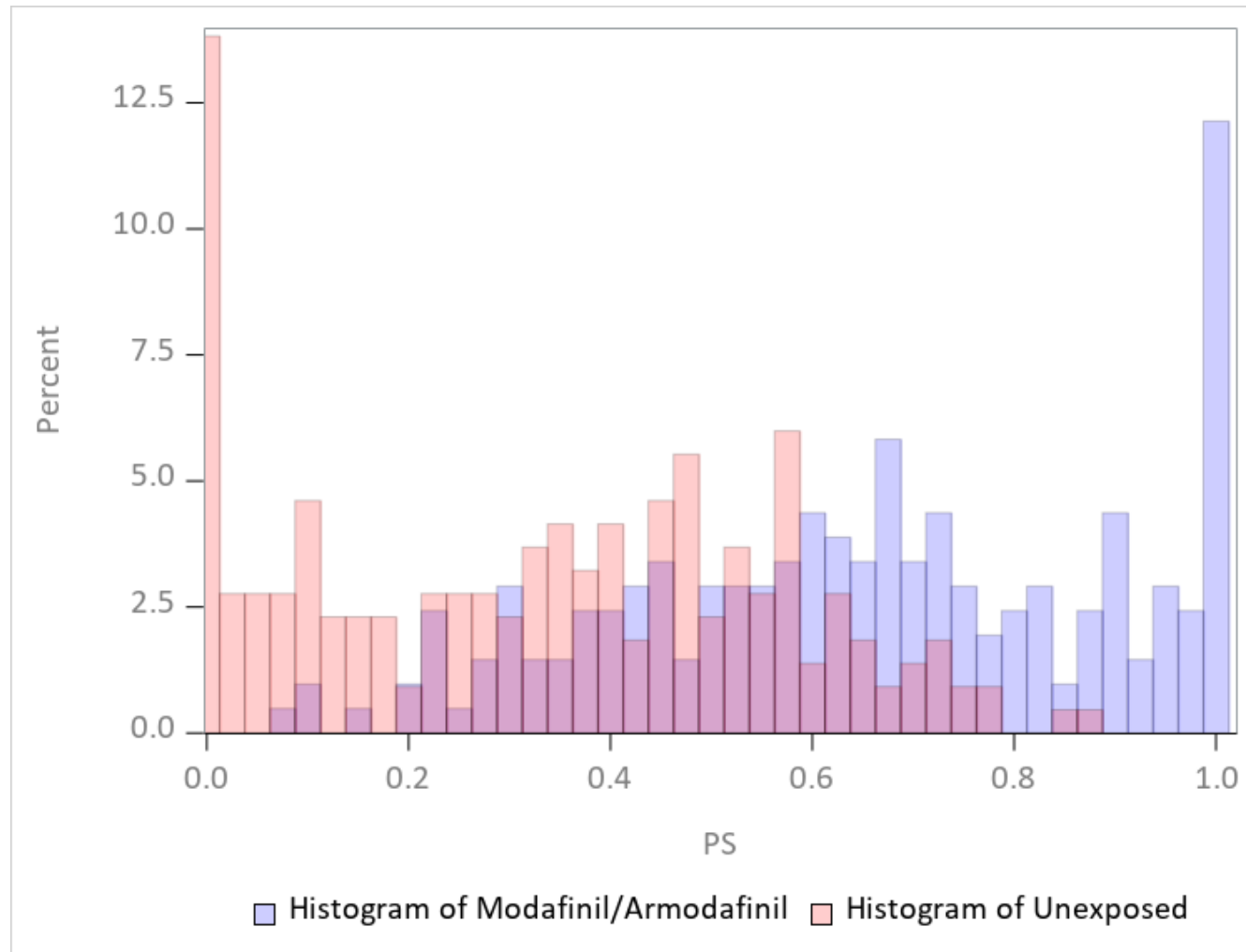


Figure 9c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Age Group: 35-54 Years

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

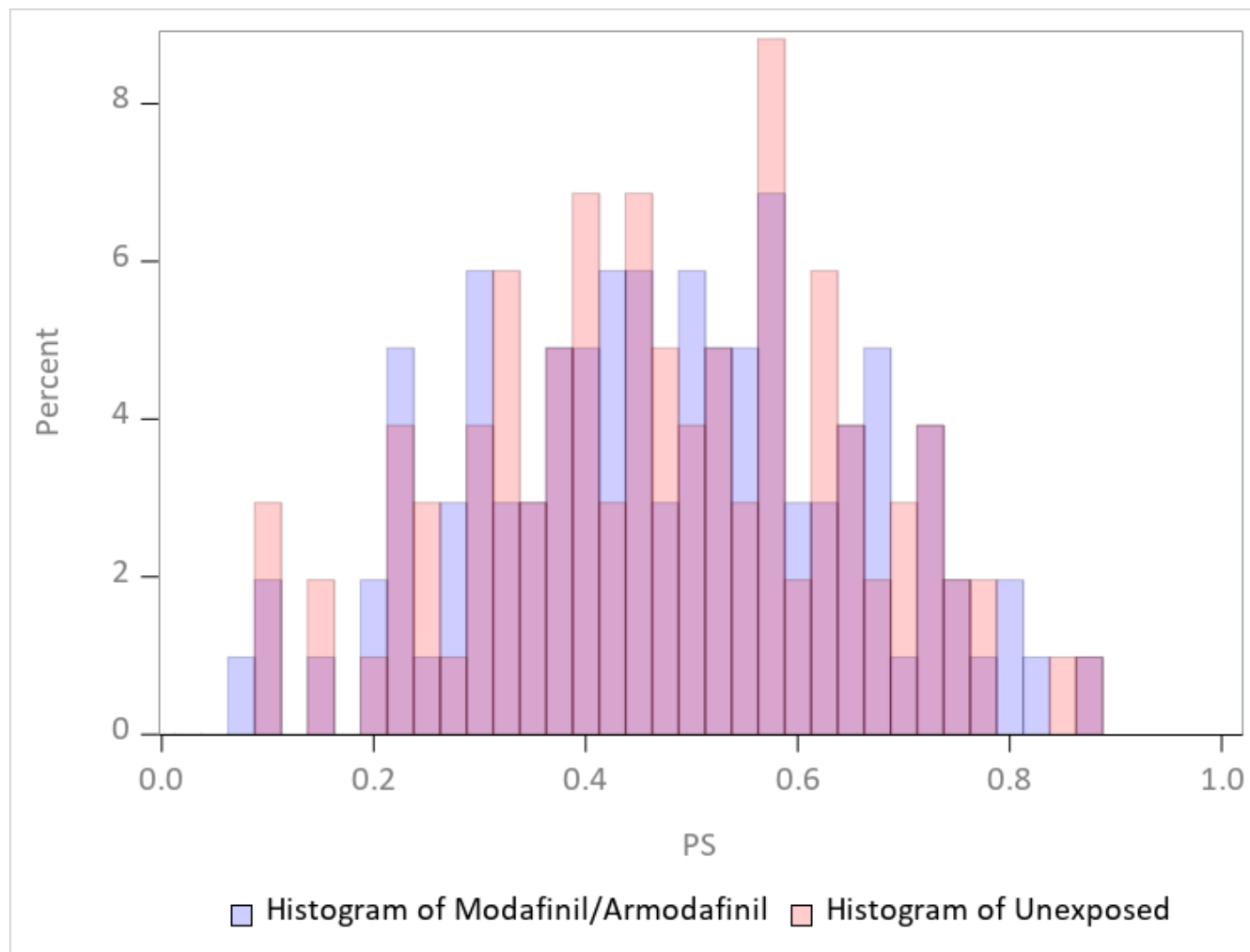


Figure 9d. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing

Unadjusted Propensity Score Distribution

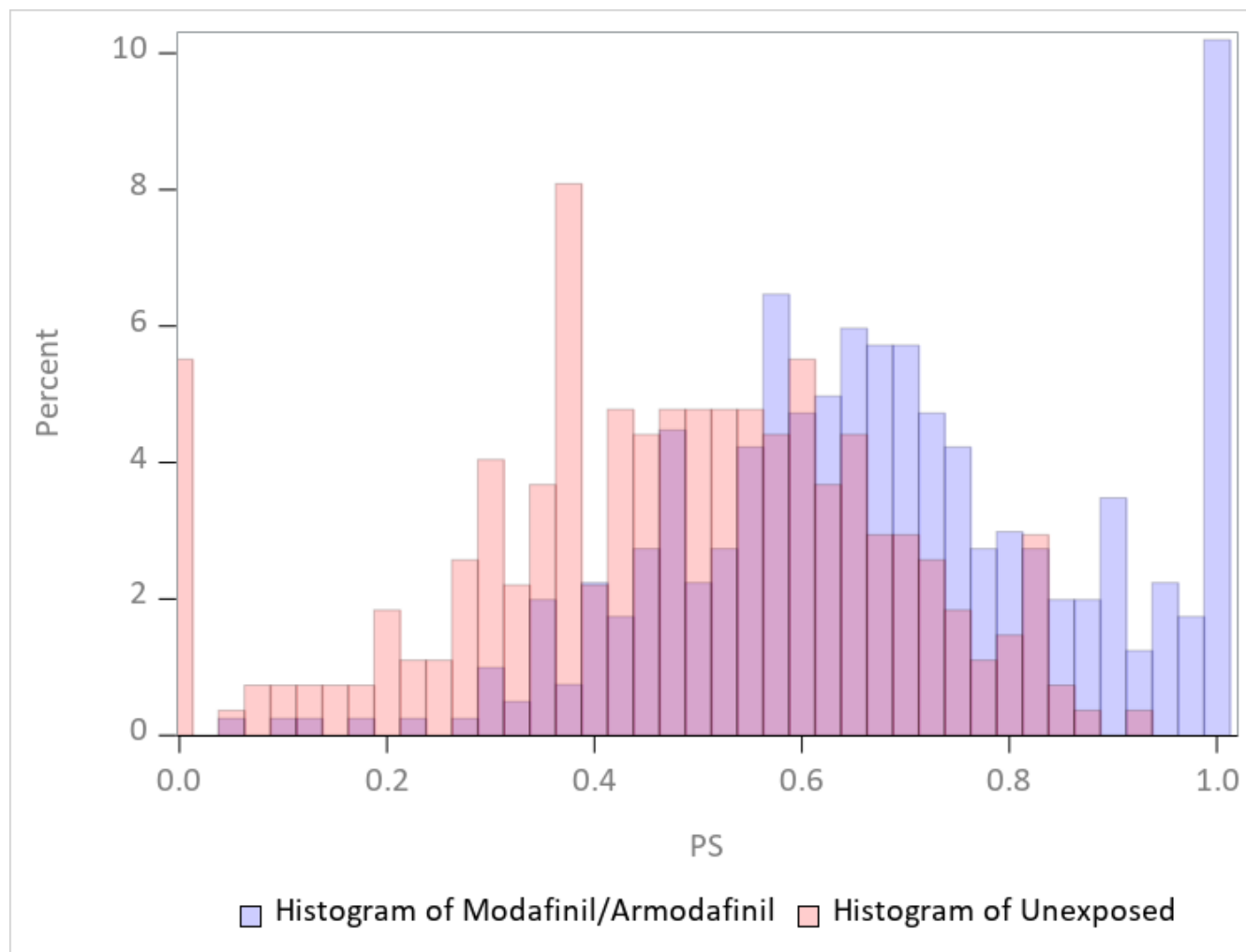


Figure 9d. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, One Dispensing

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

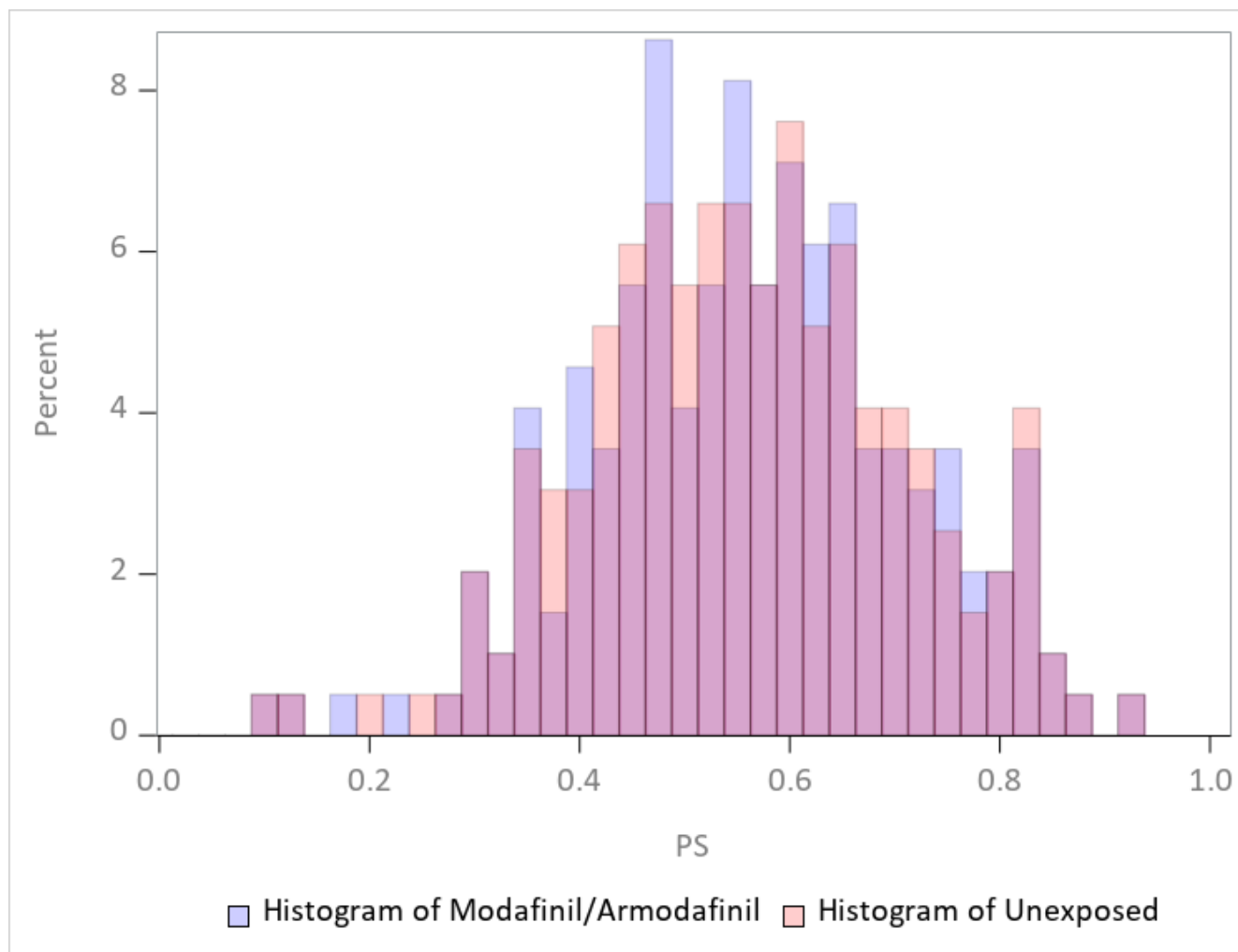


Figure 9e. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings

Unadjusted Propensity Score Distribution

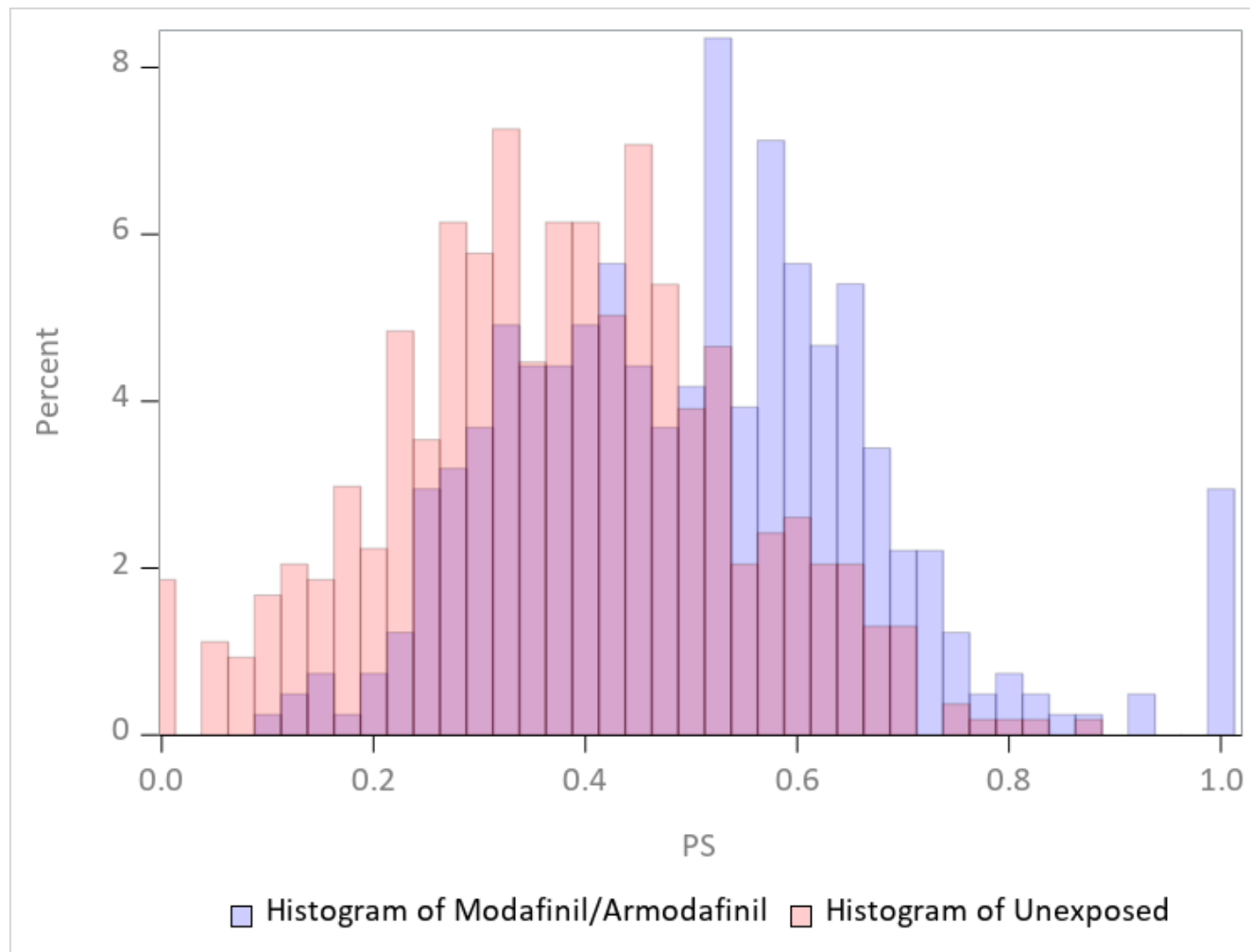


Figure 9e. Histograms Depicting Propensity Score Distributions Before and After Adjustment for Musculoskeletal Malformations Comparing Modafinil or Armodafinil and Amphetamines in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022, Two or More Dispensings

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

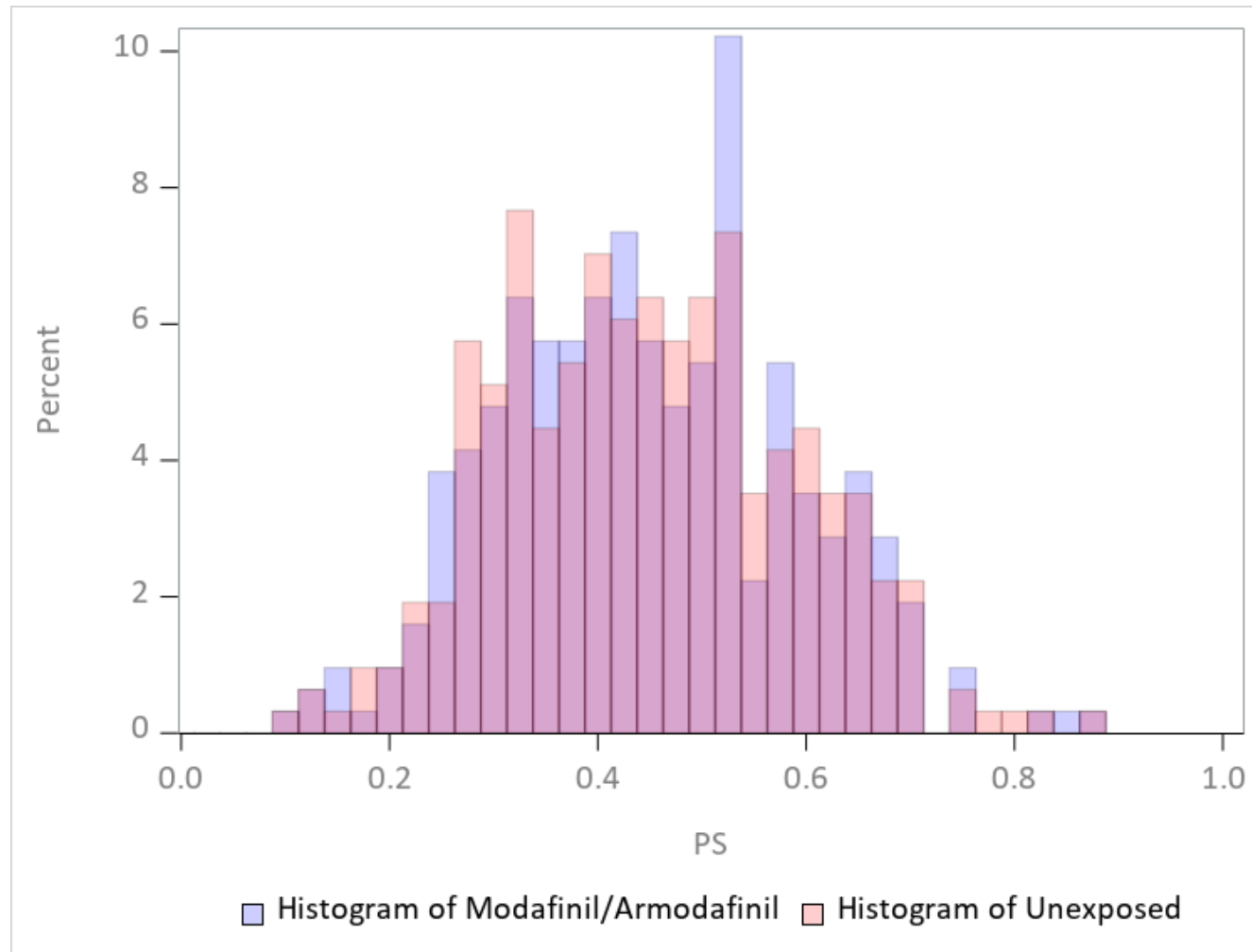


Figure 10a. Forest Plot of Risk Ratios (RR) and 95% Confidence Intervals (CI) for Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

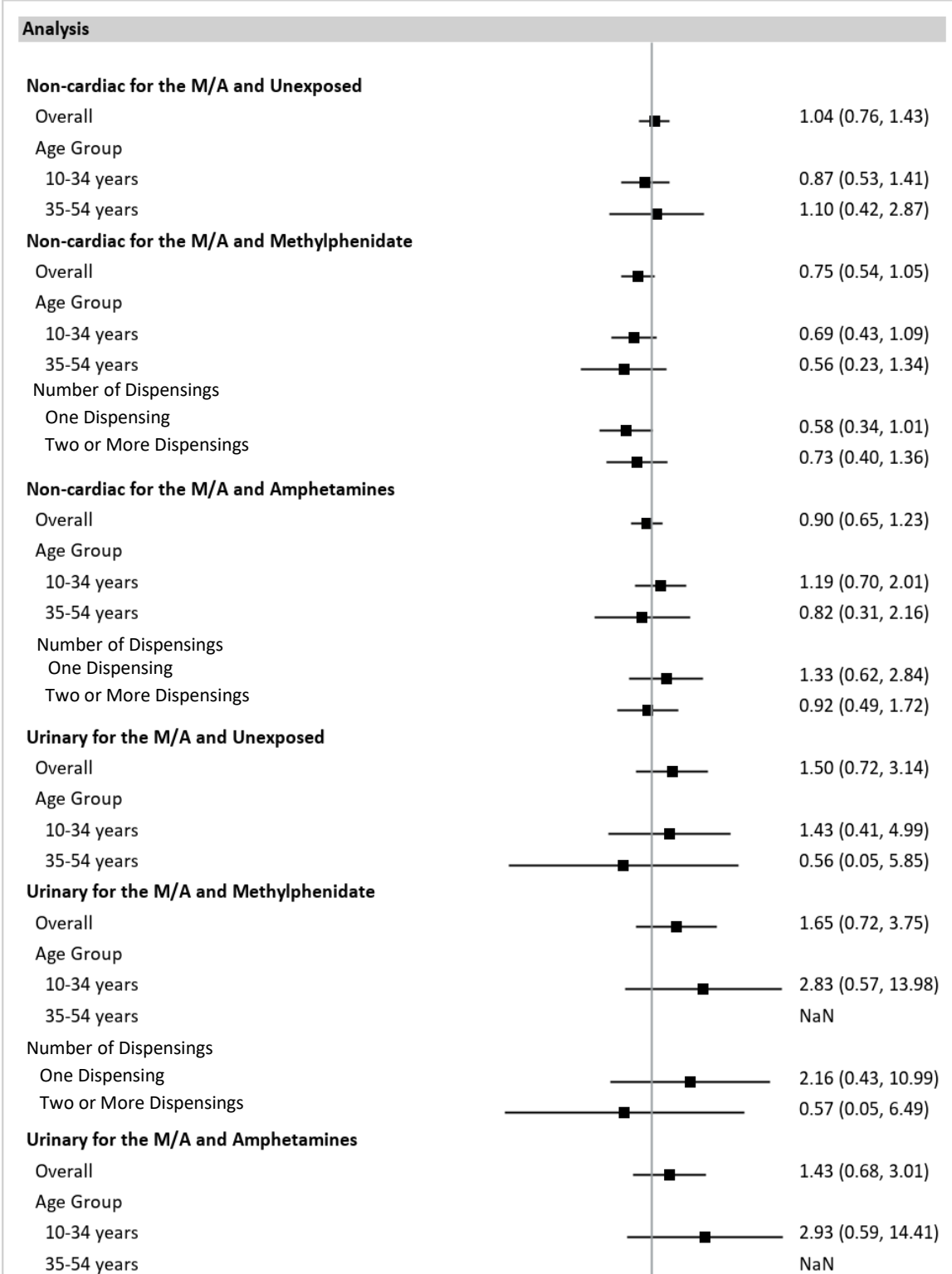
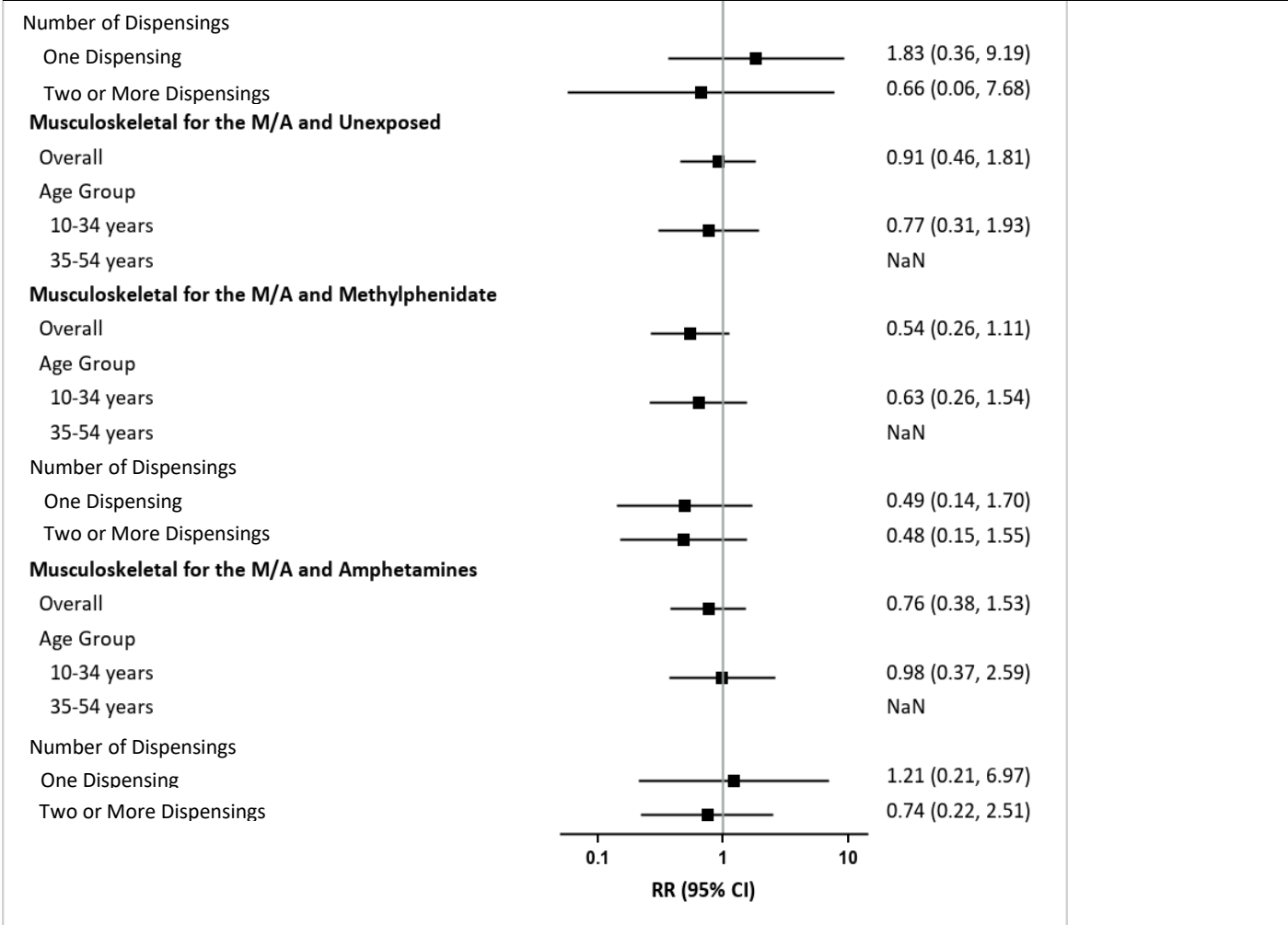


Figure 10a. Forest Plot of Risk Ratios (RR) and 95% Confidence Intervals (CI) for Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹



¹Risk ratio could not be calculated for all analyses

Figure 10b. Forest Plot of Risk Ratios (RR) and 95% Confidence Intervals (CI) for Propensity Score Matched Conditional Analyses

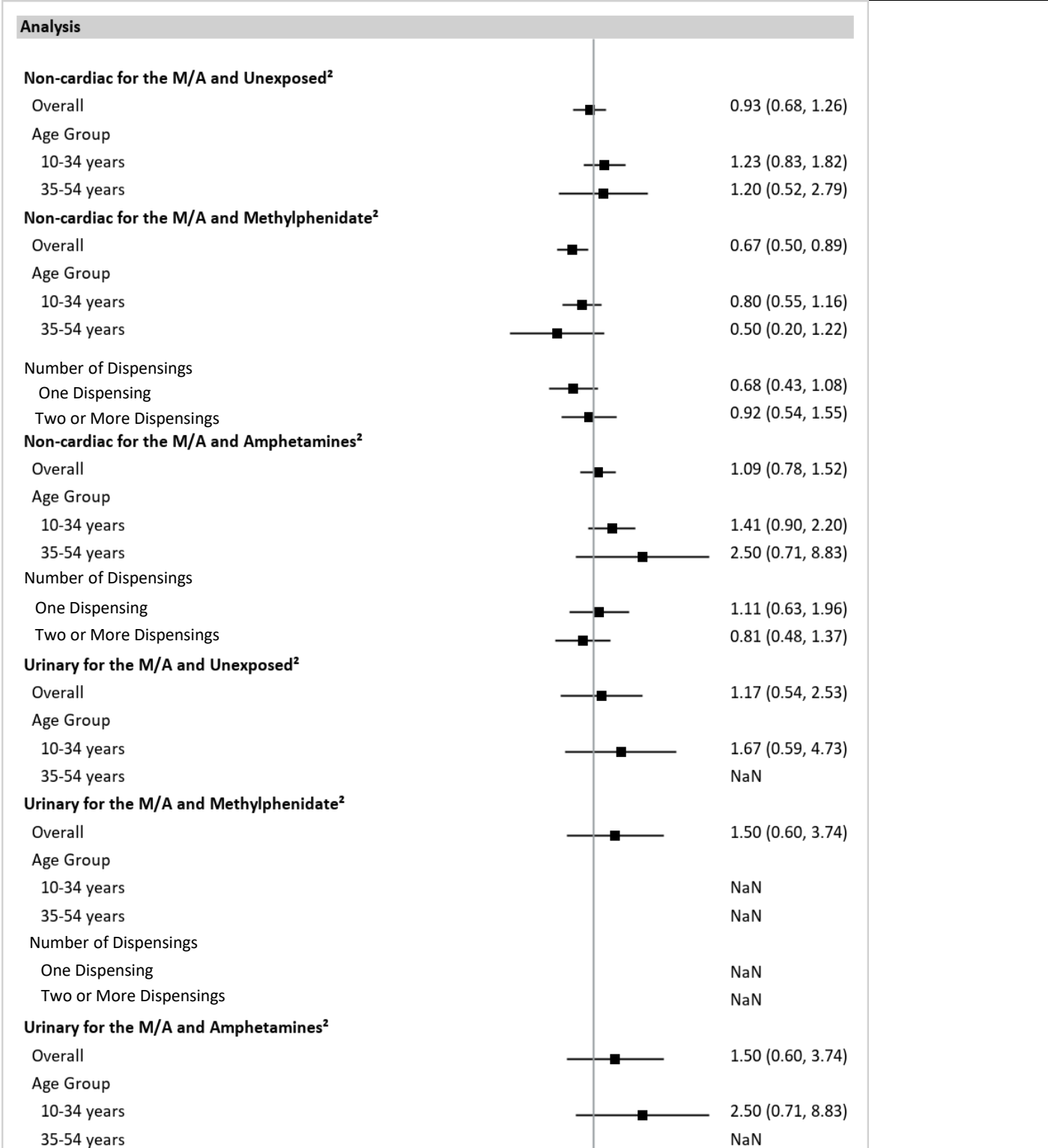
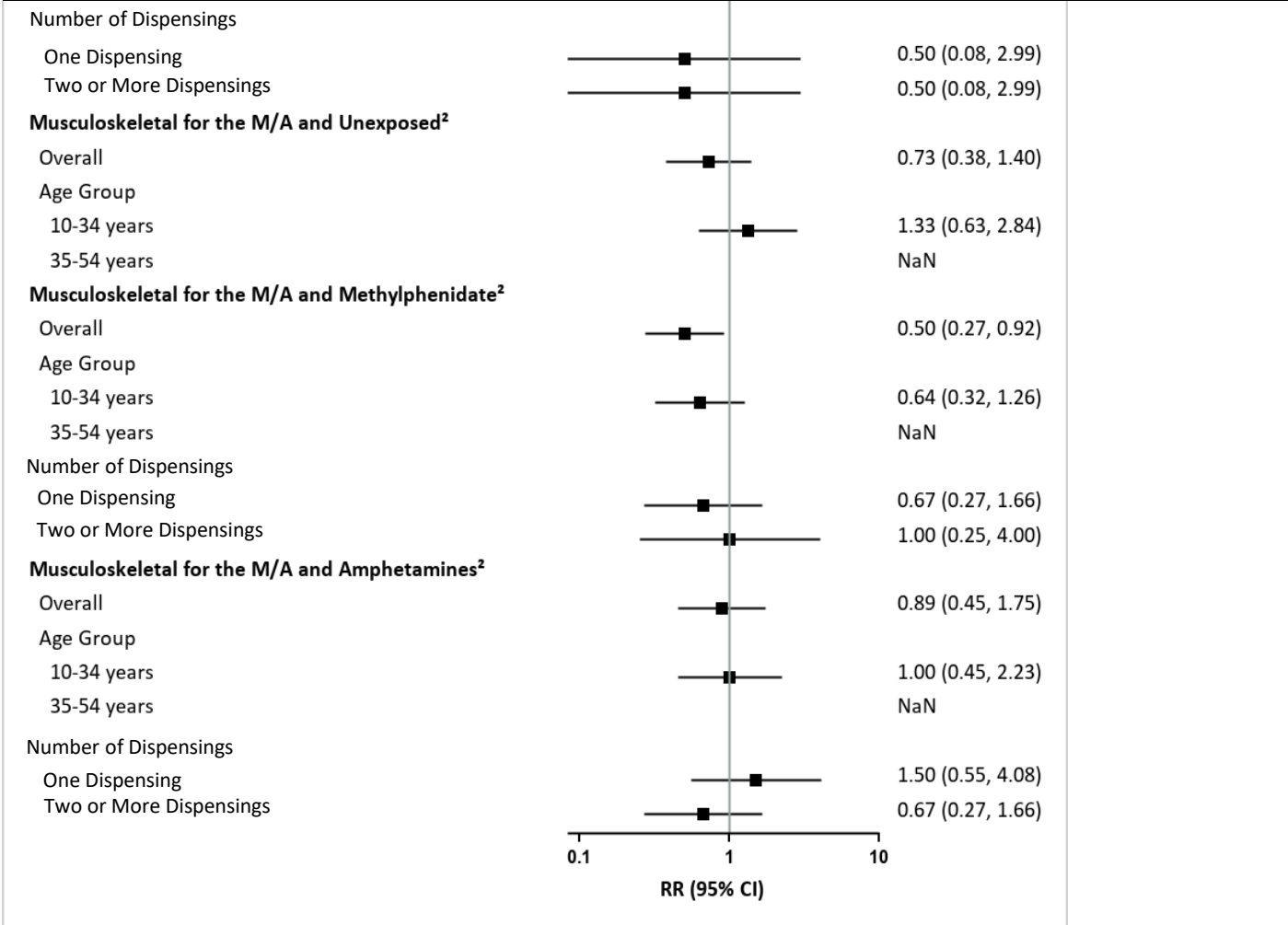


Figure 10b. Forest Plot of Risk Ratios (RR) and 95% Confidence Intervals (CI) for Propensity Score Matched Conditional Analyses



¹Risk ratio could not be calculated for all analyses

²Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper=0.05

Figure 10c. Forest Plot of Risk Ratios (RR) and 95% Confidence Intervals (CI) for Propensity Score Matched Unconditional Analyses in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹

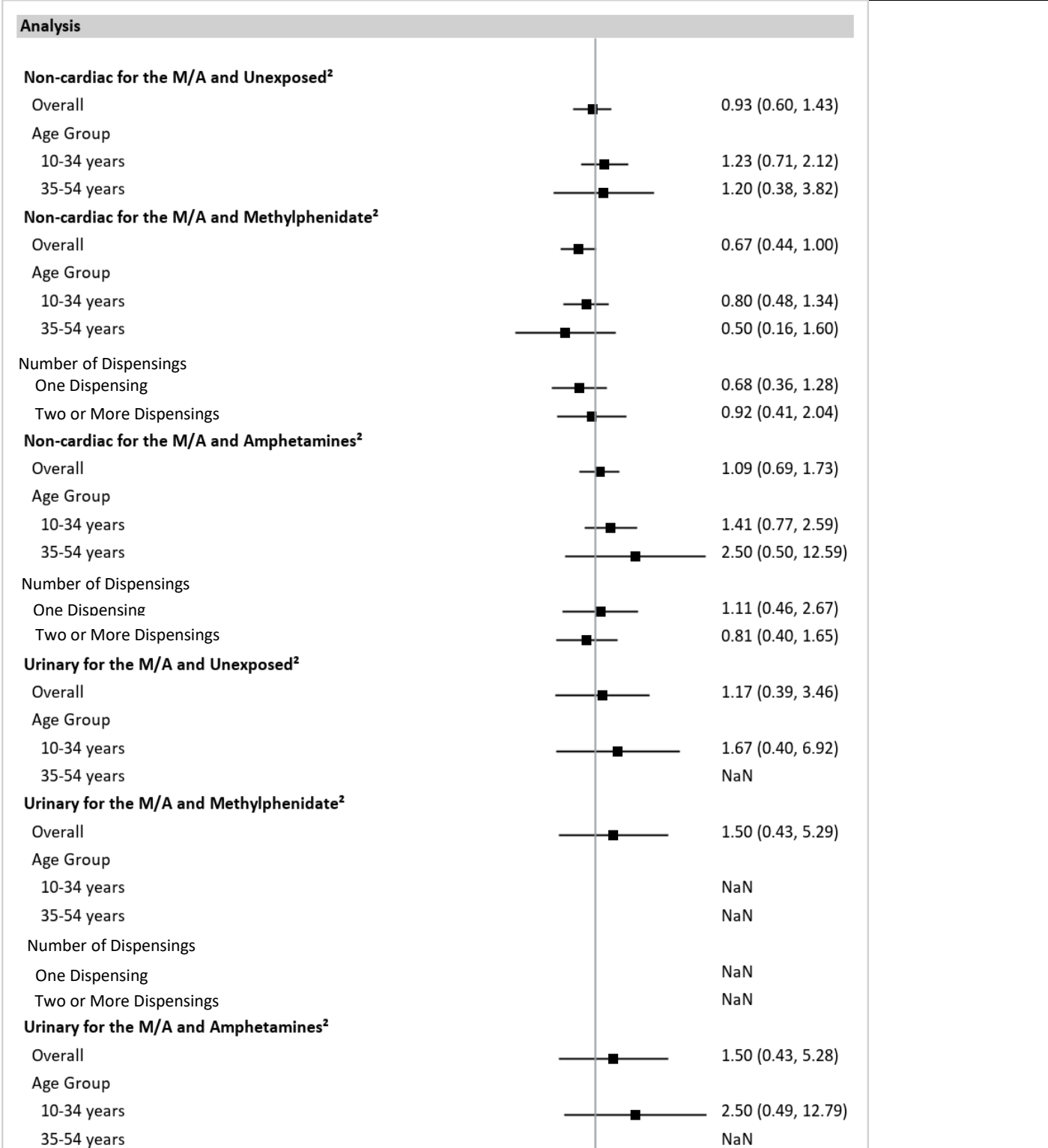
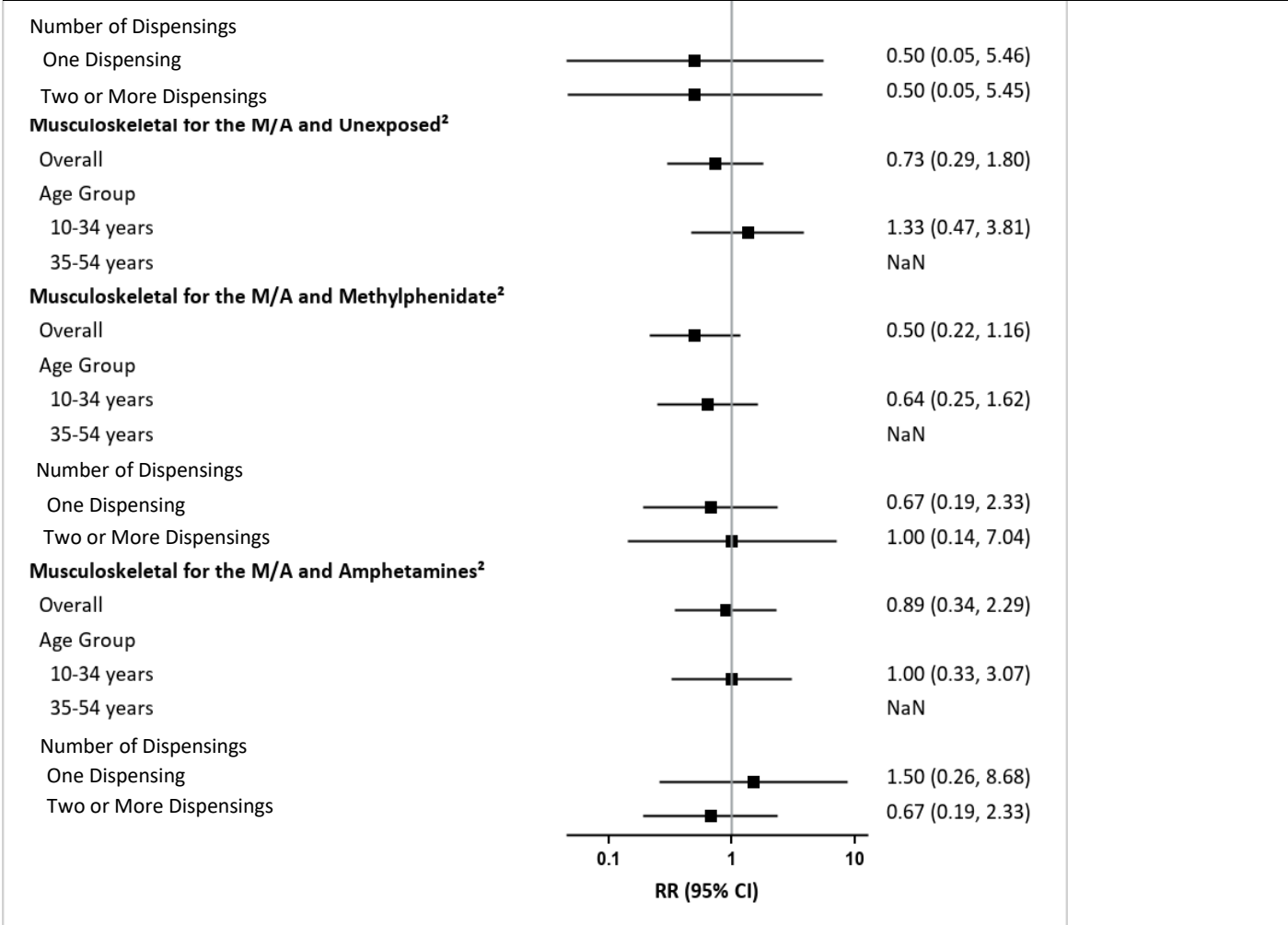


Figure 10c. Forest Plot of Risk Ratios (RR) and 95% Confidence Intervals (CI) for Propensity Score Matched Unconditional Analyses in the Sentinel Distributed Database (SDD) from January 1, 2000 to December 31, 2022¹



¹Risk ratio could not be calculated for all analyses

²Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper=0.05

Appendix A. Dates of Available Data for Each Data Partner (DP) as of Request Distribution Dates¹

Masked DP ID ¹	DP Start Date	DP End Date ²
DP01	01/01/2008	08/31/2022
DP02	01/01/2006	10/31/2022
DP03	01/01/2008	12/31/2022
DP04	01/01/2014	12/31/2020

¹Request was distributed to three Data Partners on August 11, 2023 and the Centers for Medicare and Medicaid Services (CMS) on November 16, 2023.

²End Date represents the earliest of: (1) query end date, or (2) last day of the most recent month for which all of a Data Partner's data tables (enrollment, dispensing, etc.) have at least 80% of the record count relative to the prior month.

Appendix B. List of Current Procedural Terminology, Fourth Edition (CPT-4), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Live Birth Delivery in this Request

Code	Description	Code Category	Code Type
Live birth delivery			
0W8NXZZ	Division of Female Perineum, External Approach	Procedure	ICD-10-PCS
10900ZC	Drainage of Amniotic Fluid, Therapeutic from Products of Conception, Open Approach	Procedure	ICD-10-PCS
10903ZC	Drainage of Amniotic Fluid, Therapeutic from Products of Conception, Percutaneous Approach	Procedure	ICD-10-PCS
10904ZC	Drainage of Amniotic Fluid, Therapeutic from Products of Conception, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
10907ZC	Drainage of Amniotic Fluid, Therapeutic from Products of Conception, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
10908ZC	Drainage of Amniotic Fluid, Therapeutic from Products of Conception, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
10D00Z0	Extraction of Products of Conception, Classical, Open Approach	Procedure	ICD-10-PCS
10D00Z1	Extraction of Products of Conception, Low Cervical, Open Approach	Procedure	ICD-10-PCS
10D00Z2	Extraction of Products of Conception, Extraperitoneal, Open Approach	Procedure	ICD-10-PCS
10D07Z3	Extraction of Products of Conception, Low Forceps, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
10D07Z4	Extraction of Products of Conception, Mid Forceps, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
10D07Z5	Extraction of Products of Conception, High Forceps, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
10D07Z6	Extraction of Products of Conception, Vacuum, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
10D07Z7	Extraction of Products of Conception, Internal Version, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
10D07Z8	Extraction of Products of Conception, Other, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
10E0XZZ	Delivery of Products of Conception, External Approach	Procedure	ICD-10-PCS
10S07ZZ	Reposition Products of Conception, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
59400	Routine obstetric care including antepartum care, vaginal delivery (with or without episiotomy, and/or forceps) and postpartum care	Procedure	CPT-4
59409	Vaginal delivery only (with or without episiotomy and/or forceps);	Procedure	CPT-4
59410	Vaginal delivery only (with or without episiotomy and/or forceps); including postpartum care	Procedure	CPT-4
59510	Routine obstetric care including antepartum care, cesarean delivery, and postpartum care	Procedure	CPT-4
59514	Cesarean delivery only;	Procedure	CPT-4
59515	Cesarean delivery only; including postpartum care	Procedure	CPT-4
59610	Routine obstetric care including antepartum care, vaginal delivery (with or without episiotomy, and/or forceps) and postpartum care, after previous	Procedure	CPT-4
59612	Vaginal delivery only, after previous cesarean delivery (with or without episiotomy and/or forceps);	Procedure	CPT-4
59614	Vaginal delivery only, after previous cesarean delivery (with or without episiotomy and/or forceps); including postpartum care	Procedure	CPT-4
59618	Routine obstetric care including antepartum care, cesarean delivery, and postpartum care, following attempted vaginal delivery after previous cesarean delivery	Procedure	CPT-4

Appendix B. List of Current Procedural Terminology, Fourth Edition (CPT-4), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Live Birth Delivery in this Request

Code	Description	Code Category	Code Type
59620	Cesarean delivery only, following attempted vaginal delivery after previous cesarean delivery;	Procedure	CPT-4
59622	Cesarean delivery only, following attempted vaginal delivery after previous cesarean delivery; including postpartum care	Procedure	CPT-4
64101	Placenta previa without hemorrhage, with delivery	Diagnosis	ICD-9-CM
64111	Hemorrhage from placenta previa, with delivery	Diagnosis	ICD-9-CM
64121	Premature separation of placenta, with delivery	Diagnosis	ICD-9-CM
64131	Antepartum hemorrhage associated with coagulation defects, with delivery	Diagnosis	ICD-9-CM
64181	Other antepartum hemorrhage, with delivery	Diagnosis	ICD-9-CM
64191	Unspecified antepartum hemorrhage, with delivery	Diagnosis	ICD-9-CM
64201	Benign essential hypertension with delivery	Diagnosis	ICD-9-CM
64202	Benign essential hypertension, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64211	Hypertension secondary to renal disease, with delivery	Diagnosis	ICD-9-CM
64212	Hypertension secondary to renal disease, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64221	Other pre-existing hypertension, with delivery	Diagnosis	ICD-9-CM
64222	Other pre-existing hypertension, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64231	Transient hypertension of pregnancy, with delivery	Diagnosis	ICD-9-CM
64232	Transient hypertension of pregnancy, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64241	Mild or unspecified pre-eclampsia, with delivery	Diagnosis	ICD-9-CM
64242	Mild or unspecified pre-eclampsia, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64251	Severe pre-eclampsia, with delivery	Diagnosis	ICD-9-CM
64252	Severe pre-eclampsia, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64261	Eclampsia, with delivery	Diagnosis	ICD-9-CM
64262	Eclampsia, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64271	Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, with delivery	Diagnosis	ICD-9-CM
64272	Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64291	Unspecified hypertension, with delivery	Diagnosis	ICD-9-CM
64292	Unspecified hypertension, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64301	Mild hyperemesis gravidarum, delivered	Diagnosis	ICD-9-CM
64311	Hyperemesis gravidarum with metabolic disturbance, delivered	Diagnosis	ICD-9-CM
64321	Late vomiting of pregnancy, delivered	Diagnosis	ICD-9-CM
64381	Other vomiting complicating pregnancy, delivered	Diagnosis	ICD-9-CM
64391	Unspecified vomiting of pregnancy, delivered	Diagnosis	ICD-9-CM
64421	Early onset of delivery, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64501	Prolonged pregnancy, with delivery	Diagnosis	ICD-9-CM
64511	Post term pregnancy, delivered, with or without mention of antepartum	Diagnosis	ICD-9-CM
64521	Prolonged pregnancy, delivered, with or without mention of antepartum	Diagnosis	ICD-9-CM

Appendix B. List of Current Procedural Terminology, Fourth Edition (CPT-4), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Live Birth Delivery in this Request

Code	Description	Code Category	Code Type
64522		Diagnosis	ICD-9-CM
64601	Papyraceous fetus, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64611	Edema or excessive weight gain in pregnancy, with delivery, with or without mention of antepartum complication	Diagnosis	ICD-9-CM
64612	Edema or excessive weight gain in pregnancy, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64621	Unspecified renal disease in pregnancy, with delivery	Diagnosis	ICD-9-CM
64622	Unspecified renal disease in pregnancy, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64631	Pregnancy complication, recurrent pregnancy loss, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64641	Peripheral neuritis in pregnancy, with delivery	Diagnosis	ICD-9-CM
64642	Peripheral neuritis in pregnancy, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64651	Asymptomatic bacteriuria in pregnancy, with delivery	Diagnosis	ICD-9-CM
64652	Asymptomatic bacteriuria in pregnancy, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64661	Infections of genitourinary tract in pregnancy, with delivery	Diagnosis	ICD-9-CM
64662	Infections of genitourinary tract in pregnancy, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64671	Liver and biliary tract disorders in pregnancy, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64681	Other specified complication of pregnancy, with delivery	Diagnosis	ICD-9-CM
64682	Other specified complications of pregnancy, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64691	Unspecified complication of pregnancy, with delivery	Diagnosis	ICD-9-CM
64701	Maternal syphilis, complicating pregnancy, with delivery	Diagnosis	ICD-9-CM
64702	Maternal syphilis, complicating pregnancy, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64711	Maternal gonorrhoea with delivery	Diagnosis	ICD-9-CM
64712	Maternal gonorrhoea, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64721	Other maternal venereal diseases with delivery	Diagnosis	ICD-9-CM
64722	Other maternal venereal diseases with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64731	Maternal tuberculosis with delivery	Diagnosis	ICD-9-CM
64732	Maternal tuberculosis with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64741	Maternal malaria with delivery	Diagnosis	ICD-9-CM
64742	Maternal malaria with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64751	Maternal rubella with delivery	Diagnosis	ICD-9-CM
64752	Maternal rubella with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64761	Other maternal viral disease with delivery	Diagnosis	ICD-9-CM
64762	Other maternal viral disease with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64781	Other specified maternal infectious and parasitic disease with delivery	Diagnosis	ICD-9-CM
64782	Other specified maternal infectious and parasitic disease with delivery, with current postpartum complication	Diagnosis	ICD-9-CM

Appendix B. List of Current Procedural Terminology, Fourth Edition (CPT-4), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Live Birth Delivery in this Request

Code	Description	Code Category	Code Type
64791	Unspecified maternal infection or infestation with delivery	Diagnosis	ICD-9-CM
64792	Unspecified maternal infection or infestation with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64801	Maternal diabetes mellitus with delivery	Diagnosis	ICD-9-CM
64802	Maternal diabetes mellitus with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64811	Maternal thyroid dysfunction with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64812	Maternal thyroid dysfunction with delivery, with current postpartum	Diagnosis	ICD-9-CM
64821	Maternal anemia, with delivery	Diagnosis	ICD-9-CM
64822	Maternal anemia with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64831	Maternal drug dependence, with delivery	Diagnosis	ICD-9-CM
64832	Maternal drug dependence, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64841	Maternal mental disorders, with delivery	Diagnosis	ICD-9-CM
64842	Maternal mental disorders, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64851	Maternal congenital cardiovascular disorders, with delivery	Diagnosis	ICD-9-CM
64852	Maternal congenital cardiovascular disorders, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64861	Other maternal cardiovascular diseases, with delivery	Diagnosis	ICD-9-CM
64862	Other maternal cardiovascular diseases, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64871	Bone and joint disorders of maternal back, pelvis, and lower limbs, with delivery	Diagnosis	ICD-9-CM
64872	Bone and joint disorders of maternal back, pelvis, and lower limbs, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64881	Abnormal maternal glucose tolerance, with delivery	Diagnosis	ICD-9-CM
64882	Abnormal maternal glucose tolerance, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64891	Other current maternal conditions classifiable elsewhere, with delivery	Diagnosis	ICD-9-CM
64892	Other current maternal conditions classifiable elsewhere, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
64901	Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64902	Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
64911	Obesity complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64912	Obesity complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
64921	Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64922	Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
64931	Coagulation defects complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64932	Coagulation defects complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
64941	Epilepsy complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64942	Epilepsy complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
64951	Spotting complicating pregnancy, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64961	Uterine size date discrepancy, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64962	Uterine size date discrepancy, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
64971	Cervical shortening, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64981	Onset (spontaneous) of labor after 37 completed weeks of gestation but before 39 completed weeks gestation, with delivery by (planned) cesarean section, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
64982	Onset (spontaneous) of labor after 37 completed weeks of gestation but before 39 completed weeks gestation, with delivery by (planned) cesarean section, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
650	Normal delivery	Diagnosis	ICD-9-CM
65101	Twin pregnancy, delivered	Diagnosis	ICD-9-CM
65111	Triplet pregnancy, delivered	Diagnosis	ICD-9-CM
65121	Quadruplet pregnancy, delivered	Diagnosis	ICD-9-CM
65131	Twin pregnancy with fetal loss and retention of one fetus, delivered	Diagnosis	ICD-9-CM
65141	Triplet pregnancy with fetal loss and retention of one or more, delivered	Diagnosis	ICD-9-CM
65151	Quadruplet pregnancy with fetal loss and retention of one or more, delivered	Diagnosis	ICD-9-CM
65161	Other multiple pregnancy with fetal loss and retention of one or more fetus(es), delivered	Diagnosis	ICD-9-CM
65171	Multiple gestation following (elective) fetal reduction, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
65181	Other specified multiple gestation, delivered	Diagnosis	ICD-9-CM
65191	Unspecified multiple gestation, delivered	Diagnosis	ICD-9-CM
65201	Unstable lie of fetus, delivered	Diagnosis	ICD-9-CM
65211	Breech or other malpresentation successfully converted to cephalic presentation, delivered	Diagnosis	ICD-9-CM
65221	Breech presentation without mention of version, delivered	Diagnosis	ICD-9-CM
65231	Transverse or oblique fetal presentation, delivered	Diagnosis	ICD-9-CM
65241	Fetal face or brow presentation, delivered	Diagnosis	ICD-9-CM
65251	High fetal head at term, delivered	Diagnosis	ICD-9-CM
65261	Multiple gestation with malpresentation of one fetus or more, delivered	Diagnosis	ICD-9-CM
65271	Prolapsed arm of fetus, delivered	Diagnosis	ICD-9-CM
65281	Other specified malposition or malpresentation of fetus, delivered	Diagnosis	ICD-9-CM
65291	Unspecified malposition or malpresentation of fetus, delivered	Diagnosis	ICD-9-CM
65301	Major abnormality of bony pelvis, not further specified, delivered	Diagnosis	ICD-9-CM
65311	Generally contracted pelvis in pregnancy, delivered	Diagnosis	ICD-9-CM
65321	Inlet contraction of pelvis in pregnancy, delivered	Diagnosis	ICD-9-CM
65331	Outlet contraction of pelvis in pregnancy, delivered	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
65341	Fetopelvic disproportion, delivered	Diagnosis	ICD-9-CM
65351	Unusually large fetus causing disproportion, delivered	Diagnosis	ICD-9-CM
65361	Hydrocephalic fetus causing disproportion, delivered	Diagnosis	ICD-9-CM
65371	Other fetal abnormality causing disproportion, delivered	Diagnosis	ICD-9-CM
65381	Fetal disproportion of other origin, delivered	Diagnosis	ICD-9-CM
65391	Unspecified fetal disproportion, delivered	Diagnosis	ICD-9-CM
65401	Congenital abnormalities of pregnant uterus, delivered	Diagnosis	ICD-9-CM
65402	Congenital abnormalities of pregnant uterus, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65411	Tumors of body of uterus, delivered	Diagnosis	ICD-9-CM
65412	Tumors of body of uterus, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65421	Previous cesarean delivery, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
65431	Retroverted and incarcerated gravid uterus, delivered	Diagnosis	ICD-9-CM
65432	Retroverted and incarcerated gravid uterus, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65441	Other abnormalities in shape or position of gravid uterus and of neighboring structures, delivered	Diagnosis	ICD-9-CM
65442	Other abnormalities in shape or position of gravid uterus and of neighboring structures, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65451	Cervical incompetence, delivered	Diagnosis	ICD-9-CM
65452	Cervical incompetence, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65461	Other congenital or acquired abnormality of cervix, with delivery	Diagnosis	ICD-9-CM
65462	Other congenital or acquired abnormality of cervix, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65471	Congenital or acquired abnormality of vagina, with delivery	Diagnosis	ICD-9-CM
65472	Congenital or acquired abnormality of vagina, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65481	Congenital or acquired abnormality of vulva, with delivery	Diagnosis	ICD-9-CM
65482	Congenital or acquired abnormality of vulva, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65491	Other and unspecified abnormality of organs and soft tissues of pelvis, with delivery	Diagnosis	ICD-9-CM
65492	Other and unspecified abnormality of organs and soft tissues of pelvis, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
65501	Central nervous system malformation in fetus, with delivery	Diagnosis	ICD-9-CM
65511	Chromosomal abnormality in fetus, affecting management of mother, with delivery	Diagnosis	ICD-9-CM
65521	Hereditary disease in family possibly affecting fetus, affecting management of mother, with delivery	Diagnosis	ICD-9-CM
65531	Suspected damage to fetus from viral disease in mother, affecting management of mother, with delivery	Diagnosis	ICD-9-CM
65541	Suspected damage to fetus from other disease in mother, affecting management of mother, with delivery	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
65551	Suspected damage to fetus from drugs, affecting management of mother, delivered	Diagnosis	ICD-9-CM
65561	Suspected damage to fetus from radiation, affecting management of mother, delivered	Diagnosis	ICD-9-CM
65571	Decreased fetal movements, affecting management of mother, delivered	Diagnosis	ICD-9-CM
65581	Other known or suspected fetal abnormality, not elsewhere classified, affecting management of mother, delivery	Diagnosis	ICD-9-CM
65591	Unspecified fetal abnormality affecting management of mother, delivery	Diagnosis	ICD-9-CM
65601	Fetal-maternal hemorrhage, with delivery	Diagnosis	ICD-9-CM
65611	Rhesus isoimmunization affecting management of mother, delivered	Diagnosis	ICD-9-CM
65621	Isoimmunization from other and unspecified blood-group incompatibility, affecting management of mother, delivered	Diagnosis	ICD-9-CM
65631	Fetal distress affecting management of mother, delivered	Diagnosis	ICD-9-CM
65641	Intrauterine death affecting management of mother, delivered	Diagnosis	ICD-9-CM
65651	Poor fetal growth, affecting management of mother, delivered	Diagnosis	ICD-9-CM
65661	Excessive fetal growth affecting management of mother, delivered	Diagnosis	ICD-9-CM
65671	Other placental conditions affecting management of mother, delivered	Diagnosis	ICD-9-CM
65681	Other specified fetal and placental problems affecting management of mother, delivered	Diagnosis	ICD-9-CM
65691	Unspecified fetal and placental problem affecting management of mother, delivered	Diagnosis	ICD-9-CM
65701	Polyhydramnios, with delivery	Diagnosis	ICD-9-CM
65801	Oligohydramnios, delivered	Diagnosis	ICD-9-CM
65811	Premature rupture of membranes in pregnancy, delivered	Diagnosis	ICD-9-CM
65821	Delayed delivery after spontaneous or unspecified rupture of membranes, delivered	Diagnosis	ICD-9-CM
65831	Delayed delivery after artificial rupture of membranes, delivered	Diagnosis	ICD-9-CM
65841	Infection of amniotic cavity, delivered	Diagnosis	ICD-9-CM
65881	Other problem associated with amniotic cavity and membranes, delivered	Diagnosis	ICD-9-CM
65891	Unspecified problem associated with amniotic cavity and membranes, delivered	Diagnosis	ICD-9-CM
65901	Failed mechanical induction of labor, delivered	Diagnosis	ICD-9-CM
65911	Failed medical or unspecified induction of labor, delivered	Diagnosis	ICD-9-CM
65921	Unspecified maternal pyrexia during labor, delivered	Diagnosis	ICD-9-CM
65931	Generalized infection during labor, delivered	Diagnosis	ICD-9-CM
65941	Grand multiparity, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
65951	Elderly primigravida, delivered	Diagnosis	ICD-9-CM
65961	Elderly multigravida, delivered, with mention of antepartum condition	Diagnosis	ICD-9-CM
65971	Abnormality in fetal heart rate or rhythm, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
65981	Other specified indication for care or intervention related to labor and delivery, delivered	Diagnosis	ICD-9-CM
65991	Unspecified indication for care or intervention related to labor and delivery, delivered	Diagnosis	ICD-9-CM
66001	Obstruction caused by malposition of fetus at onset of labor, delivered	Diagnosis	ICD-9-CM
66011	Obstruction by bony pelvis during labor and delivery, delivered	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
66021	Obstruction by abnormal pelvic soft tissues during labor and delivery, delivered	Diagnosis	ICD-9-CM
66031	Deep transverse arrest and persistent occipitoposterior position during labor and deliver, delivered	Diagnosis	ICD-9-CM
66041	Shoulder (girdle) dystocia during labor and deliver, delivered	Diagnosis	ICD-9-CM
66051	Locked twins, delivered	Diagnosis	ICD-9-CM
66061	Unspecified failed trial of labor, delivered	Diagnosis	ICD-9-CM
66071	Unspecified failed forceps or vacuum extractor, delivered	Diagnosis	ICD-9-CM
66081	Other causes of obstructed labor, delivered	Diagnosis	ICD-9-CM
66091	Unspecified obstructed labor, with delivery	Diagnosis	ICD-9-CM
66101	Primary uterine inertia, with delivery	Diagnosis	ICD-9-CM
66111	Secondary uterine inertia, with delivery	Diagnosis	ICD-9-CM
66121	Other and unspecified uterine inertia, with delivery	Diagnosis	ICD-9-CM
66131	Precipitate labor, with delivery	Diagnosis	ICD-9-CM
66141	Hypertonic, incoordinate, or prolonged uterine contractions, with delivery	Diagnosis	ICD-9-CM
66191	Unspecified abnormality of labor, with delivery	Diagnosis	ICD-9-CM
66201	Prolonged first stage of labor, delivered	Diagnosis	ICD-9-CM
66211	Unspecified prolonged labor, delivered	Diagnosis	ICD-9-CM
66221	Prolonged second stage of labor, delivered	Diagnosis	ICD-9-CM
66231	Delayed delivery of second twin, triplet, etc., delivered	Diagnosis	ICD-9-CM
66301	Prolapse of cord, complicating labor and delivery, delivered	Diagnosis	ICD-9-CM
66311	Cord around neck, with compression, complicating labor and delivery, delivered	Diagnosis	ICD-9-CM
66321	Other and unspecified cord entanglement, with compression, complicating labor and delivery, delivered	Diagnosis	ICD-9-CM
66331	Other and unspecified cord entanglement, without mention of compression, complicating labor and delivery, delivered	Diagnosis	ICD-9-CM
66341	Short cord complicating labor and delivery, delivered	Diagnosis	ICD-9-CM
66351	Vasa previa complicating labor and delivery, delivered	Diagnosis	ICD-9-CM
66361	Vascular lesions of cord complicating labor and delivery, delivered	Diagnosis	ICD-9-CM
66381	Other umbilical cord complications during labor and delivery, delivered	Diagnosis	ICD-9-CM
66391	Unspecified umbilical cord complication during labor and delivery, delivered	Diagnosis	ICD-9-CM
66401	First-degree perineal laceration, with delivery	Diagnosis	ICD-9-CM
66411	Second-degree perineal laceration, with delivery	Diagnosis	ICD-9-CM
66421	Third-degree perineal laceration, with delivery	Diagnosis	ICD-9-CM
66431	Fourth-degree perineal laceration, with delivery	Diagnosis	ICD-9-CM
66441	Unspecified perineal laceration, with delivery	Diagnosis	ICD-9-CM
66451	Vulvar and perineal hematoma, with delivery	Diagnosis	ICD-9-CM
66461	Anal sphincter tear complicating delivery, not associated with third-degree perineal laceration, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66481	Other specified trauma to perineum and vulva, with delivery	Diagnosis	ICD-9-CM
66491	Unspecified trauma to perineum and vulva, with delivery	Diagnosis	ICD-9-CM
66501	Rupture of uterus before onset of labor, with delivery	Diagnosis	ICD-9-CM
66511	Rupture of uterus during labor, with delivery	Diagnosis	ICD-9-CM
66522	Inversion of uterus, delivered with postpartum complication	Diagnosis	ICD-9-CM
66531	Laceration of cervix, with delivery	Diagnosis	ICD-9-CM
66541	High vaginal laceration, with delivery	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
66551	Other injury to pelvic organs, with delivery	Diagnosis	ICD-9-CM
66561	Damage to pelvic joints and ligaments, with delivery	Diagnosis	ICD-9-CM
66571	Pelvic hematoma, with delivery	Diagnosis	ICD-9-CM
66572	Pelvic hematoma, delivered with postpartum complication	Diagnosis	ICD-9-CM
66581	Other specified obstetrical trauma, with delivery	Diagnosis	ICD-9-CM
66582	Other specified obstetrical trauma, delivered, with postpartum	Diagnosis	ICD-9-CM
66591	Unspecified obstetrical trauma, with delivery	Diagnosis	ICD-9-CM
66592	Unspecified obstetrical trauma, delivered, with postpartum complication	Diagnosis	ICD-9-CM
66602	Third-stage postpartum hemorrhage, with delivery	Diagnosis	ICD-9-CM
66612	Other immediate postpartum hemorrhage, with delivery	Diagnosis	ICD-9-CM
66622	Delayed and secondary postpartum hemorrhage, with delivery	Diagnosis	ICD-9-CM
66632	Postpartum coagulation defects, with delivery	Diagnosis	ICD-9-CM
66702	Retained placenta without hemorrhage, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
66712	Retained portions of placenta or membranes, without hemorrhage, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
66801	Pulmonary complications of the administration of anesthesia or other sedation in labor and delivery, delivered	Diagnosis	ICD-9-CM
66802	Pulmonary complications of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
66811	Cardiac complications of the administration of anesthesia or other sedation in labor and delivery, delivered	Diagnosis	ICD-9-CM
66812	Cardiac complications of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
66821	Central nervous system complications of the administration of anesthesia or other sedation in labor and delivery, delivered	Diagnosis	ICD-9-CM
66822	Central nervous system complications of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
66881	Other complications of the administration of anesthesia or other sedation in labor and delivery, delivered	Diagnosis	ICD-9-CM
66882	Other complications of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
66891	Unspecified complication of the administration of anesthesia or other sedation in labor and delivery, delivered	Diagnosis	ICD-9-CM
66892	Unspecified complication of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
66901	Maternal distress, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66902	Maternal distress, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
66911	Shock during or following labor and delivery, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66912	Shock during or following labor and delivery, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
66921	Maternal hypotension syndrome, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66922	Maternal hypotension syndrome, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
66932	Acute kidney failure following labor and delivery, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
66941	Other complications of obstetrical surgery and procedures, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66942	Other complications of obstetrical surgery and procedures, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
66951	Forceps or vacuum extractor delivery without mention of indication, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66961	Breech extraction, without mention of indication, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66971	Cesarean delivery, without mention of indication, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66981	Other complication of labor and delivery, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66982	Other complication of labor and delivery, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
66991	Unspecified complication of labor and delivery, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
66992	Unspecified complication of labor and delivery, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67002	Major puerperal infection, unspecified, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67012	Puerperal endometritis, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67022	Puerperal sepsis, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67032	Puerperal septic thrombophlebitis, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67082	Other major puerperal infection, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67101	Varicose veins of legs, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67102	Varicose veins of legs, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67111	Varicose veins of vulva and perineum, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67112	Varicose veins of vulva and perineum, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67121	Superficial thrombophlebitis with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67122	Superficial thrombophlebitis with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67131	Deep phlebothrombosis, antepartum, with delivery	Diagnosis	ICD-9-CM
67142	Deep phlebothrombosis, postpartum, with delivery	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
67151	Other phlebitis and thrombosis with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67152	Other phlebitis and thrombosis with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67181	Other venous complication, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67182	Other venous complication, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67191	Unspecified venous complication, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67192	Unspecified venous complication, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67202	Puerperal pyrexia of unknown origin, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67301	Obstetrical air embolism, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67302	Obstetrical air embolism, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67311	Amniotic fluid embolism, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67312	Amniotic fluid embolism, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67321	Obstetrical blood-clot embolism, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67322	Obstetrical blood-clot embolism, with mention of postpartum complication	Diagnosis	ICD-9-CM
67331	Obstetrical pyemic and septic embolism, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67332	Obstetrical pyemic and septic embolism, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67381	Other obstetrical pulmonary embolism, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67382	Other obstetrical pulmonary embolism, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67401	Cerebrovascular disorder, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67402	Cerebrovascular disorder, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67412	Disruption of cesarean wound, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67422	Disruption of perineal wound, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67432	Other complication of obstetrical surgical wounds, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67442	Placental polyp, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67451	Peripartum cardiomyopathy, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67452	Peripartum cardiomyopathy, delivered, with mention of postpartum condition	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
67482	Other complication of puerperium, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67492	Unspecified complications of puerperium, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67501	Infection of nipple associated with childbirth, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67502	Infection of nipple associated with childbirth, delivered with mention of postpartum complication	Diagnosis	ICD-9-CM
67511	Abscess of breast associated with childbirth, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67512	Abscess of breast associated with childbirth, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67521	Nonpurulent mastitis, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67522	Nonpurulent mastitis, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67581	Other specified infection of the breast and nipple associated with childbirth, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67582	Other specified infection of the breast and nipple associated with childbirth, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67591	Unspecified infection of the breast and nipple, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67592	Unspecified infection of the breast and nipple, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67601	Retracted nipple, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67602	Retracted nipple, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67611	Cracked nipple, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67612	Cracked nipple, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67621	Engorgement of breasts, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67622	Engorgement of breasts, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67631	Other and unspecified disorder of breast associated with childbirth, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67632	Other and unspecified disorder of breast associated with childbirth, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67641	Failure of lactation, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67642	Failure of lactation, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67651	Suppressed lactation, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67652	Suppressed lactation, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67661	Galactorrhea, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67662	Galactorrhea, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67681	Other disorder of lactation, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
67682	Other disorder of lactation, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67691	Unspecified disorder of lactation, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67692	Unspecified disorder of lactation, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
67801	Fetal hematologic conditions, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67811	Fetal conjoined twins, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67901	Maternal complications from in utero procedure, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67902	Maternal complications from in utero procedure, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
67911	Fetal complications from in utero procedure, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
67912	Fetal complications from in utero procedure, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
72	Forceps, vacuum, and breech delivery	Procedure	ICD-9-CM
720	Low forceps operation	Procedure	ICD-9-CM
721	Low forceps operation with episiotomy	Procedure	ICD-9-CM
722	Mid forceps operation	Procedure	ICD-9-CM
7221	Mid forceps operation with episiotomy	Procedure	ICD-9-CM
7229	Other mid forceps operation	Procedure	ICD-9-CM
723	High forceps operation	Procedure	ICD-9-CM
7231	High forceps operation with episiotomy	Procedure	ICD-9-CM
7239	Other high forceps operation	Procedure	ICD-9-CM
724	Forceps rotation of fetal head	Procedure	ICD-9-CM
725	Breech extraction	Procedure	ICD-9-CM
7251	Partial breech extraction with forceps to aftercoming head	Procedure	ICD-9-CM
7252	Other partial breech extraction	Procedure	ICD-9-CM
7253	Total breech extraction with forceps to aftercoming head	Procedure	ICD-9-CM
7254	Other total breech extraction	Procedure	ICD-9-CM
726	Forceps application to aftercoming head	Procedure	ICD-9-CM
727	Vacuum extraction	Procedure	ICD-9-CM
7271	Vacuum extraction with episiotomy	Procedure	ICD-9-CM
7279	Other vacuum extraction	Procedure	ICD-9-CM
728	Other specified instrumental delivery	Procedure	ICD-9-CM
729	Unspecified instrumental delivery	Procedure	ICD-9-CM
73	Other procedures inducing or assisting delivery	Procedure	ICD-9-CM
730	Artificial rupture of membranes	Procedure	ICD-9-CM
7301	Induction of labor by artificial rupture of membranes	Procedure	ICD-9-CM
7309	Other artificial rupture of membranes	Procedure	ICD-9-CM
731	Other surgical induction of labor	Procedure	ICD-9-CM
732	Internal and combined version and extraction	Procedure	ICD-9-CM

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Code	Description	Code Category	Code Type
7321	Internal and combined version without extraction	Procedure	ICD-9-CM
7322	Internal and combined version with extraction	Procedure	ICD-9-CM
733	Failed forceps	Procedure	ICD-9-CM
734	Medical induction of labor	Procedure	ICD-9-CM
735	Manually assisted delivery	Procedure	ICD-9-CM
7351	Manual rotation of fetal head	Procedure	ICD-9-CM
7359	Other manually assisted delivery	Procedure	ICD-9-CM
736	Episiotomy	Procedure	ICD-9-CM
738	Operations on fetus to facilitate delivery	Procedure	ICD-9-CM
739	Other operations assisting delivery	Procedure	ICD-9-CM
7391	External version to assist delivery	Procedure	ICD-9-CM
7392	Replacement of prolapsed umbilical cord	Procedure	ICD-9-CM
7393	Incision of cervix to assist delivery	Procedure	ICD-9-CM
7394	Pubiotomy to assist delivery	Procedure	ICD-9-CM
7399	Other operations to assist delivery	Procedure	ICD-9-CM
740	Classical cesarean section	Procedure	ICD-9-CM
741	Low cervical cesarean section	Procedure	ICD-9-CM
742	Extraperitoneal cesarean section	Procedure	ICD-9-CM
744	Cesarean section of other specified type	Procedure	ICD-9-CM
749	Cesarean section of unspecified type	Procedure	ICD-9-CM
7499	Other cesarean section of unspecified type	Procedure	ICD-9-CM
7630	Fetus or newborn affected by breech delivery and extraction	Diagnosis	ICD-9-CM
7632	Fetus or newborn affected by forceps delivery	Diagnosis	ICD-9-CM
7633	Fetus or newborn affected by delivery by vacuum extractor	Diagnosis	ICD-9-CM
7634	Fetus or newborn affected by cesarean delivery	Diagnosis	ICD-9-CM
7636	Fetus or newborn affected by precipitate delivery	Diagnosis	ICD-9-CM
7680	Fetal death from asphyxia or anoxia before onset of labor or at unspecified time	Diagnosis	ICD-9-CM
7681	Fetal death from asphyxia or anoxia during labor	Diagnosis	ICD-9-CM
O1002	Pre-existing essential hypertension complicating childbirth	Diagnosis	ICD-10-CM
O1012	Pre-existing hypertensive heart disease complicating childbirth	Diagnosis	ICD-10-CM
O1022	Pre-existing hypertensive chronic kidney disease complicating childbirth	Diagnosis	ICD-10-CM
O1032	Pre-existing hypertensive heart and chronic kidney disease complicating childbirth	Diagnosis	ICD-10-CM
O1042	Pre-existing secondary hypertension complicating childbirth	Diagnosis	ICD-10-CM
O1092	Unspecified pre-existing hypertension complicating childbirth	Diagnosis	ICD-10-CM
O114	Pre-existing hypertension with pre-eclampsia, complicating childbirth	Diagnosis	ICD-10-CM
O1204	Gestational edema, complicating childbirth	Diagnosis	ICD-10-CM
O1214	Gestational proteinuria, complicating childbirth	Diagnosis	ICD-10-CM
O1224	Gestational edema with proteinuria, complicating childbirth	Diagnosis	ICD-10-CM
O134	Gestational [pregnancy-induced] hypertension without significant proteinuria, complicating childbirth	Diagnosis	ICD-10-CM
O1404	Mild to moderate pre-eclampsia, complicating childbirth	Diagnosis	ICD-10-CM
O1414	Severe pre-eclampsia complicating childbirth	Diagnosis	ICD-10-CM
O1424	HELLP syndrome, complicating childbirth	Diagnosis	ICD-10-CM
O1494	Unspecified pre-eclampsia, complicating childbirth	Diagnosis	ICD-10-CM
O164	Unspecified maternal hypertension, complicating childbirth	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
O2402	Pre-existing type 1 diabetes mellitus, in childbirth	Diagnosis	ICD-10-CM
O2412	Pre-existing type 2 diabetes mellitus, in childbirth	Diagnosis	ICD-10-CM
O2432	Unspecified pre-existing diabetes mellitus in childbirth	Diagnosis	ICD-10-CM
O24420	Gestational diabetes mellitus in childbirth, diet controlled	Diagnosis	ICD-10-CM
O24424	Gestational diabetes mellitus in childbirth, insulin controlled	Diagnosis	ICD-10-CM
O24425	Gestational diabetes mellitus in childbirth, controlled by oral hypoglycemic drugs	Diagnosis	ICD-10-CM
O24429	Gestational diabetes mellitus in childbirth, unspecified control	Diagnosis	ICD-10-CM
O2482	Other pre-existing diabetes mellitus in childbirth	Diagnosis	ICD-10-CM
O2492	Unspecified diabetes mellitus in childbirth	Diagnosis	ICD-10-CM
O252	Malnutrition in childbirth	Diagnosis	ICD-10-CM
O2662	Liver and biliary tract disorders in childbirth	Diagnosis	ICD-10-CM
O2672	Subluxation of symphysis (pubis) in childbirth	Diagnosis	ICD-10-CM
O6012X0	Preterm labor second trimester with preterm delivery second trimester, not applicable or unspecified	Diagnosis	ICD-10-CM
O6012X1	Preterm labor second trimester with preterm delivery second trimester, fetus 1	Diagnosis	ICD-10-CM
O6012X2	Preterm labor second trimester with preterm delivery second trimester, fetus 2	Diagnosis	ICD-10-CM
O6012X3	Preterm labor second trimester with preterm delivery second trimester, fetus 3	Diagnosis	ICD-10-CM
O6012X4	Preterm labor second trimester with preterm delivery second trimester, fetus 4	Diagnosis	ICD-10-CM
O6012X5	Preterm labor second trimester with preterm delivery second trimester, fetus 5	Diagnosis	ICD-10-CM
O6012X9	Preterm labor second trimester with preterm delivery second trimester, other fetus	Diagnosis	ICD-10-CM
O6013X0	Preterm labor second trimester with preterm delivery third trimester, not applicable or unspecified	Diagnosis	ICD-10-CM
O6013X1	Preterm labor second trimester with preterm delivery third trimester, fetus 1	Diagnosis	ICD-10-CM
O6013X2	Preterm labor second trimester with preterm delivery third trimester, fetus 2	Diagnosis	ICD-10-CM
O6013X3	Preterm labor second trimester with preterm delivery third trimester, fetus 3	Diagnosis	ICD-10-CM
O6013X4	Preterm labor second trimester with preterm delivery third trimester, fetus 4	Diagnosis	ICD-10-CM
O6013X5	Preterm labor second trimester with preterm delivery third trimester, fetus 5	Diagnosis	ICD-10-CM
O6013X9	Preterm labor second trimester with preterm delivery third trimester, other fetus	Diagnosis	ICD-10-CM
O6014X0	Preterm labor third trimester with preterm delivery third trimester, not applicable or unspecified	Diagnosis	ICD-10-CM
O6014X1	Preterm labor third trimester with preterm delivery third trimester, fetus 1	Diagnosis	ICD-10-CM
O6014X2	Preterm labor third trimester with preterm delivery third trimester, fetus 2	Diagnosis	ICD-10-CM
O6014X3	Preterm labor third trimester with preterm delivery third trimester, fetus 3	Diagnosis	ICD-10-CM
O6014X4	Preterm labor third trimester with preterm delivery third trimester, fetus 4	Diagnosis	ICD-10-CM
O6014X5	Preterm labor third trimester with preterm delivery third trimester, fetus 5	Diagnosis	ICD-10-CM
O6014X9	Preterm labor third trimester with preterm delivery third trimester, other fetus	Diagnosis	ICD-10-CM
O6022X0	Term delivery with preterm labor, second trimester, not applicable or unspecified	Diagnosis	ICD-10-CM
O6022X1	Term delivery with preterm labor, second trimester, fetus 1	Diagnosis	ICD-10-CM
O6022X2	Term delivery with preterm labor, second trimester, fetus 2	Diagnosis	ICD-10-CM
O6022X3	Term delivery with preterm labor, second trimester, fetus 3	Diagnosis	ICD-10-CM
O6022X4	Term delivery with preterm labor, second trimester, fetus 4	Diagnosis	ICD-10-CM
O6022X5	Term delivery with preterm labor, second trimester, fetus 5	Diagnosis	ICD-10-CM
O6022X9	Term delivery with preterm labor, second trimester, other fetus	Diagnosis	ICD-10-CM
O6023X0	Term delivery with preterm labor, third trimester, not applicable or unspecified	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
O6023X1	Term delivery with preterm labor, third trimester, fetus 1	Diagnosis	ICD-10-CM
O6023X2	Term delivery with preterm labor, third trimester, fetus 2	Diagnosis	ICD-10-CM
O6023X3	Term delivery with preterm labor, third trimester, fetus 3	Diagnosis	ICD-10-CM
O6023X4	Term delivery with preterm labor, third trimester, fetus 4	Diagnosis	ICD-10-CM
O6023X5	Term delivery with preterm labor, third trimester, fetus 5	Diagnosis	ICD-10-CM
O6023X9	Term delivery with preterm labor, third trimester, other fetus	Diagnosis	ICD-10-CM
O632	Delayed delivery of second twin, triplet, etc	Diagnosis	ICD-10-CM
O670	Intrapartum hemorrhage with coagulation defect	Diagnosis	ICD-10-CM
O678	Other intrapartum hemorrhage	Diagnosis	ICD-10-CM
O679	Intrapartum hemorrhage, unspecified	Diagnosis	ICD-10-CM
O68	Labor and delivery complicated by abnormality of fetal acid-base balance	Diagnosis	ICD-10-CM
O690XX0	Labor and delivery complicated by prolapse of cord, not applicable or unspecified	Diagnosis	ICD-10-CM
O690XX1	Labor and delivery complicated by prolapse of cord, fetus 1	Diagnosis	ICD-10-CM
O690XX2	Labor and delivery complicated by prolapse of cord, fetus 2	Diagnosis	ICD-10-CM
O690XX3	Labor and delivery complicated by prolapse of cord, fetus 3	Diagnosis	ICD-10-CM
O690XX4	Labor and delivery complicated by prolapse of cord, fetus 4	Diagnosis	ICD-10-CM
O690XX5	Labor and delivery complicated by prolapse of cord, fetus 5	Diagnosis	ICD-10-CM
O690XX9	Labor and delivery complicated by prolapse of cord, other fetus	Diagnosis	ICD-10-CM
O691XX0	Labor and delivery complicated by cord around neck, with compression, not applicable or unspecified	Diagnosis	ICD-10-CM
O691XX1	Labor and delivery complicated by cord around neck, with compression, fetus 1	Diagnosis	ICD-10-CM
O691XX2	Labor and delivery complicated by cord around neck, with compression, fetus 2	Diagnosis	ICD-10-CM
O691XX3	Labor and delivery complicated by cord around neck, with compression, fetus 3	Diagnosis	ICD-10-CM
O691XX4	Labor and delivery complicated by cord around neck, with compression, fetus 4	Diagnosis	ICD-10-CM
O691XX5	Labor and delivery complicated by cord around neck, with compression, fetus 5	Diagnosis	ICD-10-CM
O691XX9	Labor and delivery complicated by cord around neck, with compression, other fetus	Diagnosis	ICD-10-CM
O692XX0	Labor and delivery complicated by other cord entanglement, with compression, not applicable or unspecified	Diagnosis	ICD-10-CM
O692XX1	Labor and delivery complicated by other cord entanglement, with compression, fetus 1	Diagnosis	ICD-10-CM
O692XX2	Labor and delivery complicated by other cord entanglement, with compression, fetus 2	Diagnosis	ICD-10-CM
O692XX3	Labor and delivery complicated by other cord entanglement, with compression, fetus 3	Diagnosis	ICD-10-CM
O692XX4	Labor and delivery complicated by other cord entanglement, with compression, fetus 4	Diagnosis	ICD-10-CM
O692XX5	Labor and delivery complicated by other cord entanglement, with compression, fetus 5	Diagnosis	ICD-10-CM
O692XX9	Labor and delivery complicated by other cord entanglement, with compression, other fetus	Diagnosis	ICD-10-CM
O693XX0	Labor and delivery complicated by short cord, not applicable or unspecified	Diagnosis	ICD-10-CM
O693XX1	Labor and delivery complicated by short cord, fetus 1	Diagnosis	ICD-10-CM
O693XX2	Labor and delivery complicated by short cord, fetus 2	Diagnosis	ICD-10-CM
O693XX3	Labor and delivery complicated by short cord, fetus 3	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
O693XX4	Labor and delivery complicated by short cord, fetus 4	Diagnosis	ICD-10-CM
O693XX5	Labor and delivery complicated by short cord, fetus 5	Diagnosis	ICD-10-CM
O693XX9	Labor and delivery complicated by short cord, other fetus	Diagnosis	ICD-10-CM
O694XX0	Labor and delivery complicated by vasa previa, not applicable or unspecified	Diagnosis	ICD-10-CM
O694XX1	Labor and delivery complicated by vasa previa, fetus 1	Diagnosis	ICD-10-CM
O694XX2	Labor and delivery complicated by vasa previa, fetus 2	Diagnosis	ICD-10-CM
O694XX3	Labor and delivery complicated by vasa previa, fetus 3	Diagnosis	ICD-10-CM
O694XX4	Labor and delivery complicated by vasa previa, fetus 4	Diagnosis	ICD-10-CM
O694XX5	Labor and delivery complicated by vasa previa, fetus 5	Diagnosis	ICD-10-CM
O694XX9	Labor and delivery complicated by vasa previa, other fetus	Diagnosis	ICD-10-CM
O695XX0	Labor and delivery complicated by vascular lesion of cord, not applicable or unspecified	Diagnosis	ICD-10-CM
O695XX1	Labor and delivery complicated by vascular lesion of cord, fetus 1	Diagnosis	ICD-10-CM
O695XX2	Labor and delivery complicated by vascular lesion of cord, fetus 2	Diagnosis	ICD-10-CM
O695XX3	Labor and delivery complicated by vascular lesion of cord, fetus 3	Diagnosis	ICD-10-CM
O695XX4	Labor and delivery complicated by vascular lesion of cord, fetus 4	Diagnosis	ICD-10-CM
O695XX5	Labor and delivery complicated by vascular lesion of cord, fetus 5	Diagnosis	ICD-10-CM
O695XX9	Labor and delivery complicated by vascular lesion of cord, other fetus	Diagnosis	ICD-10-CM
O6981X0	Labor and delivery complicated by cord around neck, without compression, not applicable or unspecified	Diagnosis	ICD-10-CM
O6981X1	Labor and delivery complicated by cord around neck, without compression, fetus 1	Diagnosis	ICD-10-CM
O6981X2	Labor and delivery complicated by cord around neck, without compression, fetus 2	Diagnosis	ICD-10-CM
O6981X3	Labor and delivery complicated by cord around neck, without compression, fetus 3	Diagnosis	ICD-10-CM
O6981X4	Labor and delivery complicated by cord around neck, without compression, fetus 4	Diagnosis	ICD-10-CM
O6981X5	Labor and delivery complicated by cord around neck, without compression, fetus 5	Diagnosis	ICD-10-CM
O6981X9	Labor and delivery complicated by cord around neck, without compression, other fetus	Diagnosis	ICD-10-CM
O6982X0	Labor and delivery complicated by other cord entanglement, without compression, not applicable or unspecified	Diagnosis	ICD-10-CM
O6982X1	Labor and delivery complicated by other cord entanglement, without compression, fetus 1	Diagnosis	ICD-10-CM
O6982X2	Labor and delivery complicated by other cord entanglement, without compression, fetus 2	Diagnosis	ICD-10-CM
O6982X3	Labor and delivery complicated by other cord entanglement, without compression, fetus 3	Diagnosis	ICD-10-CM
O6982X4	Labor and delivery complicated by other cord entanglement, without compression, fetus 4	Diagnosis	ICD-10-CM
O6982X5	Labor and delivery complicated by other cord entanglement, without compression, fetus 5	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
O6982X9	Labor and delivery complicated by other cord entanglement, without compression, other fetus	Diagnosis	ICD-10-CM
O6989X0	Labor and delivery complicated by other cord complications, not applicable or unspecified	Diagnosis	ICD-10-CM
O6989X1	Labor and delivery complicated by other cord complications, fetus 1	Diagnosis	ICD-10-CM
O6989X2	Labor and delivery complicated by other cord complications, fetus 2	Diagnosis	ICD-10-CM
O6989X3	Labor and delivery complicated by other cord complications, fetus 3	Diagnosis	ICD-10-CM
O6989X4	Labor and delivery complicated by other cord complications, fetus 4	Diagnosis	ICD-10-CM
O6989X5	Labor and delivery complicated by other cord complications, fetus 5	Diagnosis	ICD-10-CM
O6989X9	Labor and delivery complicated by other cord complications, other fetus	Diagnosis	ICD-10-CM
O699XX0	Labor and delivery complicated by cord complication, unspecified, not applicable or unspecified	Diagnosis	ICD-10-CM
O699XX1	Labor and delivery complicated by cord complication, unspecified, fetus 1	Diagnosis	ICD-10-CM
O699XX2	Labor and delivery complicated by cord complication, unspecified, fetus 2	Diagnosis	ICD-10-CM
O699XX3	Labor and delivery complicated by cord complication, unspecified, fetus 3	Diagnosis	ICD-10-CM
O699XX4	Labor and delivery complicated by cord complication, unspecified, fetus 4	Diagnosis	ICD-10-CM
O699XX5	Labor and delivery complicated by cord complication, unspecified, fetus 5	Diagnosis	ICD-10-CM
O699XX9	Labor and delivery complicated by cord complication, unspecified, other fetus	Diagnosis	ICD-10-CM
O700	First degree perineal laceration during delivery	Diagnosis	ICD-10-CM
O701	Second degree perineal laceration during delivery	Diagnosis	ICD-10-CM
O7020	Third degree perineal laceration during delivery, unspecified	Diagnosis	ICD-10-CM
O7021	Third degree perineal laceration during delivery, IIIa	Diagnosis	ICD-10-CM
O7022	Third degree perineal laceration during delivery, IIIb	Diagnosis	ICD-10-CM
O7023	Third degree perineal laceration during delivery, IIIc	Diagnosis	ICD-10-CM
O703	Fourth degree perineal laceration during delivery	Diagnosis	ICD-10-CM
O704	Anal sphincter tear complicating delivery, not associated with third degree laceration	Diagnosis	ICD-10-CM
O709	Perineal laceration during delivery, unspecified	Diagnosis	ICD-10-CM
O740	Aspiration pneumonitis due to anesthesia during labor and delivery	Diagnosis	ICD-10-CM
O741	Other pulmonary complications of anesthesia during labor and delivery	Diagnosis	ICD-10-CM
O742	Cardiac complications of anesthesia during labor and delivery	Diagnosis	ICD-10-CM
O743	Central nervous system complications of anesthesia during labor and delivery	Diagnosis	ICD-10-CM
O744	Toxic reaction to local anesthesia during labor and delivery	Diagnosis	ICD-10-CM
O745	Spinal and epidural anesthesia-induced headache during labor and delivery	Diagnosis	ICD-10-CM
O746	Other complications of spinal and epidural anesthesia during labor and delivery	Diagnosis	ICD-10-CM
O747	Failed or difficult intubation for anesthesia during labor and delivery	Diagnosis	ICD-10-CM
O748	Other complications of anesthesia during labor and delivery	Diagnosis	ICD-10-CM
O749	Complication of anesthesia during labor and delivery, unspecified	Diagnosis	ICD-10-CM
O750	Maternal distress during labor and delivery	Diagnosis	ICD-10-CM
O751	Shock during or following labor and delivery	Diagnosis	ICD-10-CM
O755	Delayed delivery after artificial rupture of membranes	Diagnosis	ICD-10-CM
O7581	Maternal exhaustion complicating labor and delivery	Diagnosis	ICD-10-CM
O7582	Onset (spontaneous) of labor after 37 completed weeks of gestation but before 39 completed weeks gestation, with delivery by (planned) cesarean section	Diagnosis	ICD-10-CM
O7589	Other specified complications of labor and delivery	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
O759	Complication of labor and delivery, unspecified	Diagnosis	ICD-10-CM
O76	Abnormality in fetal heart rate and rhythm complicating labor and delivery	Diagnosis	ICD-10-CM
O770	Labor and delivery complicated by meconium in amniotic fluid	Diagnosis	ICD-10-CM
O778	Labor and delivery complicated by other evidence of fetal stress	Diagnosis	ICD-10-CM
O779	Labor and delivery complicated by fetal stress, unspecified	Diagnosis	ICD-10-CM
O80	Encounter for full-term uncomplicated delivery	Diagnosis	ICD-10-CM
O82	Encounter for cesarean delivery without indication	Diagnosis	ICD-10-CM
O8802	Air embolism in childbirth	Diagnosis	ICD-10-CM
O8812	Amniotic fluid embolism in childbirth	Diagnosis	ICD-10-CM
O8822	Thromboembolism in childbirth	Diagnosis	ICD-10-CM
O8832	Pyemic and septic embolism in childbirth	Diagnosis	ICD-10-CM
O8882	Other embolism in childbirth	Diagnosis	ICD-10-CM
O9802	Tuberculosis complicating childbirth	Diagnosis	ICD-10-CM
O9812	Syphilis complicating childbirth	Diagnosis	ICD-10-CM
O9822	Gonorrhea complicating childbirth	Diagnosis	ICD-10-CM
O9832	Other infections with a predominantly sexual mode of transmission complicating childbirth	Diagnosis	ICD-10-CM
O9842	Viral hepatitis complicating childbirth	Diagnosis	ICD-10-CM
O9852	Other viral diseases complicating childbirth	Diagnosis	ICD-10-CM
O9862	Protozoal diseases complicating childbirth	Diagnosis	ICD-10-CM
O9872	Human immunodeficiency virus [HIV] disease complicating childbirth	Diagnosis	ICD-10-CM
O9882	Other maternal infectious and parasitic diseases complicating childbirth	Diagnosis	ICD-10-CM
O9892	Unspecified maternal infectious and parasitic disease complicating childbirth	Diagnosis	ICD-10-CM
O9902	Anemia complicating childbirth	Diagnosis	ICD-10-CM
O9912	Other diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism complicating childbirth	Diagnosis	ICD-10-CM
O99214	Obesity complicating childbirth	Diagnosis	ICD-10-CM
O99284	Endocrine, nutritional and metabolic diseases complicating childbirth	Diagnosis	ICD-10-CM
O99314	Alcohol use complicating childbirth	Diagnosis	ICD-10-CM
O99324	Drug use complicating childbirth	Diagnosis	ICD-10-CM
O99334	Smoking (tobacco) complicating childbirth	Diagnosis	ICD-10-CM
O99344	Other mental disorders complicating childbirth	Diagnosis	ICD-10-CM
O99354	Diseases of the nervous system complicating childbirth	Diagnosis	ICD-10-CM
O9942	Diseases of the circulatory system complicating childbirth	Diagnosis	ICD-10-CM
O9952	Diseases of the respiratory system complicating childbirth	Diagnosis	ICD-10-CM
O9962	Diseases of the digestive system complicating childbirth	Diagnosis	ICD-10-CM
O9972	Diseases of the skin and subcutaneous tissue complicating childbirth	Diagnosis	ICD-10-CM
O99814	Abnormal glucose complicating childbirth	Diagnosis	ICD-10-CM
O99824	Streptococcus B carrier state complicating childbirth	Diagnosis	ICD-10-CM
O99834	Other infection carrier state complicating childbirth	Diagnosis	ICD-10-CM
O99844	Bariatric surgery status complicating childbirth	Diagnosis	ICD-10-CM
O9A12	Malignant neoplasm complicating childbirth	Diagnosis	ICD-10-CM
O9A22	Injury, poisoning and certain other consequences of external causes complicating childbirth	Diagnosis	ICD-10-CM
O9A32	Physical abuse complicating childbirth	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
O9A42	Sexual abuse complicating childbirth	Diagnosis	ICD-10-CM
O9A52	Psychological abuse complicating childbirth	Diagnosis	ICD-10-CM
P030	Newborn affected by breech delivery and extraction	Diagnosis	ICD-10-CM
P032	Newborn affected by forceps delivery	Diagnosis	ICD-10-CM
P033	Newborn affected by delivery by vacuum extractor [ventouse]	Diagnosis	ICD-10-CM
P034	Newborn affected by Cesarean delivery	Diagnosis	ICD-10-CM
P035	Newborn affected by precipitate delivery	Diagnosis	ICD-10-CM
P0700	Extremely low birth weight newborn, unspecified weight	Diagnosis	ICD-10-CM
P0701	Extremely low birth weight newborn, less than 500 grams	Diagnosis	ICD-10-CM
P0702	Extremely low birth weight newborn, 500-749 grams	Diagnosis	ICD-10-CM
P0703	Extremely low birth weight newborn, 750-999 grams	Diagnosis	ICD-10-CM
P0710	Other low birth weight newborn, unspecified weight	Diagnosis	ICD-10-CM
P0714	Other low birth weight newborn, 1000-1249 grams	Diagnosis	ICD-10-CM
P0715	Other low birth weight newborn, 1250-1499 grams	Diagnosis	ICD-10-CM
P0716	Other low birth weight newborn, 1500-1749 grams	Diagnosis	ICD-10-CM
P0717	Other low birth weight newborn, 1750-1999 grams	Diagnosis	ICD-10-CM
P0718	Other low birth weight newborn, 2000-2499 grams	Diagnosis	ICD-10-CM
P0720	Extreme immaturity of newborn, unspecified weeks of gestation	Diagnosis	ICD-10-CM
P0721	Extreme immaturity of newborn, gestational age less than 23 completed weeks	Diagnosis	ICD-10-CM
P0722	Extreme immaturity of newborn, gestational age 23 completed weeks	Diagnosis	ICD-10-CM
P0723	Extreme immaturity of newborn, gestational age 24 completed weeks	Diagnosis	ICD-10-CM
P0724	Extreme immaturity of newborn, gestational age 25 completed weeks	Diagnosis	ICD-10-CM
P0725	Extreme immaturity of newborn, gestational age 26 completed weeks	Diagnosis	ICD-10-CM
P0726	Extreme immaturity of newborn, gestational age 27 completed weeks	Diagnosis	ICD-10-CM
P0730	Preterm newborn, unspecified weeks of gestation	Diagnosis	ICD-10-CM
P0731	Preterm newborn, gestational age 28 completed weeks	Diagnosis	ICD-10-CM
P0732	Preterm newborn, gestational age 29 completed weeks	Diagnosis	ICD-10-CM
P0733	Preterm newborn, gestational age 30 completed weeks	Diagnosis	ICD-10-CM
P0734	Preterm newborn, gestational age 31 completed weeks	Diagnosis	ICD-10-CM
P0735	Preterm newborn, gestational age 32 completed weeks	Diagnosis	ICD-10-CM
P0736	Preterm newborn, gestational age 33 completed weeks	Diagnosis	ICD-10-CM
P0737	Preterm newborn, gestational age 34 completed weeks	Diagnosis	ICD-10-CM
P0738	Preterm newborn, gestational age 35 completed weeks	Diagnosis	ICD-10-CM
P0739	Preterm newborn, gestational age 36 completed weeks	Diagnosis	ICD-10-CM
P0821	Post-term newborn	Diagnosis	ICD-10-CM
P0822	Prolonged gestation of newborn	Diagnosis	ICD-10-CM
V27	Outcome of delivery	Diagnosis	ICD-9-CM
V270	Outcome of delivery, single liveborn	Diagnosis	ICD-9-CM
V272	Outcome of delivery, twins, both liveborn	Diagnosis	ICD-9-CM
V273	Outcome of delivery, twins, one liveborn and one stillborn	Diagnosis	ICD-9-CM
V275	Outcome of delivery, other multiple birth, all liveborn	Diagnosis	ICD-9-CM
V276	Outcome of delivery, other multiple birth, some liveborn	Diagnosis	ICD-9-CM
V279	Outcome of delivery, unspecified	Diagnosis	ICD-9-CM
V30	Single liveborn	Diagnosis	ICD-9-CM
V300	Single liveborn, born in hospital	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
V3000	Single liveborn, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3001	Single liveborn, born in hospital, delivered by cesarean delivery	Diagnosis	ICD-9-CM
V301	Single liveborn, born before admission to hospital	Diagnosis	ICD-9-CM
V302	Single liveborn, born outside hospital and not hospitalized	Diagnosis	ICD-9-CM
V31	Twin birth, mate liveborn	Diagnosis	ICD-9-CM
V310	Twin, mate liveborn, born in hospital	Diagnosis	ICD-9-CM
V3100	Twin, mate liveborn, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3101	Twin, mate liveborn, born in hospital, delivered by cesarean delivery	Diagnosis	ICD-9-CM
V311	Twin birth, mate liveborn, born before admission to hospital	Diagnosis	ICD-9-CM
V312	Twin birth, mate liveborn, born outside hospital and not hospitalized	Diagnosis	ICD-9-CM
V32	Twin birth, mate stillborn	Diagnosis	ICD-9-CM
V320	Twin, mate stillborn, born in hospital	Diagnosis	ICD-9-CM
V3200	Twin, mate stillborn, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3201	Twin, mate stillborn, born in hospital, delivered by cesarean delivery	Diagnosis	ICD-9-CM
V321	Twin birth, mate stillborn, born before admission to hospital	Diagnosis	ICD-9-CM
V322	Twin birth, mate stillborn, born outside hospital and not hospitalized	Diagnosis	ICD-9-CM
V33	Twin birth, unspecified whether mate liveborn or stillborn	Diagnosis	ICD-9-CM
V330	Twin, unspecified, born in hospital	Diagnosis	ICD-9-CM
V3300	Twin, unspecified whether mate stillborn or liveborn, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3301	Twin, unspecified whether mate stillborn or liveborn, born in hospital, delivered by cesarean delivery	Diagnosis	ICD-9-CM
V331	Twin birth, unspecified whether mate liveborn or stillborn, born before admission to hospital	Diagnosis	ICD-9-CM
V332	Twin birth, unspecified whether mate liveborn or stillborn, born outside hospital and not hospitalized	Diagnosis	ICD-9-CM
V34	Other multiple birth (three or more), mates all liveborn	Diagnosis	ICD-9-CM
V340	Other multiple, mates all liveborn, born in hospital	Diagnosis	ICD-9-CM
V3400	Other multiple, mates all liveborn, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3401	Other multiple, mates all liveborn, born in hospital, delivered by cesarean delivery	Diagnosis	ICD-9-CM
V341	Other multiple birth (three or more), mates all liveborn, born before admission to hospital	Diagnosis	ICD-9-CM
V342	Other multiple birth (three or more), mates all liveborn, born outside hospital and not hospitalized	Diagnosis	ICD-9-CM
V36	Other multiple birth (three or more), mates liveborn and stillborn	Diagnosis	ICD-9-CM
V360	Other multiple, mates liveborn and stillborn, born in hospital	Diagnosis	ICD-9-CM
V3600	Other multiple, mates liveborn and stillborn, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3601	Other multiple, mates liveborn and stillborn, born in hospital, delivered by cesarean delivery	Diagnosis	ICD-9-CM
V361	Other multiple birth (three or more), mates liveborn and stillborn, born before admission to hospital	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
V362	Other multiple birth (three or more), mates liveborn and stillborn, born outside hospital and not hospitalized	Diagnosis	ICD-9-CM
V37	Other multiple birth (three or more), unspecified whether mates liveborn or stillborn	Diagnosis	ICD-9-CM
V370	Other multiple, unspecified whether mates stillborn or liveborn, born in hospital	Diagnosis	ICD-9-CM
V3700	Other multiple, unspecified whether mates stillborn or liveborn, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3701	Other multiple, unspecified whether mates stillborn or liveborn, born in hospital, delivered by cesarean delivery	Diagnosis	ICD-9-CM
V371	Other multiple birth (three or more), unspecified whether mates liveborn or stillborn, born before admission to hospital	Diagnosis	ICD-9-CM
V372	Other multiple birth (three or more), unspecified whether mates liveborn or stillborn, born outside of hospital	Diagnosis	ICD-9-CM
V39	Liveborn, unspecified whether single, twin, or multiple	Diagnosis	ICD-9-CM
V390	Other liveborn, unspecified whether single, twin, or multiple, born in hospital	Diagnosis	ICD-9-CM
V3900	Liveborn infant, unspecified whether single, twin, or multiple, born in hospital, delivered without mention of cesarean delivery	Diagnosis	ICD-9-CM
V3901	Liveborn infant, unspecified whether single, twin, or multiple, born in hospital, delivered by cesarean	Diagnosis	ICD-9-CM
V391	Liveborn, unspecified whether single, twin or multiple, born before admission to hospital	Diagnosis	ICD-9-CM
V392	Liveborn, unspecified whether single, twin or multiple, born outside hospital and not hospitalized	Diagnosis	ICD-9-CM
Z370	Single live birth	Diagnosis	ICD-10-CM
Z372	Twins, both liveborn	Diagnosis	ICD-10-CM
Z373	Twins, one liveborn and one stillborn	Diagnosis	ICD-10-CM
Z3750	Multiple births, unspecified, all liveborn	Diagnosis	ICD-10-CM
Z3751	Triplets, all liveborn	Diagnosis	ICD-10-CM
Z3752	Quadruplets, all liveborn	Diagnosis	ICD-10-CM
Z3753	Quintuplets, all liveborn	Diagnosis	ICD-10-CM
Z3754	Sextuplets, all liveborn	Diagnosis	ICD-10-CM
Z3759	Other multiple births, all liveborn	Diagnosis	ICD-10-CM
Z3760	Multiple births, unspecified, some liveborn	Diagnosis	ICD-10-CM
Z3761	Triplets, some liveborn	Diagnosis	ICD-10-CM
Z3762	Quadruplets, some liveborn	Diagnosis	ICD-10-CM
Z3763	Quintuplets, some liveborn	Diagnosis	ICD-10-CM
Z3764	Sextuplets, some liveborn	Diagnosis	ICD-10-CM
Z3769	Other multiple births, some liveborn	Diagnosis	ICD-10-CM
Z379	Outcome of delivery, unspecified	Diagnosis	ICD-10-CM
Z3800	Single liveborn infant, delivered vaginally	Diagnosis	ICD-10-CM
Z3801	Single liveborn infant, delivered by cesarean	Diagnosis	ICD-10-CM
Z381	Single liveborn infant, born outside hospital	Diagnosis	ICD-10-CM
Z382	Single liveborn infant, unspecified as to place of birth	Diagnosis	ICD-10-CM
Z3830	Twin liveborn infant, delivered vaginally	Diagnosis	ICD-10-CM
Z3831	Twin liveborn infant, delivered by cesarean	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
Z384	Twin liveborn infant, born outside hospital	Diagnosis	ICD-10-CM
Z385	Twin liveborn infant, unspecified as to place of birth	Diagnosis	ICD-10-CM
Z3861	Triplet liveborn infant, delivered vaginally	Diagnosis	ICD-10-CM
Z3862	Triplet liveborn infant, delivered by cesarean	Diagnosis	ICD-10-CM
Z3863	Quadruplet liveborn infant, delivered vaginally	Diagnosis	ICD-10-CM
Z3864	Quadruplet liveborn infant, delivered by cesarean	Diagnosis	ICD-10-CM
Z3865	Quintuplet liveborn infant, delivered vaginally	Diagnosis	ICD-10-CM
Z3866	Quintuplet liveborn infant, delivered by cesarean	Diagnosis	ICD-10-CM
Z3868	Other multiple liveborn infant, delivered vaginally	Diagnosis	ICD-10-CM
Z3869	Other multiple liveborn infant, delivered by cesarean	Diagnosis	ICD-10-CM
Z387	Other multiple liveborn infant, born outside hospital	Diagnosis	ICD-10-CM
Z388	Other multiple liveborn infant, unspecified as to place of birth	Diagnosis	ICD-10-CM

Appendix B.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes used to Define Gestational Age

Code	Description	Code			Priority	Priority	Priority ¹
		Category	Code Type	Duration	Group 1	Group 2	
Gestational age lookup table							
O481	Prolonged pregnancy	Diagnosis	ICD-10-CM	294	0	1	1
P0822	Prolonged gestation of newborn	Diagnosis	ICD-10-CM	294	0	1	1
Z3A49	Greater than 42 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	301	1	0	1
O480	Post-term pregnancy	Diagnosis	ICD-10-CM	287	0	1	2
P0821	Post-term newborn	Diagnosis	ICD-10-CM	287	0	1	2
Z3A42	42 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	298	1	0	2
Z3A41	41 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	291	1	0	3
Z3A40	40 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	284	1	0	4
Z3A39	39 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	277	1	0	5
Z3A38	38 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	270	1	0	6
Z3A37	37 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	263	1	0	7
P0739	Preterm newborn, gestational age 36 completed weeks	Diagnosis	ICD-10-CM	256	1	0	8
Z3A36	36 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	256	1	0	8
P0738	Preterm newborn, gestational age 35 completed weeks	Diagnosis	ICD-10-CM	249	1	0	9
Z3A35	35 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	249	1	0	9
P0737	Preterm newborn, gestational age 34 completed weeks	Diagnosis	ICD-10-CM	242	1	0	10
Z3A34	34 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	242	1	0	10
P0736	Preterm newborn, gestational age 33 completed weeks	Diagnosis	ICD-10-CM	235	1	0	11
Z3A33	33 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	235	1	0	11
P0735	Preterm newborn, gestational age 32 completed weeks	Diagnosis	ICD-10-CM	228	1	0	12
Z3A32	32 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	228	1	0	12
P0734	Preterm newborn, gestational age 31 completed weeks	Diagnosis	ICD-10-CM	221	1	0	13
Z3A31	31 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	221	1	0	13
P0733	Preterm newborn, gestational age 30 completed weeks	Diagnosis	ICD-10-CM	214	1	0	14
Z3A30	30 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	214	1	0	14
P0732	Preterm newborn, gestational age 29 completed weeks	Diagnosis	ICD-10-CM	207	1	0	15
Z3A29	29 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	207	1	0	15
P0731	Preterm newborn, gestational age 28 completed weeks	Diagnosis	ICD-10-CM	200	1	0	16
Z3A28	28 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	200	1	0	16
P0726	Extreme immaturity of newborn, gestational age 27 completed weeks	Diagnosis	ICD-10-CM	193	1	0	17
Z3A27	27 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	193	1	0	17
P0725	Extreme immaturity of newborn, gestational age 26 completed weeks	Diagnosis	ICD-10-CM	186	1	0	18
Z3A26	26 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	186	1	0	18

Appendix B.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes used to Define Gestational Age

Code	Description	Code			Priority Group 1	Priority Group 2	Priority ¹
		Category	Code Type	Duration			
P0724	Extreme immaturity of newborn, gestational age 25 completed weeks	Diagnosis	ICD-10-CM	179	1	0	19
Z3A25	25 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	179	1	0	19
P0723	Extreme immaturity of newborn, gestational age 24 completed weeks	Diagnosis	ICD-10-CM	172	1	0	20
Z3A24	24 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	172	1	0	20
P0722	Extreme immaturity of newborn, gestational age 23 completed weeks	Diagnosis	ICD-10-CM	165	1	0	21
Z3A23	23 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	165	1	0	21
P0721	Extreme immaturity of newborn, gestational age less than 23 completed weeks	Diagnosis	ICD-10-CM	158	1	0	22
Z3A22	22 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	158	1	0	22
Z3A21	21 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	151	1	0	23
Z3A20	20 weeks gestation of pregnancy	Diagnosis	ICD-10-CM	144	1	0	24
P0720	Extreme immaturity of newborn, unspecified weeks of gestation	Diagnosis	ICD-10-CM	196	1	0	25
O6013X0	Preterm labor second trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM	245	1	0	26
O6013X1	Preterm labor second trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM	245	1	0	26
O6013X2	Preterm labor second trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM	245	1	0	26
O6013X3	Preterm labor second trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM	245	1	0	26
O6013X4	Preterm labor second trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM	245	1	0	26
O6013X5	Preterm labor second trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM	245	1	0	26
O6013X9	Preterm labor second trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM	245	1	0	26
O6014X0	Preterm labor third trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM	245	1	0	26
O6014X1	Preterm labor third trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM	245	1	0	26
O6014X2	Preterm labor third trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM	245	1	0	26
O6014X3	Preterm labor third trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM	245	1	0	26
O6014X4	Preterm labor third trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM	245	1	0	26
O6014X5	Preterm labor third trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM	245	1	0	26
O6014X9	Preterm labor third trimester with preterm delivery third trimester	Diagnosis	ICD-10-CM	245	1	0	26
P0730	Preterm newborn, unspecified weeks of gestation	Diagnosis	ICD-10-CM	245	1	0	26

Appendix B.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes used to Define Gestational Age

Code	Description	Code			Priority Group 1	Priority Group 2	Priority ¹
		Category	Code Type	Duration			
O6012X0	Preterm labor second trimester with preterm delivery second trimester	Diagnosis	ICD-10-CM	168	1	0	27
O6012X1	Preterm labor second trimester with preterm delivery second trimester	Diagnosis	ICD-10-CM	168	1	0	27
O6012X2	Preterm labor second trimester with preterm delivery second trimester	Diagnosis	ICD-10-CM	168	1	0	27
O6012X3	Preterm labor second trimester with preterm delivery second trimester	Diagnosis	ICD-10-CM	168	1	0	27
O6012X4	Preterm labor second trimester with preterm delivery second trimester	Diagnosis	ICD-10-CM	168	1	0	27
O6012X5	Preterm labor second trimester with preterm delivery second trimester	Diagnosis	ICD-10-CM	168	1	0	27
O6012X9	Preterm labor second trimester with preterm delivery second trimester	Diagnosis	ICD-10-CM	168	1	0	27
64520	Prolonged pregnancy	Diagnosis	ICD-9-CM	294	0	1	28
64521	Prolonged pregnancy	Diagnosis	ICD-9-CM	294	0	1	28
64523	Prolonged pregnancy	Diagnosis	ICD-9-CM	294	0	1	28
76528	35-36 completed weeks of gestation	Diagnosis	ICD-9-CM	252	1	0	28
76622	Prolonged gestation of infant	Diagnosis	ICD-9-CM	294	0	1	28
64510	Post term pregnancy	Diagnosis	ICD-9-CM	287	0	1	29
64511	Post term pregnancy	Diagnosis	ICD-9-CM	287	0	1	29
64513	Post term pregnancy	Diagnosis	ICD-9-CM	287	0	1	29
76527	33-34 completed weeks of gestation	Diagnosis	ICD-9-CM	238	1	0	29
76621	Post-term infant	Diagnosis	ICD-9-CM	287	0	1	29
76526	31-32 completed weeks of gestation	Diagnosis	ICD-9-CM	224	1	0	30
76525	29-30 completed weeks of gestation	Diagnosis	ICD-9-CM	210	1	0	31
76524	27-28 completed weeks of gestation	Diagnosis	ICD-9-CM	196	1	0	32
76523	25-26 completed weeks of gestation	Diagnosis	ICD-9-CM	182	1	0	33
76521	Less than 24 completed weeks of gestation	Diagnosis	ICD-9-CM	168	1	0	34
76522	24 completed weeks of gestation	Diagnosis	ICD-9-CM	168	1	0	34
76500	Extreme immaturity, by weight	Diagnosis	ICD-9-CM	196	1	0	35
76501	Extreme immaturity, by weight	Diagnosis	ICD-9-CM	196	1	0	35
76502	Extreme immaturity, by weight	Diagnosis	ICD-9-CM	196	1	0	35
76503	Extreme immaturity, by weight	Diagnosis	ICD-9-CM	196	1	0	35
76504	Extreme immaturity, by weight	Diagnosis	ICD-9-CM	196	1	0	35
76505	Extreme immaturity, by weight	Diagnosis	ICD-9-CM	196	1	0	35
76506	Extreme immaturity, by weight	Diagnosis	ICD-9-CM	196	1	0	35
76507	Extreme immaturity, by weight	Diagnosis	ICD-9-CM	196	1	0	35
76508	Extreme immaturity, by weight	Diagnosis	ICD-9-CM	196	1	0	35
76509	Extreme immaturity, by weight	Diagnosis	ICD-9-CM	196	1	0	35
64421	Early onset of delivery, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM	245	1	0	36
76510	Other preterm infants, by weight	Diagnosis	ICD-9-CM	245	1	0	36
76511	Other preterm infants, by weight	Diagnosis	ICD-9-CM	245	1	0	36
76512	Other preterm infants, by weight	Diagnosis	ICD-9-CM	245	1	0	36
76513	Other preterm infants, by weight	Diagnosis	ICD-9-CM	245	1	0	36

Appendix B.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes used to Define Gestational Age

Code	Description	Code			Priority	Priority	Priority ¹
		Category	Code Type	Duration	Group 1	Group 2	
76514	Other preterm infants, by weight	Diagnosis	ICD-9-CM	245	1	0	36
76515	Other preterm infants, by weight	Diagnosis	ICD-9-CM	245	1	0	36
76516	Other preterm infants, by weight	Diagnosis	ICD-9-CM	245	1	0	36
76517	Other preterm infants, by weight	Diagnosis	ICD-9-CM	245	1	0	36
76518	Other preterm infants, by weight	Diagnosis	ICD-9-CM	245	1	0	36
76519	Other preterm infants, by weight	Diagnosis	ICD-9-CM	245	1	0	36
76520	Unspecified weeks of gestation	Diagnosis	ICD-9-CM	245	1	0	36

¹If multiple codes for specific weeks of gestation (Z codes), preterm delivery, and/or postterm delivery are available, the ICD-10 algorithm for
 (1) **Codes that specify weeks of gestation, including all Z codes ranging from 20 weeks through >=42 weeks of gestation in one week**
 (2) **Codes that indicate preterm delivery without specifying weeks of gestation.** If multiple codes are observed, codes with more specificity
 (3) **Codes that indicate postterm delivery without specifying weeks of gestation.** If multiple codes are observed, codes indicating longer
 If no codes for preterm or postterm delivery are observed, then the default assumption for gestational age is 273 days.

Appendix C. List of Generic and Brand Names of Medical Products Used to Define Exposures in this Request

Generic Name	Brand Name
Armodafinil and Modafinil	
armodafinil	Nuvigil
armodafinil	armodafinil
modafinil	Provigil
modafinil	modafinil
Methylphenidate	
Dexmethylphenidate Hydrochloride	
Dexmethylphenidate Hydrochloride (U)	
FOCALIN (E)	
METHYLPHENIDATE (E)	
Metadate CD	
Metadate ER	
Methylphenidate Hydrochloride	
Methylphenidate Hydrochloride (E)	
Methylphenidate Hydrochloride (U)	
dexmethylphenidate HCl	Focalin
dexmethylphenidate HCl	Focalin XR
dexmethylphenidate HCl	dexmethylphenidate
methylphenidate	Cotempla XR-ODT
methylphenidate	Daytrana
methylphenidate	methylphenidate
methylphenidate HCl	Adhansia XR
methylphenidate HCl	Aptensio XR
methylphenidate HCl	Concerta
methylphenidate HCl	Jornay PM
methylphenidate HCl	Metadate CD
methylphenidate HCl	Metadate ER
methylphenidate HCl	Methylin
methylphenidate HCl	Methylin ER
methylphenidate HCl	QuilliChew ER
methylphenidate HCl	Quillivant XR
methylphenidate HCl	Relexxii
methylphenidate HCl	Ritalin
methylphenidate HCl	Ritalin LA
methylphenidate HCl	Ritalin SR
methylphenidate HCl	methylphenidate HCl
serdexmethylphenidate chloride/dexmethylphenidate HCl	Azstarys

Appendix C. List of Generic and Brand Names of Medical Products Used to Define Exposures in this Request

Generic Name	Brand Name
Amphetamines	
Amphetamine Sulfate	
DEXTROAMPHETAMINE SACCHARATE, AMPHETAMINE ASPARTATE, DEXTROAMPHETAMINE SULFATE AND AMPHETAMINE SUFLATE (E)	
Dextroamphetamine Saccharate, Amphetamine Aspartate Monohydrate, Dextroamphetamine Sulfate and Amphetamine Sulfate	
Dextroamphetamine Saccharate, Amphetamine Aspartate, Dextroamphetamine Sulfate and Amphetamine Sulfate Dextroamphetamine Saccharate, Amphetamine Aspartate, Dextroamphetamine Sulfate and Amphetamine Sulfate Dextroamphetamine Sulfate	
Dextroamphetamine saccharate, amphetamine aspartate monohydrate, dextroamphetamine sulfate and amphetamine sulfate (E)	
Dextroamphetamine saccharate, amphetamine aspartate, dextroamphetamine sulfate, and amphetamine sulfate amphetamine	Adzenys ER
amphetamine	Adzenys XR-ODT
amphetamine	Dyanavel XR
amphetamine	amphetamine
amphetamine sulfate	Evekeo
amphetamine sulfate	Evekeo ODT
amphetamine sulfate	amphetamine sulfate
dextroamphetamine sulf-saccharate/amphetamine sulf-aspartate	Adderall
dextroamphetamine sulf-saccharate/amphetamine sulf-aspartate	Adderall XR
dextroamphetamine sulf-saccharate/amphetamine sulf-aspartate	Mydayis
dextroamphetamine sulf-saccharate/amphetamine sulf-aspartate	dextroamphetamine-amphetamine
dextroamphetamine sulfate	
dextroamphetamine sulfate	Dexedrine
dextroamphetamine sulfate	Dexedrine Spansule
dextroamphetamine sulfate	DextroStat
dextroamphetamine sulfate	Liquadd
dextroamphetamine sulfate	ProCentra
dextroamphetamine sulfate	Zenzedi
dextroamphetamine sulfate	dextroamphetamine sulfate
methamphetamine HCl	Desoxyn
methamphetamine HCl	Desoxyn Gradumet
methamphetamine HCl	methamphetamine

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
Non-Cardiac Malformations				
00.34	Imageless computer assisted surgery	Procedure	ICD-9-CM	Central Nervous System Malformations
00102	Anesthesia for procedures involving plastic repair of cleft lip	Procedure	CPT-4	Oral Clefts
00120	Anesthesia for procedures on external, middle, and inner ear including biopsy; not otherwise specified	Procedure	CPT-4	Ear Anomalies
00126	Anesthesia for procedures on external, middle, and inner ear including biopsy; tympanotomy	Procedure	CPT-4	Ear Anomalies
00140	Anesthesia for procedures on eye; not otherwise specified	Procedure	CPT-4	Eye Anomalies
00142	Anesthesia for procedures on eye; lens surgery	Procedure	CPT-4	Eye Anomalies
00144	Anesthesia for procedures on eye; corneal transplant	Procedure	CPT-4	Eye Anomalies
00145	Anesthesia for procedures on eye; vitreoretinal surgery	Procedure	CPT-4	Eye Anomalies
00147	Anesthesia for procedures on eye; iridectomy	Procedure	CPT-4	Eye Anomalies
0016	Bypass / Cerebral Ventricle	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016070	Bypass Cerebral Ventricle to Nasopharynx with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016071	Bypass Cerebral Ventricle to Mastoid Sinus with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016072	Bypass Cerebral Ventricle to Atrium with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016073	Bypass Cerebral Ventricle to Blood Vessel with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016074	Bypass Cerebral Ventricle to Pleural Cavity with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016075	Bypass Cerebral Ventricle to Intestine with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016076	Bypass Cerebral Ventricle to Peritoneal Cavity with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016077	Bypass Cerebral Ventricle to Urinary Tract with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016078	Bypass Cerebral Ventricle to Bone Marrow with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
001607A	Bypass Cerebral Ventricle to Subgaleal Space with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
001607B	Bypass Cerebral Ventricle to Cerebral Cisterns with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160J0	Bypass Cerebral Ventricle to Nasopharynx with Synthetic Substitute, Open	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160J1	Bypass Cerebral Ventricle to Mastoid Sinus with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160J2	Bypass Cerebral Ventricle to Atrium with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160J3	Bypass Cerebral Ventricle to Blood Vessel with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160J4	Bypass Cerebral Ventricle to Pleural Cavity with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160J5	Bypass Cerebral Ventricle to Intestine with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160J6	Bypass Cerebral Ventricle to Peritoneal Cavity with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160J7	Bypass Cerebral Ventricle to Urinary Tract with Synthetic Substitute, Open	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160J8	Bypass Cerebral Ventricle to Bone Marrow with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160JA	Bypass Cerebral Ventricle to Subgaleal Space with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160JB	Bypass Cerebral Ventricle to Cerebral Cisterns with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160K0	Bypass Cerebral Ventricle to Nasopharynx with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160K1	Bypass Cerebral Ventricle to Mastoid Sinus with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160K2	Bypass Cerebral Ventricle to Atrium with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160K3	Bypass Cerebral Ventricle to Blood Vessel with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160K4	Bypass Cerebral Ventricle to Pleural Cavity with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
00160K5	Bypass Cerebral Ventricle to Intestine with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160K6	Bypass Cerebral Ventricle to Peritoneal Cavity with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160K7	Bypass Cerebral Ventricle to Urinary Tract with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160K8	Bypass Cerebral Ventricle to Bone Marrow with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160KA	Bypass Cerebral Ventricle to Subgaleal Space with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160KB	Bypass Cerebral Ventricle to Cerebral Cisterns with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00160ZB	Bypass Cerebral Ventricle to Cerebral Cisterns, Open Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016370	Bypass Cerebral Ventricle to Nasopharynx with Autologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016371	Bypass Cerebral Ventricle to Mastoid Sinus with Autologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016372	Bypass Cerebral Ventricle to Atrium with Autologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016373	Bypass Cerebral Ventricle to Blood Vessel with Autologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016374	Bypass Cerebral Ventricle to Pleural Cavity with Autologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016375	Bypass Cerebral Ventricle to Intestine with Autologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016376	Bypass Cerebral Ventricle to Peritoneal Cavity with Autologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016377	Bypass Cerebral Ventricle to Urinary Tract with Autologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016378	Bypass Cerebral Ventricle to Bone Marrow with Autologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations

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Code	Description	Code Category	Code Type	Malformation
001637A	Bypass Cerebral Ventricle to Subgaleal Space with Autologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
001637B	Bypass Cerebral Ventricle to Cerebral Cisterns with Autologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163J0	Bypass Cerebral Ventricle to Nasopharynx with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163J1	Bypass Cerebral Ventricle to Mastoid Sinus with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163J2	Bypass Cerebral Ventricle to Atrium with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163J3	Bypass Cerebral Ventricle to Blood Vessel with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163J4	Bypass Cerebral Ventricle to Pleural Cavity with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163J5	Bypass Cerebral Ventricle to Intestine with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163J6	Bypass Cerebral Ventricle to Peritoneal Cavity with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163J7	Bypass Cerebral Ventricle to Urinary Tract with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163J8	Bypass Cerebral Ventricle to Bone Marrow with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163JA	Bypass Cerebral Ventricle to Subgaleal Space with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163JB	Bypass Cerebral Ventricle to Cerebral Cisterns with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163K0	Bypass Cerebral Ventricle to Nasopharynx with Nonautologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163K1	Bypass Cerebral Ventricle to Mastoid Sinus with Nonautologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163K2	Bypass Cerebral Ventricle to Atrium with Nonautologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
00163K3	Bypass Cerebral Ventricle to Blood Vessel with Nonautologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163K4	Bypass Cerebral Ventricle to Pleural Cavity with Nonautologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163K5	Bypass Cerebral Ventricle to Intestine with Nonautologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163K6	Bypass Cerebral Ventricle to Peritoneal Cavity with Nonautologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163K7	Bypass Cerebral Ventricle to Urinary Tract with Nonautologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163K8	Bypass Cerebral Ventricle to Bone Marrow with Nonautologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163KA	Bypass Cerebral Ventricle to Subgaleal Space with Nonautologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163KB	Bypass Cerebral Ventricle to Cerebral Cisterns with Nonautologous Tissue Substitute, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00163ZB	Bypass Cerebral Ventricle to Cerebral Cisterns, Percutaneous Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016470	Bypass Cerebral Ventricle to Nasopharynx with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016471	Bypass Cerebral Ventricle to Mastoid Sinus with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016472	Bypass Cerebral Ventricle to Atrium with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016473	Bypass Cerebral Ventricle to Blood Vessel with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016474	Bypass Cerebral Ventricle to Pleural Cavity with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016475	Bypass Cerebral Ventricle to Intestine with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016476	Bypass Cerebral Ventricle to Peritoneal Cavity with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
0016477	Bypass Cerebral Ventricle to Urinary Tract with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
0016478	Bypass Cerebral Ventricle to Bone Marrow with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
001647A	Bypass Cerebral Ventricle to Subgaleal Space with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
001647B	Bypass Cerebral Ventricle to Cerebral Cisterns with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164J0	Bypass Cerebral Ventricle to Nasopharynx with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164J1	Bypass Cerebral Ventricle to Mastoid Sinus with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164J2	Bypass Cerebral Ventricle to Atrium with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164J3	Bypass Cerebral Ventricle to Blood Vessel with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164J4	Bypass Cerebral Ventricle to Pleural Cavity with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164J5	Bypass Cerebral Ventricle to Intestine with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164J6	Bypass Cerebral Ventricle to Peritoneal Cavity with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164J7	Bypass Cerebral Ventricle to Urinary Tract with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164J8	Bypass Cerebral Ventricle to Bone Marrow with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164JA	Bypass Cerebral Ventricle to Subgaleal Space with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164JB	Bypass Cerebral Ventricle to Cerebral Cisterns with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164K0	Bypass Cerebral Ventricle to Nasopharynx with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
00164K1	Bypass Cerebral Ventricle to Mastoid Sinus with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164K2	Bypass Cerebral Ventricle to Atrium with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164K3	Bypass Cerebral Ventricle to Blood Vessel with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164K4	Bypass Cerebral Ventricle to Pleural Cavity with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164K5	Bypass Cerebral Ventricle to Intestine with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164K6	Bypass Cerebral Ventricle to Peritoneal Cavity with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164K7	Bypass Cerebral Ventricle to Urinary Tract with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164K8	Bypass Cerebral Ventricle to Bone Marrow with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164KA	Bypass Cerebral Ventricle to Subgaleal Space with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164KB	Bypass Cerebral Ventricle to Cerebral Cisterns with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00164ZB	Bypass Cerebral Ventricle to Cerebral Cisterns, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Central Nervous System Malformations
00172	Anesthesia for intraoral procedures, including biopsy; repair of cleft palate	Procedure	CPT-4	Oral Clefts
00220	Anesthesia for intracranial procedures; cerebrospinal fluid shunting procedures	Procedure	CPT-4	Central Nervous System Malformations
00630	Anesthesia for procedures in lumbar region; not otherwise specified	Procedure	CPT-4	Central Nervous System Malformations
00754	Anesthesia for hernia repairs in upper abdomen; omphalocele	Procedure	CPT-4	Musculoskeletal Malformations
00756	Anesthesia for hernia repairs in upper abdomen; transabdominal repair of diaphragmatic hernia	Procedure	CPT-4	Musculoskeletal Malformations
00790	Anesthesia for intraperitoneal procedures in upper abdomen including laparoscopy; not otherwise specified	Procedure	CPT-4	Gastrointestinal Malformations
00840	Anesthesia for intraperitoneal procedures in lower abdomen including laparoscopy; not otherwise specified	Procedure	CPT-4	Gastrointestinal Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
00862	Anesthesia for extraperitoneal procedures in lower abdomen, including urinary tract; renal procedures, including upper one-third of ureter, or donor nephrectomy	Procedure	CPT-4	Urinary Malformations
00902	Anesthesia for; anorectal procedure	Procedure	CPT-4	Gastrointestinal Malformations
00910	Anesthesia for transurethral procedures (including urethrocystoscopy); not otherwise specified	Procedure	CPT-4	Urinary Malformations
00930	Anesthesia for procedures on male genitalia (including open urethral procedures); orchiopexy, unilateral or bilateral	Procedure	CPT-4	Genital Malformations
01.02	Ventriculopuncture through previously implanted catheter	Procedure	ICD-9-CM	Central Nervous System Malformations
01200	Anesthesia for all closed procedures involving hip joint	Procedure	CPT-4	Limb Defects
01470	Anesthesia for procedures on nerves, muscles, tendons, and fascia of lower leg, ankle, and foot; not otherwise specified	Procedure	CPT-4	Limb Defects
01480	Anesthesia for open procedures on bones of lower leg, ankle, and foot; not otherwise specified	Procedure	CPT-4	Limb Defects
01810	Anesthesia for all procedures on nerves, muscles, tendons, fascia, and bursae of forearm, wrist, and hand	Procedure	CPT-4	Limb Defects
01830	Anesthesia for open or surgical arthroscopic/endoscopic procedures on distal radius, distal ulna, wrist, or hand joints; not otherwise specified	Procedure	CPT-4	Limb Defects
02.2	Ventriculostomy	Procedure	ICD-9-CM	Central Nervous System Malformations
02.21	Insertion or replacement of external ventricular drain [EVD]	Procedure	ICD-9-CM	Central Nervous System Malformations
02.22	Intracranial ventricular shunt or anastomosis	Procedure	ICD-9-CM	Central Nervous System Malformations
02.31	Ventricular shunt to structure in head and neck	Procedure	ICD-9-CM	Central Nervous System Malformations
02.32	Ventricular shunt to circulatory system	Procedure	ICD-9-CM	Central Nervous System Malformations
02.33	Ventricular shunt to thoracic cavity	Procedure	ICD-9-CM	Central Nervous System Malformations
02.34	Ventricular shunt to abdominal cavity and organs	Procedure	ICD-9-CM	Central Nervous System Malformations
02.39	Ventricular shunt to extracranial site NEC	Procedure	ICD-9-CM	Central Nervous System Malformations
02.41	Irrigation and exploration of ventricular shunt	Procedure	ICD-9-CM	Central Nervous System Malformations
02.42	Replacement of ventricular shunt	Procedure	ICD-9-CM	Central Nervous System Malformations
02.43	Removal of ventricular shunt	Procedure	ICD-9-CM	Central Nervous System Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
0254T	Endovascular repair of iliac artery bifurcation (eg, aneurysm, pseudoaneurysm, arteriovenous malformation, trauma, dissection) using bifurcated endograft from the common iliac artery into both the external and internal iliac artery, including all selective and/or nonselective catheterization(s) required for device placement and all associated radiological supervision and interpretation, unilateral	Procedure	CPT-3	Other Vascular Malformations
0255T	Endovascular repair of iliac artery bifurcation (eg, aneurysm, pseudoaneurysm, arteriovenous malformation, trauma) using bifurcated endoprosthesis from the common iliac artery into both the external and internal iliac artery, unilateral; radiological supervision and interpretation	Procedure	CPT-3	Other Vascular Malformations
03.51	Repair of spinal meningocele	Procedure	ICD-9-CM	Central Nervous System Malformations
03.52	Repair of spinal myelomeningocele	Procedure	ICD-9-CM	Central Nervous System Malformations
03.59	Other repair and plastic operations on spinal cord structures	Procedure	ICD-9-CM	Central Nervous System Malformations
06.09	Other incision of thyroid field	Procedure	ICD-9-CM	Other Malformations
06.7	Excision of thyroglossal duct or tract	Procedure	ICD-9-CM	Other Malformations
06.91	Division of thyroid isthmus	Procedure	ICD-9-CM	Other Malformations
0BQ10ZZ	Repair Trachea, Open Approach	Procedure	ICD-10-PCS	Respiratory Malformations
0BQ13ZZ	Repair Trachea, Percutaneous Approach	Procedure	ICD-10-PCS	Respiratory Malformations
0BQ14ZZ	Repair Trachea, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Respiratory Malformations
0BQ17ZZ	Repair Trachea, Via Natural or Artificial Opening	Procedure	ICD-10-PCS	Respiratory Malformations
0BQ18ZZ	Repair Trachea, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS	Respiratory Malformations
0D770ZZ	Dilation of Stomach, Pylorus, Open Approach	Procedure	ICD-10-PCS	Gastrointestinal Malformations
0D773ZZ	Dilation of Stomach, Pylorus, Percutaneous Approach	Procedure	ICD-10-PCS	Gastrointestinal Malformations
0D774ZZ	Dilation of Stomach, Pylorus, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Gastrointestinal Malformations
0D777ZZ	Dilation of Stomach, Pylorus, Via Natural or Artificial Opening	Procedure	ICD-10-PCS	Gastrointestinal Malformations
0D778ZZ	Dilation of Stomach, Pylorus, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS	Gastrointestinal Malformations
0D870ZZ	Division of Stomach, Pylorus, Open Approach	Procedure	ICD-10-PCS	Gastrointestinal Malformations
0D873ZZ	Division of Stomach, Pylorus, Percutaneous Approach	Procedure	ICD-10-PCS	Gastrointestinal Malformations
0D874ZZ	Division of Stomach, Pylorus, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Gastrointestinal Malformations
0D877ZZ	Division of Stomach, Pylorus, Via Natural or Artificial Opening	Procedure	ICD-10-PCS	Gastrointestinal Malformations
0D878ZZ	Division of Stomach, Pylorus, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS	Gastrointestinal Malformations
0DQ50ZZ	Repair Esophagus, Open Approach	Procedure	ICD-10-PCS	Respiratory Malformations
0DQ53ZZ	Repair Esophagus, Percutaneous Approach	Procedure	ICD-10-PCS	Respiratory Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
0DQ54ZZ	Repair Esophagus, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Respiratory Malformations
0DQ57ZZ	Repair Esophagus, Via Natural or Artificial Opening	Procedure	ICD-10-PCS	Respiratory Malformations
0DQ58ZZ	Repair Esophagus, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS	Respiratory Malformations
0VS90ZZ	Reposition Right Testis, Open Approach	Procedure	ICD-10-PCS	Genital Malformations
0VS93ZZ	Reposition Right Testis, Percutaneous Approach	Procedure	ICD-10-PCS	Genital Malformations
0VS94ZZ	Reposition Right Testis, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Genital Malformations
0VS98ZZ	Reposition Right Testis, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS	Genital Malformations
0VSB0ZZ	Reposition Left Testis, Open Approach	Procedure	ICD-10-PCS	Genital Malformations
0VSB3ZZ	Reposition Left Testis, Percutaneous Approach	Procedure	ICD-10-PCS	Genital Malformations
0VSB4ZZ	Reposition Left Testis, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Genital Malformations
0VSB8ZZ	Reposition Left Testis, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS	Genital Malformations
0VSC0ZZ	Reposition Bilateral Testes, Open Approach	Procedure	ICD-10-PCS	Genital Malformations
0VSC3ZZ	Reposition Bilateral Testes, Percutaneous Approach	Procedure	ICD-10-PCS	Genital Malformations
0VSC4ZZ	Reposition Bilateral Testes, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS	Genital Malformations
0VSC8ZZ	Reposition Bilateral Testes, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS	Genital Malformations
12.14	Other iridectomy	Procedure	ICD-9-CM	Eye Anomalies
12.52	Goniotomy without goniotomy	Procedure	ICD-9-CM	Eye Anomalies
12.54	Trabeculotomy ab externo	Procedure	ICD-9-CM	Eye Anomalies
12.64	Trabeculectomy ab externo	Procedure	ICD-9-CM	Eye Anomalies
12.69	Other scleral fistulizing procedure	Procedure	ICD-9-CM	Eye Anomalies
13.19	Other intracapsular extraction of lens	Procedure	ICD-9-CM	Eye Anomalies
13.3	Extracapsular extraction of lens by simple aspiration (and irrigation) technique	Procedure	ICD-9-CM	Eye Anomalies
13.41	Phacoemulsification and aspiration of cataract	Procedure	ICD-9-CM	Eye Anomalies
13.43	Mechanical phacofragmentation and other aspiration of cataract	Procedure	ICD-9-CM	Eye Anomalies
13.59	Other extracapsular extraction of lens	Procedure	ICD-9-CM	Eye Anomalies
13.69	Other cataract extraction	Procedure	ICD-9-CM	Eye Anomalies
14.24	Destruction of chorioretinal lesion by laser photocoagulation	Procedure	ICD-9-CM	Eye Anomalies
14.71	Removal of vitreous, anterior approach	Procedure	ICD-9-CM	Eye Anomalies
14.73	Mechanical vitrectomy by anterior approach	Procedure	ICD-9-CM	Eye Anomalies
14.74	Other mechanical vitrectomy	Procedure	ICD-9-CM	Eye Anomalies
14.9	Other operations on retina, choroid, and posterior chamber	Procedure	ICD-9-CM	Eye Anomalies
15734	Muscle, myocutaneous, or fasciocutaneous flap; trunk	Procedure	CPT-4	Central Nervous System Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
18.79	Other plastic repair of external ear	Procedure	ICD-9-CM	Ear Anomalies
20664	Application of halo, including removal, cranial, 6 or more pins placed, for thin skull osteology (eg, pediatric patients, hydrocephalus, osteogenesis imperfecta)	Procedure	CPT-4	Central Nervous System Malformations
26587	Reconstruction of polydactylous digit, soft tissue and bone	Procedure	CPT-4	Limb Defects
26910	Amputation, metacarpal, with finger or thumb (ray amputation), single, with or without interosseous transfer	Procedure	CPT-4	Limb Defects
26951	Amputation, finger or thumb, primary or secondary, any joint or phalanx, single, including neurectomies; with direct closure	Procedure	CPT-4	Limb Defects
27.54	Repair of cleft lip	Procedure	ICD-9-CM	Oral Clefts
27.61	Suture of laceration of palate	Procedure	ICD-9-CM	Oral Clefts
27.62	Correction of cleft palate	Procedure	ICD-9-CM	Oral Clefts
27.63	Revision of cleft palate repair	Procedure	ICD-9-CM	Oral Clefts
27.69	Other plastic repair of palate	Procedure	ICD-9-CM	Oral Clefts
27605	Tenotomy, percutaneous, Achilles tendon (separate procedure); local anesthesia	Procedure	CPT-4	Limb Defects
27606	Tenotomy, percutaneous, Achilles tendon (separate procedure); general anesthesia	Procedure	CPT-4	Limb Defects
27685	Lengthening or shortening of tendon, leg or ankle; single tendon (separate procedure)	Procedure	CPT-4	Limb Defects
28344	Reconstruction, toe(s); polydactyly	Procedure	CPT-4	Limb Defects
28820	Amputation, toe; metatarsophalangeal joint	Procedure	CPT-4	Limb Defects
29.4	Plastic operation on pharynx	Procedure	ICD-9-CM	Respiratory Malformations
29.91	Dilation of pharynx	Procedure	ICD-9-CM	Respiratory Malformations
29325	Application of hip spica cast; 1 and one-half spica or both legs	Procedure	CPT-4	Limb Defects
29345	Application of long leg cast (thigh to toes);	Procedure	CPT-4	Limb Defects
29405	Application of short leg cast (below knee to toes);	Procedure	CPT-4	Limb Defects
29450	Application of clubfoot cast with molding or manipulation, long or short leg	Procedure	CPT-4	Limb Defects
29705	Removal or bivalving; full arm or full leg cast	Procedure	CPT-4	Limb Defects
30.09	Other excision or destruction of lesion or tissue of larynx	Procedure	ICD-9-CM	Respiratory Malformations
30.21	Epiglottidectomy	Procedure	ICD-9-CM	Respiratory Malformations
30.29	Other partial laryngectomy	Procedure	ICD-9-CM	Respiratory Malformations
30460	Rhinoplasty for nasal deformity secondary to congenital cleft lip and/or palate, including columellar lengthening; tip only	Procedure	CPT-4	Oral Clefts

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Code	Description	Code Category	Code Type	Malformation
30462	Rhinoplasty for nasal deformity secondary to congenital cleft lip and/or palate, including columellar lengthening; tip, septum, osteotomies	Procedure	CPT-4	Oral Clefts
30580	Repair fistula; oromaxillary (combine with 31030 if antrotomy is included)	Procedure	CPT-4	Oral Clefts
30600	Repair fistula; oronasal	Procedure	CPT-4	Oral Clefts
31.6	Repair of larynx	Procedure	ICD-9-CM	Respiratory Malformations
31.69	Other repair of larynx	Procedure	ICD-9-CM	Respiratory Malformations
31.73	Closure of other fistula of trachea	Procedure	ICD-9-CM	Respiratory Malformations
31.79	Other repair and plastic operations on trachea	Procedure	ICD-9-CM	Respiratory Malformations
31.92	Lysis of adhesions of trachea or larynx	Procedure	ICD-9-CM	Respiratory Malformations
31588	Laryngoplasty, not otherwise specified (eg, for burns, reconstruction after partial laryngectomy)	Procedure	CPT-4	Respiratory Malformations
31599	Unlisted procedure, larynx	Procedure	CPT-4	Respiratory Malformations
32.3	Segmental resection of lung	Procedure	ICD-9-CM	Respiratory Malformations
32.30	Thoracoscopic segmental resection of lung	Procedure	ICD-9-CM	Respiratory Malformations
32.39	Other and unspecified segmental resection of lung	Procedure	ICD-9-CM	Respiratory Malformations
32.4	Lobectomy of lung	Procedure	ICD-9-CM	Respiratory Malformations
32.41	Thoracoscopic lobectomy of lung	Procedure	ICD-9-CM	Respiratory Malformations
32.49	Other lobectomy of lung	Procedure	ICD-9-CM	Respiratory Malformations
32.9	Other excision of lung	Procedure	ICD-9-CM	Respiratory Malformations
32480	Removal of lung, other than pneumonectomy; single lobe (lobectomy)	Procedure	CPT-4	Respiratory Malformations
33.91	Bronchial dilation	Procedure	ICD-9-CM	Respiratory Malformations
34900	Endovascular repair of iliac artery (eg, aneurysm, pseudoaneurysm, arteriovenous malformation, trauma) using ilio-iliac tube endoprosthesis	Procedure	CPT-4	Other Vascular Malformations
35182	Repair, congenital arteriovenous fistula; thorax and abdomen	Procedure	CPT-4	Other Vascular Malformations
37204	Transcatheter occlusion or embolization (eg, for tumor destruction, to achieve hemostasis, to occlude a vascular malformation), percutaneous, any method, non-central nervous system, non-head or neck	Procedure	CPT-4	Other Vascular Malformations
38.34	Resection of aorta with anastomosis	Procedure	ICD-9-CM	Other Vascular Malformations
38.45	Resection of other thoracic vessels with replacement	Procedure	ICD-9-CM	Other Vascular Malformations
38.64	Other excision of abdominal aorta	Procedure	ICD-9-CM	Other Vascular Malformations
38.65	Other excision of other thoracic vessel	Procedure	ICD-9-CM	Other Vascular Malformations
38.84	Other surgical occlusion of abdominal aorta	Procedure	ICD-9-CM	Other Vascular Malformations

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Code	Description	Code Category	Code Type	Malformation
38.85	Other surgical occlusion of other thoracic vessel	Procedure	ICD-9-CM	Other Vascular Malformations
39.21	Caval-pulmonary artery anastomosis	Procedure	ICD-9-CM	Other Vascular Malformations
39.50	Angioplasty of other non-coronary vessel(s)	Procedure	ICD-9-CM	Other Vascular Malformations
39.51	Clipping of aneurysm	Procedure	ICD-9-CM	Other Vascular Malformations
39.57	Repair of blood vessel with synthetic patch graft	Procedure	ICD-9-CM	Other Vascular Malformations
39.58	Repair of blood vessel with unspecified type of patch graft	Procedure	ICD-9-CM	Other Vascular Malformations
39.59	Other repair of vessel	Procedure	ICD-9-CM	Other Vascular Malformations
39.72	Endovascular (total) embolization or occlusion of head and neck vessels	Procedure	ICD-9-CM	Other Vascular Malformations
39.75	Endovascular embolization or occlusion of vessel(s) of head or neck using bare coils	Procedure	ICD-9-CM	Other Vascular Malformations
39.76	Endovascular embolization or occlusion of vessel(s) of head or neck using bioactive coils	Procedure	ICD-9-CM	Other Vascular Malformations
39.92	Injection of sclerosing agent into vein	Procedure	ICD-9-CM	Other Vascular Malformations
40700	Plastic repair of cleft lip/nasal deformity; primary, partial or complete, unilateral	Procedure	CPT-4	Oral Clefts
40701	Plastic repair of cleft lip/nasal deformity; primary bilateral, 1-stage procedure	Procedure	CPT-4	Oral Clefts
40702	Plastic repair of cleft lip/nasal deformity; primary bilateral, 1 of 2 stages	Procedure	CPT-4	Oral Clefts
42.51	Intrathoracic esophagoesophagostomy	Procedure	ICD-9-CM	Gastrointestinal Malformations
42.84	Repair of esophageal fistula, not elsewhere classified	Procedure	ICD-9-CM	Gastrointestinal Malformations
42.85	Repair of esophageal stricture	Procedure	ICD-9-CM	Gastrointestinal Malformations
42.89	Other repair of esophagus	Procedure	ICD-9-CM	Gastrointestinal Malformations
42.92	Dilation of esophagus	Procedure	ICD-9-CM	Gastrointestinal Malformations
42215	Palatoplasty for cleft palate; major revision	Procedure	CPT-4	Oral Clefts
42220	Palatoplasty for cleft palate; secondary lengthening procedure	Procedure	CPT-4	Oral Clefts
42225	Palatoplasty for cleft palate; attachment pharyngeal flap	Procedure	CPT-4	Oral Clefts
42226	Lengthening of palate, and pharyngeal flap	Procedure	CPT-4	Oral Clefts
42227	Lengthening of palate, with island flap	Procedure	CPT-4	Oral Clefts
42235	Repair of anterior palate, including vomer flap	Procedure	CPT-4	Oral Clefts
42260	Repair of nasolabial fistula	Procedure	CPT-4	Oral Clefts
43.11	Percutaneous (endoscopic) gastrostomy (PEG)	Procedure	ICD-9-CM	Gastrointestinal Malformations
43.19	Other gastrostomy	Procedure	ICD-9-CM	Gastrointestinal Malformations
43.3	Pyloromyotomy	Procedure	ICD-9-CM	Gastrointestinal Malformations
43239	Esophagogastroduodenoscopy, flexible, transoral; with biopsy, single or multiple	Procedure	CPT-4	Gastrointestinal Malformations

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Code	Description	Code Category	Code Type	Malformation
43312	Esophagoplasty (plastic repair or reconstruction), thoracic approach; with repair of tracheoesophageal fistula	Procedure	CPT-4	Gastrointestinal Malformations
43314	Esophagoplasty for congenital defect (plastic repair or reconstruction), thoracic approach; with repair of congenital tracheoesophageal fistula	Procedure	CPT-4	Gastrointestinal Malformations
43324	Esophagogastric fundoplasty (eg, Nissen, Belsey IV, Hill procedures)	Procedure	CPT-4	Gastrointestinal Malformations
43520	Pyloromyotomy, cutting of pyloric muscle (Fredet-Ramstedt type operation)	Procedure	CPT-4	Gastrointestinal Malformations
43659	Unlisted laparoscopy procedure, stomach	Procedure	CPT-4	Gastrointestinal Malformations
44.29	Other pyloroplasty	Procedure	ICD-9-CM	Gastrointestinal Malformations
44.39	Other gastroenterostomy without gastrectomy	Procedure	ICD-9-CM	Gastrointestinal Malformations
44.66	Other procedures for creation of esophagogastric sphincteric competence	Procedure	ICD-9-CM	Gastrointestinal Malformations
44.67	Laparoscopic procedures for creation of esophagogastric sphincteric competence	Procedure	ICD-9-CM	Gastrointestinal Malformations
44.69	Other repair of stomach	Procedure	ICD-9-CM	Gastrointestinal Malformations
44.99	Other operations on stomach	Procedure	ICD-9-CM	Gastrointestinal Malformations
44005	Enterolysis (freeing of intestinal adhesion) (separate procedure)	Procedure	CPT-4	Gastrointestinal Malformations
44050	Reduction of volvulus, intussusception, internal hernia, by laparotomy	Procedure	CPT-4	Gastrointestinal Malformations
44055	Correction of malrotation by lysis of duodenal bands and/or reduction of midgut volvulus (eg, Ladd procedure)	Procedure	CPT-4	Gastrointestinal Malformations
44120	Enterectomy, resection of small intestine; single resection and anastomosis	Procedure	CPT-4	Gastrointestinal Malformations
44125	Enterectomy, resection of small intestine; with enterostomy	Procedure	CPT-4	Gastrointestinal Malformations
44126	Enterectomy, resection of small intestine for congenital atresia, single resection and anastomosis of proximal segment of intestine; without tapering	Procedure	CPT-4	Gastrointestinal Malformations
44127	Enterectomy, resection of small intestine for congenital atresia, single resection and anastomosis of proximal segment of intestine; with tapering	Procedure	CPT-4	Gastrointestinal Malformations
44128	Enterectomy, resection of small intestine for congenital atresia, single resection and anastomosis of proximal segment of intestine; each additional resection and anastomosis (List separately in addition to code for primary procedure)	Procedure	CPT-4	Gastrointestinal Malformations
44130	Enteroenterostomy, anastomosis of intestine, with or without cutaneous enterostomy (separate procedure)	Procedure	CPT-4	Gastrointestinal Malformations
44140	Colectomy, partial; with anastomosis	Procedure	CPT-4	Gastrointestinal Malformations
44144	Colectomy, partial; with resection, with colostomy or ileostomy and creation of mucofistula	Procedure	CPT-4	Gastrointestinal Malformations
44310	Ileostomy or jejunostomy, non-tube	Procedure	CPT-4	Gastrointestinal Malformations

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Code	Description	Code Category	Code Type	Malformation
44320	Colostomy or skin level cecostomy;	Procedure	CPT-4	Gastrointestinal Malformations
44322	Colostomy or skin level cecostomy; with multiple biopsies (eg, for congenital megacolon) (separate procedure)	Procedure	CPT-4	Gastrointestinal Malformations
44625	Closure of enterostomy, large or small intestine; with resection and anastomosis other than colorectal	Procedure	CPT-4	Gastrointestinal Malformations
45.0	Enterotomy	Procedure	ICD-9-CM	Gastrointestinal Malformations
45.01	Incision of duodenum	Procedure	ICD-9-CM	Gastrointestinal Malformations
45.02	Other incision of small intestine	Procedure	ICD-9-CM	Gastrointestinal Malformations
45.33	Local excision of lesion or tissue of small intestine, except duodenum	Procedure	ICD-9-CM	Gastrointestinal Malformations
45.61	Multiple segmental resection of small intestine	Procedure	ICD-9-CM	Gastrointestinal Malformations
45.62	Other partial resection of small intestine	Procedure	ICD-9-CM	Gastrointestinal Malformations
45.73	Open and other right hemicolectomy	Procedure	ICD-9-CM	Gastrointestinal Malformations
45.74	Open and other resection of transverse colon	Procedure	ICD-9-CM	Gastrointestinal Malformations
45.75	Open and other left hemicolectomy	Procedure	ICD-9-CM	Gastrointestinal Malformations
45.76	Open and other sigmoidectomy	Procedure	ICD-9-CM	Gastrointestinal Malformations
45.79	Other and unspecified partial excision of large intestine	Procedure	ICD-9-CM	Gastrointestinal Malformations
45.91	Small-to-small intestinal anastomosis	Procedure	ICD-9-CM	Gastrointestinal Malformations
45.93	Other small-to-large intestinal anastomosis	Procedure	ICD-9-CM	Gastrointestinal Malformations
45.94	Large-to-large intestinal anastomosis	Procedure	ICD-9-CM	Gastrointestinal Malformations
45.95	Anastomosis to anus	Procedure	ICD-9-CM	Gastrointestinal Malformations
45120	Proctectomy, complete (for congenital megacolon), abdominal and perineal approach; with pull-through procedure and anastomosis (eg, Swenson, Duhamel, or Soave type operation)	Procedure	CPT-4	Gastrointestinal Malformations
45121	Proctectomy, complete (for congenital megacolon), abdominal and perineal approach; with subtotal or total colectomy, with multiple biopsies	Procedure	CPT-4	Gastrointestinal Malformations
45905	Dilation of anal sphincter (separate procedure) under anesthesia other than local	Procedure	CPT-4	Gastrointestinal Malformations
46.10	Colostomy, not otherwise specified	Procedure	ICD-9-CM	Gastrointestinal Malformations
46.11	Temporary colostomy	Procedure	ICD-9-CM	Gastrointestinal Malformations
46.13	Permanent colostomy	Procedure	ICD-9-CM	Gastrointestinal Malformations
46.20	Ileostomy, not otherwise specified	Procedure	ICD-9-CM	Gastrointestinal Malformations
46.21	Temporary ileostomy	Procedure	ICD-9-CM	Gastrointestinal Malformations
46.23	Other permanent ileostomy	Procedure	ICD-9-CM	Gastrointestinal Malformations

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Code	Description	Code Category	Code Type	Malformation
46.39	Other enterostomy	Procedure	ICD-9-CM	Gastrointestinal Malformations
46.41	Revision of stoma of small intestine	Procedure	ICD-9-CM	Gastrointestinal Malformations
46.43	Other revision of stoma of large intestine	Procedure	ICD-9-CM	Gastrointestinal Malformations
46.51	Closure of stoma of small intestine	Procedure	ICD-9-CM	Gastrointestinal Malformations
46.52	Closure of stoma of large intestine	Procedure	ICD-9-CM	Gastrointestinal Malformations
46.79	Other repair of intestine	Procedure	ICD-9-CM	Gastrointestinal Malformations
46.81	Intra-abdominal manipulation of small intestine	Procedure	ICD-9-CM	Gastrointestinal Malformations
46.82	Intra-abdominal manipulation of large intestine	Procedure	ICD-9-CM	Gastrointestinal Malformations
46.93	Revision of anastomosis of small intestine	Procedure	ICD-9-CM	Gastrointestinal Malformations
46705	Anoplasty, plastic operation for stricture; infant	Procedure	CPT-4	Gastrointestinal Malformations
46715	Repair of low imperforate anus; with anoperineal fistula (cut-back procedure)	Procedure	CPT-4	Gastrointestinal Malformations
46716	Repair of low imperforate anus; with transposition of anoperineal or anovestibular fistula	Procedure	CPT-4	Gastrointestinal Malformations
46740	Repair of high imperforate anus with rectourethral or rectovaginal fistula; perineal or sacroperineal approach	Procedure	CPT-4	Gastrointestinal Malformations
47701	Portoenterostomy (eg, Kasai procedure)	Procedure	CPT-4	Gastrointestinal Malformations
48.40	Pull-through resection of rectum, not otherwise specified	Procedure	ICD-9-CM	Gastrointestinal Malformations
48.41	Soave submucosal resection of rectum	Procedure	ICD-9-CM	Gastrointestinal Malformations
48.42	Laparoscopic pull-through resection of rectum	Procedure	ICD-9-CM	Gastrointestinal Malformations
48.43	Open pull-through resection of rectum	Procedure	ICD-9-CM	Gastrointestinal Malformations
48.49	Other pull-through resection of rectum	Procedure	ICD-9-CM	Gastrointestinal Malformations
49.79	Other repair of anal sphincter	Procedure	ICD-9-CM	Gastrointestinal Malformations
50040	Nephrostomy, nephrotomy with drainage	Procedure	CPT-4	Urinary Malformations
50045	Nephrotomy, with exploration	Procedure	CPT-4	Urinary Malformations
50120	Pyelotomy; with exploration	Procedure	CPT-4	Urinary Malformations
50125	Pyelotomy; with drainage, pyelostomy	Procedure	CPT-4	Urinary Malformations
50135	Pyelotomy; complicated (eg, secondary operation, congenital kidney abnormality)	Procedure	CPT-4	Urinary Malformations
50220	Nephrectomy, including partial ureterectomy, any open approach including rib resection;	Procedure	CPT-4	Urinary Malformations
50390	Aspiration and/or injection of renal cyst or pelvis by needle, percutaneous	Procedure	CPT-4	Urinary Malformations
50392	Introduction of intracatheter or catheter into renal pelvis for drainage and/or injection, percutaneous	Procedure	CPT-4	Urinary Malformations

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Code	Description	Code Category	Code Type	Malformation
50395	Introduction of guide into renal pelvis and/or ureter with dilation to establish nephrostomy tract, percutaneous	Procedure	CPT-4	Urinary Malformations
50400	Pyeloplasty (Foley Y-pyeloplasty), plastic operation on renal pelvis, with or without plastic operation on ureter, nephropexy, nephrostomy, pyelostomy, or ureteral splinting; simple	Procedure	CPT-4	Urinary Malformations
50405	Pyeloplasty (Foley Y-pyeloplasty), plastic operation on renal pelvis, with or without plastic operation on ureter, nephropexy, nephrostomy, pyelostomy, or ureteral splinting; complicated (congenital kidney abnormality, secondary pyeloplasty, solitary kidney, calycolasty)	Procedure	CPT-4	Urinary Malformations
50544	Laparoscopy, surgical; pyeloplasty	Procedure	CPT-4	Urinary Malformations
50551	Renal endoscopy through established nephrostomy or pyelostomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service;	Procedure	CPT-4	Urinary Malformations
50553	Renal endoscopy through established nephrostomy or pyelostomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with ureteral catheterization, with or without dilation of ureter	Procedure	CPT-4	Urinary Malformations
50555	Renal endoscopy through established nephrostomy or pyelostomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with biopsy	Procedure	CPT-4	Urinary Malformations
50557	Renal endoscopy through established nephrostomy or pyelostomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with fulguration and/or incision, with or without biopsy	Procedure	CPT-4	Urinary Malformations
50561	Renal endoscopy through established nephrostomy or pyelostomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with removal of foreign body or calculus	Procedure	CPT-4	Urinary Malformations
50570	Renal endoscopy through nephrotomy or pyelotomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service;	Procedure	CPT-4	Urinary Malformations
50572	Renal endoscopy through nephrotomy or pyelotomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with ureteral catheterization, with or without dilation of ureter	Procedure	CPT-4	Urinary Malformations
50574	Renal endoscopy through nephrotomy or pyelotomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with biopsy	Procedure	CPT-4	Urinary Malformations

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Code	Description	Code Category	Code Type	Malformation
50575	Renal endoscopy through nephrotomy or pyelotomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with endopyelotomy (includes cystoscopy, ureteroscopy, dilation of ureter and ureteral pelvic junction, incision of ureteral pelvic junction and insertion of endopyelotomy stent)	Procedure	CPT-4	Urinary Malformations
50576	Renal endoscopy through nephrotomy or pyelotomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with fulguration and/or incision, with or without biopsy	Procedure	CPT-4	Urinary Malformations
50580	Renal endoscopy through nephrotomy or pyelotomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with removal of foreign body or calculus	Procedure	CPT-4	Urinary Malformations
50605	Ureterotomy for insertion of indwelling stent, all types	Procedure	CPT-4	Urinary Malformations
50860	Ureterostomy, transplantation of ureter to skin	Procedure	CPT-4	Urinary Malformations
51.31	Anastomosis of gallbladder to hepatic ducts	Procedure	ICD-9-CM	Gastrointestinal Malformations
51.37	Anastomosis of hepatic duct to gastrointestinal tract	Procedure	ICD-9-CM	Gastrointestinal Malformations
51.69	Excision of other bile duct	Procedure	ICD-9-CM	Gastrointestinal Malformations
51535	Cystotomy for excision, incision, or repair of ureterocele	Procedure	CPT-4	Urinary Malformations
51940	Closure, exstrophy of bladder	Procedure	CPT-4	Urinary Malformations
51980	Cutaneous vesicostomy	Procedure	CPT-4	Urinary Malformations
52300	Cystourethroscopy; with resection or fulguration of orthotopic ureterocele(s), unilateral or bilateral	Procedure	CPT-4	Urinary Malformations (INFANT CLAIMS ONLY)
52301	Cystourethroscopy; with resection or fulguration of ectopic ureterocele(s), unilateral or bilateral	Procedure	CPT-4	Urinary Malformations (INFANT CLAIMS ONLY)
52310	Cystourethroscopy, with removal of foreign body, calculus, or ureteral stent from urethra or bladder (separate procedure); simple	Procedure	CPT-4	Urinary Malformations (INFANT CLAIMS ONLY)
52332	Cystourethroscopy, with insertion of indwelling ureteral stent (eg, Gibbons or double-J type)	Procedure	CPT-4	Urinary Malformations (INFANT CLAIMS ONLY)
52334	Cystourethroscopy with insertion of ureteral guide wire through kidney to establish a percutaneous nephrostomy, retrograde	Procedure	CPT-4	Urinary Malformations (INFANT CLAIMS ONLY)
52341	Cystourethroscopy; with treatment of ureteral stricture (eg, balloon dilation, laser, electrocautery, and incision)	Procedure	CPT-4	Urinary Malformations (INFANT CLAIMS ONLY)

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Code	Description	Code Category	Code Type	Malformation
52342	Cystourethroscopy; with treatment of ureteropelvic junction stricture (eg, balloon dilation, laser, electrocautery, and incision)	Procedure	CPT-4	Urinary Malformations (INFANT CLAIMS ONLY)
52343	Cystourethroscopy; with treatment of intra-renal stricture (eg, balloon dilation, laser, electrocautery, and incision)	Procedure	CPT-4	Urinary Malformations (INFANT CLAIMS ONLY)
52344	Cystourethroscopy with ureteroscopy; with treatment of ureteral stricture (eg, balloon dilation, laser, electrocautery, and incision)	Procedure	CPT-4	Urinary Malformations (INFANT CLAIMS ONLY)
52345	Cystourethroscopy with ureteroscopy; with treatment of ureteropelvic junction stricture (eg, balloon dilation, laser, electrocautery, and incision)	Procedure	CPT-4	Urinary Malformations (INFANT CLAIMS ONLY)
52346	Cystourethroscopy with ureteroscopy; with treatment of intra-renal stricture (eg, balloon dilation, laser, electrocautery, and incision)	Procedure	CPT-4	Urinary Malformations (INFANT CLAIMS ONLY)
52351	Cystourethroscopy, with ureteroscopy and/or pyeloscopy; diagnostic	Procedure	CPT-4	Urinary Malformations (INFANT CLAIMS ONLY)
52400	Cystourethroscopy with incision, fulguration, or resection of congenital posterior urethral valves, or congenital obstructive hypertrophic mucosal folds	Procedure	CPT-4	Urinary Malformations
54300	Plastic operation of penis for straightening of chordee (eg, hypospadias), with or without mobilization of urethra	Procedure	CPT-4	Genital Malformations
54322	1-stage distal hypospadias repair (with or without chordee or circumcision); with simple meatal advancement (eg, Magpi, V-flap)	Procedure	CPT-4	Genital Malformations
54512	Excision of extraparenchymal lesion of testis	Procedure	CPT-4	Genital Malformations
54520	Orchiectomy, simple (including subcapsular), with or without testicular prosthesis, scrotal or inguinal approach	Procedure	CPT-4	Genital Malformations
54620	Fixation of contralateral testis (separate procedure)	Procedure	CPT-4	Genital Malformations
54640	Orchiopexy, inguinal or scrotal approach	Procedure	CPT-4	Genital Malformations
55.02	Nephrostomy	Procedure	ICD-9-CM	Urinary Malformations
55.03	Percutaneous nephrostomy without fragmentation	Procedure	ICD-9-CM	Urinary Malformations
55.1	Pyelotomy and pyelostomy	Procedure	ICD-9-CM	Urinary Malformations
55.12	Pyelostomy	Procedure	ICD-9-CM	Urinary Malformations
55.31	Marsupialization of kidney lesion	Procedure	ICD-9-CM	Urinary Malformations
55.32	Open ablation of renal lesion or tissue	Procedure	ICD-9-CM	Urinary Malformations
55.33	Percutaneous ablation of renal lesion or tissue	Procedure	ICD-9-CM	Urinary Malformations
55.34	Laparoscopic ablation of renal lesion or tissue	Procedure	ICD-9-CM	Urinary Malformations
55.35	Other and unspecified ablation of renal lesion or tissue	Procedure	ICD-9-CM	Urinary Malformations

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Code	Description	Code Category	Code Type	Malformation
55.39	Other local destruction or excision of renal lesion or tissue	Procedure	ICD-9-CM	Urinary Malformations
55.4	Partial nephrectomy	Procedure	ICD-9-CM	Urinary Malformations
55.51	Nephroureterectomy	Procedure	ICD-9-CM	Urinary Malformations
55.52	Nephrectomy of remaining kidney	Procedure	ICD-9-CM	Urinary Malformations
55.54	Bilateral nephrectomy	Procedure	ICD-9-CM	Urinary Malformations
55.69	Other kidney transplantation	Procedure	ICD-9-CM	Urinary Malformations
55.82	Closure of nephrostomy and pyelostomy	Procedure	ICD-9-CM	Urinary Malformations
55.87	Correction of ureteropelvic junction	Procedure	ICD-9-CM	Urinary Malformations
55.89	Other repair of kidney	Procedure	ICD-9-CM	Urinary Malformations
55.99	Other operations on kidney	Procedure	ICD-9-CM	Urinary Malformations
56.0	Transurethral removal of obstruction from ureter and renal pelvis	Procedure	ICD-9-CM	Urinary Malformations
56.1	Ureteral meatotomy	Procedure	ICD-9-CM	Urinary Malformations
56.2	Ureterotomy	Procedure	ICD-9-CM	Urinary Malformations
56.40	Ureterectomy, not otherwise specified	Procedure	ICD-9-CM	Urinary Malformations
56.41	Partial ureterectomy	Procedure	ICD-9-CM	Urinary Malformations
56.51	Formation of cutaneous uretero-ileostomy	Procedure	ICD-9-CM	Urinary Malformations
56.61	Formation of other cutaneous ureterostomy	Procedure	ICD-9-CM	Urinary Malformations
56.62	Revision of other cutaneous ureterostomy	Procedure	ICD-9-CM	Urinary Malformations
56.74	Ureteroneocystostomy	Procedure	ICD-9-CM	Urinary Malformations
56.75	Transureteroureterostomy	Procedure	ICD-9-CM	Urinary Malformations
56.89	Other repair of ureter	Procedure	ICD-9-CM	Urinary Malformations
57.17	Percutaneous cystostomy	Procedure	ICD-9-CM	Urinary Malformations
57.18	Other suprapubic cystostomy	Procedure	ICD-9-CM	Urinary Malformations
57.19	Other cystotomy	Procedure	ICD-9-CM	Urinary Malformations
57.21	Vesicostomy	Procedure	ICD-9-CM	Urinary Malformations
57.22	Revision or closure of vesicostomy	Procedure	ICD-9-CM	Urinary Malformations
57.6	Partial cystectomy	Procedure	ICD-9-CM	Urinary Malformations
57.86	Repair of bladder exstrophy	Procedure	ICD-9-CM	Urinary Malformations
57.91	Sphincterotomy of bladder	Procedure	ICD-9-CM	Urinary Malformations
58.0	Urethrotomy	Procedure	ICD-9-CM	Urinary Malformations
58.1	Urethral meatotomy	Procedure	ICD-9-CM	Urinary Malformations
58.31	Endoscopic excision or destruction of lesion or tissue of urethra	Procedure	ICD-9-CM	Urinary Malformations

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Code	Description	Code Category	Code Type	Malformation
58.39	Other local excision or destruction of lesion or tissue of urethra	Procedure	ICD-9-CM	Urinary Malformations
58.46	Other reconstruction of urethra	Procedure	ICD-9-CM	Urinary Malformations
58.47	Urethral meatoplasty	Procedure	ICD-9-CM	Urinary Malformations
58.49	Other repair of urethra	Procedure	ICD-9-CM	Urinary Malformations
58.5	Release of urethral stricture	Procedure	ICD-9-CM	Urinary Malformations
58.6	Dilation of urethra	Procedure	ICD-9-CM	Urinary Malformations
59074	Fetal fluid drainage (eg, vesicocentesis, thoracocentesis, paracentesis), including ultrasound guidance	Procedure	CPT-4	Central Nervous System Malformations
59076	Fetal shunt placement, including ultrasound guidance	Procedure	CPT-4	Central Nervous System Malformations
61.0	Incision and drainage of scrotum and tunica vaginalis	Procedure	ICD-9-CM	Genital Malformations
61.2	Excision of hydrocele (of tunica vaginalis)	Procedure	ICD-9-CM	Genital Malformations
61020	Ventricular puncture through previous burr hole, fontanelle, suture, or implanted ventricular catheter/reservoir; without injection	Procedure	CPT-4	Central Nervous System Malformations
61107	Twist drill hole(s) for subdural, intracerebral, or ventricular puncture; for implanting ventricular catheter, pressure recording device, or other intracerebral monitoring device	Procedure	CPT-4	Central Nervous System Malformations
61343	Craniectomy, suboccipital with cervical laminectomy for decompression of medulla and spinal cord, with or without dural graft (eg, Arnold-Chiari malformation)	Procedure	CPT-4	Central Nervous System Malformations
61624	Transcatheter permanent occlusion or embolization (eg, for tumor destruction, to achieve hemostasis, to occlude a vascular malformation), percutaneous, any method; central nervous system (intracranial, spinal cord)	Procedure	CPT-4	Other Vascular Malformations
62.11	Closed (percutaneous) (needle) biopsy of testis	Procedure	ICD-9-CM	Genital Malformations
62.12	Open biopsy of testis	Procedure	ICD-9-CM	Genital Malformations
62.2	Excision or destruction of testicular lesion	Procedure	ICD-9-CM	Genital Malformations
62.3	Unilateral orchiectomy	Procedure	ICD-9-CM	Genital Malformations
62.5	Orchiopexy	Procedure	ICD-9-CM	Genital Malformations
62120	Repair of encephalocele, skull vault, including cranioplasty	Procedure	CPT-4	Central Nervous System Malformations
62121	Craniotomy for repair of encephalocele, skull base	Procedure	CPT-4	Central Nervous System Malformations
62160	Neuroendoscopy, intracranial, for placement or replacement of ventricular catheter and attachment to shunt system or external drainage (List separately in addition to code for primary procedure)	Procedure	CPT-4	Central Nervous System Malformations
62201	Ventriculocisternostomy, third ventricle; stereotactic, neuroendoscopic method	Procedure	CPT-4	Central Nervous System Malformations

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Code	Description	Code Category	Code Type	Malformation
62223	Creation of shunt; ventriculo-peritoneal, -pleural, other terminus	Procedure	CPT-4	Central Nervous System Malformations
62225	Replacement or irrigation, ventricular catheter	Procedure	CPT-4	Central Nervous System Malformations
62230	Replacement or revision of cerebrospinal fluid shunt, obstructed valve, or distal catheter in shunt system	Procedure	CPT-4	Central Nervous System Malformations
62252	Reprogramming of programmable cerebrospinal shunt	Procedure	CPT-4	Central Nervous System Malformations
62256	Removal of complete cerebrospinal fluid shunt system; without replacement	Procedure	CPT-4	Central Nervous System Malformations
62258	Removal of complete cerebrospinal fluid shunt system; with replacement by similar or other shunt at same operation	Procedure	CPT-4	Central Nervous System Malformations
62272	Spinal puncture, therapeutic, for drainage of cerebrospinal fluid (by needle or catheter);	Procedure	CPT-4	Central Nervous System Malformations
63.1	Excision of varicocele and hydrocele of spermatic cord	Procedure	ICD-9-CM	Genital Malformations
63.6	Vasotomy	Procedure	ICD-9-CM	Genital Malformations
63200	Laminectomy, with release of tethered spinal cord, lumbar	Procedure	CPT-4	Central Nervous System Malformations
63700	Repair of meningocele; less than 5 cm diameter	Procedure	CPT-4	Central Nervous System Malformations
63702	Repair of meningocele; larger than 5 cm diameter	Procedure	CPT-4	Central Nervous System Malformations
63704	Repair of myelomeningocele; less than 5 cm diameter	Procedure	CPT-4	Central Nervous System Malformations
63706	Repair of myelomeningocele; larger than 5 cm diameter	Procedure	CPT-4	Central Nervous System Malformations
63740	Creation of shunt, lumbar, subarachnoid-peritoneal, -pleural, or other; including laminectomy	Procedure	CPT-4	Central Nervous System Malformations
64.2	Local excision or destruction of lesion of penis	Procedure	ICD-9-CM	Genital Malformations
64.49	Other repair of penis	Procedure	ICD-9-CM	Genital Malformations
64.92	Incision of penis	Procedure	ICD-9-CM	Genital Malformations
64.93	Division of penile adhesions	Procedure	ICD-9-CM	Genital Malformations
64.98	Other operations on penis	Procedure	ICD-9-CM	Genital Malformations
65400	Excision of lesion, cornea (keratectomy, lamellar, partial), except pterygium	Procedure	CPT-4	Eye Anomalies
65730	Keratoplasty (corneal transplant); penetrating (except in aphakia or pseudophakia)	Procedure	CPT-4	Eye Anomalies
65800	Paracentesis of anterior chamber of eye (separate procedure); with removal of aqueous	Procedure	CPT-4	Eye Anomalies
65820	Goniotomy	Procedure	CPT-4	Eye Anomalies
65850	Trabeculotomy ab externo	Procedure	CPT-4	Eye Anomalies
65865	Severing adhesions of anterior segment of eye, incisional technique (with or without injection of air or liquid) (separate procedure); goniosynechia	Procedure	CPT-4	Eye Anomalies

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Code	Description	Code Category	Code Type	Malformation
65870	Severing adhesions of anterior segment of eye, incisional technique (with or without injection of air or liquid) (separate procedure); anterior synechiae, except goniosynechiae	Procedure	CPT-4	Eye Anomalies
65875	Severing adhesions of anterior segment of eye, incisional technique (with or without injection of air or liquid) (separate procedure); posterior synechiae	Procedure	CPT-4	Eye Anomalies
66170	Fistulization of sclera for glaucoma; trabeculectomy ab externo in absence of previous surgery	Procedure	CPT-4	Eye Anomalies
66180	Aqueous shunt to extraocular equatorial plate reservoir, external approach; with graft	Procedure	CPT-4	Eye Anomalies
66250	Revision or repair of operative wound of anterior segment, any type, early or late, major or minor procedure	Procedure	CPT-4	Eye Anomalies
66625	Iridectomy, with corneoscleral or corneal section; peripheral for glaucoma (separate procedure)	Procedure	CPT-4	Eye Anomalies
66820	Discission of secondary membranous cataract (opacified posterior lens capsule and/or anterior hyaloid); stab incision technique (Ziegler or Wheeler knife)	Procedure	CPT-4	Eye Anomalies
66830	Removal of secondary membranous cataract (opacified posterior lens capsule and/or anterior hyaloid) with corneo-scleral section, with or without iridectomy (iridocapsulotomy, iridocapsulectomy)	Procedure	CPT-4	Eye Anomalies
66840	Removal of lens material; aspiration technique, 1 or more stages	Procedure	CPT-4	Eye Anomalies
66850	Removal of lens material; phacofragmentation technique (mechanical or ultrasonic) (eg, phacoemulsification), with aspiration	Procedure	CPT-4	Eye Anomalies
66852	Removal of lens material; pars plana approach, with or without vitrectomy	Procedure	CPT-4	Eye Anomalies
66920	Removal of lens material; intracapsular	Procedure	CPT-4	Eye Anomalies
66940	Removal of lens material; extracapsular (other than 66840, 66850, 66852)	Procedure	CPT-4	Eye Anomalies
66982	Extracapsular cataract removal with insertion of intraocular lens prosthesis (1-stage procedure), manual or mechanical technique (eg, irrigation and aspiration or phacoemulsification), complex, requiring devices or techniques not generally used in routine cataract surgery (eg, iris expansion device, suture support for intraocular lens, or primary posterior capsulorrhexis) or performed on patients in the amblyogenic developmental stage; without endoscopic cyclophotocoagulation	Procedure	CPT-4	Eye Anomalies

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Code	Description	Code Category	Code Type	Malformation
66984	Extracapsular cataract removal with insertion of intraocular lens prosthesis (1 stage procedure), manual or mechanical technique (eg, irrigation and aspiration or phacoemulsification); without endoscopic cyclophotocoagulation	Procedure	CPT-4	Eye Anomalies
67005	Removal of vitreous, anterior approach (open sky technique or limbal incision); partial removal	Procedure	CPT-4	Eye Anomalies
67010	Removal of vitreous, anterior approach (open sky technique or limbal incision); subtotal removal with mechanical vitrectomy	Procedure	CPT-4	Eye Anomalies
67036	Vitrectomy, mechanical, pars plana approach;	Procedure	CPT-4	Eye Anomalies
67038	Vitrectomy, mechanical, pars plana approach; with epiretinal membrane stripping	Procedure	CPT-4	Eye Anomalies
67041	Vitrectomy, mechanical, pars plana approach; with removal of preretinal cellular membrane (eg, macular pucker)	Procedure	CPT-4	Eye Anomalies
67229	Treatment of extensive or progressive retinopathy, 1 or more sessions, preterm infant (less than 37 weeks gestation at birth), performed from birth up to 1 year of age (eg, retinopathy of prematurity), photocoagulation or cryotherapy	Procedure	CPT-4	Eye Anomalies
67255	Scleral reinforcement (separate procedure); with graft	Procedure	CPT-4	Eye Anomalies
69420	Myringotomy including aspiration and/or eustachian tube inflation	Procedure	CPT-4	Ear Anomalies
69436	Tympanostomy (requiring insertion of ventilating tube), general anesthesia	Procedure	CPT-4	Ear Anomalies
740	Anencephalus and similar anomalies	Diagnosis	ICD-9-CM	Central Nervous System Malformations
740.0	Anencephalus	Diagnosis	ICD-9-CM	Central Nervous System Malformations
740.1	Craniorachischisis	Diagnosis	ICD-9-CM	Central Nervous System Malformations
740.2	Iniencephaly	Diagnosis	ICD-9-CM	Central Nervous System Malformations
741	Spina bifida	Diagnosis	ICD-9-CM	Central Nervous System Malformations
741.0	Spina bifida with hydrocephalus	Diagnosis	ICD-9-CM	Central Nervous System Malformations
741.00	Spina bifida with hydrocephalus, unspecified region	Diagnosis	ICD-9-CM	Central Nervous System Malformations
741.01	Spina bifida with hydrocephalus, cervical region	Diagnosis	ICD-9-CM	Central Nervous System Malformations
741.02	Spina bifida with hydrocephalus, dorsal (thoracic) region	Diagnosis	ICD-9-CM	Central Nervous System Malformations
741.03	Spina bifida with hydrocephalus, lumbar region	Diagnosis	ICD-9-CM	Central Nervous System Malformations
741.9	Spina bifida without mention of hydrocephalus	Diagnosis	ICD-9-CM	Central Nervous System Malformations
741.90	Spina bifida without mention of hydrocephalus, unspecified region	Diagnosis	ICD-9-CM	Central Nervous System Malformations
741.91	Spina bifida without mention of hydrocephalus, cervical region	Diagnosis	ICD-9-CM	Central Nervous System Malformations
741.92	Spina bifida without mention of hydrocephalus, dorsal (thoracic) region	Diagnosis	ICD-9-CM	Central Nervous System Malformations
741.93	Spina bifida without mention of hydrocephalus, lumbar region	Diagnosis	ICD-9-CM	Central Nervous System Malformations

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Code	Description	Code Category	Code Type	Malformation
742	Other congenital anomalies of nervous system	Diagnosis	ICD-9-CM	Central Nervous System Malformations
742.0	Encephalocele	Diagnosis	ICD-9-CM	Central Nervous System Malformations
742.1	Microcephalus	Diagnosis	ICD-9-CM	Central Nervous System Malformations
742.2	Congenital reduction deformities of brain	Diagnosis	ICD-9-CM	Central Nervous System Malformations
742.3	Congenital hydrocephalus	Diagnosis	ICD-9-CM	Central Nervous System Malformations
742.4	Other specified congenital anomalies of brain	Diagnosis	ICD-9-CM	Central Nervous System Malformations
742.5	Other specified congenital anomalies of spinal cord	Diagnosis	ICD-9-CM	Central Nervous System Malformations
742.51	Diastematomyelia	Diagnosis	ICD-9-CM	Central Nervous System Malformations
742.53	Hydromyelia	Diagnosis	ICD-9-CM	Central Nervous System Malformations
742.59	Other specified congenital anomaly of spinal cord	Diagnosis	ICD-9-CM	Central Nervous System Malformations
742.8	Other specified congenital anomalies of nervous system	Diagnosis	ICD-9-CM	Central Nervous System Malformations
742.9	Unspecified congenital anomaly of brain, spinal cord, and nervous system	Diagnosis	ICD-9-CM	Central Nervous System Malformations
743	Congenital anomalies of eye	Diagnosis	ICD-9-CM	Eye Anomalies
743.0	Anophthalmos	Diagnosis	ICD-9-CM	Eye Anomalies
743.00	Unspecified clinical anophthalmos	Diagnosis	ICD-9-CM	Eye Anomalies
743.03	Cystic eyeball, congenital	Diagnosis	ICD-9-CM	Eye Anomalies
743.06	Cryptophthalmos	Diagnosis	ICD-9-CM	Eye Anomalies
743.1	Microphthalmos	Diagnosis	ICD-9-CM	Eye Anomalies
743.10	Unspecified microphthalmos	Diagnosis	ICD-9-CM	Eye Anomalies
743.11	Simple microphthalmos	Diagnosis	ICD-9-CM	Eye Anomalies
743.12	Microphthalmos associated with other anomalies of eye and adnexa	Diagnosis	ICD-9-CM	Eye Anomalies
743.2	Buphthalmos	Diagnosis	ICD-9-CM	Eye Anomalies
743.20	Unspecified buphthalmos	Diagnosis	ICD-9-CM	Eye Anomalies
743.21	Simple buphthalmos	Diagnosis	ICD-9-CM	Eye Anomalies
743.22	Buphthalmos associated with other ocular anomaly	Diagnosis	ICD-9-CM	Eye Anomalies
743.3	Congenital cataract and lens anomalies	Diagnosis	ICD-9-CM	Eye Anomalies
743.30	Unspecified congenital cataract	Diagnosis	ICD-9-CM	Eye Anomalies
743.31	Congenital capsular and subcapsular cataract	Diagnosis	ICD-9-CM	Eye Anomalies
743.32	Congenital cortical and zonular cataract	Diagnosis	ICD-9-CM	Eye Anomalies
743.33	Congenital nuclear cataract	Diagnosis	ICD-9-CM	Eye Anomalies
743.34	Congenital total and subtotal cataract	Diagnosis	ICD-9-CM	Eye Anomalies
743.35	Congenital aphakia	Diagnosis	ICD-9-CM	Eye Anomalies

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Code	Description	Code Category	Code Type	Malformation
743.36	Congenital anomalies of lens shape	Diagnosis	ICD-9-CM	Eye Anomalies
743.37	Congenital ectopic lens	Diagnosis	ICD-9-CM	Eye Anomalies
743.39	Other congenital cataract and lens anomalies	Diagnosis	ICD-9-CM	Eye Anomalies
743.4	Coloboma and other anomalies of anterior segment of eye	Diagnosis	ICD-9-CM	Eye Anomalies
743.41	Congenital anomaly of corneal size and shape	Diagnosis	ICD-9-CM	Eye Anomalies
743.42	Congenital corneal opacity, interfering with vision	Diagnosis	ICD-9-CM	Eye Anomalies
743.43	Other congenital corneal opacity	Diagnosis	ICD-9-CM	Eye Anomalies
743.44	Specified congenital anomaly of anterior chamber, chamber angle, and related structures	Diagnosis	ICD-9-CM	Eye Anomalies
743.45	Aniridia	Diagnosis	ICD-9-CM	Eye Anomalies
743.46	Other specified congenital anomaly of iris and ciliary body	Diagnosis	ICD-9-CM	Eye Anomalies
743.47	Specified congenital anomaly of sclera	Diagnosis	ICD-9-CM	Eye Anomalies
743.48	Multiple and combined congenital anomalies of anterior segment of eye	Diagnosis	ICD-9-CM	Eye Anomalies
743.49	Other congenital anomaly of anterior segment of eye	Diagnosis	ICD-9-CM	Eye Anomalies
743.5	Congenital anomalies of posterior segment of eye	Diagnosis	ICD-9-CM	Eye Anomalies
743.51	Vitreous anomaly, congenital	Diagnosis	ICD-9-CM	Eye Anomalies
743.52	Fundus coloboma	Diagnosis	ICD-9-CM	Eye Anomalies
743.53	Congenital chorioretinal degeneration	Diagnosis	ICD-9-CM	Eye Anomalies
743.54	Congenital folds and cysts of posterior segment of eye	Diagnosis	ICD-9-CM	Eye Anomalies
743.55	Congenital macular change	Diagnosis	ICD-9-CM	Eye Anomalies
743.56	Other congenital retinal changes	Diagnosis	ICD-9-CM	Eye Anomalies
743.57	Specified congenital anomalies of optic disc	Diagnosis	ICD-9-CM	Eye Anomalies
743.58	Congenital vascular anomalies of posterior segment of eye	Diagnosis	ICD-9-CM	Eye Anomalies
743.59	Other congenital anomalies of posterior segment of eye	Diagnosis	ICD-9-CM	Eye Anomalies
743.6	Congenital anomalies of eyelids, lacrimal system, and orbit	Diagnosis	ICD-9-CM	Eye Anomalies
743.61	Congenital ptosis of eyelid	Diagnosis	ICD-9-CM	Eye Anomalies
743.62	Congenital deformity of eyelid	Diagnosis	ICD-9-CM	Eye Anomalies
743.63	Other specified congenital anomaly of eyelid	Diagnosis	ICD-9-CM	Eye Anomalies
743.64	Specified congenital anomaly of lacrimal gland	Diagnosis	ICD-9-CM	Eye Anomalies
743.65	Specified congenital anomaly of lacrimal passages	Diagnosis	ICD-9-CM	Eye Anomalies
743.66	Specified congenital anomaly of orbit	Diagnosis	ICD-9-CM	Eye Anomalies
743.69	Other congenital anomalies of eyelids, lacrimal system, and orbit	Diagnosis	ICD-9-CM	Eye Anomalies

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Code	Description	Code Category	Code Type	Malformation
743.8	Other specified congenital anomalies of eye	Diagnosis	ICD-9-CM	Eye Anomalies
743.9	Unspecified congenital anomaly of eye	Diagnosis	ICD-9-CM	Eye Anomalies
744	Congenital anomalies of ear, face, and neck	Diagnosis	ICD-9-CM	Ear Anomalies
744.0	Congenital anomalies of ear causing impairment of hearing	Diagnosis	ICD-9-CM	Ear Anomalies
744.00	Unspecified congenital anomaly of ear causing impairment of hearing	Diagnosis	ICD-9-CM	Ear Anomalies
744.01	Congenital absence of external ear causing impairment of hearing	Diagnosis	ICD-9-CM	Ear Anomalies
744.02	Other congenital anomaly of external ear causing impairment of hearing	Diagnosis	ICD-9-CM	Ear Anomalies
744.03	Congenital anomaly of middle ear, except ossicles, causing impairment of hearing	Diagnosis	ICD-9-CM	Ear Anomalies
744.04	Congenital anomalies of ear ossicles	Diagnosis	ICD-9-CM	Ear Anomalies
744.05	Congenital anomalies of inner ear	Diagnosis	ICD-9-CM	Ear Anomalies
744.09	Other congenital anomalies of ear causing impairment of hearing	Diagnosis	ICD-9-CM	Ear Anomalies
744.1	Congenital anomalies of accessory auricle	Diagnosis	ICD-9-CM	Ear Anomalies
744.2	Other specified congenital anomalies of ear	Diagnosis	ICD-9-CM	Ear Anomalies
744.21	Congenital absence of ear lobe	Diagnosis	ICD-9-CM	Ear Anomalies
744.22	Macrotia	Diagnosis	ICD-9-CM	Ear Anomalies
744.23	Microtia	Diagnosis	ICD-9-CM	Ear Anomalies
744.24	Specified congenital anomaly of Eustachian tube	Diagnosis	ICD-9-CM	Ear Anomalies
744.29	Other congenital anomaly of ear	Diagnosis	ICD-9-CM	Ear Anomalies
744.3	Unspecified congenital anomaly of ear	Diagnosis	ICD-9-CM	Ear Anomalies
744.4	Congenital branchial cleft cyst or fistula; preauricular sinus	Diagnosis	ICD-9-CM	Ear Anomalies
744.41	Congenital branchial cleft sinus or fistula	Diagnosis	ICD-9-CM	Ear Anomalies
744.42	Congenital branchial cleft cyst	Diagnosis	ICD-9-CM	Ear Anomalies
744.43	Congenital cervical auricle	Diagnosis	ICD-9-CM	Ear Anomalies
744.46	Congenital preauricular sinus or fistula	Diagnosis	ICD-9-CM	Ear Anomalies
744.47	Congenital preauricular cyst	Diagnosis	ICD-9-CM	Ear Anomalies
744.49	Other congenital branchial cleft cyst or fistula; preauricular sinus	Diagnosis	ICD-9-CM	Ear Anomalies
744.5	Congenital webbing of neck	Diagnosis	ICD-9-CM	Ear Anomalies
744.8	Other specified congenital anomalies of face and neck	Diagnosis	ICD-9-CM	Ear Anomalies
744.81	Macrocheilia	Diagnosis	ICD-9-CM	Ear Anomalies
744.82	Microcheilia	Diagnosis	ICD-9-CM	Ear Anomalies
744.83	Macrostomia	Diagnosis	ICD-9-CM	Ear Anomalies
744.84	Microstomia	Diagnosis	ICD-9-CM	Ear Anomalies

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Code	Description	Code Category	Code Type	Malformation
744.89	Other specified congenital anomaly of face and neck	Diagnosis	ICD-9-CM	Ear Anomalies
744.9	Unspecified congenital anomaly of face and neck	Diagnosis	ICD-9-CM	Ear Anomalies
747.6	Other congenital anomaly of peripheral vascular system	Diagnosis	ICD-9-CM	Other Vascular Malformations
747.60	Congenital anomaly of the peripheral vascular system, unspecified site	Diagnosis	ICD-9-CM	Other Vascular Malformations
747.61	Congenital gastrointestinal vessel anomaly	Diagnosis	ICD-9-CM	Other Vascular Malformations
747.62	Congenital renal vessel anomaly	Diagnosis	ICD-9-CM	Other Vascular Malformations
747.63	Congenital upper limb vessel anomaly	Diagnosis	ICD-9-CM	Other Vascular Malformations
747.64	Congenital lower limb vessel anomaly	Diagnosis	ICD-9-CM	Other Vascular Malformations
747.69	Congenital anomaly of other specified site of peripheral vascular system	Diagnosis	ICD-9-CM	Other Vascular Malformations
747.8	Other specified congenital anomalies of circulatory system	Diagnosis	ICD-9-CM	Other Vascular Malformations
747.81	Congenital anomaly of cerebrovascular system	Diagnosis	ICD-9-CM	Other Vascular Malformations
747.82	Congenital spinal vessel anomaly	Diagnosis	ICD-9-CM	Other Vascular Malformations
747.83	Persistent fetal circulation	Diagnosis	ICD-9-CM	Other Vascular Malformations
747.89	Other specified congenital anomaly of circulatory system	Diagnosis	ICD-9-CM	Other Vascular Malformations
747.9	Unspecified congenital anomaly of circulatory system	Diagnosis	ICD-9-CM	Other Vascular Malformations
748	Congenital anomalies of respiratory system	Diagnosis	ICD-9-CM	Respiratory Malformations
748.0	Congenital choanal atresia	Diagnosis	ICD-9-CM	Respiratory Malformations
748.1	Other congenital anomaly of nose	Diagnosis	ICD-9-CM	Respiratory Malformations
748.2	Congenital web of larynx	Diagnosis	ICD-9-CM	Respiratory Malformations
748.3	Other congenital anomaly of larynx, trachea, and bronchus	Diagnosis	ICD-9-CM	Respiratory Malformations
748.4	Congenital cystic lung	Diagnosis	ICD-9-CM	Respiratory Malformations
748.5	Congenital agenesis, hypoplasia, and dysplasia of lung	Diagnosis	ICD-9-CM	Respiratory Malformations
748.6	Congenital other anomalies of lung	Diagnosis	ICD-9-CM	Respiratory Malformations
748.60	Unspecified congenital anomaly of lung	Diagnosis	ICD-9-CM	Respiratory Malformations
748.61	Congenital bronchiectasis	Diagnosis	ICD-9-CM	Respiratory Malformations
748.69	Other congenital anomaly of lung	Diagnosis	ICD-9-CM	Respiratory Malformations
748.8	Other specified congenital anomaly of respiratory system	Diagnosis	ICD-9-CM	Respiratory Malformations
748.9	Unspecified congenital anomaly of respiratory system	Diagnosis	ICD-9-CM	Respiratory Malformations
749	Cleft palate and cleft lip	Diagnosis	ICD-9-CM	Oral Clefts
749.0	Cleft palate	Diagnosis	ICD-9-CM	Oral Clefts
749.00	Unspecified cleft palate	Diagnosis	ICD-9-CM	Oral Clefts
749.01	Unilateral cleft palate, complete	Diagnosis	ICD-9-CM	Oral Clefts

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Code	Description	Code Category	Code Type	Malformation
749.02	Unilateral cleft palate, incomplete	Diagnosis	ICD-9-CM	Oral Clefts
749.03	Bilateral cleft palate, complete	Diagnosis	ICD-9-CM	Oral Clefts
749.04	Bilateral cleft palate, incomplete	Diagnosis	ICD-9-CM	Oral Clefts
749.1	Cleft lip	Diagnosis	ICD-9-CM	Oral Clefts
749.10	Unspecified cleft lip	Diagnosis	ICD-9-CM	Oral Clefts
749.11	Unilateral cleft lip, complete	Diagnosis	ICD-9-CM	Oral Clefts
749.12	Unilateral cleft lip, incomplete	Diagnosis	ICD-9-CM	Oral Clefts
749.13	Bilateral cleft lip, complete	Diagnosis	ICD-9-CM	Oral Clefts
749.14	Bilateral cleft lip, incomplete	Diagnosis	ICD-9-CM	Oral Clefts
749.2	Cleft palate with cleft lip	Diagnosis	ICD-9-CM	Oral Clefts
749.20	Unspecified cleft palate with cleft lip	Diagnosis	ICD-9-CM	Oral Clefts
749.21	Unilateral cleft palate with cleft lip, complete	Diagnosis	ICD-9-CM	Oral Clefts
749.22	Unilateral cleft palate with cleft lip, incomplete	Diagnosis	ICD-9-CM	Oral Clefts
749.23	Bilateral cleft palate with cleft lip, complete	Diagnosis	ICD-9-CM	Oral Clefts
749.24	Bilateral cleft palate with cleft lip, incomplete	Diagnosis	ICD-9-CM	Oral Clefts
749.25	Other combinations of cleft palate with cleft lip	Diagnosis	ICD-9-CM	Oral Clefts
75.36	Correction of fetal defect	Procedure	ICD-9-CM	Central Nervous System Malformations
75.36	Correction of fetal defect	Procedure	ICD-9-CM	Eye Anomalies
75.36	Correction of fetal defect	Procedure	ICD-9-CM	Ear Anomalies
75.36	Correction of fetal defect	Procedure	ICD-9-CM	Other Vascular Malformations
75.36	Correction of fetal defect	Procedure	ICD-9-CM	Respiratory Malformations
75.36	Correction of fetal defect	Procedure	ICD-9-CM	Oral Clefts
75.36	Correction of fetal defect	Procedure	ICD-9-CM	Gastrointestinal Malformations
75.36	Correction of fetal defect	Procedure	ICD-9-CM	Genital Malformations
75.36	Correction of fetal defect	Procedure	ICD-9-CM	Limb Defects
75.36	Correction of fetal defect	Procedure	ICD-9-CM	Other Malformations
75.36	Correction of fetal defect	Procedure	ICD-9-CM	Urinary Malformations
75.36	Correction of fetal defect	Procedure	ICD-9-CM	Musculoskeletal Malformations
750	Other congenital anomalies of upper alimentary tract	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.0	Tongue tie	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.1	Other congenital anomalies of tongue	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.10	Congenital anomaly of tongue, unspecified	Diagnosis	ICD-9-CM	Gastrointestinal Malformations

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Code	Description	Code Category	Code Type	Malformation
750.11	Aglossia	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.12	Congenital adhesions of tongue	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.13	Congenital fissure of tongue	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.15	Macroglossia	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.16	Microglossia	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.19	Other congenital anomaly of tongue	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.2	Other specified congenital anomalies of mouth and pharynx	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.21	Congenital absence of salivary gland	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.22	Congenital accessory salivary gland	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.23	Congenital atresia, salivary duct	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.24	Congenital fistula of salivary gland	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.25	Congenital fistula of lip	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.26	Other specified congenital anomalies of mouth	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.27	Congenital diverticulum of pharynx	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.29	Other specified congenital anomaly of pharynx	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.3	Congenital tracheoesophageal fistula, esophageal atresia and stenosis	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.4	Other specified congenital anomaly of esophagus	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.5	Congenital hypertrophic pyloric stenosis	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.6	Congenital hiatus hernia	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.7	Other specified congenital anomalies of stomach	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.8	Other specified congenital anomalies of upper alimentary tract	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
750.9	Unspecified congenital anomaly of upper alimentary tract	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
751	Other congenital anomalies of digestive system	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
751.0	Meckel's diverticulum	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
751.1	Congenital atresia and stenosis of small intestine	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
751.2	Congenital atresia and stenosis of large intestine, rectum, and anal canal	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
751.3	Hirschsprung's disease and other congenital functional disorders of colon	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
751.4	Congenital anomalies of intestinal fixation	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
751.5	Other congenital anomalies of intestine	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
751.6	Congenital anomalies of gallbladder, bile ducts, and liver	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
751.60	Unspecified congenital anomaly of gallbladder, bile ducts, and liver	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
751.61	Congenital biliary atresia	Diagnosis	ICD-9-CM	Gastrointestinal Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
751.62	Congenital cystic disease of liver	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
751.69	Other congenital anomaly of gallbladder, bile ducts, and liver	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
751.7	Congenital anomalies of pancreas	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
751.8	Other specified congenital anomalies of digestive system	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
751.9	Unspecified congenital anomaly of digestive system	Diagnosis	ICD-9-CM	Gastrointestinal Malformations
752	Congenital anomalies of genital organs	Diagnosis	ICD-9-CM	Genital Malformations
752.0	Congenital anomalies of ovaries	Diagnosis	ICD-9-CM	Genital Malformations
752.1	Congenital anomalies of fallopian tubes and broad ligaments	Diagnosis	ICD-9-CM	Genital Malformations
752.10	Unspecified congenital anomaly of fallopian tubes and broad ligaments	Diagnosis	ICD-9-CM	Genital Malformations
752.11	Embryonic cyst of fallopian tubes and broad ligaments	Diagnosis	ICD-9-CM	Genital Malformations
752.19	Other congenital anomaly of fallopian tubes and broad ligaments	Diagnosis	ICD-9-CM	Genital Malformations
752.2	Congenital doubling of uterus	Diagnosis	ICD-9-CM	Genital Malformations
752.3	Other congenital anomaly of uterus	Diagnosis	ICD-9-CM	Genital Malformations
752.31	Agenesis of uterus	Diagnosis	ICD-9-CM	Genital Malformations
752.32	Hypoplasia of uterus	Diagnosis	ICD-9-CM	Genital Malformations
752.33	Unicornuate uterus	Diagnosis	ICD-9-CM	Genital Malformations
752.34	Bicornuate uterus	Diagnosis	ICD-9-CM	Genital Malformations
752.35	Septate uterus	Diagnosis	ICD-9-CM	Genital Malformations
752.36	Arcuate uterus	Diagnosis	ICD-9-CM	Genital Malformations
752.39	Other anomalies of uterus	Diagnosis	ICD-9-CM	Genital Malformations
752.4	Congenital anomalies of cervix, vagina, and external female genitalia	Diagnosis	ICD-9-CM	Genital Malformations
752.40	Unspecified congenital anomaly of cervix, vagina, and external female genitalia	Diagnosis	ICD-9-CM	Genital Malformations
752.41	Embryonic cyst of cervix, vagina, and external female genitalia	Diagnosis	ICD-9-CM	Genital Malformations
752.42	Imperforate hymen	Diagnosis	ICD-9-CM	Genital Malformations
752.43	Cervical agenesis	Diagnosis	ICD-9-CM	Genital Malformations
752.44	Cervical duplication	Diagnosis	ICD-9-CM	Genital Malformations
752.45	Vaginal agenesis	Diagnosis	ICD-9-CM	Genital Malformations
752.46	Transverse vaginal septum	Diagnosis	ICD-9-CM	Genital Malformations
752.47	Longitudinal vaginal septum	Diagnosis	ICD-9-CM	Genital Malformations
752.49	Other congenital anomaly of cervix, vagina, and external female genitalia	Diagnosis	ICD-9-CM	Genital Malformations
752.5	Undescended and retractile testicle	Diagnosis	ICD-9-CM	Genital Malformations
752.51	Undescended testis	Diagnosis	ICD-9-CM	Genital Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
752.52	Retractile testis	Diagnosis	ICD-9-CM	Genital Malformations
752.6	Hypospadias and epispadias and other penile anomalies	Diagnosis	ICD-9-CM	Genital Malformations
752.61	Hypospadias	Diagnosis	ICD-9-CM	Genital Malformations
752.62	Epispadias	Diagnosis	ICD-9-CM	Genital Malformations
752.63	Congenital chordee	Diagnosis	ICD-9-CM	Genital Malformations
752.64	Micropenis	Diagnosis	ICD-9-CM	Genital Malformations
752.65	Hidden penis	Diagnosis	ICD-9-CM	Genital Malformations
752.69	Other penile anomalies	Diagnosis	ICD-9-CM	Genital Malformations
752.7	Indeterminate sex and pseudohermaphroditism	Diagnosis	ICD-9-CM	Genital Malformations
752.8	Other specified congenital anomalies of genital organs	Diagnosis	ICD-9-CM	Genital Malformations
752.81	Scrotal transposition	Diagnosis	ICD-9-CM	Genital Malformations
752.89	Other specified anomalies of genital organs	Diagnosis	ICD-9-CM	Genital Malformations
752.9	Unspecified congenital anomaly of genital organs	Diagnosis	ICD-9-CM	Genital Malformations
753	Congenital anomalies of urinary system	Diagnosis	ICD-9-CM	Urinary Malformations
753.0	Congenital renal agenesis and dysgenesis	Diagnosis	ICD-9-CM	Urinary Malformations
753.1	Congenital cystic kidney disease	Diagnosis	ICD-9-CM	Urinary Malformations
753.10	Unspecified congenital cystic kidney disease	Diagnosis	ICD-9-CM	Urinary Malformations
753.11	Congenital single renal cyst	Diagnosis	ICD-9-CM	Urinary Malformations
753.12	Congenital polycystic kidney, unspecified type	Diagnosis	ICD-9-CM	Urinary Malformations
753.13	Congenital polycystic kidney, autosomal dominant	Diagnosis	ICD-9-CM	Urinary Malformations
753.14	Congenital polycystic kidney, autosomal recessive	Diagnosis	ICD-9-CM	Urinary Malformations
753.15	Congenital renal dysplasia	Diagnosis	ICD-9-CM	Urinary Malformations
753.16	Congenital medullary cystic kidney	Diagnosis	ICD-9-CM	Urinary Malformations
753.17	Congenital medullary sponge kidney	Diagnosis	ICD-9-CM	Urinary Malformations
753.19	Other specified congenital cystic kidney disease	Diagnosis	ICD-9-CM	Urinary Malformations
753.2	Congenital obstructive defects of renal pelvis and ureter	Diagnosis	ICD-9-CM	Urinary Malformations
753.20	Unspecified obstructive defect of renal pelvis and ureter	Diagnosis	ICD-9-CM	Urinary Malformations
753.21	Congenital obstruction of ureteropelvic junction	Diagnosis	ICD-9-CM	Urinary Malformations
753.22	Congenital obstruction of ureterovesical junction	Diagnosis	ICD-9-CM	Urinary Malformations
753.23	Congenital ureterocele	Diagnosis	ICD-9-CM	Urinary Malformations
753.29	Other obstructive defect of renal pelvis and ureter	Diagnosis	ICD-9-CM	Urinary Malformations
753.3	Other specified congenital anomalies of kidney	Diagnosis	ICD-9-CM	Urinary Malformations

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Code	Description	Code Category	Code Type	Malformation
753.4	Other specified congenital anomalies of ureter	Diagnosis	ICD-9-CM	Urinary Malformations
753.5	Exstrophy of urinary bladder	Diagnosis	ICD-9-CM	Urinary Malformations
753.6	Congenital atresia and stenosis of urethra and bladder neck	Diagnosis	ICD-9-CM	Urinary Malformations
753.7	Congenital anomalies of urachus	Diagnosis	ICD-9-CM	Urinary Malformations
753.8	Other specified congenital anomaly of bladder and urethra	Diagnosis	ICD-9-CM	Urinary Malformations
753.9	Unspecified congenital anomaly of urinary system	Diagnosis	ICD-9-CM	Urinary Malformations
754	Certain congenital musculoskeletal deformities	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.0	Congenital musculoskeletal deformities of skull, face, and jaw	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.1	Congenital musculoskeletal deformity of sternocleidomastoid muscle	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.2	Congenital musculoskeletal deformity of spine	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.3	Congenital dislocation of hip	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.30	Congenital dislocation of hip, unilateral	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.31	Congenital dislocation of hip, bilateral	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.32	Congenital subluxation of hip, unilateral	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.33	Congenital subluxation of hip, bilateral	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.35	Congenital dislocation of one hip with subluxation of other hip	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.4	Congenital genu recurvatum and bowing of long bones of leg	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.40	Congenital genu recurvatum	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.41	Congenital dislocation of knee (with genu recurvatum)	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.42	Congenital bowing of femur	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.43	Congenital bowing of tibia and fibula	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.44	Congenital bowing of unspecified long bones of leg	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.5	Congenital varus deformities of feet	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.50	Congenital talipes varus	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.51	Congenital talipes equinovarus	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.52	Congenital metatarsus primus varus	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.53	Congenital metatarsus varus	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.59	Other congenital varus deformity of feet	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.6	Congenital valgus deformities of feet	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.60	Congenital talipes valgus	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.61	Congenital pes planus	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.62	Talipes calcaneovalgus	Diagnosis	ICD-9-CM	Musculoskeletal Malformations

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Code	Description	Code Category	Code Type	Malformation
754.69	Other congenital valgus deformity of feet	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.7	Other congenital deformity of feet	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.70	Unspecified talipes	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.71	Talipes cavus	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.79	Other congenital deformity of feet	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.8	Other specified nonteratogenic anomalies	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.81	Pectus excavatum	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.82	Pectus carinatum	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.89	Other specified nonteratogenic anomalies	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
755	Other congenital anomalies of limbs	Diagnosis	ICD-9-CM	Limb Defects
755.0	Polydactyly	Diagnosis	ICD-9-CM	Limb Defects
755.00	Polydactyly, unspecified digits	Diagnosis	ICD-9-CM	Limb Defects
755.01	Polydactyly of fingers	Diagnosis	ICD-9-CM	Limb Defects
755.02	Polydactyly of toes	Diagnosis	ICD-9-CM	Limb Defects
755.1	Syndactyly	Diagnosis	ICD-9-CM	Limb Defects
755.10	Syndactyly of multiple and unspecified sites	Diagnosis	ICD-9-CM	Limb Defects
755.11	Syndactyly of fingers without fusion of bone	Diagnosis	ICD-9-CM	Limb Defects
755.12	Syndactyly of fingers with fusion of bone	Diagnosis	ICD-9-CM	Limb Defects
755.13	Syndactyly of toes without fusion of bone	Diagnosis	ICD-9-CM	Limb Defects
755.14	Syndactyly of toes with fusion of bone	Diagnosis	ICD-9-CM	Limb Defects
755.2	Congenital reduction deformities of upper limb	Diagnosis	ICD-9-CM	Limb Defects
755.20	Congenital unspecified reduction deformity of upper limb	Diagnosis	ICD-9-CM	Limb Defects
755.21	Congenital transverse deficiency of upper limb	Diagnosis	ICD-9-CM	Limb Defects
755.22	Congenital longitudinal deficiency of upper limb, not elsewhere classified	Diagnosis	ICD-9-CM	Limb Defects
755.23	Congenital longitudinal deficiency, combined, involving humerus, radius, and ulna (complete or incomplete)	Diagnosis	ICD-9-CM	Limb Defects
755.24	Congenital longitudinal deficiency, humeral, complete or partial (with or without distal deficiencies, incomplete)	Diagnosis	ICD-9-CM	Limb Defects
755.25	Congenital longitudinal deficiency, radioulnar, complete or partial (with or without distal deficiencies, incomplete)	Diagnosis	ICD-9-CM	Limb Defects
755.26	Congenital longitudinal deficiency, radial, complete or partial (with or without distal deficiencies, incomplete)	Diagnosis	ICD-9-CM	Limb Defects

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Code	Description	Code Category	Code Type	Malformation
755.27	Congenital longitudinal deficiency, ulnar, complete or partial (with or without distal deficiencies, incomplete)	Diagnosis	ICD-9-CM	Limb Defects
755.28	Congenital longitudinal deficiency, carpals or metacarpals, complete or partial (with or without incomplete phalangeal deficiency)	Diagnosis	ICD-9-CM	Limb Defects
755.29	Congenital longitudinal deficiency, phalanges, complete or partial	Diagnosis	ICD-9-CM	Limb Defects
755.3	Congenital reduction deformities of lower limb	Diagnosis	ICD-9-CM	Limb Defects
755.30	Congenital unspecified reduction deformity of lower limb	Diagnosis	ICD-9-CM	Limb Defects
755.31	Congenital transverse deficiency of lower limb	Diagnosis	ICD-9-CM	Limb Defects
755.32	Congenital longitudinal deficiency of lower limb, not elsewhere classified	Diagnosis	ICD-9-CM	Limb Defects
755.33	Congenital longitudinal deficiency, combined, involving femur, tibia, and fibula (complete or incomplete)	Diagnosis	ICD-9-CM	Limb Defects
755.34	Congenital longitudinal deficiency, femoral, complete or partial (with or without distal deficiencies, incomplete)	Diagnosis	ICD-9-CM	Limb Defects
755.35	Congenital longitudinal deficiency, tibiofibular, complete or partial (with or without distal deficiencies, incomplete)	Diagnosis	ICD-9-CM	Limb Defects
755.36	Congenital longitudinal deficiency, tibia, complete or partial (with or without distal deficiencies, incomplete)	Diagnosis	ICD-9-CM	Limb Defects
755.37	Congenital longitudinal deficiency, fibular, complete or partial (with or without distal deficiencies, incomplete)	Diagnosis	ICD-9-CM	Limb Defects
755.38	Congenital longitudinal deficiency, tarsals or metatarsals, complete or partial (with or without incomplete phalangeal deficiency)	Diagnosis	ICD-9-CM	Limb Defects
755.39	Congenital longitudinal deficiency, phalanges, complete or partial	Diagnosis	ICD-9-CM	Limb Defects
755.4	Congenital reduction deformities, unspecified limb	Diagnosis	ICD-9-CM	Limb Defects
755.5	Other congenital anomalies of upper limb, including shoulder girdle	Diagnosis	ICD-9-CM	Limb Defects
755.50	Unspecified congenital anomaly of upper limb	Diagnosis	ICD-9-CM	Limb Defects
755.51	Congenital deformity of clavicle	Diagnosis	ICD-9-CM	Limb Defects
755.52	Congenital elevation of scapula	Diagnosis	ICD-9-CM	Limb Defects
755.53	Radioulnar synostosis	Diagnosis	ICD-9-CM	Limb Defects
755.54	Madelung's deformity	Diagnosis	ICD-9-CM	Limb Defects
755.55	Acrocephalosyndactyly	Diagnosis	ICD-9-CM	Limb Defects
755.56	Accessory carpal bones	Diagnosis	ICD-9-CM	Limb Defects
755.57	Macrodactylia (fingers)	Diagnosis	ICD-9-CM	Limb Defects

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Code	Description	Code Category	Code Type	Malformation
755.58	Congenital cleft hand	Diagnosis	ICD-9-CM	Limb Defects
755.59	Other congenital anomaly of upper limb, including shoulder girdle	Diagnosis	ICD-9-CM	Limb Defects
755.6	Other congenital anomaly of lower limb, including pelvic girdle	Diagnosis	ICD-9-CM	Limb Defects
755.60	Unspecified congenital anomaly of lower limb	Diagnosis	ICD-9-CM	Limb Defects
755.61	Congenital coxa valga	Diagnosis	ICD-9-CM	Limb Defects
755.62	Congenital coxa vara	Diagnosis	ICD-9-CM	Limb Defects
755.63	Other congenital deformity of hip (joint)	Diagnosis	ICD-9-CM	Limb Defects
755.64	Congenital deformity of knee (joint)	Diagnosis	ICD-9-CM	Limb Defects
755.65	Macrodactylia of toes	Diagnosis	ICD-9-CM	Limb Defects
755.66	Other congenital anomaly of toes	Diagnosis	ICD-9-CM	Limb Defects
755.67	Congenital anomalies of foot, not elsewhere classified	Diagnosis	ICD-9-CM	Limb Defects
755.69	Other congenital anomaly of lower limb, including pelvic girdle	Diagnosis	ICD-9-CM	Limb Defects
755.8	Other specified congenital anomalies of unspecified limb	Diagnosis	ICD-9-CM	Limb Defects
755.9	Unspecified congenital anomaly of unspecified limb	Diagnosis	ICD-9-CM	Limb Defects
756	Other congenital musculoskeletal anomalies	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.0	Congenital anomalies of skull and face bones	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.1	Congenital anomalies of spine	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.10	Congenital anomaly of spine, unspecified	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.11	Congenital spondylolysis, lumbosacral region	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.12	Congenital spondylolisthesis	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.13	Congenital absence of vertebra	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.14	Hemivertebra	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.15	Congenital fusion of spine (vertebra)	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.16	Klippel-Feil syndrome	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.17	Spina bifida occulta	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.19	Other congenital anomaly of spine	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.2	Cervical rib	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.3	Other congenital anomaly of ribs and sternum	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.4	Chondrodystrophy	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.5	Congenital osteodystrophies	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.50	Unspecified congenital osteodystrophy	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.51	Osteogenesis imperfecta	Diagnosis	ICD-9-CM	Musculoskeletal Malformations

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Code	Description	Code Category	Code Type	Malformation
756.52	Osteopetrosis	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.53	Osteopoikilosis	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.54	Polyostotic fibrous dysplasia of bone	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.55	Chondroectodermal dysplasia	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.56	Multiple epiphyseal dysplasia	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.59	Other congenital osteodystrophy	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.6	Congenital anomaly of diaphragm	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.7	Congenital anomaly of abdominal wall	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.70	Unspecified congenital anomaly of abdominal wall	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.71	Prune belly syndrome	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.72	Omphalocele	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.73	Gastroschisis	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.79	Other congenital anomalies of abdominal wall	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.8	Other specified congenital anomalies of muscle, tendon, fascia, and connective tissue	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.81	Congenital absence of muscle and tendon	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.82	Accessory muscle	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.83	Ehlers-Danlos syndrome	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.89	Other specified congenital anomaly of muscle, tendon, fascia, and connective tissue	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.9	Other and unspecified congenital anomaly of musculoskeletal system	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
757	Congenital anomalies of the integument	Diagnosis	ICD-9-CM	Other Malformations
757.0	Hereditary edema of legs	Diagnosis	ICD-9-CM	Other Malformations
757.1	Ichthyosis congenita	Diagnosis	ICD-9-CM	Other Malformations
757.2	Dermatoglyphic anomalies	Diagnosis	ICD-9-CM	Other Malformations
757.3	Other specified congenital anomalies of skin	Diagnosis	ICD-9-CM	Other Malformations
757.31	Congenital ectodermal dysplasia	Diagnosis	ICD-9-CM	Other Malformations
757.32	Congenital vascular hamartomas	Diagnosis	ICD-9-CM	Other Malformations
757.33	Congenital pigmentary anomaly of skin	Diagnosis	ICD-9-CM	Other Malformations
757.39	Other specified congenital anomaly of skin	Diagnosis	ICD-9-CM	Other Malformations
757.4	Specified congenital anomalies of hair	Diagnosis	ICD-9-CM	Other Malformations
757.5	Specified congenital anomalies of nails	Diagnosis	ICD-9-CM	Other Malformations
757.6	Specified congenital anomalies of breast	Diagnosis	ICD-9-CM	Other Malformations

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Code	Description	Code Category	Code Type	Malformation
757.8	Other specified congenital anomalies of the integument	Diagnosis	ICD-9-CM	Other Malformations
757.9	Unspecified congenital anomaly of the integument	Diagnosis	ICD-9-CM	Other Malformations
759	Other and unspecified congenital anomalies	Diagnosis	ICD-9-CM	Other Malformations
759.0	Congenital anomalies of spleen	Diagnosis	ICD-9-CM	Other Malformations
759.1	Congenital anomalies of adrenal gland	Diagnosis	ICD-9-CM	Other Malformations
759.2	Congenital anomalies of other endocrine glands	Diagnosis	ICD-9-CM	Other Malformations
759.3	Situs inversus	Diagnosis	ICD-9-CM	Other Malformations
759.4	Conjoined twins	Diagnosis	ICD-9-CM	Other Malformations
759.5	Tuberous sclerosis	Diagnosis	ICD-9-CM	Other Malformations
759.6	Other congenital hamartoses, not elsewhere classified	Diagnosis	ICD-9-CM	Other Malformations
759.7	Multiple congenital anomalies, so described	Diagnosis	ICD-9-CM	Other Malformations
759.8	Other specified anomalies	Diagnosis	ICD-9-CM	Other Malformations
759.81	Prader-Willi syndrome	Diagnosis	ICD-9-CM	Other Malformations
759.82	Marfan's syndrome	Diagnosis	ICD-9-CM	Other Malformations
759.83	Fragile X syndrome	Diagnosis	ICD-9-CM	Other Malformations
759.89	Other specified multiple congenital anomalies, so described	Diagnosis	ICD-9-CM	Other Malformations
759.9	Unspecified congenital anomaly	Diagnosis	ICD-9-CM	Other Malformations
76.2	Local excision or destruction of lesion of facial bone	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.43	Other reconstruction of mandible	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.5	Temporomandibular arthroplasty	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.62	Open osteoplasty (osteotomy) of mandibular ramus	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.63	Osteoplasty (osteotomy) of body of mandible	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.64	Other orthognathic surgery on mandible	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.68	Augmentation genioplasty	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.69	Other facial bone repair	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.91	Bone graft to facial bone	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.92	Insertion of synthetic implant in facial bone	Procedure	ICD-9-CM	Musculoskeletal Malformations
77.34	Other division of carpals and metacarpals	Procedure	ICD-9-CM	Limb Defects
77.35	Other division of femur	Procedure	ICD-9-CM	Limb Defects
77.89	Other partial ostectomy of other bone, except facial bones	Procedure	ICD-9-CM	Musculoskeletal Malformations
77.99	Total ostectomy of other bone, except facial bones	Procedure	ICD-9-CM	Musculoskeletal Malformations
78.41	Other repair or plastic operations on scapula, clavicle, and thorax (ribs and	Procedure	ICD-9-CM	Musculoskeletal Malformations

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Code	Description	Code Category	Code Type	Malformation
78.45	Other repair or plastic operations on femur	Procedure	ICD-9-CM	Limb Defects
78.49	Other repair or plastic operations on other bone, except facial bones	Procedure	ICD-9-CM	Musculoskeletal Malformations
78.77	Osteoclasia of tibia and fibula	Procedure	ICD-9-CM	Limb Defects
79.06	Closed reduction of fracture of tibia and fibula without internal fixation	Procedure	ICD-9-CM	Limb Defects
79.12	Closed reduction of fracture of radius and ulna with internal fixation	Procedure	ICD-9-CM	Limb Defects
79.31	Open reduction of fracture of humerus with internal fixation	Procedure	ICD-9-CM	Limb Defects
79.35	Open reduction of fracture of femur with internal fixation	Procedure	ICD-9-CM	Limb Defects
79.36	Open reduction of fracture of tibia and fibula with internal fixation	Procedure	ICD-9-CM	Limb Defects
80.14	Other arthrotomy of hand and finger	Procedure	ICD-9-CM	Limb Defects
80.15	Other arthrotomy of hip	Procedure	ICD-9-CM	Limb Defects
80.82	Other local excision or destruction of lesion of elbow joint	Procedure	ICD-9-CM	Limb Defects
80.84	Other local excision or destruction of lesion of joint of hand and finger	Procedure	ICD-9-CM	Limb Defects
80.86	Other local excision or destruction of lesion of knee joint	Procedure	ICD-9-CM	Limb Defects
81.02	Other cervical fusion of the anterior column, anterior technique	Procedure	ICD-9-CM	Musculoskeletal Malformations
81.05	Dorsal and dorsolumbar fusion of the posterior column, posterior technique	Procedure	ICD-9-CM	Musculoskeletal Malformations
81.07	Lumbar and lumbosacral fusion of the posterior column, posterior technique	Procedure	ICD-9-CM	Musculoskeletal Malformations
81.52	Partial hip replacement	Procedure	ICD-9-CM	Limb Defects
81.54	Total knee replacement	Procedure	ICD-9-CM	Limb Defects
83.11	Achillotenotomy	Procedure	ICD-9-CM	Limb Defects
83.12	Adductor tenotomy of hip	Procedure	ICD-9-CM	Musculoskeletal Malformations
83.13	Other tenotomy	Procedure	ICD-9-CM	Musculoskeletal Malformations
83.44	Other fasciectomy	Procedure	ICD-9-CM	Musculoskeletal Malformations
83.45	Other myectomy	Procedure	ICD-9-CM	Musculoskeletal Malformations
83.63	Rotator cuff repair	Procedure	ICD-9-CM	Musculoskeletal Malformations
83.82	Graft of muscle or fascia	Procedure	ICD-9-CM	Musculoskeletal Malformations
83.84	Release of clubfoot, not elsewhere classified	Procedure	ICD-9-CM	Limb Defects
83.85	Other change in muscle or tendon length	Procedure	ICD-9-CM	Musculoskeletal Malformations
84.01	Amputation and disarticulation of finger	Procedure	ICD-9-CM	Limb Defects
84.02	Amputation and disarticulation of thumb	Procedure	ICD-9-CM	Limb Defects
84.11	Amputation of toe	Procedure	ICD-9-CM	Limb Defects
86.21	Excision of pilonidal cyst or sinus	Procedure	ICD-9-CM	Other Malformations
86.26	Ligation of dermal appendage	Procedure	ICD-9-CM	Other Malformations

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Code	Description	Code Category	Code Type	Malformation
86.65	Heterograft to skin	Procedure	ICD-9-CM	Other Malformations
86.69	Other skin graft to other sites	Procedure	ICD-9-CM	Other Malformations
87.03	Computerized axial tomography of head	Procedure	ICD-9-CM	Central Nervous System Malformations
87.04	Other tomography of head	Procedure	ICD-9-CM	Central Nervous System Malformations
88.91	Magnetic resonance imaging of brain and brain stem	Procedure	ICD-9-CM	Central Nervous System Malformations
E78.71	Barth syndrome	Diagnosis	ICD-10-CM	Other Malformations
E78.72	Smith-Lemli-Opitz syndrome	Diagnosis	ICD-10-CM	Other Malformations
G90.1	Familial dysautonomia [Riley-Day]	Diagnosis	ICD-10-CM	Central Nervous System Malformations
P29.30	Pulmonary hypertension of newborn	Diagnosis	ICD-10-CM	Other Vascular Malformations
P29.38	Other persistent fetal circulation	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q00.0	Anencephaly	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q00.1	Craniorachischisis	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q00.2	Iniencephaly	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q01.0	Frontal encephalocele	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q01.1	Nasofrontal encephalocele	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q01.2	Occipital encephalocele	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q01.8	Encephalocele of other sites	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q01.9	Encephalocele, unspecified	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q02	Microcephaly	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q03.0	Malformations of aqueduct of Sylvius	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q03.1	Atresia of foramina of Magendie and Luschka	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q03.8	Other congenital hydrocephalus	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q03.9	Congenital hydrocephalus, unspecified	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q04.0	Congenital malformations of corpus callosum	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q04.1	Arhinencephaly	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q04.2	Holoprosencephaly	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q04.3	Other reduction deformities of brain	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q04.4	Septo-optic dysplasia of brain	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q04.5	Megalencephaly	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q04.6	Congenital cerebral cysts	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q04.8	Other specified congenital malformations of brain	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q04.9	Congenital malformation of brain, unspecified	Diagnosis	ICD-10-CM	Central Nervous System Malformations

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Code	Description	Code Category	Code Type	Malformation
Q05.0	Cervical spina bifida with hydrocephalus	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q05.1	Thoracic spina bifida with hydrocephalus	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q05.2	Lumbar spina bifida with hydrocephalus	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q05.3	Sacral spina bifida with hydrocephalus	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q05.4	Unspecified spina bifida with hydrocephalus	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q05.5	Cervical spina bifida without hydrocephalus	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q05.6	Thoracic spina bifida without hydrocephalus	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q05.7	Lumbar spina bifida without hydrocephalus	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q05.8	Sacral spina bifida without hydrocephalus	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q05.9	Spina bifida, unspecified	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q06.0	Amyelia	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q06.1	Hypoplasia and dysplasia of spinal cord	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q06.2	Diastematomyelia	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q06.3	Other congenital cauda equina malformations	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q06.4	Hydromyelia	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q06.8	Other specified congenital malformations of spinal cord	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q06.9	Congenital malformation of spinal cord, unspecified	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q07.00	Arnold-Chiari syndrome without spina bifida or hydrocephalus	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q07.01	Arnold-Chiari syndrome with spina bifida	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q07.02	Arnold-Chiari syndrome with hydrocephalus	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q07.03	Arnold-Chiari syndrome with spina bifida and hydrocephalus	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q07.8	Other specified congenital malformations of nervous system	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q07.9	Congenital malformation of nervous system, unspecified	Diagnosis	ICD-10-CM	Central Nervous System Malformations
Q10.0	Congenital ptosis	Diagnosis	ICD-10-CM	Eye Anomalies
Q10.1	Congenital ectropion	Diagnosis	ICD-10-CM	Eye Anomalies
Q10.2	Congenital entropion	Diagnosis	ICD-10-CM	Eye Anomalies
Q10.3	Other congenital malformations of eyelid	Diagnosis	ICD-10-CM	Eye Anomalies
Q10.4	Absence and agenesis of lacrimal apparatus	Diagnosis	ICD-10-CM	Eye Anomalies
Q10.5	Congenital stenosis and stricture of lacrimal duct	Diagnosis	ICD-10-CM	Eye Anomalies
Q10.6	Other congenital malformations of lacrimal apparatus	Diagnosis	ICD-10-CM	Eye Anomalies
Q10.7	Congenital malformation of orbit	Diagnosis	ICD-10-CM	Eye Anomalies
Q11.0	Cystic eyeball	Diagnosis	ICD-10-CM	Eye Anomalies

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Code	Description	Code Category	Code Type	Malformation
Q11.1	Other anophthalmos	Diagnosis	ICD-10-CM	Eye Anomalies
Q11.2	Microphthalmos	Diagnosis	ICD-10-CM	Eye Anomalies
Q11.3	Macrophthalmos	Diagnosis	ICD-10-CM	Eye Anomalies
Q12.0	Congenital cataract	Diagnosis	ICD-10-CM	Eye Anomalies
Q12.1	Congenital displaced lens	Diagnosis	ICD-10-CM	Eye Anomalies
Q12.2	Coloboma of lens	Diagnosis	ICD-10-CM	Eye Anomalies
Q12.3	Congenital aphakia	Diagnosis	ICD-10-CM	Eye Anomalies
Q12.4	Spherophakia	Diagnosis	ICD-10-CM	Eye Anomalies
Q12.8	Other congenital lens malformations	Diagnosis	ICD-10-CM	Eye Anomalies
Q12.9	Congenital lens malformation, unspecified	Diagnosis	ICD-10-CM	Eye Anomalies
Q13.0	Coloboma of iris	Diagnosis	ICD-10-CM	Eye Anomalies
Q13.1	Absence of iris	Diagnosis	ICD-10-CM	Eye Anomalies
Q13.2	Other congenital malformations of iris	Diagnosis	ICD-10-CM	Eye Anomalies
Q13.3	Congenital corneal opacity	Diagnosis	ICD-10-CM	Eye Anomalies
Q13.4	Other congenital corneal malformations	Diagnosis	ICD-10-CM	Eye Anomalies
Q13.5	Blue sclera	Diagnosis	ICD-10-CM	Eye Anomalies
Q13.81	Rieger's anomaly	Diagnosis	ICD-10-CM	Eye Anomalies
Q13.89	Other congenital malformations of anterior segment of eye	Diagnosis	ICD-10-CM	Eye Anomalies
Q13.9	Congenital malformation of anterior segment of eye, unspecified	Diagnosis	ICD-10-CM	Eye Anomalies
Q14.0	Congenital malformation of vitreous humor	Diagnosis	ICD-10-CM	Eye Anomalies
Q14.1	Congenital malformation of retina	Diagnosis	ICD-10-CM	Eye Anomalies
Q14.2	Congenital malformation of optic disc	Diagnosis	ICD-10-CM	Eye Anomalies
Q14.3	Congenital malformation of choroid	Diagnosis	ICD-10-CM	Eye Anomalies
Q14.8	Other congenital malformations of posterior segment of eye	Diagnosis	ICD-10-CM	Eye Anomalies
Q14.9	Congenital malformation of posterior segment of eye, unspecified	Diagnosis	ICD-10-CM	Eye Anomalies
Q15.0	Congenital glaucoma	Diagnosis	ICD-10-CM	Eye Anomalies
Q15.8	Other specified congenital malformations of eye	Diagnosis	ICD-10-CM	Eye Anomalies
Q15.9	Congenital malformation of eye, unspecified	Diagnosis	ICD-10-CM	Eye Anomalies
Q16.0	Congenital absence of (ear) auricle	Diagnosis	ICD-10-CM	Ear Anomalies
Q16.1	Congenital absence, atresia and stricture of auditory canal (external)	Diagnosis	ICD-10-CM	Ear Anomalies
Q16.2	Absence of eustachian tube	Diagnosis	ICD-10-CM	Ear Anomalies
Q16.3	Congenital malformation of ear ossicles	Diagnosis	ICD-10-CM	Ear Anomalies

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Code	Description	Code Category	Code Type	Malformation
Q16.4	Other congenital malformations of middle ear	Diagnosis	ICD-10-CM	Ear Anomalies
Q16.5	Congenital malformation of inner ear	Diagnosis	ICD-10-CM	Ear Anomalies
Q16.9	Congenital malformation of ear causing impairment of hearing, unspecified	Diagnosis	ICD-10-CM	Ear Anomalies
Q17.0	Accessory auricle	Diagnosis	ICD-10-CM	Ear Anomalies
Q17.1	Macrotia	Diagnosis	ICD-10-CM	Ear Anomalies
Q17.2	Microtia	Diagnosis	ICD-10-CM	Ear Anomalies
Q17.3	Other misshapen ear	Diagnosis	ICD-10-CM	Ear Anomalies
Q17.4	Misplaced ear	Diagnosis	ICD-10-CM	Ear Anomalies
Q17.5	Prominent ear	Diagnosis	ICD-10-CM	Ear Anomalies
Q17.8	Other specified congenital malformations of ear	Diagnosis	ICD-10-CM	Ear Anomalies
Q17.9	Congenital malformation of ear, unspecified	Diagnosis	ICD-10-CM	Ear Anomalies
Q18.0	Sinus, fistula and cyst of branchial cleft	Diagnosis	ICD-10-CM	Ear Anomalies
Q18.1	Preauricular sinus and cyst	Diagnosis	ICD-10-CM	Ear Anomalies
Q18.2	Other branchial cleft malformations	Diagnosis	ICD-10-CM	Ear Anomalies
Q18.3	Webbing of neck	Diagnosis	ICD-10-CM	Ear Anomalies
Q18.4	Macrostomia	Diagnosis	ICD-10-CM	Ear Anomalies
Q18.5	Microstomia	Diagnosis	ICD-10-CM	Ear Anomalies
Q18.6	Macrocheilia	Diagnosis	ICD-10-CM	Ear Anomalies
Q18.7	Microcheilia	Diagnosis	ICD-10-CM	Ear Anomalies
Q18.8	Other specified congenital malformations of face and neck	Diagnosis	ICD-10-CM	Ear Anomalies
Q18.9	Congenital malformation of face and neck, unspecified	Diagnosis	ICD-10-CM	Ear Anomalies
Q26.5	Anomalous portal venous connection	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q26.6	Portal vein-hepatic artery fistula	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q27.1	Congenital renal artery stenosis	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q27.2	Other congenital malformations of renal artery	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q27.30	Arteriovenous malformation, site unspecified	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q27.31	Arteriovenous malformation of vessel of upper limb	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q27.32	Arteriovenous malformation of vessel of lower limb	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q27.33	Arteriovenous malformation of digestive system vessel	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q27.34	Arteriovenous malformation of renal vessel	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q27.39	Arteriovenous malformation, other site	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q27.4	Congenital phlebectasia	Diagnosis	ICD-10-CM	Other Vascular Malformations

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Code	Description	Code Category	Code Type	Malformation
Q27.8	Other specified congenital malformations of peripheral vascular system	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q27.9	Congenital malformation of peripheral vascular system, unspecified	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q28.0	Arteriovenous malformation of precerebral vessels	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q28.1	Other malformations of precerebral vessels	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q28.2	Arteriovenous malformation of cerebral vessels	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q28.3	Other malformations of cerebral vessels	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q28.8	Other specified congenital malformations of circulatory system	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q28.9	Congenital malformation of circulatory system, unspecified	Diagnosis	ICD-10-CM	Other Vascular Malformations
Q30.0	Choanal atresia	Diagnosis	ICD-10-CM	Respiratory Malformations
Q30.1	Agenesis and underdevelopment of nose	Diagnosis	ICD-10-CM	Respiratory Malformations
Q30.2	Fissured, notched and cleft nose	Diagnosis	ICD-10-CM	Respiratory Malformations
Q30.3	Congenital perforated nasal septum	Diagnosis	ICD-10-CM	Respiratory Malformations
Q30.8	Other congenital malformations of nose	Diagnosis	ICD-10-CM	Respiratory Malformations
Q30.9	Congenital malformation of nose, unspecified	Diagnosis	ICD-10-CM	Respiratory Malformations
Q31.0	Web of larynx	Diagnosis	ICD-10-CM	Respiratory Malformations
Q31.1	Congenital subglottic stenosis	Diagnosis	ICD-10-CM	Respiratory Malformations
Q31.2	Laryngeal hypoplasia	Diagnosis	ICD-10-CM	Respiratory Malformations
Q31.3	Laryngocele	Diagnosis	ICD-10-CM	Respiratory Malformations
Q31.5	Congenital laryngomalacia	Diagnosis	ICD-10-CM	Respiratory Malformations
Q31.8	Other congenital malformations of larynx	Diagnosis	ICD-10-CM	Respiratory Malformations
Q31.9	Congenital malformation of larynx, unspecified	Diagnosis	ICD-10-CM	Respiratory Malformations
Q32.0	Congenital tracheomalacia	Diagnosis	ICD-10-CM	Respiratory Malformations
Q32.1	Other congenital malformations of trachea	Diagnosis	ICD-10-CM	Respiratory Malformations
Q32.2	Congenital bronchomalacia	Diagnosis	ICD-10-CM	Respiratory Malformations
Q32.3	Congenital stenosis of bronchus	Diagnosis	ICD-10-CM	Respiratory Malformations
Q32.4	Other congenital malformations of bronchus	Diagnosis	ICD-10-CM	Respiratory Malformations
Q33.0	Congenital cystic lung	Diagnosis	ICD-10-CM	Respiratory Malformations
Q33.1	Accessory lobe of lung	Diagnosis	ICD-10-CM	Respiratory Malformations
Q33.2	Sequestration of lung	Diagnosis	ICD-10-CM	Respiratory Malformations
Q33.3	Agenesis of lung	Diagnosis	ICD-10-CM	Respiratory Malformations
Q33.4	Congenital bronchiectasis	Diagnosis	ICD-10-CM	Respiratory Malformations
Q33.5	Ectopic tissue in lung	Diagnosis	ICD-10-CM	Respiratory Malformations

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Code	Description	Code Category	Code Type	Malformation
Q33.6	Congenital hypoplasia and dysplasia of lung	Diagnosis	ICD-10-CM	Respiratory Malformations
Q33.8	Other congenital malformations of lung	Diagnosis	ICD-10-CM	Respiratory Malformations
Q33.9	Congenital malformation of lung, unspecified	Diagnosis	ICD-10-CM	Respiratory Malformations
Q34.0	Anomaly of pleura	Diagnosis	ICD-10-CM	Respiratory Malformations
Q34.1	Congenital cyst of mediastinum	Diagnosis	ICD-10-CM	Respiratory Malformations
Q34.8	Other specified congenital malformations of respiratory system	Diagnosis	ICD-10-CM	Respiratory Malformations
Q34.9	Congenital malformation of respiratory system, unspecified	Diagnosis	ICD-10-CM	Respiratory Malformations
Q35.1	Cleft hard palate	Diagnosis	ICD-10-CM	Oral Clefts
Q35.3	Cleft soft palate	Diagnosis	ICD-10-CM	Oral Clefts
Q35.5	Cleft hard palate with cleft soft palate	Diagnosis	ICD-10-CM	Oral Clefts
Q35.7	Cleft uvula	Diagnosis	ICD-10-CM	Oral Clefts
Q35.9	Cleft palate, unspecified	Diagnosis	ICD-10-CM	Oral Clefts
Q36.0	Cleft lip, bilateral	Diagnosis	ICD-10-CM	Oral Clefts
Q36.1	Cleft lip, median	Diagnosis	ICD-10-CM	Oral Clefts
Q36.9	Cleft lip, unilateral	Diagnosis	ICD-10-CM	Oral Clefts
Q37.0	Cleft hard palate with bilateral cleft lip	Diagnosis	ICD-10-CM	Oral Clefts
Q37.1	Cleft hard palate with unilateral cleft lip	Diagnosis	ICD-10-CM	Oral Clefts
Q37.2	Cleft soft palate with bilateral cleft lip	Diagnosis	ICD-10-CM	Oral Clefts
Q37.3	Cleft soft palate with unilateral cleft lip	Diagnosis	ICD-10-CM	Oral Clefts
Q37.4	Cleft hard and soft palate with bilateral cleft lip	Diagnosis	ICD-10-CM	Oral Clefts
Q37.5	Cleft hard and soft palate with unilateral cleft lip	Diagnosis	ICD-10-CM	Oral Clefts
Q37.8	Unspecified cleft palate with bilateral cleft lip	Diagnosis	ICD-10-CM	Oral Clefts
Q37.9	Unspecified cleft palate with unilateral cleft lip	Diagnosis	ICD-10-CM	Oral Clefts
Q38.0	Congenital malformations of lips, not elsewhere classified	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q38.1	Ankyloglossia	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q38.2	Macroglossia	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q38.3	Other congenital malformations of tongue	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q38.4	Congenital malformations of salivary glands and ducts	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q38.5	Congenital malformations of palate, not elsewhere classified	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q38.6	Other congenital malformations of mouth	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q38.7	Congenital pharyngeal pouch	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q38.8	Other congenital malformations of pharynx	Diagnosis	ICD-10-CM	Gastrointestinal Malformations

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Code	Description	Code Category	Code Type	Malformation
Q39.0	Atresia of esophagus without fistula	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q39.1	Atresia of esophagus with tracheo-esophageal fistula	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q39.2	Congenital tracheo-esophageal fistula without atresia	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q39.3	Congenital stenosis and stricture of esophagus	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q39.4	Esophageal web	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q39.5	Congenital dilatation of esophagus	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q39.6	Congenital diverticulum of esophagus	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q39.8	Other congenital malformations of esophagus	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q39.9	Congenital malformation of esophagus, unspecified	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q40.0	Congenital hypertrophic pyloric stenosis	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q40.1	Congenital hiatus hernia	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q40.2	Other specified congenital malformations of stomach	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q40.3	Congenital malformation of stomach, unspecified	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q40.8	Other specified congenital malformations of upper alimentary tract	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q40.9	Congenital malformation of upper alimentary tract, unspecified	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q41.0	Congenital absence, atresia and stenosis of duodenum	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q41.1	Congenital absence, atresia and stenosis of jejunum	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q41.2	Congenital absence, atresia and stenosis of ileum	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q41.8	Congenital absence, atresia and stenosis of other specified parts of small intestine	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q41.9	Congenital absence, atresia and stenosis of small intestine, part unspecified	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q42.0	Congenital absence, atresia and stenosis of rectum with fistula	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q42.1	Congenital absence, atresia and stenosis of rectum without fistula	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q42.2	Congenital absence, atresia and stenosis of anus with fistula	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q42.3	Congenital absence, atresia and stenosis of anus without fistula	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q42.8	Congenital absence, atresia and stenosis of other parts of large intestine	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q42.9	Congenital absence, atresia and stenosis of large intestine, part unspecified	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q43.0	Meckel's diverticulum (displaced) (hypertrophic)	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q43.1	Hirschsprung's disease	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q43.2	Other congenital functional disorders of colon	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q43.3	Congenital malformations of intestinal fixation	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q43.4	Duplication of intestine	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q43.5	Ectopic anus	Diagnosis	ICD-10-CM	Gastrointestinal Malformations

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Code	Description	Code Category	Code Type	Malformation
Q43.6	Congenital fistula of rectum and anus	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q43.7	Persistent cloaca	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q43.8	Other specified congenital malformations of intestine	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q43.9	Congenital malformation of intestine, unspecified	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q44.0	Agenesis, aplasia and hypoplasia of gallbladder	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q44.1	Other congenital malformations of gallbladder	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q44.2	Atresia of bile ducts	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q44.3	Congenital stenosis and stricture of bile ducts	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q44.4	Choledochal cyst	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q44.5	Other congenital malformations of bile ducts	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q44.6	Cystic disease of liver	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q44.7	Other congenital malformations of liver	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q45.0	Agenesis, aplasia and hypoplasia of pancreas	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q45.1	Annular pancreas	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q45.2	Congenital pancreatic cyst	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q45.3	Other congenital malformations of pancreas and pancreatic duct	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q45.8	Other specified congenital malformations of digestive system	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q45.9	Congenital malformation of digestive system, unspecified	Diagnosis	ICD-10-CM	Gastrointestinal Malformations
Q50.01	Congenital absence of ovary, unilateral	Diagnosis	ICD-10-CM	Genital Malformations
Q50.02	Congenital absence of ovary, bilateral	Diagnosis	ICD-10-CM	Genital Malformations
Q50.1	Developmental ovarian cyst	Diagnosis	ICD-10-CM	Genital Malformations
Q50.2	Congenital torsion of ovary	Diagnosis	ICD-10-CM	Genital Malformations
Q50.31	Accessory ovary	Diagnosis	ICD-10-CM	Genital Malformations
Q50.32	Ovarian streak	Diagnosis	ICD-10-CM	Genital Malformations
Q50.39	Other congenital malformation of ovary	Diagnosis	ICD-10-CM	Genital Malformations
Q50.4	Embryonic cyst of fallopian tube	Diagnosis	ICD-10-CM	Genital Malformations
Q50.5	Embryonic cyst of broad ligament	Diagnosis	ICD-10-CM	Genital Malformations
Q50.6	Other congenital malformations of fallopian tube and broad ligament	Diagnosis	ICD-10-CM	Genital Malformations
Q51.0	Agenesis and aplasia of uterus	Diagnosis	ICD-10-CM	Genital Malformations
Q51.10	Doubling of uterus with doubling of cervix and vagina without obstruction	Diagnosis	ICD-10-CM	Genital Malformations
Q51.11	Doubling of uterus with doubling of cervix and vagina with obstruction	Diagnosis	ICD-10-CM	Genital Malformations
Q51.2	Other doubling of uterus	Diagnosis	ICD-10-CM	Genital Malformations

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Code	Description	Code Category	Code Type	Malformation
Q51.3	Bicornate uterus	Diagnosis	ICD-10-CM	Genital Malformations
Q51.4	Unicornate uterus	Diagnosis	ICD-10-CM	Genital Malformations
Q51.5	Agenesis and aplasia of cervix	Diagnosis	ICD-10-CM	Genital Malformations
Q51.6	Embryonic cyst of cervix	Diagnosis	ICD-10-CM	Genital Malformations
Q51.7	Congenital fistulae between uterus and digestive and urinary tracts	Diagnosis	ICD-10-CM	Genital Malformations
Q51.810	Arcuate uterus	Diagnosis	ICD-10-CM	Genital Malformations
Q51.811	Hypoplasia of uterus	Diagnosis	ICD-10-CM	Genital Malformations
Q51.818	Other congenital malformations of uterus	Diagnosis	ICD-10-CM	Genital Malformations
Q51.820	Cervical duplication	Diagnosis	ICD-10-CM	Genital Malformations
Q51.821	Hypoplasia of cervix	Diagnosis	ICD-10-CM	Genital Malformations
Q51.828	Other congenital malformations of cervix	Diagnosis	ICD-10-CM	Genital Malformations
Q51.9	Congenital malformation of uterus and cervix, unspecified	Diagnosis	ICD-10-CM	Genital Malformations
Q52.0	Congenital absence of vagina	Diagnosis	ICD-10-CM	Genital Malformations
Q52.10	Doubling of vagina, unspecified	Diagnosis	ICD-10-CM	Genital Malformations
Q52.11	Transverse vaginal septum	Diagnosis	ICD-10-CM	Genital Malformations
Q52.120	Longitudinal vaginal septum, nonobstructing	Diagnosis	ICD-10-CM	Genital Malformations
Q52.121	Longitudinal vaginal septum, obstructing, right side	Diagnosis	ICD-10-CM	Genital Malformations
Q52.122	Longitudinal vaginal septum, obstructing, left side	Diagnosis	ICD-10-CM	Genital Malformations
Q52.123	Longitudinal vaginal septum, microperforate, right side	Diagnosis	ICD-10-CM	Genital Malformations
Q52.124	Longitudinal vaginal septum, microperforate, left side	Diagnosis	ICD-10-CM	Genital Malformations
Q52.129	Other and unspecified longitudinal vaginal septum	Diagnosis	ICD-10-CM	Genital Malformations
Q52.2	Congenital rectovaginal fistula	Diagnosis	ICD-10-CM	Genital Malformations
Q52.3	Imperforate hymen	Diagnosis	ICD-10-CM	Genital Malformations
Q52.4	Other congenital malformations of vagina	Diagnosis	ICD-10-CM	Genital Malformations
Q52.5	Fusion of labia	Diagnosis	ICD-10-CM	Genital Malformations
Q52.6	Congenital malformation of clitoris	Diagnosis	ICD-10-CM	Genital Malformations
Q52.70	Unspecified congenital malformations of vulva	Diagnosis	ICD-10-CM	Genital Malformations
Q52.71	Congenital absence of vulva	Diagnosis	ICD-10-CM	Genital Malformations
Q52.79	Other congenital malformations of vulva	Diagnosis	ICD-10-CM	Genital Malformations
Q52.8	Other specified congenital malformations of female genitalia	Diagnosis	ICD-10-CM	Genital Malformations
Q52.9	Congenital malformation of female genitalia, unspecified	Diagnosis	ICD-10-CM	Genital Malformations
Q53.00	Ectopic testis, unspecified	Diagnosis	ICD-10-CM	Genital Malformations

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Code	Description	Code Category	Code Type	Malformation
Q53.01	Ectopic testis, unilateral	Diagnosis	ICD-10-CM	Genital Malformations
Q53.02	Ectopic testes, bilateral	Diagnosis	ICD-10-CM	Genital Malformations
Q53.10	Unspecified undescended testicle, unilateral	Diagnosis	ICD-10-CM	Genital Malformations
Q53.111	Unilateral intraabdominal testis	Diagnosis	ICD-10-CM	Genital Malformations
Q53.112	Unilateral inguinal testis	Diagnosis	ICD-10-CM	Genital Malformations
Q53.12	Ectopic perineal testis, unilateral	Diagnosis	ICD-10-CM	Genital Malformations
Q53.13	Unilateral high scrotal testis	Diagnosis	ICD-10-CM	Genital Malformations
Q53.20	Undescended testicle, unspecified, bilateral	Diagnosis	ICD-10-CM	Genital Malformations
Q53.211	Bilateral intraabdominal testes	Diagnosis	ICD-10-CM	Genital Malformations
Q53.212	Bilateral inguinal testes	Diagnosis	ICD-10-CM	Genital Malformations
Q53.22	Ectopic perineal testis, bilateral	Diagnosis	ICD-10-CM	Genital Malformations
Q53.23	Bilateral high scrotal testes	Diagnosis	ICD-10-CM	Genital Malformations
Q53.9	Undescended testicle, unspecified	Diagnosis	ICD-10-CM	Genital Malformations
Q54.0	Hypospadias, balanic	Diagnosis	ICD-10-CM	Genital Malformations
Q54.1	Hypospadias, penile	Diagnosis	ICD-10-CM	Genital Malformations
Q54.2	Hypospadias, penoscrotal	Diagnosis	ICD-10-CM	Genital Malformations
Q54.3	Hypospadias, perineal	Diagnosis	ICD-10-CM	Genital Malformations
Q54.4	Congenital chordee	Diagnosis	ICD-10-CM	Genital Malformations
Q54.8	Other hypospadias	Diagnosis	ICD-10-CM	Genital Malformations
Q54.9	Hypospadias, unspecified	Diagnosis	ICD-10-CM	Genital Malformations
Q55.0	Absence and aplasia of testis	Diagnosis	ICD-10-CM	Genital Malformations
Q55.1	Hypoplasia of testis and scrotum	Diagnosis	ICD-10-CM	Genital Malformations
Q55.20	Unspecified congenital malformations of testis and scrotum	Diagnosis	ICD-10-CM	Genital Malformations
Q55.21	Polyorchism	Diagnosis	ICD-10-CM	Genital Malformations
Q55.22	Retractile testis	Diagnosis	ICD-10-CM	Genital Malformations
Q55.23	Scrotal transposition	Diagnosis	ICD-10-CM	Genital Malformations
Q55.29	Other congenital malformations of testis and scrotum	Diagnosis	ICD-10-CM	Genital Malformations
Q55.3	Atresia of vas deferens	Diagnosis	ICD-10-CM	Genital Malformations
Q55.4	Other congenital malformations of vas deferens, epididymis, seminal vesicles and prostate	Diagnosis	ICD-10-CM	Genital Malformations
Q55.5	Congenital absence and aplasia of penis	Diagnosis	ICD-10-CM	Genital Malformations
Q55.61	Curvature of penis (lateral)	Diagnosis	ICD-10-CM	Genital Malformations

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Code	Description	Code Category	Code Type	Malformation
Q55.62	Hypoplasia of penis	Diagnosis	ICD-10-CM	Genital Malformations
Q55.63	Congenital torsion of penis	Diagnosis	ICD-10-CM	Genital Malformations
Q55.64	Hidden penis	Diagnosis	ICD-10-CM	Genital Malformations
Q55.69	Other congenital malformation of penis	Diagnosis	ICD-10-CM	Genital Malformations
Q55.7	Congenital vasocutaneous fistula	Diagnosis	ICD-10-CM	Genital Malformations
Q55.8	Other specified congenital malformations of male genital organs	Diagnosis	ICD-10-CM	Genital Malformations
Q55.9	Congenital malformation of male genital organ, unspecified	Diagnosis	ICD-10-CM	Genital Malformations
Q56.0	Hermaphroditism, not elsewhere classified	Diagnosis	ICD-10-CM	Genital Malformations
Q56.1	Male pseudohermaphroditism, not elsewhere classified	Diagnosis	ICD-10-CM	Genital Malformations
Q56.2	Female pseudohermaphroditism, not elsewhere classified	Diagnosis	ICD-10-CM	Genital Malformations
Q56.3	Pseudohermaphroditism, unspecified	Diagnosis	ICD-10-CM	Genital Malformations
Q56.4	Indeterminate sex, unspecified	Diagnosis	ICD-10-CM	Genital Malformations
Q60.0	Renal agenesis, unilateral	Diagnosis	ICD-10-CM	Urinary Malformations
Q60.1	Renal agenesis, bilateral	Diagnosis	ICD-10-CM	Urinary Malformations
Q60.2	Renal agenesis, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q60.3	Renal hypoplasia, unilateral	Diagnosis	ICD-10-CM	Urinary Malformations
Q60.4	Renal hypoplasia, bilateral	Diagnosis	ICD-10-CM	Urinary Malformations
Q60.5	Renal hypoplasia, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q60.6	Potter's syndrome	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.00	Congenital renal cyst, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.01	Congenital single renal cyst	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.02	Congenital multiple renal cysts	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.11	Cystic dilatation of collecting ducts	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.19	Other polycystic kidney, infantile type	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.2	Polycystic kidney, adult type	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.3	Polycystic kidney, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.4	Renal dysplasia	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.5	Medullary cystic kidney	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.8	Other cystic kidney diseases	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.9	Cystic kidney disease, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.0	Congenital hydronephrosis	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.10	Congenital occlusion of ureter, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations

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Code	Description	Code Category	Code Type	Malformation
Q62.11	Congenital occlusion of ureteropelvic junction	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.12	Congenital occlusion of ureterovesical orifice	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.2	Congenital megaureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.31	Congenital ureterocele, orthotopic	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.32	Cecoureterocele	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.39	Other obstructive defects of renal pelvis and ureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.4	Agenesis of ureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.5	Duplication of ureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.60	Malposition of ureter, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.61	Deviation of ureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.62	Displacement of ureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.63	Anomalous implantation of ureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.69	Other malposition of ureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.7	Congenital vesico-uretero-renal reflux	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.8	Other congenital malformations of ureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q63.0	Accessory kidney	Diagnosis	ICD-10-CM	Urinary Malformations
Q63.1	Lobulated, fused and horseshoe kidney	Diagnosis	ICD-10-CM	Urinary Malformations
Q63.2	Ectopic kidney	Diagnosis	ICD-10-CM	Urinary Malformations
Q63.3	Hyperplastic and giant kidney	Diagnosis	ICD-10-CM	Urinary Malformations
Q63.8	Other specified congenital malformations of kidney	Diagnosis	ICD-10-CM	Urinary Malformations
Q63.9	Congenital malformation of kidney, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.0	Epispadias	Diagnosis	ICD-10-CM	Genital Malformations
Q64.10	Exstrophy of urinary bladder, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.11	Supravesical fissure of urinary bladder	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.12	Cloacal exstrophy of urinary bladder	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.19	Other exstrophy of urinary bladder	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.2	Congenital posterior urethral valves	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.31	Congenital bladder neck obstruction	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.32	Congenital stricture of urethra	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.33	Congenital stricture of urinary meatus	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.39	Other atresia and stenosis of urethra and bladder neck	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.4	Malformation of urachus	Diagnosis	ICD-10-CM	Urinary Malformations

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Code	Description	Code Category	Code Type	Malformation
Q64.5	Congenital absence of bladder and urethra	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.6	Congenital diverticulum of bladder	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.70	Unspecified congenital malformation of bladder and urethra	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.71	Congenital prolapse of urethra	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.72	Congenital prolapse of urinary meatus	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.73	Congenital urethrorectal fistula	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.74	Double urethra	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.75	Double urinary meatus	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.79	Other congenital malformations of bladder and urethra	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.8	Other specified congenital malformations of urinary system	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.9	Congenital malformation of urinary system, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q65.00	Congenital dislocation of unspecified hip, unilateral	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.01	Congenital dislocation of right hip, unilateral	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.02	Congenital dislocation of left hip, unilateral	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.1	Congenital dislocation of hip, bilateral	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.2	Congenital dislocation of hip, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.30	Congenital partial dislocation of unspecified hip, unilateral	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.31	Congenital partial dislocation of right hip, unilateral	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.32	Congenital partial dislocation of left hip, unilateral	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.4	Congenital partial dislocation of hip, bilateral	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.5	Congenital partial dislocation of hip, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.6	Congenital unstable hip	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.81	Congenital coxa valga	Diagnosis	ICD-10-CM	Limb Defects
Q65.82	Congenital coxa vara	Diagnosis	ICD-10-CM	Limb Defects
Q65.89	Other specified congenital deformities of hip	Diagnosis	ICD-10-CM	Limb Defects
Q65.9	Congenital deformity of hip, unspecified	Diagnosis	ICD-10-CM	Limb Defects
Q66.0	Congenital talipes equinovarus	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.1	Congenital talipes calcaneovarus	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.21	Congenital metatarsus primus varus	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.22	Congenital metatarsus adductus	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.3	Other congenital varus deformities of feet	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.4	Congenital talipes calcaneovalgus	Diagnosis	ICD-10-CM	Musculoskeletal Malformations

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Code	Description	Code Category	Code Type	Malformation
Q66.50	Congenital pes planus, unspecified foot	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.51	Congenital pes planus, right foot	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.52	Congenital pes planus, left foot	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.6	Other congenital valgus deformities of feet	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.7	Congenital pes cavus	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.80	Congenital vertical talus deformity, unspecified foot	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.81	Congenital vertical talus deformity, right foot	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.82	Congenital vertical talus deformity, left foot	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.89	Other specified congenital deformities of feet	Diagnosis	ICD-10-CM	Limb Defects
Q66.9	Congenital deformity of feet, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.0	Congenital facial asymmetry	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.1	Congenital compression facies	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.2	Dolichocephaly	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.3	Plagiocephaly	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.4	Other congenital deformities of skull, face and jaw	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.5	Congenital deformity of spine	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.6	Pectus excavatum	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.7	Pectus carinatum	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.8	Other congenital deformities of chest	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q68.0	Congenital deformity of sternocleidomastoid muscle	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q68.1	Congenital deformity of finger(s) and hand	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q68.2	Congenital deformity of knee	Diagnosis	ICD-10-CM	Limb Defects
Q68.3	Congenital bowing of femur	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q68.4	Congenital bowing of tibia and fibula	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q68.5	Congenital bowing of long bones of leg, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q68.8	Other specified congenital musculoskeletal deformities	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q69.0	Accessory finger(s)	Diagnosis	ICD-10-CM	Limb Defects
Q69.1	Accessory thumb(s)	Diagnosis	ICD-10-CM	Limb Defects
Q69.2	Accessory toe(s)	Diagnosis	ICD-10-CM	Limb Defects
Q69.9	Polydactyly, unspecified	Diagnosis	ICD-10-CM	Limb Defects
Q70.00	Fused fingers, unspecified hand	Diagnosis	ICD-10-CM	Limb Defects
Q70.01	Fused fingers, right hand	Diagnosis	ICD-10-CM	Limb Defects

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
Q70.02	Fused fingers, left hand	Diagnosis	ICD-10-CM	Limb Defects
Q70.03	Fused fingers, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q70.10	Webbed fingers, unspecified hand	Diagnosis	ICD-10-CM	Limb Defects
Q70.11	Webbed fingers, right hand	Diagnosis	ICD-10-CM	Limb Defects
Q70.12	Webbed fingers, left hand	Diagnosis	ICD-10-CM	Limb Defects
Q70.13	Webbed fingers, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q70.20	Fused toes, unspecified foot	Diagnosis	ICD-10-CM	Limb Defects
Q70.21	Fused toes, right foot	Diagnosis	ICD-10-CM	Limb Defects
Q70.22	Fused toes, left foot	Diagnosis	ICD-10-CM	Limb Defects
Q70.23	Fused toes, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q70.30	Webbed toes, unspecified foot	Diagnosis	ICD-10-CM	Limb Defects
Q70.31	Webbed toes, right foot	Diagnosis	ICD-10-CM	Limb Defects
Q70.32	Webbed toes, left foot	Diagnosis	ICD-10-CM	Limb Defects
Q70.33	Webbed toes, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q70.4	Polysyndactyly, unspecified	Diagnosis	ICD-10-CM	Limb Defects
Q70.9	Syndactyly, unspecified	Diagnosis	ICD-10-CM	Limb Defects
Q71.00	Congenital complete absence of unspecified upper limb	Diagnosis	ICD-10-CM	Limb Defects
Q71.01	Congenital complete absence of right upper limb	Diagnosis	ICD-10-CM	Limb Defects
Q71.02	Congenital complete absence of left upper limb	Diagnosis	ICD-10-CM	Limb Defects
Q71.03	Congenital complete absence of upper limb, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q71.10	Congenital absence of unspecified upper arm and forearm with hand present	Diagnosis	ICD-10-CM	Limb Defects
Q71.11	Congenital absence of right upper arm and forearm with hand present	Diagnosis	ICD-10-CM	Limb Defects
Q71.12	Congenital absence of left upper arm and forearm with hand present	Diagnosis	ICD-10-CM	Limb Defects
Q71.13	Congenital absence of upper arm and forearm with hand present, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q71.20	Congenital absence of both forearm and hand, unspecified upper limb	Diagnosis	ICD-10-CM	Limb Defects
Q71.21	Congenital absence of both forearm and hand, right upper limb	Diagnosis	ICD-10-CM	Limb Defects
Q71.22	Congenital absence of both forearm and hand, left upper limb	Diagnosis	ICD-10-CM	Limb Defects
Q71.23	Congenital absence of both forearm and hand, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q71.30	Congenital absence of unspecified hand and finger	Diagnosis	ICD-10-CM	Limb Defects
Q71.31	Congenital absence of right hand and finger	Diagnosis	ICD-10-CM	Limb Defects
Q71.32	Congenital absence of left hand and finger	Diagnosis	ICD-10-CM	Limb Defects
Q71.33	Congenital absence of hand and finger, bilateral	Diagnosis	ICD-10-CM	Limb Defects

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Code	Description	Code Category	Code Type	Malformation
Q71.40	Longitudinal reduction defect of unspecified radius	Diagnosis	ICD-10-CM	Limb Defects
Q71.41	Longitudinal reduction defect of right radius	Diagnosis	ICD-10-CM	Limb Defects
Q71.42	Longitudinal reduction defect of left radius	Diagnosis	ICD-10-CM	Limb Defects
Q71.43	Longitudinal reduction defect of radius, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q71.50	Longitudinal reduction defect of unspecified ulna	Diagnosis	ICD-10-CM	Limb Defects
Q71.51	Longitudinal reduction defect of right ulna	Diagnosis	ICD-10-CM	Limb Defects
Q71.52	Longitudinal reduction defect of left ulna	Diagnosis	ICD-10-CM	Limb Defects
Q71.53	Longitudinal reduction defect of ulna, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q71.60	Lobster-claw hand, unspecified hand	Diagnosis	ICD-10-CM	Limb Defects
Q71.61	Lobster-claw right hand	Diagnosis	ICD-10-CM	Limb Defects
Q71.62	Lobster-claw left hand	Diagnosis	ICD-10-CM	Limb Defects
Q71.63	Lobster-claw hand, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q71.811	Congenital shortening of right upper limb	Diagnosis	ICD-10-CM	Limb Defects
Q71.812	Congenital shortening of left upper limb	Diagnosis	ICD-10-CM	Limb Defects
Q71.813	Congenital shortening of upper limb, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q71.819	Congenital shortening of unspecified upper limb	Diagnosis	ICD-10-CM	Limb Defects
Q71.891	Other reduction defects of right upper limb	Diagnosis	ICD-10-CM	Limb Defects
Q71.892	Other reduction defects of left upper limb	Diagnosis	ICD-10-CM	Limb Defects
Q71.893	Other reduction defects of upper limb, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q71.899	Other reduction defects of unspecified upper limb	Diagnosis	ICD-10-CM	Limb Defects
Q71.90	Unspecified reduction defect of unspecified upper limb	Diagnosis	ICD-10-CM	Limb Defects
Q71.91	Unspecified reduction defect of right upper limb	Diagnosis	ICD-10-CM	Limb Defects
Q71.92	Unspecified reduction defect of left upper limb	Diagnosis	ICD-10-CM	Limb Defects
Q71.93	Unspecified reduction defect of upper limb, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q72.00	Congenital complete absence of unspecified lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.01	Congenital complete absence of right lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.02	Congenital complete absence of left lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.03	Congenital complete absence of lower limb, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q72.10	Congenital absence of unspecified thigh and lower leg with foot present	Diagnosis	ICD-10-CM	Limb Defects
Q72.11	Congenital absence of right thigh and lower leg with foot present	Diagnosis	ICD-10-CM	Limb Defects
Q72.12	Congenital absence of left thigh and lower leg with foot present	Diagnosis	ICD-10-CM	Limb Defects
Q72.13	Congenital absence of thigh and lower leg with foot present, bilateral	Diagnosis	ICD-10-CM	Limb Defects

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Code	Description	Code Category	Code Type	Malformation
Q72.20	Congenital absence of both lower leg and foot, unspecified lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.21	Congenital absence of both lower leg and foot, right lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.22	Congenital absence of both lower leg and foot, left lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.23	Congenital absence of both lower leg and foot, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q72.30	Congenital absence of unspecified foot and toe(s)	Diagnosis	ICD-10-CM	Limb Defects
Q72.31	Congenital absence of right foot and toe(s)	Diagnosis	ICD-10-CM	Limb Defects
Q72.32	Congenital absence of left foot and toe(s)	Diagnosis	ICD-10-CM	Limb Defects
Q72.33	Congenital absence of foot and toe(s), bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q72.40	Longitudinal reduction defect of unspecified femur	Diagnosis	ICD-10-CM	Limb Defects
Q72.41	Longitudinal reduction defect of right femur	Diagnosis	ICD-10-CM	Limb Defects
Q72.42	Longitudinal reduction defect of left femur	Diagnosis	ICD-10-CM	Limb Defects
Q72.43	Longitudinal reduction defect of femur, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q72.50	Longitudinal reduction defect of unspecified tibia	Diagnosis	ICD-10-CM	Limb Defects
Q72.51	Longitudinal reduction defect of right tibia	Diagnosis	ICD-10-CM	Limb Defects
Q72.52	Longitudinal reduction defect of left tibia	Diagnosis	ICD-10-CM	Limb Defects
Q72.53	Longitudinal reduction defect of tibia, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q72.60	Longitudinal reduction defect of unspecified fibula	Diagnosis	ICD-10-CM	Limb Defects
Q72.61	Longitudinal reduction defect of right fibula	Diagnosis	ICD-10-CM	Limb Defects
Q72.62	Longitudinal reduction defect of left fibula	Diagnosis	ICD-10-CM	Limb Defects
Q72.63	Longitudinal reduction defect of fibula, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q72.70	Split foot, unspecified lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.71	Split foot, right lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.72	Split foot, left lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.73	Split foot, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q72.811	Congenital shortening of right lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.812	Congenital shortening of left lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.813	Congenital shortening of lower limb, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q72.819	Congenital shortening of unspecified lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.891	Other reduction defects of right lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.892	Other reduction defects of left lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.893	Other reduction defects of lower limb, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q72.899	Other reduction defects of unspecified lower limb	Diagnosis	ICD-10-CM	Limb Defects

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Code	Description	Code Category	Code Type	Malformation
Q72.90	Unspecified reduction defect of unspecified lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.91	Unspecified reduction defect of right lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.92	Unspecified reduction defect of left lower limb	Diagnosis	ICD-10-CM	Limb Defects
Q72.93	Unspecified reduction defect of lower limb, bilateral	Diagnosis	ICD-10-CM	Limb Defects
Q73.0	Congenital absence of unspecified limb(s)	Diagnosis	ICD-10-CM	Limb Defects
Q73.1	Phocomelia, unspecified limb(s)	Diagnosis	ICD-10-CM	Limb Defects
Q73.8	Other reduction defects of unspecified limb(s)	Diagnosis	ICD-10-CM	Limb Defects
Q74.0	Other congenital malformations of upper limb(s), including shoulder girdle	Diagnosis	ICD-10-CM	Limb Defects
Q74.1	Congenital malformation of knee	Diagnosis	ICD-10-CM	Limb Defects
Q74.2	Other congenital malformations of lower limb(s), including pelvic girdle	Diagnosis	ICD-10-CM	Limb Defects
Q74.3	Arthrogryposis multiplex congenita	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q74.8	Other specified congenital malformations of limb(s)	Diagnosis	ICD-10-CM	Limb Defects
Q74.9	Unspecified congenital malformation of limb(s)	Diagnosis	ICD-10-CM	Limb Defects
Q75.0	Craniosynostosis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q75.1	Craniofacial dysostosis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q75.2	Hypertelorism	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q75.3	Macrocephaly	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q75.4	Mandibulofacial dysostosis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q75.5	Oculomandibular dysostosis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q75.8	Other specified congenital malformations of skull and face bones	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q75.9	Congenital malformation of skull and face bones, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.0	Spina bifida occulta	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.1	Klippel-Feil syndrome	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.2	Congenital spondylolisthesis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.3	Congenital scoliosis due to congenital bony malformation	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.411	Congenital kyphosis, occipito-atlanto-axial region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.412	Congenital kyphosis, cervical region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.413	Congenital kyphosis, cervicothoracic region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.414	Congenital kyphosis, thoracic region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.415	Congenital kyphosis, thoracolumbar region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.419	Congenital kyphosis, unspecified region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.425	Congenital lordosis, thoracolumbar region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations

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Code	Description	Code Category	Code Type	Malformation
Q76.426	Congenital lordosis, lumbar region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.427	Congenital lordosis, lumbosacral region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.428	Congenital lordosis, sacral and sacrococcygeal region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.429	Congenital lordosis, unspecified region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.49	Other congenital malformations of spine, not associated with scoliosis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.5	Cervical rib	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.6	Other congenital malformations of ribs	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.7	Congenital malformation of sternum	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.8	Other congenital malformations of bony thorax	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.9	Congenital malformation of bony thorax, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.0	Achondrogenesis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.1	Thanatophoric short stature	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.2	Short rib syndrome	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.3	Chondrodysplasia punctata	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.4	Achondroplasia	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.5	Diastrophic dysplasia	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.6	Chondroectodermal dysplasia	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.7	Spondyloepiphyseal dysplasia	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.8	Other osteochondrodysplasia with defects of growth of tubular bones and spine	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.9	Osteochondrodysplasia with defects of growth of tubular bones and spine, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.0	Osteogenesis imperfecta	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.1	Polyostotic fibrous dysplasia	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.2	Osteopetrosis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.3	Progressive diaphyseal dysplasia	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.4	Enchondromatosis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.5	Metaphyseal dysplasia	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.6	Multiple congenital exostoses	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.8	Other specified osteochondrodysplasias	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.9	Osteochondrodysplasia, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.0	Congenital diaphragmatic hernia	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.1	Other congenital malformations of diaphragm	Diagnosis	ICD-10-CM	Musculoskeletal Malformations

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Code	Description	Code Category	Code Type	Malformation
Q79.2	Exomphalos	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.3	Gastroschisis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.4	Prune belly syndrome	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.51	Congenital hernia of bladder	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.59	Other congenital malformations of abdominal wall	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.6	Ehlers-Danlos syndromes	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.8	Other congenital malformations of musculoskeletal system	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.9	Congenital malformation of musculoskeletal system, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q80.0	Ichthyosis vulgaris	Diagnosis	ICD-10-CM	Other Malformations
Q80.1	X-linked ichthyosis	Diagnosis	ICD-10-CM	Other Malformations
Q80.2	Lamellar ichthyosis	Diagnosis	ICD-10-CM	Other Malformations
Q80.3	Congenital bullous ichthyosiform erythroderma	Diagnosis	ICD-10-CM	Other Malformations
Q80.4	Harlequin fetus	Diagnosis	ICD-10-CM	Other Malformations
Q80.8	Other congenital ichthyosis	Diagnosis	ICD-10-CM	Other Malformations
Q80.9	Congenital ichthyosis, unspecified	Diagnosis	ICD-10-CM	Other Malformations
Q81.0	Epidermolysis bullosa simplex	Diagnosis	ICD-10-CM	Other Malformations
Q81.1	Epidermolysis bullosa letalis	Diagnosis	ICD-10-CM	Other Malformations
Q81.2	Epidermolysis bullosa dystrophica	Diagnosis	ICD-10-CM	Other Malformations
Q81.8	Other epidermolysis bullosa	Diagnosis	ICD-10-CM	Other Malformations
Q81.9	Epidermolysis bullosa, unspecified	Diagnosis	ICD-10-CM	Other Malformations
Q82.0	Hereditary lymphedema	Diagnosis	ICD-10-CM	Other Malformations
Q82.1	Xeroderma pigmentosum	Diagnosis	ICD-10-CM	Other Malformations
Q82.2	Congenital cutaneous mastocytosis	Diagnosis	ICD-10-CM	Other Malformations
Q82.3	Incontinentia pigmenti	Diagnosis	ICD-10-CM	Other Malformations
Q82.4	Ectodermal dysplasia (anhidrotic)	Diagnosis	ICD-10-CM	Other Malformations
Q82.5	Congenital non-neoplastic nevus	Diagnosis	ICD-10-CM	Other Malformations
Q82.6	Congenital sacral dimple	Diagnosis	ICD-10-CM	Other Malformations
Q82.8	Other specified congenital malformations of skin	Diagnosis	ICD-10-CM	Other Malformations
Q82.9	Congenital malformation of skin, unspecified	Diagnosis	ICD-10-CM	Other Malformations
Q83.0	Congenital absence of breast with absent nipple	Diagnosis	ICD-10-CM	Other Malformations
Q83.1	Accessory breast	Diagnosis	ICD-10-CM	Other Malformations
Q83.2	Absent nipple	Diagnosis	ICD-10-CM	Other Malformations

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Code	Description	Code Category	Code Type	Malformation
Q83.3	Accessory nipple	Diagnosis	ICD-10-CM	Other Malformations
Q83.8	Other congenital malformations of breast	Diagnosis	ICD-10-CM	Other Malformations
Q83.9	Congenital malformation of breast, unspecified	Diagnosis	ICD-10-CM	Other Malformations
Q84.0	Congenital alopecia	Diagnosis	ICD-10-CM	Other Malformations
Q84.1	Congenital morphological disturbances of hair, not elsewhere classified	Diagnosis	ICD-10-CM	Other Malformations
Q84.2	Other congenital malformations of hair	Diagnosis	ICD-10-CM	Other Malformations
Q84.3	Anonychia	Diagnosis	ICD-10-CM	Other Malformations
Q84.4	Congenital leukonychia	Diagnosis	ICD-10-CM	Other Malformations
Q84.5	Enlarged and hypertrophic nails	Diagnosis	ICD-10-CM	Other Malformations
Q84.6	Other congenital malformations of nails	Diagnosis	ICD-10-CM	Other Malformations
Q84.8	Other specified congenital malformations of integument	Diagnosis	ICD-10-CM	Other Malformations
Q84.9	Congenital malformation of integument, unspecified	Diagnosis	ICD-10-CM	Other Malformations
Q85.1	Tuberous sclerosis	Diagnosis	ICD-10-CM	Other Malformations
Q85.8	Other phakomatoses, not elsewhere classified	Diagnosis	ICD-10-CM	Other Malformations
Q85.9	Phakomatosis, unspecified	Diagnosis	ICD-10-CM	Other Malformations
Q87.0	Congenital malformation syndromes predominantly affecting facial appearance	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q87.1	Congenital malformation syndromes predominantly associated with short stature	Diagnosis	ICD-10-CM	Other Malformations
Q87.2	Congenital malformation syndromes predominantly involving limbs	Diagnosis	ICD-10-CM	Other Malformations
Q87.3	Congenital malformation syndromes involving early overgrowth	Diagnosis	ICD-10-CM	Other Malformations
Q87.40	Marfan's syndrome, unspecified	Diagnosis	ICD-10-CM	Other Malformations
Q87.410	Marfan's syndrome with aortic dilation	Diagnosis	ICD-10-CM	Other Malformations
Q87.418	Marfan's syndrome with other cardiovascular manifestations	Diagnosis	ICD-10-CM	Other Malformations
Q87.42	Marfan's syndrome with ocular manifestations	Diagnosis	ICD-10-CM	Other Malformations
Q87.43	Marfan's syndrome with skeletal manifestation	Diagnosis	ICD-10-CM	Other Malformations
Q87.5	Other congenital malformation syndromes with other skeletal changes	Diagnosis	ICD-10-CM	Other Malformations
Q87.81	Alport syndrome	Diagnosis	ICD-10-CM	Other Malformations
Q87.82	Arterial tortuosity syndrome	Diagnosis	ICD-10-CM	Other Malformations
Q87.89	Other specified congenital malformation syndromes, not elsewhere classified	Diagnosis	ICD-10-CM	Other Malformations
Q89.01	Asplenia (congenital)	Diagnosis	ICD-10-CM	Other Malformations
Q89.09	Congenital malformations of spleen	Diagnosis	ICD-10-CM	Other Malformations
Q89.1	Congenital malformations of adrenal gland	Diagnosis	ICD-10-CM	Other Malformations
Q89.2	Congenital malformations of other endocrine glands	Diagnosis	ICD-10-CM	Other Malformations

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Code	Description	Code Category	Code Type	Malformation
Q89.3	Situs inversus	Diagnosis	ICD-10-CM	Other Malformations
Q89.4	Conjoined twins	Diagnosis	ICD-10-CM	Other Malformations
Q89.7	Multiple congenital malformations, not elsewhere classified	Diagnosis	ICD-10-CM	Other Malformations
Q89.8	Other specified congenital malformations	Diagnosis	ICD-10-CM	Other Malformations
Q89.9	Congenital malformation, unspecified	Diagnosis	ICD-10-CM	Other Malformations
Q99.2	Fragile X chromosome	Diagnosis	ICD-10-CM	Other Malformations
Urinary Malformations				
00862	Anesthesia for extraperitoneal procedures in lower abdomen, including urinary tract; renal procedures, including upper one-third of ureter, or donor nephrectomy	Procedure	CPT-4	Urinary Malformations
00910	Anesthesia for transurethral procedures (including urethrocytoscopy); not otherwise specified	Procedure	CPT-4	Urinary Malformations
50040	Nephrostomy, nephrotomy with drainage	Procedure	CPT-4	Urinary Malformations
50045	Nephrotomy, with exploration	Procedure	CPT-4	Urinary Malformations
50120	Pyelotomy; with exploration	Procedure	CPT-4	Urinary Malformations
50125	Pyelotomy; with drainage, pyelostomy	Procedure	CPT-4	Urinary Malformations
50135	Pyelotomy; complicated (eg, secondary operation, congenital kidney abnormality)	Procedure	CPT-4	Urinary Malformations
50220	Nephrectomy, including partial ureterectomy, any open approach including rib resection;	Procedure	CPT-4	Urinary Malformations
50390	Aspiration and/or injection of renal cyst or pelvis by needle, percutaneous	Procedure	CPT-4	Urinary Malformations
50392	Introduction of intracatheter or catheter into renal pelvis for drainage and/or injection, percutaneous	Procedure	CPT-4	Urinary Malformations
50395	Introduction of guide into renal pelvis and/or ureter with dilation to establish nephrostomy tract, percutaneous	Procedure	CPT-4	Urinary Malformations
50400	Pyeloplasty (Foley Y-pyeloplasty), plastic operation on renal pelvis, with or without plastic operation on ureter, nephropexy, nephrostomy, pyelostomy, or ureteral splinting; simple	Procedure	CPT-4	Urinary Malformations
50405	Pyeloplasty (Foley Y-pyeloplasty), plastic operation on renal pelvis, with or without plastic operation on ureter, nephropexy, nephrostomy, pyelostomy, or ureteral splinting; complicated (congenital kidney abnormality, secondary pyeloplasty, solitary kidney, calycolplasty)	Procedure	CPT-4	Urinary Malformations
50544	Laparoscopy, surgical; pyeloplasty	Procedure	CPT-4	Urinary Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
50551	Renal endoscopy through established nephrostomy or pyelostomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service;	Procedure	CPT-4	Urinary Malformations
50553	Renal endoscopy through established nephrostomy or pyelostomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with ureteral catheterization, with or without dilation of ureter	Procedure	CPT-4	Urinary Malformations
50555	Renal endoscopy through established nephrostomy or pyelostomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with biopsy	Procedure	CPT-4	Urinary Malformations
50557	Renal endoscopy through established nephrostomy or pyelostomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with fulguration and/or incision, with or without biopsy	Procedure	CPT-4	Urinary Malformations
50561	Renal endoscopy through established nephrostomy or pyelostomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with removal of foreign body or calculus	Procedure	CPT-4	Urinary Malformations
50570	Renal endoscopy through nephrotomy or pyelotomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service;	Procedure	CPT-4	Urinary Malformations
50572	Renal endoscopy through nephrotomy or pyelotomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with ureteral catheterization, with or without dilation of ureter	Procedure	CPT-4	Urinary Malformations
50574	Renal endoscopy through nephrotomy or pyelotomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with biopsy	Procedure	CPT-4	Urinary Malformations
50575	Renal endoscopy through nephrotomy or pyelotomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with endopyelotomy (includes cystoscopy, ureteroscopy, dilation of ureter and ureteral pelvic junction, incision of ureteral pelvic junction and insertion of endopyelotomy stent)	Procedure	CPT-4	Urinary Malformations
50576	Renal endoscopy through nephrotomy or pyelotomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with fulguration and/or incision, with or without biopsy	Procedure	CPT-4	Urinary Malformations
50580	Renal endoscopy through nephrotomy or pyelotomy, with or without irrigation, instillation, or ureteropyelography, exclusive of radiologic service; with removal of foreign body or calculus	Procedure	CPT-4	Urinary Malformations

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Code	Description	Code Category	Code Type	Malformation
50605	Ureterotomy for insertion of indwelling stent, all types	Procedure	CPT-4	Urinary Malformations
50860	Ureterostomy, transplantation of ureter to skin	Procedure	CPT-4	Urinary Malformations
51535	Cystotomy for excision, incision, or repair of ureterocele	Procedure	CPT-4	Urinary Malformations
51940	Closure, exstrophy of bladder	Procedure	CPT-4	Urinary Malformations
51980	Cutaneous vesicostomy	Procedure	CPT-4	Urinary Malformations
52300	Cystourethroscopy; with resection or fulguration of orthotopic ureterocele(s), unilateral or bilateral	Procedure	CPT-4	Urinary Malformations
52301	Cystourethroscopy; with resection or fulguration of ectopic ureterocele(s), unilateral or bilateral	Procedure	CPT-4	Urinary Malformations
52310	Cystourethroscopy, with removal of foreign body, calculus, or ureteral stent from urethra or bladder (separate procedure); simple	Procedure	CPT-4	Urinary Malformations
52332	Cystourethroscopy, with insertion of indwelling ureteral stent (eg, Gibbons or double-J type)	Procedure	CPT-4	Urinary Malformations
52334	Cystourethroscopy with insertion of ureteral guide wire through kidney to establish a percutaneous nephrostomy, retrograde	Procedure	CPT-4	Urinary Malformations
52341	Cystourethroscopy; with treatment of ureteral stricture (eg, balloon dilation, laser, electrocautery, and incision)	Procedure	CPT-4	Urinary Malformations
52342	Cystourethroscopy; with treatment of ureteropelvic junction stricture (eg, balloon dilation, laser, electrocautery, and incision)	Procedure	CPT-4	Urinary Malformations
52343	Cystourethroscopy; with treatment of intra-renal stricture (eg, balloon dilation, laser, electrocautery, and incision)	Procedure	CPT-4	Urinary Malformations
52344	Cystourethroscopy with ureteroscopy; with treatment of ureteral stricture (eg, balloon dilation, laser, electrocautery, and incision)	Procedure	CPT-4	Urinary Malformations
52345	Cystourethroscopy with ureteroscopy; with treatment of ureteropelvic junction stricture (eg, balloon dilation, laser, electrocautery, and incision)	Procedure	CPT-4	Urinary Malformations
52346	Cystourethroscopy with ureteroscopy; with treatment of intra-renal stricture (eg, balloon dilation, laser, electrocautery, and incision)	Procedure	CPT-4	Urinary Malformations
52351	Cystourethroscopy, with ureteroscopy and/or pyeloscopy; diagnostic	Procedure	CPT-4	Urinary Malformations
52400	Cystourethroscopy with incision, fulguration, or resection of congenital posterior urethral valves, or congenital obstructive hypertrophic mucosal folds	Procedure	CPT-4	Urinary Malformations
55.02	Nephrostomy	Procedure	ICD-9-CM	Urinary Malformations
55.03	Percutaneous nephrostomy without fragmentation	Procedure	ICD-9-CM	Urinary Malformations

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Code	Description	Code Category	Code Type	Malformation
55.1	Pyelotomy and pyelostomy	Procedure	ICD-9-CM	Urinary Malformations
55.12	Pyelostomy	Procedure	ICD-9-CM	Urinary Malformations
55.31	Marsupialization of kidney lesion	Procedure	ICD-9-CM	Urinary Malformations
55.32	Open ablation of renal lesion or tissue	Procedure	ICD-9-CM	Urinary Malformations
55.33	Percutaneous ablation of renal lesion or tissue	Procedure	ICD-9-CM	Urinary Malformations
55.34	Laparoscopic ablation of renal lesion or tissue	Procedure	ICD-9-CM	Urinary Malformations
55.35	Other and unspecified ablation of renal lesion or tissue	Procedure	ICD-9-CM	Urinary Malformations
55.39	Other local destruction or excision of renal lesion or tissue	Procedure	ICD-9-CM	Urinary Malformations
55.4	Partial nephrectomy	Procedure	ICD-9-CM	Urinary Malformations
55.51	Nephroureterectomy	Procedure	ICD-9-CM	Urinary Malformations
55.52	Nephrectomy of remaining kidney	Procedure	ICD-9-CM	Urinary Malformations
55.54	Bilateral nephrectomy	Procedure	ICD-9-CM	Urinary Malformations
55.69	Other kidney transplantation	Procedure	ICD-9-CM	Urinary Malformations
55.82	Closure of nephrostomy and pyelostomy	Procedure	ICD-9-CM	Urinary Malformations
55.87	Correction of ureteropelvic junction	Procedure	ICD-9-CM	Urinary Malformations
55.89	Other repair of kidney	Procedure	ICD-9-CM	Urinary Malformations
55.99	Other operations on kidney	Procedure	ICD-9-CM	Urinary Malformations
56.0	Transurethral removal of obstruction from ureter and renal pelvis	Procedure	ICD-9-CM	Urinary Malformations
56.1	Ureteral meatotomy	Procedure	ICD-9-CM	Urinary Malformations
56.2	Ureterotomy	Procedure	ICD-9-CM	Urinary Malformations
56.40	Ureterectomy, not otherwise specified	Procedure	ICD-9-CM	Urinary Malformations
56.41	Partial ureterectomy	Procedure	ICD-9-CM	Urinary Malformations
56.51	Formation of cutaneous uretero-ileostomy	Procedure	ICD-9-CM	Urinary Malformations
56.61	Formation of other cutaneous ureterostomy	Procedure	ICD-9-CM	Urinary Malformations
56.62	Revision of other cutaneous ureterostomy	Procedure	ICD-9-CM	Urinary Malformations
56.74	Ureteroneocystostomy	Procedure	ICD-9-CM	Urinary Malformations
56.75	Transureteroureterostomy	Procedure	ICD-9-CM	Urinary Malformations
56.89	Other repair of ureter	Procedure	ICD-9-CM	Urinary Malformations
57.17	Percutaneous cystostomy	Procedure	ICD-9-CM	Urinary Malformations
57.18	Other suprapubic cystostomy	Procedure	ICD-9-CM	Urinary Malformations
57.19	Other cystostomy	Procedure	ICD-9-CM	Urinary Malformations
57.21	Vesicostomy	Procedure	ICD-9-CM	Urinary Malformations

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Code	Description	Code Category	Code Type	Malformation
57.22	Revision or closure of vesicostomy	Procedure	ICD-9-CM	Urinary Malformations
57.6	Partial cystectomy	Procedure	ICD-9-CM	Urinary Malformations
57.86	Repair of bladder exstrophy	Procedure	ICD-9-CM	Urinary Malformations
57.91	Sphincterotomy of bladder	Procedure	ICD-9-CM	Urinary Malformations
58.0	Urethrotomy	Procedure	ICD-9-CM	Urinary Malformations
58.1	Urethral meatotomy	Procedure	ICD-9-CM	Urinary Malformations
58.31	Endoscopic excision or destruction of lesion or tissue of urethra	Procedure	ICD-9-CM	Urinary Malformations
58.39	Other local excision or destruction of lesion or tissue of urethra	Procedure	ICD-9-CM	Urinary Malformations
58.46	Other reconstruction of urethra	Procedure	ICD-9-CM	Urinary Malformations
58.47	Urethral meatoplasty	Procedure	ICD-9-CM	Urinary Malformations
58.49	Other repair of urethra	Procedure	ICD-9-CM	Urinary Malformations
58.5	Release of urethral stricture	Procedure	ICD-9-CM	Urinary Malformations
58.6	Dilation of urethra	Procedure	ICD-9-CM	Urinary Malformations
75.36	Correction of fetal defect	Procedure	ICD-9-CM	Urinary Malformations
753	Congenital anomalies of urinary system	Diagnosis	ICD-9-CM	Urinary Malformations
753.0	Congenital renal agenesis and dysgenesis	Diagnosis	ICD-9-CM	Urinary Malformations
753.1	Congenital cystic kidney disease	Diagnosis	ICD-9-CM	Urinary Malformations
753.10	Unspecified congenital cystic kidney disease	Diagnosis	ICD-9-CM	Urinary Malformations
753.11	Congenital single renal cyst	Diagnosis	ICD-9-CM	Urinary Malformations
753.12	Congenital polycystic kidney, unspecified type	Diagnosis	ICD-9-CM	Urinary Malformations
753.13	Congenital polycystic kidney, autosomal dominant	Diagnosis	ICD-9-CM	Urinary Malformations
753.14	Congenital polycystic kidney, autosomal recessive	Diagnosis	ICD-9-CM	Urinary Malformations
753.15	Congenital renal dysplasia	Diagnosis	ICD-9-CM	Urinary Malformations
753.16	Congenital medullary cystic kidney	Diagnosis	ICD-9-CM	Urinary Malformations
753.17	Congenital medullary sponge kidney	Diagnosis	ICD-9-CM	Urinary Malformations
753.19	Other specified congenital cystic kidney disease	Diagnosis	ICD-9-CM	Urinary Malformations
753.2	Congenital obstructive defects of renal pelvis and ureter	Diagnosis	ICD-9-CM	Urinary Malformations
753.20	Unspecified obstructive defect of renal pelvis and ureter	Diagnosis	ICD-9-CM	Urinary Malformations
753.21	Congenital obstruction of ureteropelvic junction	Diagnosis	ICD-9-CM	Urinary Malformations
753.22	Congenital obstruction of ureterovesical junction	Diagnosis	ICD-9-CM	Urinary Malformations
753.23	Congenital ureterocele	Diagnosis	ICD-9-CM	Urinary Malformations
753.29	Other obstructive defect of renal pelvis and ureter	Diagnosis	ICD-9-CM	Urinary Malformations

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Code	Description	Code Category	Code Type	Malformation
753.3	Other specified congenital anomalies of kidney	Diagnosis	ICD-9-CM	Urinary Malformations
753.4	Other specified congenital anomalies of ureter	Diagnosis	ICD-9-CM	Urinary Malformations
753.5	Exstrophy of urinary bladder	Diagnosis	ICD-9-CM	Urinary Malformations
753.6	Congenital atresia and stenosis of urethra and bladder neck	Diagnosis	ICD-9-CM	Urinary Malformations
753.7	Congenital anomalies of urachus	Diagnosis	ICD-9-CM	Urinary Malformations
753.8	Other specified congenital anomaly of bladder and urethra	Diagnosis	ICD-9-CM	Urinary Malformations
753.9	Unspecified congenital anomaly of urinary system	Diagnosis	ICD-9-CM	Urinary Malformations
Q60.0	Renal agenesis, unilateral	Diagnosis	ICD-10-CM	Urinary Malformations
Q60.1	Renal agenesis, bilateral	Diagnosis	ICD-10-CM	Urinary Malformations
Q60.2	Renal agenesis, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q60.3	Renal hypoplasia, unilateral	Diagnosis	ICD-10-CM	Urinary Malformations
Q60.4	Renal hypoplasia, bilateral	Diagnosis	ICD-10-CM	Urinary Malformations
Q60.5	Renal hypoplasia, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q60.6	Potter's syndrome	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.00	Congenital renal cyst, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.01	Congenital single renal cyst	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.02	Congenital multiple renal cysts	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.11	Cystic dilatation of collecting ducts	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.19	Other polycystic kidney, infantile type	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.2	Polycystic kidney, adult type	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.3	Polycystic kidney, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.4	Renal dysplasia	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.5	Medullary cystic kidney	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.8	Other cystic kidney diseases	Diagnosis	ICD-10-CM	Urinary Malformations
Q61.9	Cystic kidney disease, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.0	Congenital hydronephrosis	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.10	Congenital occlusion of ureter, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.11	Congenital occlusion of ureteropelvic junction	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.12	Congenital occlusion of ureterovesical orifice	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.2	Congenital megaureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.31	Congenital ureterocele, orthotopic	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.32	Cecoureterocele	Diagnosis	ICD-10-CM	Urinary Malformations

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Code	Description	Code Category	Code Type	Malformation
Q62.39	Other obstructive defects of renal pelvis and ureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.4	Agenesis of ureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.5	Duplication of ureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.60	Malposition of ureter, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.61	Deviation of ureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.62	Displacement of ureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.63	Anomalous implantation of ureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.69	Other malposition of ureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.7	Congenital vesico-uretero-renal reflux	Diagnosis	ICD-10-CM	Urinary Malformations
Q62.8	Other congenital malformations of ureter	Diagnosis	ICD-10-CM	Urinary Malformations
Q63.0	Accessory kidney	Diagnosis	ICD-10-CM	Urinary Malformations
Q63.1	Lobulated, fused and horseshoe kidney	Diagnosis	ICD-10-CM	Urinary Malformations
Q63.2	Ectopic kidney	Diagnosis	ICD-10-CM	Urinary Malformations
Q63.3	Hyperplastic and giant kidney	Diagnosis	ICD-10-CM	Urinary Malformations
Q63.8	Other specified congenital malformations of kidney	Diagnosis	ICD-10-CM	Urinary Malformations
Q63.9	Congenital malformation of kidney, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.10	Exstrophy of urinary bladder, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.11	Supravesical fissure of urinary bladder	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.12	Cloacal exstrophy of urinary bladder	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.19	Other exstrophy of urinary bladder	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.2	Congenital posterior urethral valves	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.31	Congenital bladder neck obstruction	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.32	Congenital stricture of urethra	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.33	Congenital stricture of urinary meatus	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.39	Other atresia and stenosis of urethra and bladder neck	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.4	Malformation of urachus	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.5	Congenital absence of bladder and urethra	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.6	Congenital diverticulum of bladder	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.70	Unspecified congenital malformation of bladder and urethra	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.71	Congenital prolapse of urethra	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.72	Congenital prolapse of urinary meatus	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.73	Congenital urethrorectal fistula	Diagnosis	ICD-10-CM	Urinary Malformations

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Code	Description	Code Category	Code Type	Malformation
Q64.74	Double urethra	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.75	Double urinary meatus	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.79	Other congenital malformations of bladder and urethra	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.8	Other specified congenital malformations of urinary system	Diagnosis	ICD-10-CM	Urinary Malformations
Q64.9	Congenital malformation of urinary system, unspecified	Diagnosis	ICD-10-CM	Urinary Malformations
Musculoskeletal Malformations				
00754	Anesthesia for hernia repairs in upper abdomen; omphalocele	Procedure	CPT-4	Musculoskeletal Malformations
00756	Anesthesia for hernia repairs in upper abdomen; transabdominal repair of diaphragmatic hernia	Procedure	CPT-4	Musculoskeletal Malformations
75.36	Correction of fetal defect	Procedure	ICD-9-CM	Musculoskeletal Malformations
754	Certain congenital musculoskeletal deformities	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.0	Congenital musculoskeletal deformities of skull, face, and jaw	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.1	Congenital musculoskeletal deformity of sternocleidomastoid muscle	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.2	Congenital musculoskeletal deformity of spine	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.3	Congenital dislocation of hip	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.30	Congenital dislocation of hip, unilateral	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.31	Congenital dislocation of hip, bilateral	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.32	Congenital subluxation of hip, unilateral	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.33	Congenital subluxation of hip, bilateral	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.35	Congenital dislocation of one hip with subluxation of other hip	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.4	Congenital genu recurvatum and bowing of long bones of leg	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.40	Congenital genu recurvatum	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.41	Congenital dislocation of knee (with genu recurvatum)	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.42	Congenital bowing of femur	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.43	Congenital bowing of tibia and fibula	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.44	Congenital bowing of unspecified long bones of leg	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.5	Congenital varus deformities of feet	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.50	Congenital talipes varus	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.51	Congenital talipes equinovarus	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.52	Congenital metatarsus primus varus	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.53	Congenital metatarsus varus	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.59	Other congenital varus deformity of feet	Diagnosis	ICD-9-CM	Musculoskeletal Malformations

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Code	Description	Code Category	Code Type	Malformation
754.6	Congenital valgus deformities of feet	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.60	Congenital talipes valgus	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.61	Congenital pes planus	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.62	Talipes calcaneovalgus	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.69	Other congenital valgus deformity of feet	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.7	Other congenital deformity of feet	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.70	Unspecified talipes	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.71	Talipes cavus	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.79	Other congenital deformity of feet	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.8	Other specified nonteratogenic anomalies	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.81	Pectus excavatum	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.82	Pectus carinatum	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
754.89	Other specified nonteratogenic anomalies	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756	Other congenital musculoskeletal anomalies	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.0	Congenital anomalies of skull and face bones	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.1	Congenital anomalies of spine	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.10	Congenital anomaly of spine, unspecified	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.11	Congenital spondylolysis, lumbosacral region	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.12	Congenital spondylolisthesis	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.13	Congenital absence of vertebra	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.14	Hemivertebra	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.15	Congenital fusion of spine (vertebra)	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.16	Klippel-Feil syndrome	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.17	Spina bifida occulta	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.19	Other congenital anomaly of spine	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.2	Cervical rib	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.3	Other congenital anomaly of ribs and sternum	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.4	Chondrodystrophy	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.5	Congenital osteodystrophies	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.50	Unspecified congenital osteodystrophy	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.51	Osteogenesis imperfecta	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.52	Osteopetrosis	Diagnosis	ICD-9-CM	Musculoskeletal Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
756.53	Osteopoikilosis	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.54	Polyostotic fibrous dysplasia of bone	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.55	Chondroectodermal dysplasia	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.56	Multiple epiphyseal dysplasia	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.59	Other congenital osteodystrophy	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.6	Congenital anomaly of diaphragm	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.7	Congenital anomaly of abdominal wall	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.70	Unspecified congenital anomaly of abdominal wall	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.71	Prune belly syndrome	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.72	Omphalocele	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.73	Gastroschisis	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.79	Other congenital anomalies of abdominal wall	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.8	Other specified congenital anomalies of muscle, tendon, fascia, and connective tissue	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.81	Congenital absence of muscle and tendon	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.82	Accessory muscle	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.83	Ehlers-Danlos syndrome	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.89	Other specified congenital anomaly of muscle, tendon, fascia, and connective tissue	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
756.9	Other and unspecified congenital anomaly of musculoskeletal system	Diagnosis	ICD-9-CM	Musculoskeletal Malformations
76.2	Local excision or destruction of lesion of facial bone	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.43	Other reconstruction of mandible	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.5	Temporomandibular arthroplasty	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.62	Open osteoplasty (osteotomy) of mandibular ramus	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.63	Osteoplasty (osteotomy) of body of mandible	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.64	Other orthognathic surgery on mandible	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.68	Augmentation genioplasty	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.69	Other facial bone repair	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.91	Bone graft to facial bone	Procedure	ICD-9-CM	Musculoskeletal Malformations
76.92	Insertion of synthetic implant in facial bone	Procedure	ICD-9-CM	Musculoskeletal Malformations
77.89	Other partial ostectomy of other bone, except facial bones	Procedure	ICD-9-CM	Musculoskeletal Malformations
77.99	Total ostectomy of other bone, except facial bones	Procedure	ICD-9-CM	Musculoskeletal Malformations
78.41	Other repair or plastic operations on scapula, clavicle, and thorax (ribs and	Procedure	ICD-9-CM	Musculoskeletal Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
78.49	Other repair or plastic operations on other bone, except facial bones	Procedure	ICD-9-CM	Musculoskeletal Malformations
81.02	Other cervical fusion of the anterior column, anterior technique	Procedure	ICD-9-CM	Musculoskeletal Malformations
81.05	Dorsal and dorsolumbar fusion of the posterior column, posterior technique	Procedure	ICD-9-CM	Musculoskeletal Malformations
81.07	Lumbar and lumbosacral fusion of the posterior column, posterior technique	Procedure	ICD-9-CM	Musculoskeletal Malformations
83.12	Adductor tenotomy of hip	Procedure	ICD-9-CM	Musculoskeletal Malformations
83.13	Other tenotomy	Procedure	ICD-9-CM	Musculoskeletal Malformations
83.44	Other fasciectomy	Procedure	ICD-9-CM	Musculoskeletal Malformations
83.45	Other myectomy	Procedure	ICD-9-CM	Musculoskeletal Malformations
83.63	Rotator cuff repair	Procedure	ICD-9-CM	Musculoskeletal Malformations
83.82	Graft of muscle or fascia	Procedure	ICD-9-CM	Musculoskeletal Malformations
83.85	Other change in muscle or tendon length	Procedure	ICD-9-CM	Musculoskeletal Malformations
Q65.00	Congenital dislocation of unspecified hip, unilateral	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.01	Congenital dislocation of right hip, unilateral	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.02	Congenital dislocation of left hip, unilateral	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.1	Congenital dislocation of hip, bilateral	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.2	Congenital dislocation of hip, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.30	Congenital partial dislocation of unspecified hip, unilateral	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.31	Congenital partial dislocation of right hip, unilateral	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.32	Congenital partial dislocation of left hip, unilateral	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.4	Congenital partial dislocation of hip, bilateral	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.5	Congenital partial dislocation of hip, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q65.6	Congenital unstable hip	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.0	Congenital talipes equinovarus	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.1	Congenital talipes calcaneovarus	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.21	Congenital metatarsus primus varus	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.22	Congenital metatarsus adductus	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.3	Other congenital varus deformities of feet	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.4	Congenital talipes calcaneovalgus	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.50	Congenital pes planus, unspecified foot	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.51	Congenital pes planus, right foot	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.52	Congenital pes planus, left foot	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.6	Other congenital valgus deformities of feet	Diagnosis	ICD-10-CM	Musculoskeletal Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
Q66.7	Congenital pes cavus	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.80	Congenital vertical talus deformity, unspecified foot	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.81	Congenital vertical talus deformity, right foot	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.82	Congenital vertical talus deformity, left foot	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q66.9	Congenital deformity of feet, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.0	Congenital facial asymmetry	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.1	Congenital compression facies	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.2	Dolichocephaly	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.3	Plagiocephaly	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.4	Other congenital deformities of skull, face and jaw	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.5	Congenital deformity of spine	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.6	Pectus excavatum	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.7	Pectus carinatum	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q67.8	Other congenital deformities of chest	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q68.0	Congenital deformity of sternocleidomastoid muscle	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q68.1	Congenital deformity of finger(s) and hand	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q68.3	Congenital bowing of femur	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q68.4	Congenital bowing of tibia and fibula	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q68.5	Congenital bowing of long bones of leg, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q68.8	Other specified congenital musculoskeletal deformities	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q74.3	Arthrogryposis multiplex congenita	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q75.0	Craniosynostosis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q75.1	Craniofacial dysostosis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q75.2	Hypertelorism	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q75.3	Macrocephaly	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q75.4	Mandibulofacial dysostosis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q75.5	Oculomandibular dysostosis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q75.8	Other specified congenital malformations of skull and face bones	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q75.9	Congenital malformation of skull and face bones, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.0	Spina bifida occulta	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.1	Klippel-Feil syndrome	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.2	Congenital spondylolisthesis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
Q76.3	Congenital scoliosis due to congenital bony malformation	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.411	Congenital kyphosis, occipito-atlanto-axial region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.412	Congenital kyphosis, cervical region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.413	Congenital kyphosis, cervicothoracic region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.414	Congenital kyphosis, thoracic region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.415	Congenital kyphosis, thoracolumbar region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.419	Congenital kyphosis, unspecified region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.425	Congenital lordosis, thoracolumbar region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.426	Congenital lordosis, lumbar region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.427	Congenital lordosis, lumbosacral region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.428	Congenital lordosis, sacral and sacrococcygeal region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.429	Congenital lordosis, unspecified region	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.49	Other congenital malformations of spine, not associated with scoliosis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.5	Cervical rib	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.6	Other congenital malformations of ribs	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.7	Congenital malformation of sternum	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.8	Other congenital malformations of bony thorax	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q76.9	Congenital malformation of bony thorax, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.0	Achondrogenesis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.1	Thanatophoric short stature	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.2	Short rib syndrome	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.3	Chondrodysplasia punctata	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.4	Achondroplasia	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.5	Diastrophic dysplasia	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.6	Chondroectodermal dysplasia	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.7	Spondyloepiphyseal dysplasia	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.8	Other osteochondrodysplasia with defects of growth of tubular bones and spine	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q77.9	Osteochondrodysplasia with defects of growth of tubular bones and spine, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.0	Osteogenesis imperfecta	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.1	Polyostotic fibrous dysplasia	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.2	Osteopetrosis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations

Appendix D. List of Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT-3), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type	Malformation
Q78.3	Progressive diaphyseal dysplasia	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.4	Enchondromatosis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.5	Metaphyseal dysplasia	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.6	Multiple congenital exostoses	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.8	Other specified osteochondrodysplasias	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q78.9	Osteochondrodysplasia, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.0	Congenital diaphragmatic hernia	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.1	Other congenital malformations of diaphragm	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.2	Exomphalos	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.3	Gastroschisis	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.4	Prune belly syndrome	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.51	Congenital hernia of bladder	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.59	Other congenital malformations of abdominal wall	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.6	Ehlers-Danlos syndromes	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.8	Other congenital malformations of musculoskeletal system	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q79.9	Congenital malformation of musculoskeletal system, unspecified	Diagnosis	ICD-10-CM	Musculoskeletal Malformations
Q87.0	Congenital malformation syndromes predominantly affecting facial appearance	Diagnosis	ICD-10-CM	Musculoskeletal Malformations

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Codes Used to Define Inclusion Criteria in this Request

Code	Description	Code Category	Code Type
Chromosomal Abnormalities			
758.0	Down's syndrome	Diagnosis	ICD-9-CM
758.1	Patau's syndrome	Diagnosis	ICD-9-CM
758.2	Edwards' syndrome	Diagnosis	ICD-9-CM
758.3	Autosomal deletion syndromes	Diagnosis	ICD-9-CM
758.31	Cri-du-chat syndrome	Diagnosis	ICD-9-CM
758.32	Velo-cardio-facial syndrome	Diagnosis	ICD-9-CM
758.33	Autosomal deletion syndromes, other microdeletions	Diagnosis	ICD-9-CM
758.39	Autosomal deletion syndromes, other autosomal deletions	Diagnosis	ICD-9-CM
758.4	Balanced autosomal translocation in normal individual	Diagnosis	ICD-9-CM
758.5	Other conditions due to autosomal anomalies	Diagnosis	ICD-9-CM
758.6	Gonadal dysgenesis	Diagnosis	ICD-9-CM
758.7	Klinefelter's syndrome	Diagnosis	ICD-9-CM
758.8	Other conditions due to chromosome anomalies	Diagnosis	ICD-9-CM
758.81	Other conditions due to sex chromosome anomalies	Diagnosis	ICD-9-CM
758.89	Other conditions due to chromosome anomalies	Diagnosis	ICD-9-CM
758.9	Conditions due to anomaly of unspecified chromosome	Diagnosis	ICD-9-CM
759.81	Prader-Willi syndrome	Diagnosis	ICD-9-CM
759.82	Marfan's syndrome	Diagnosis	ICD-9-CM
759.83	Fragile X syndrome	Diagnosis	ICD-9-CM
Q87.1	Congenital malformation syndromes predominantly associated with short stature	Diagnosis	ICD-10-CM
Q87.11	Prader-Willi syndrome	Diagnosis	ICD-10-CM
Q87.40	Marfan's syndrome, unspecified	Diagnosis	ICD-10-CM
Q87.410	Marfan's syndrome with aortic dilation	Diagnosis	ICD-10-CM
Q87.418	Marfan's syndrome with other cardiovascular manifestations	Diagnosis	ICD-10-CM
Q87.42	Marfan's syndrome with ocular manifestations	Diagnosis	ICD-10-CM
Q87.43	Marfan's syndrome with skeletal manifestation	Diagnosis	ICD-10-CM
Q87.81	Alport syndrome	Diagnosis	ICD-10-CM
Q87.82	Arterial tortuosity syndrome	Diagnosis	ICD-10-CM
Q90.0	Trisomy 21, nonmosaicism (meiotic nondisjunction)	Diagnosis	ICD-10-CM
Q90.1	Trisomy 21, mosaicism (mitotic nondisjunction)	Diagnosis	ICD-10-CM
Q90.2	Trisomy 21, translocation	Diagnosis	ICD-10-CM
Q90.9	Down syndrome, unspecified	Diagnosis	ICD-10-CM
Q91.0	Trisomy 18, nonmosaicism (meiotic nondisjunction)	Diagnosis	ICD-10-CM
Q91.1	Trisomy 18, mosaicism (mitotic nondisjunction)	Diagnosis	ICD-10-CM
Q91.2	Trisomy 18, translocation	Diagnosis	ICD-10-CM
Q91.3	Trisomy 18, unspecified	Diagnosis	ICD-10-CM
Q91.4	Trisomy 13, nonmosaicism (meiotic nondisjunction)	Diagnosis	ICD-10-CM
Q91.5	Trisomy 13, mosaicism (mitotic nondisjunction)	Diagnosis	ICD-10-CM
Q91.6	Trisomy 13, translocation	Diagnosis	ICD-10-CM
Q91.7	Trisomy 13, unspecified	Diagnosis	ICD-10-CM
Q92.0	Whole chromosome trisomy, nonmosaicism (meiotic nondisjunction)	Diagnosis	ICD-10-CM
Q92.1	Whole chromosome trisomy, mosaicism (mitotic nondisjunction)	Diagnosis	ICD-10-CM
Q92.2	Partial trisomy	Diagnosis	ICD-10-CM
Q92.5	Duplications with other complex rearrangements	Diagnosis	ICD-10-CM
Q92.6	Marker chromosomes	Diagnosis	ICD-10-CM

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Codes Used to Define Inclusion Criteria in this Request

Code	Description	Code Category	Code Type
Q92.61	Marker chromosomes in normal individual	Diagnosis	ICD-10-CM
Q92.62	Marker chromosomes in abnormal individual	Diagnosis	ICD-10-CM
Q92.7	Triploidy and polyploidy	Diagnosis	ICD-10-CM
Q92.8	Other specified trisomies and partial trisomies of autosomes	Diagnosis	ICD-10-CM
Q92.9	Trisomy and partial trisomy of autosomes, unspecified	Diagnosis	ICD-10-CM
Q93.0	Whole chromosome monosomy, nonmosaicism (meiotic nondisjunction)	Diagnosis	ICD-10-CM
Q93.1	Whole chromosome monosomy, mosaicism (mitotic nondisjunction)	Diagnosis	ICD-10-CM
Q93.2	Chromosome replaced with ring, dicentric or isochromosome	Diagnosis	ICD-10-CM
Q93.3	Deletion of short arm of chromosome 4	Diagnosis	ICD-10-CM
Q93.4	Deletion of short arm of chromosome 5	Diagnosis	ICD-10-CM
Q93.5	Other deletions of part of a chromosome	Diagnosis	ICD-10-CM
Q93.51	Angelman syndrome	Diagnosis	ICD-10-CM
Q93.59	Other deletions of part of a chromosome	Diagnosis	ICD-10-CM
Q93.7	Deletions with other complex rearrangements	Diagnosis	ICD-10-CM
Q93.8	Other deletions from the autosomes	Diagnosis	ICD-10-CM
Q93.81	Velo-cardio-facial syndrome	Diagnosis	ICD-10-CM
Q93.82	Williams syndrome	Diagnosis	ICD-10-CM
Q93.88	Other microdeletions	Diagnosis	ICD-10-CM
Q93.89	Other deletions from the autosomes	Diagnosis	ICD-10-CM
Q93.9	Deletion from autosomes, unspecified	Diagnosis	ICD-10-CM
Q95.0	Balanced translocation and insertion in normal individual	Diagnosis	ICD-10-CM
Q95.1	Chromosome inversion in normal individual	Diagnosis	ICD-10-CM
Q95.2	Balanced autosomal rearrangement in abnormal individual	Diagnosis	ICD-10-CM
Q95.3	Balanced sex/autosomal rearrangement in abnormal individual	Diagnosis	ICD-10-CM
Q95.5	Individual with autosomal fragile site	Diagnosis	ICD-10-CM
Q95.8	Other balanced rearrangements and structural markers	Diagnosis	ICD-10-CM
Q95.9	Balanced rearrangement and structural marker, unspecified	Diagnosis	ICD-10-CM
Q96.0	Karyotype 45, X	Diagnosis	ICD-10-CM
Q96.1	Karyotype 46, X iso (Xq)	Diagnosis	ICD-10-CM
Q96.2	Karyotype 46, X with abnormal sex chromosome, except iso (Xq)	Diagnosis	ICD-10-CM
Q96.3	Mosaicism, 45, X/46, XX or XY	Diagnosis	ICD-10-CM
Q96.4	Mosaicism, 45, X/other cell line(s) with abnormal sex chromosome	Diagnosis	ICD-10-CM
Q96.8	Other variants of Turner's syndrome	Diagnosis	ICD-10-CM
Q96.9	Turner's syndrome, unspecified	Diagnosis	ICD-10-CM
Q97.0	Karyotype 47, XXX	Diagnosis	ICD-10-CM
Q97.1	Female with more than three X chromosomes	Diagnosis	ICD-10-CM
Q97.2	Mosaicism, lines with various numbers of X chromosomes	Diagnosis	ICD-10-CM
Q97.3	Female with 46, XY karyotype	Diagnosis	ICD-10-CM
Q97.8	Other specified sex chromosome abnormalities, female phenotype	Diagnosis	ICD-10-CM
Q97.9	Sex chromosome abnormality, female phenotype, unspecified	Diagnosis	ICD-10-CM
Q98.0	Klinefelter syndrome karyotype 47, XXY	Diagnosis	ICD-10-CM
Q98.1	Klinefelter syndrome, male with more than two X chromosomes	Diagnosis	ICD-10-CM
Q98.3	Other male with 46, XX karyotype	Diagnosis	ICD-10-CM
Q98.4	Klinefelter syndrome, unspecified	Diagnosis	ICD-10-CM
Q98.5	Karyotype 47, XYY	Diagnosis	ICD-10-CM
Q98.6	Male with structurally abnormal sex chromosome	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
Q98.7	Male with sex chromosome mosaicism	Diagnosis	ICD-10-CM
Q98.8	Other specified sex chromosome abnormalities, male phenotype	Diagnosis	ICD-10-CM
Q98.9	Sex chromosome abnormality, male phenotype, unspecified	Diagnosis	ICD-10-CM
Q99.0	Chimera 46, XX/46, XY	Diagnosis	ICD-10-CM
Q99.1	46, XX true hermaphrodite	Diagnosis	ICD-10-CM
Q99.2	Fragile X chromosome	Diagnosis	ICD-10-CM
Q99.8	Other specified chromosome abnormalities	Diagnosis	ICD-10-CM
Q99.9	Chromosomal abnormality, unspecified	Diagnosis	ICD-10-CM

Appendix F. List of Generic and Brand Names of Medical Products Used to Define Inclusion Criteria in this Request

Generic Name	Brand Name
Busulfan	
busulfan	Busulfex
busulfan	Myleran
busulfan	busulfan
Chlorambucil	
chlorambucil	Leukeran
Cyclophosphamide	
cyclophosphamide	Cytoxan
cyclophosphamide	Cytoxan Lyophilized
cyclophosphamide	Neosar
cyclophosphamide	cyclophosphamide
Mechlorethamine	
mechlorethamine HCl	Mustargen
mechlorethamine HCl	Valchlor
Methotrexate	
methotrexate	Xatmep
methotrexate sodium	Methotrexate (Anti-Rheumatic)
methotrexate sodium	Rheumatrex
methotrexate sodium	Trexall
methotrexate sodium	methotrexate sodium
methotrexate sodium/PF	Methotrexate LPF
methotrexate sodium/PF	methotrexate sodium (PF)
methotrexate/PF	Otrexup (PF)
methotrexate/PF	Rasuvo (PF)
methotrexate/PF	RediTrex (PF)
Amiodarone	
amiodarone HCl	Cordarone
amiodarone HCl	Cordarone IV
amiodarone HCl	Pacerone
amiodarone HCl	amiodarone
amiodarone HCl/dextrose 5 % in water	amiodarone in dextrose 5 %
amiodarone in dextrose, iso-osmotic	Nexterone
Androgens	
TESTOSTERONE PROPIONATE	FIRST-Testosterone MC
TESTOSTERONE PROPIONATE	First-Testosterone
dihydrotestosterone propionate	Dihydrotestosterone Propionate
fluoxymesterone	Androxy
fluoxymesterone	Halotestin
fluoxymesterone	fluoxymesterone
methyltestosterone	Android
methyltestosterone	Methitest
methyltestosterone	Testred

Appendix F. List of Generic and Brand Names of Medical Products Used to Define Inclusion Criteria in this Request

Generic Name	Brand Name
methyltestosterone	Virilon
methyltestosterone	methyltestosterone
testolactone	Teslac
testosterone	AndroGel
testosterone	Androderm
testosterone	Axiron
testosterone	Fortesta
testosterone	Natesto
testosterone	Striant
testosterone	Tesamone-100
testosterone	Testim
testosterone	Testoderm
testosterone	Testoderm TTS
testosterone	Testopel
testosterone	Testosterone Aqueous
testosterone	Vogelxo
testosterone	testosterone
testosterone cypionate	Andro-Cyp
testosterone cypionate	Depo-Testosterone
testosterone cypionate	Testone CIK
testosterone cypionate	Virilon IM
testosterone cypionate	testosterone cypionate
testosterone enanthate	Andro LA
testosterone enanthate	Delatestryl
testosterone enanthate	Everone
testosterone enanthate	Testro La
testosterone enanthate	Xyosted
testosterone enanthate	testosterone enanthate
testosterone propionate	testosterone propionate
testosterone undecanoate	Aveed
testosterone undecanoate	Jatenzo
testosterone undecanoate	Kyzatrex
testosterone undecanoate	Tlando
Candesartan	
candesartan cilexetil	Atacand
candesartan cilexetil	candesartan
candesartan cilexetil/hydrochlorothiazide	Atacand HCT
candesartan cilexetil/hydrochlorothiazide	candesartan-hydrochlorothiazid
Eprosartan	
eprosartan mesylate	Teveten
eprosartan mesylate	eprosartan
eprosartan mesylate/hydrochlorothiazide	Teveten HCT

Appendix F. List of Generic and Brand Names of Medical Products Used to Define Inclusion Criteria in this Request

Generic Name	Brand Name
Irbesartan	
irbesartan	Avapro
irbesartan	irbesartan
irbesartan/hydrochlorothiazide	Avalide
irbesartan/hydrochlorothiazide	irbesartan-hydrochlorothiazide
Losartan	
losartan potassium	Cozaar
losartan potassium	losartan
losartan potassium/hydrochlorothiazide	Hyzaar
losartan potassium/hydrochlorothiazide	losartan-hydrochlorothiazide
Olmesartan	
amlodipine besylate/olmesartan medoxomil	Azor
amlodipine besylate/olmesartan medoxomil	amlodipine-olmesartan
olmesartan medoxomil	Benicar
olmesartan medoxomil	olmesartan
olmesartan medoxomil/amlodipine besylate/hydrochlorothiazide	Tribenzor
olmesartan medoxomil/amlodipine besylate/hydrochlorothiazide	olmesartan-amlodipin-hcthiazid
olmesartan medoxomil/hydrochlorothiazide	Benicar HCT
olmesartan medoxomil/hydrochlorothiazide	olmesartan-hydrochlorothiazide
Telmisartan	
telmisartan	Micardis
telmisartan	telmisartan
telmisartan/amlodipine besylate	Twynsta
telmisartan/amlodipine besylate	telmisartan-amlodipine
telmisartan/hydrochlorothiazide	Micardis HCT
telmisartan/hydrochlorothiazide	telmisartan-hydrochlorothiazid
Valsartan	
aliskiren/valsartan	Valturna
amlodipine besylate/valsartan	Exforge
amlodipine besylate/valsartan	amlodipine-valsartan
amlodipine besylate/valsartan/hydrochlorothiazide	Exforge HCT
amlodipine besylate/valsartan/hydrochlorothiazide	amlodipine-valsartan-hcthiazid
nebivolol HCl/valsartan	Byvalson
sacubitril/valsartan	Entresto
valsartan	Diovan
valsartan	valsartan
valsartan/hydrochlorothiazide	Diovan HCT
valsartan/hydrochlorothiazide	valsartan-hydrochlorothiazide
Azilsartan	
azilsartan medoxomil	Edarbi
azilsartan medoxomil/chlorthalidone	Edarbyclor

Appendix F. List of Generic and Brand Names of Medical Products Used to Define Inclusion Criteria in this Request

Generic Name	Brand Name
Carbamazepine	
carbamazepine	Atretol
carbamazepine	Carbatrol
carbamazepine	Epitol
carbamazepine	Equetro
carbamazepine	Tegretol
carbamazepine	Tegretol XR
carbamazepine	carbamazepine
Iodine	
Tositumomab Iodine-131 (with Maltose)	Bexxar 131 Iodine
benzocaine/povidone-iodine/phenol	Anbesol
benzocaine/povidone-iodine/phenol	Antiseptic Cold Sore
benzocaine/povidone-iodine/phenol	Oracaine
benzocaine/povidone-iodine/phenol	Oral Anesthetic
benzocaine/povidone-iodine/phenol	Orasol
benzocaine/povidone-iodine/phenol	Swab And Gargle
benzocaine/povidone-iodine/phenol	Toothache
cadexomer iodine	Iodoflex
cadexomer iodine	Iodosorb
calcium/vitamin B complex/iodine	Jarabe Iodotnico
calcium/vitamin B complex/iodine	Jarabe Rabano Iodado
chlorothymol/benzocaine/resorcinol/iodine	Dermacaine
guarana seed xt/iodine/meadowsweet/Siberian ginseng/herb 31	Energel
iobenguane iodine-131	Azedra Dosimetric
iobenguane iodine-131	Azedra Therapeutic
iodine	Iodides Tincture
iodine	Kelp (iodine)
iodine	iodine
iodine	iodine strong
iodine povacrylex/isopropyl alcohol	DuraPrep
iodine/isopropyl alcohol	Iodine Tincture
iodine/methyl salicylate	Iodex-Methyl Salicylate
iodine/potassium iodide	Lugols
iodine/potassium iodide	Strong Iodine
iodine/potassium iodide	iodine strong
iodine/potassium iodide	iodine-potassium iodide
iodine/sodium iodide	iodine
iodine/sodium iodide	iodine-sodium iodide
lecithin/pyridoxine HCl (vitamin B6)/iodine/cider vinegar	Lecithin Kelp-B6
lecithin/pyridoxine HCl (vitamin B6)/iodine/cider vinegar	LiquiTHIN
lecithin/pyridoxine HCl (vitamin B6)/iodine/cider vinegar	The Eliminator
poloxamer/iodine	Prepodyne

Appendix F. List of Generic and Brand Names of Medical Products Used to Define Inclusion Criteria in this Request

Generic Name	Brand Name
potassium iodide/iodine	Lugols
potassium iodide/iodine	Strong Iodine
povidone-iodine	Antiseptic
povidone-iodine	Antiseptic Scrub
povidone-iodine	Betadine
povidone-iodine	Betadine Antiseptic Gauze
povidone-iodine	Betadine Ophthalmic Prep
povidone-iodine	Betadine Perineal Wash
povidone-iodine	Betadine RTU
povidone-iodine	Betadine Skin Cleanser
povidone-iodine	Betadine Spray
povidone-iodine	Betadine Surgi-Prep
povidone-iodine	Betadine Surgical Scrub
povidone-iodine	Betadine Swab Aid
povidone-iodine	Betadine Swabsticks
povidone-iodine	Betadine Viscous Gauze
povidone-iodine	Betagen (povidone-iodine)
povidone-iodine	Clinidine
povidone-iodine	Clinidine Medicated Douche
povidone-iodine	Clinidine Povidone-Iodine
povidone-iodine	Concentrated Medicated Douche
povidone-iodine	Disposable Douche Medicated
povidone-iodine	Douche
povidone-iodine	E-Z Scrub Preoperative
povidone-iodine	Efodine
povidone-iodine	First Aid Antiseptic(povidone)
povidone-iodine	Grx Dyne
povidone-iodine	Hospital Antiseptic
povidone-iodine	Iodex
povidone-iodine	Iodex-P
povidone-iodine	Massengill Medicated
povidone-iodine	Medi-Scrub
povidone-iodine	Medicated Douche
povidone-iodine	Minidyne
povidone-iodine	Nasal Antiseptic Swabs
povidone-iodine	PVP Prep
povidone-iodine	Peri-Wash
povidone-iodine	Pharmadine
povidone-iodine	Pharmadine Gauze
povidone-iodine	Pharmadine Swabs
povidone-iodine	Polydine
povidone-iodine	Povidex

Appendix F. List of Generic and Brand Names of Medical Products Used to Define Inclusion Criteria in this Request

Generic Name	Brand Name
povidone-iodine	Povidex Medicated Douche Conc
povidone-iodine	Povidex Perineal Wash Conc
povidone-iodine	Povidex Surgical Scrub
povidone-iodine	Povidex Whirlpool Concentrate
povidone-iodine	Povidone-Iodine Scrub
povidone-iodine	Povidone-Iodine with Brush
povidone-iodine	Profend
povidone-iodine	Scrub Care Povidone Iodine
povidone-iodine	Skin And Nasal Antiseptic
povidone-iodine	Sugardyne
povidone-iodine	Summer's Eve Disposable Douche
povidone-iodine	Summer's Eve Douche
povidone-iodine	Sweet N Fresh Medicated Douche
povidone-iodine	antiseptic solution
povidone-iodine	iodine
povidone-iodine	povidone-iodine
povidone-iodine/ethyl alcohol	Betadine Prepstick
povidone-iodine/ethyl alcohol	Betadine Prepstick Plus
povidone-iodine/isopropyl alcohol	ExCel AP
silver sulfadiazine/povidone-iodine/alginate dressing	RayaSore Kit
soap/povidone-iodine	Antiseptic Skin Cleanser
soap/povidone-iodine	Pharmadine
soap/povidone-iodine	Povidex
tyrosine/iodine/selenomethionine/algae/animal organ concentr	T-150
vit A palm/vit D3/vit E/iodine/zinc/selenomethionine/herbs	MedCaps T3
vit B12/iodine/mag ox/znox/selenium/herbal complex no.193	Adrenoid
vitamin A/iodine	Alga
zinc sulfate hepta/iodine/copper/manganese/chromium/selenium	M.T.E.-6
zinc sulfate hepta/iodine/copper/manganese/chromium/selenium	M.T.E.-6 Concentrate
Methylene Blue	
Methenamine/Methylene Blue/Benzoic/Phenyl Sal/Atropin/Hyoscy	Urinary Antiseptic F.C.
Methenamine/Methylene Blue/Benzoic/Phenyl Sal/Atropin/Hyoscy	Urised
Methenamine/Methylene Blue/Benzoic/Phenyl Sal/Atropin/Hyoscy	Uriseptic
methenamine/methylene blue/benz ac/salicylate/atrop/hyoscy	MHP-A
methenamine/methylene blue/benz ac/salicylate/atrop/hyoscy	Prosed EC
methenamine/methylene blue/benz ac/salicylate/atrop/hyoscy	Prosed/DS
methenamine/methylene blue/benz ac/salicylate/atrop/hyoscy	Trac 2x
methenamine/methylene blue/benz ac/salicylate/atrop/hyoscy	Urinary Antiseptic
methenamine/methylene blue/benz ac/salicylate/atrop/hyoscy	Urinary Antiseptic #2
methenamine/methylene blue/benz ac/salicylate/atrop/hyoscy	Urised
methenamine/methylene blue/benz ac/salicylate/atrop/hyoscy	Uritact DS
methenamine/methylene blue/benz ac/salicylate/atrop/hyoscy	Uritact-EC

Appendix F. List of Generic and Brand Names of Medical Products Used to Define Inclusion Criteria in this Request

Generic Name	Brand Name
methenamine/methylene blue/benz ac/salicylate/atrop/hyoscy	Usept
methenamine/methylene blue/benzoic acid/salicylat/hyoscyamin	Hyophen
methenamine/methylene blue/benzoic acid/salicylat/hyoscyamin	Methylphen
methenamine/methylene blue/benzoic acid/salicylat/hyoscyamin	Prosed/DS (atropine Free)
methenamine/methylene blue/benzoic acid/salicylat/hyoscyamin	Urophen MB
methenamine/methylene blue/salicylate/sodium phos/hyoscyamin	MSP-Blu
methenamine/methylene blue/salicylate/sodium phos/hyoscyamin	Phosenamine
methenamine/methylene blue/salicylate/sodium phos/hyoscyamin	URIMAR-T
methenamine/methylene blue/salicylate/sodium phos/hyoscyamin	UTA (with phenyl salicylate)
methenamine/methylene blue/salicylate/sodium phos/hyoscyamin	Uretron D-S
methenamine/methylene blue/salicylate/sodium phos/hyoscyamin	UriSym
methenamine/methylene blue/salicylate/sodium phos/hyoscyamin	Urimax
methenamine/methylene blue/salicylate/sodium phos/hyoscyamin	Uro Blue
methenamine/methylene blue/salicylate/sodium phos/hyoscyamin	Uroblue
methenamine/methylene blue/salicylate/sodium phos/hyoscyamin	Urocar D/S
methenamine/methylene blue/salicylate/sodium phos/hyoscyamin	Ustell
methenamine/methylene blue/salicylate/sodium phos/hyoscyamin	Uticap
methenamine/methylene blue/salicylate/sodium phos/hyoscyamin	Utira
methenamine/methylene blue/salicylate/sodium/hyoscyamine	Disurex D/S
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Darcalma
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Darpaz
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Hyolev MB
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Phosphasal
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	UR N-C
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Uramit MB
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Urelle
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Uretron D-S
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Uribel
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Urin DS
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Uro-458
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Uro-L
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Uro-MP
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Uro-SP
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	UroAv-81
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	UroAv-B
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Utira-C
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Utrona
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Utrona-C
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Vilamit MB
methenamine/methylene blue/sod phos/p.salicylate/hyoscyamine	Vilev MB
methenamine/sod phosph,monobasic/methylene blue/hyoscyamine	Indiomin MB
methenamine/sod phosph,monobasic/methylene blue/hyoscyamine	UTA

Appendix F. List of Generic and Brand Names of Medical Products Used to Define Inclusion Criteria in this Request

Generic Name	Brand Name
methenamine/sod phosph,monobasic/methylene blue/hyoscyamine	Uro-Blue
methenamine/sod phosph,monobasic/methylene blue/hyoscyamine	Urogesic-Blue
methenamine/sod phosph,monobasic/methylene blue/hyoscyamine	Urolet MB
methenamine/sod phosph,monobasic/methylene blue/hyoscyamine	Uryl
methenamine/sod phosph,monobasic/methylene blue/hyoscyamine	methen-sod phos-meth blue-hyos
methylene blue	ProvayBlue
methylene blue	Urolene Blue
methylene blue	methylene blue (antidote)
methylene blue/benzocaine/aluminum/urea	Styptic
methylene blue/gentian violet/foam bandage	Hydrofera Blue Ready
methylene blue/potassium salicylate/salicylamide/mag/caffein	Uro-Tech
polyvinyl alcohol/gentian violet/methylene blue	Hydrofera Blue
Misoprostol	
diclofenac sodium/misoprostol	Arthrotec 50
diclofenac sodium/misoprostol	Arthrotec 75
diclofenac sodium/misoprostol	diclofenac-misoprostol
misoprostol	Cytotec
misoprostol	misoprostol
Mycophenolate Mofetil	
mycophenolate mofetil	CellCept
mycophenolate mofetil	mycophenolate mofetil
mycophenolate mofetil HCl	CellCept Intravenous
mycophenolate mofetil HCl	mycophenolate mofetil (HCl)
Paramethadione	
paramethadione	Paradione
Paroxetine	
paroxetine HCl	Paxil
paroxetine HCl	Paxil CR
paroxetine HCl	paroxetine HCl
paroxetine mesylate	Brisdelle
paroxetine mesylate	Pexeva
paroxetine mesylate	paroxetine mesylate(menop.sym)
Penicillamine	
penicillamine	Cuprimine
penicillamine	D-Penamamine
penicillamine	Depen Titratabs
penicillamine	Penicillamine(D-)
penicillamine	penicillamine
Phenytoin	
fosphenytoin sodium	Cerebyx
fosphenytoin sodium	fosphenytoin
mephenytoin	Mesantoin

Appendix F. List of Generic and Brand Names of Medical Products Used to Define Inclusion Criteria in this Request

Generic Name	Brand Name
phenytoin	Dilantin Infatabs
phenytoin	Dilantin-125
phenytoin	phenytoin
phenytoin sodium	Di-Phen
phenytoin sodium	phenytoin sodium
phenytoin sodium extended	Dilantin
phenytoin sodium extended	Dilantin Extended
phenytoin sodium extended	Dilantin Kapseal
phenytoin sodium extended	Phenytek
phenytoin sodium extended	phenytoin sodium extended
Quinine	
ascorbic acid/vitamin E/quinine	Kuinek
iron/magnesium/quinine/citric acid	666 Preparation-Quinine
quinine sulfate	Qualaquin
quinine sulfate	Quinerva
quinine sulfate	quinine sulfate
vitamin E/quinine sulfate	Formula-Q
vitamin E/quinine sulfate	Leg Cramp Treatment
vitamin E/quinine sulfate	Q and E
Isotretinoin	
acitretin	Soriatane
acitretin	acitretin
acitretin/emollient combination no. 26	Soriatane CK
alitretinoin	Panretin
clindamycin phosphate/tretinoin	Veltin
clindamycin phosphate/tretinoin	Ziana
clindamycin phosphate/tretinoin	clindamycin-tretinoin
fluocinolone acetonide/tretinoin/hydroquinone	Tri-Luma
halobetasol propionate/tazarotene	Duobrii
hydroquinone/tretinoin/hydrocortisone	Katarya
hydroquinone/tretinoin/hydrocortisone	Kataryaxn
hydroquinone/tretinoin/hydrocortisone	Ketarya
hydroquinone/tretinoin/hydrocortisone	Kevarya
hydroquinone/tretinoin/hydrocortisone	Kutaryaxm
hydroquinone/tretinoin/hydrocortisone	Kutaryaxmpa
hydroquinone/tretinoin/hydrocortisone	Kuvarya
hydroquinone/tretinoin/hydrocortisone	Kuvarye
hydroquinone/tretinoin/hydrocortisone	hydroquin-tretinoin-hydrocort
imiquimod/tretinoin/levocetirizine dihydrochloride	Quihoxvar
imiquimod/tretinoin/levocetirizine dihydrochloride	imiquimod-tretinoin-levocetir
isotretinoin	Absorica
isotretinoin	Accutane

Appendix F. List of Generic and Brand Names of Medical Products Used to Define Inclusion Criteria in this Request

Generic Name	Brand Name
isotretinoin	Amnesteem
isotretinoin	Claravis
isotretinoin	Myorisan
isotretinoin	Sotret
isotretinoin	Zenatane
isotretinoin	isotretinoin
isotretinoin, micronized	Absorica LD
minoxidil/progesterone/tretinoin	minoxidil-progesterone-tretin
tazarotene	Arazlo
tazarotene	Avage
tazarotene	Fabior
tazarotene	Tazorac
tazarotene	tazarotene
tazarotene/niacinamide	Ethoxia
tazarotene/niacinamide	Ithoxia
tazarotene/niacinamide	tazarotene-niacinamide
tretinoin	Altinac
tretinoin	Altreno
tretinoin	Atralin
tretinoin	Avita
tretinoin	Retin-A
tretinoin	TRETIN-X
tretinoin	Tretinoin Acid
tretinoin	Vesanoid
tretinoin	tretinoin
tretinoin	tretinoin (antineoplastic)
tretinoin microspheres	Retin-A Micro
tretinoin microspheres	Retin-A Micro Pump
tretinoin microspheres	tretinoin microspheres
tretinoin/benzoyl peroxide	Twynéo
tretinoin/benzoyl peroxide/clindamycin phosphate/niacinamide	tretinoin-benzoyl-clinda-niac
tretinoin/clindamycin phosphate/niacinamide	Tardeoxia
tretinoin/clindamycin phosphate/niacinamide	tretinoin-clindamycin-niacin
tretinoin/clindamycin phosphate/spironolactone/niacinamide	tretinoin-clinda-spiron-niacin
tretinoin/emollient base	Refissa
tretinoin/emollient base	Renova
tretinoin/emollient base	tretinoin (emollient)
tretinoin/emollient combination no.9/skin cleanser no.1	TRETIN-X Cream Kit
tretinoin/emollient combination no.9/skin cleanser no.1/gel	TRETIN-X (gel)
tretinoin/hyaluronate sodium/niacinamide	Oxiatar
tretinoin/hyaluronate sodium/niacinamide	Oxiavarry
tretinoin/hyaluronate sodium/niacinamide	Oxiazar

Appendix F. List of Generic and Brand Names of Medical Products Used to Define Inclusion Criteria in this Request

Generic Name	Brand Name
tretinoin/hyaluronate sodium/niacinamide	tretinoin-hyaluronate-niacin
tretinoin/menthol/zinc oxide/silicone, adhesive	Dermapak Plus
tretinoin/mequinol	Solage
tretinoin/niacinamide	Saroxia
tretinoin/niacinamide	Taroxia
tretinoin/niacinamide	Varoxia
tretinoin/niacinamide	tretinoin-niacinamide
tretinoin/spironolactone/niacinamide	Tardimaxia
tretinoin/spironolactone/niacinamide	Vardimaxia
tretinoin/spironolactone/niacinamide	tretinoin-spironolact-niacin
Tetracycline	
NYSTATIN/TETRACYCLINE HCL/HYDROCORTISONE/DIPHENHYDRAMINE HCL	FIRST-Mary's Mouthwash
bismuth subsalicylate/metronidazole/tetracycline HCl	Helidac
colloidal bismuth subcitrate/metronidazole/tetracycline HCl	Pylera
oxytetracycline HCl	Terramycin
oxytetracycline HCl/hydrocortisone acetate	Terra-Cortril
oxytetracycline HCl/polymyxin B sulfate	Terak
oxytetracycline HCl/polymyxin B sulfate	Terramycin with Polymyxin B
oxytetracycline HCl/sulfamethizole/phenazopyridine	Urobiotic
oxytetracycline/lidocaine	Terramycin (with lidocaine)
tetracycline HCl	Achromycin
tetracycline HCl	Achromycin V
tetracycline HCl	Actisite
tetracycline HCl	Brodspec
tetracycline HCl	Emtet-500
tetracycline HCl	Sumycin
tetracycline HCl	Sumycin 250
tetracycline HCl	Sumycin 500
tetracycline HCl	Viabecline
tetracycline HCl	tetracycline
Thalidomide	
thalidomide	Thalomid
Trimethoprim	
polymyxin B sulfate/trimethoprim	Polytrim
polymyxin B sulfate/trimethoprim	polymyxin B sulf-trimethoprim
sulfamethoxazole/trimethoprim	Bactrim
sulfamethoxazole/trimethoprim	Bactrim DS
sulfamethoxazole/trimethoprim	Cotrim Double-Strength
sulfamethoxazole/trimethoprim	SMZ-TMP DS
sulfamethoxazole/trimethoprim	Septra
sulfamethoxazole/trimethoprim	Septra DS
sulfamethoxazole/trimethoprim	Septra I.V.

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Generic Name	Brand Name
sulfamethoxazole/trimethoprim	Sulfamar
sulfamethoxazole/trimethoprim	Sulfatrim
sulfamethoxazole/trimethoprim	Sultrex
sulfamethoxazole/trimethoprim	sulfamethoxazole-trimethoprim
trimethoprim	Primsol
trimethoprim	Proloprim
trimethoprim	Trimplex
trimethoprim	trimethoprim
Valproic	
valproic acid	Depakene
valproic acid	Stavzor
valproic acid	valproic acid
valproic acid (as sodium salt) (valproate sodium)	Depacon
valproic acid (as sodium salt) (valproate sodium)	Depakene
valproic acid (as sodium salt) (valproate sodium)	valproate sodium
valproic acid (as sodium salt) (valproate sodium)	valproic acid (as sodium salt)
Warfarin	
warfarin sodium	Coumadin
warfarin sodium	Jantoven
warfarin sodium	warfarin
Armodafinil and Modafinil	
armodafinil	Nuvigil
armodafinil	armodafinil
modafinil	Provigil
modafinil	modafinil
Methylphenidate	
Dexmethylphenidate Hydrochloride	
Dexmethylphenidate Hydrochloride (U)	
FOCALIN (E)	
METHYLPHENIDATE (E)	
Metadate CD	
Metadate ER	
Methylphenidate Hydrochloride	
Methylphenidate Hydrochloride (E)	
Methylphenidate Hydrochloride (U)	
dexmethylphenidate HCl	Focalin
dexmethylphenidate HCl	Focalin XR
dexmethylphenidate HCl	dexmethylphenidate
methylphenidate	Cotempla XR-ODT
methylphenidate	Daytrana
methylphenidate	methylphenidate
methylphenidate HCl	Adhansia XR

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Generic Name	Brand Name
methylphenidate HCl	Aptensio XR
methylphenidate HCl	Concerta
methylphenidate HCl	Jornay PM
methylphenidate HCl	Metadate CD
methylphenidate HCl	Metadate ER
methylphenidate HCl	Methylin
methylphenidate HCl	Methylin ER
methylphenidate HCl	QuilliChew ER
methylphenidate HCl	Quillivant XR
methylphenidate HCl	Relexxii
methylphenidate HCl	Ritalin
methylphenidate HCl	Ritalin LA
methylphenidate HCl	Ritalin SR
methylphenidate HCl	methylphenidate HCl
serdexmethylphenidate chloride/dexmethylphenidate HCl	Azstarys
Amphetamines	
Amphetamine Sulfate	
DEXTROAMPHETAMINE SACCHARATE, AMPHETAMINE ASPARTATE,	
DEXTROAMPHETAMINE SULFATE AND AMPHETAMINE SUFLATE (E)	
Dextroamphetamine Saccharate, Amphetamine Aspartate Monohydrate,	
Dextroamphetamine Sulfate and Amphetamine Sulfate	
Dextroamphetamine Saccharate, Amphetamine Aspartate,	
Dextroamphetamine Sulfate and Amphetamine Sulfate	
Dextroamphetamine Saccharate, Amphetamine Aspartate,	
Dextroamphetamine Sulfate and Amphetamine Sulfate	
Dextroamphetamine Sulfate	
Dextroamphetamine saccharate, amphetamine aspartate monohydrate,	
dextroamphetamine sulfate and amphetamine sulfate (E)	
Dextroamphetamine saccharate, amphetamine aspartate,	
dextroamphetamine sulfate, and amphetamine sulfate	
amphetamine	Adzenys ER
amphetamine	Adzenys XR-ODT
amphetamine	Dyanavel XR
amphetamine	amphetamine
amphetamine sulfate	Evekeo
amphetamine sulfate	Evekeo ODT
amphetamine sulfate	amphetamine sulfate
dextroamphetamine sulf-saccharate/amphetamine sulf-aspartate	Adderall
dextroamphetamine sulf-saccharate/amphetamine sulf-aspartate	Adderall XR
dextroamphetamine sulf-saccharate/amphetamine sulf-aspartate	Mydayis
dextroamphetamine sulf-saccharate/amphetamine sulf-aspartate	dextroamphetamine-amphetamine
dextroamphetamine sulfate	

Appendix F. List of Generic and Brand Names of Medical Products Used to Define Inclusion Criteria in this Request

Generic Name	Brand Name
dextroamphetamine sulfate	Dexedrine
dextroamphetamine sulfate	Dexedrine Spansule
dextroamphetamine sulfate	DextroStat
dextroamphetamine sulfate	Liquadd
dextroamphetamine sulfate	ProCentra
dextroamphetamine sulfate	Zenedi
dextroamphetamine sulfate	dextroamphetamine sulfate
methamphetamine HCl	Desoxyn
methamphetamine HCl	Desoxyn Gradumet
methamphetamine HCl	methamphetamine
High Dose Vitamin A	
vitamin A palmitatevit Cvit Emineralsherbal complex 221	Airshield
vitamin A	A-25
vitamin A palmitateascorbic acidcholecalciferol vit D3	Tri-Vi-Sol
vitamin A	vitamin A
vitamin A palmitate	Aquasol A
vitamin A palmitate	
vitamin A palmitateascorbic acidcholecalciferol vit D3	Infant-Toddler Tri-Vitamin
vitamin A palmitateascorbic acidcholecalciferol vit D3	vit A palmitate-vit C-vit D3
pediatric multivitamin ACand D3 no21	Tri-Vitamin
vitamin A palmitatevit E acetate dalpha tocoph	Lazercrème
calcium carbonatevitamin A palmitatevitamin D3	Liquid Calcium
Vitamin A C EUbidecarAntioxidant Multivit Comb 6	Antioxidant with Co Q-10
pediatric multivitamin ACand D3 no21	Tri-Vita
vitamin A palmitate	Unilife-A
vitamin A palmitatevitamin E acetatealoe vera	Aloe Grande
vitamin A palmitatevitamin E acetatealoe vera	Vita-Ray
vitamin A and cholecalciferol vit D3 in cod liver oil	vit A and D3 in cod liver oil
vitamin A and cholecalciferol vit D3 in cod liver oil	cod liver oil
vitamin Aascorbic acidcholecalciferol vit D3cod liver	Kids Cod Liver Oil and Vit D
vitamin Acholecalciferol vitamin D3	vitamin A-vitamin D3
vitamin A palmitatevit E acetate dalpha tocoph	Mil-A-Mulsion
vitamin A palmitate	Palmitate-A
vitamin A palmitate	Palmitate-A 5000
vitamin Aascorbic acidbiotinzincselenomethionine	vit A-C-biotin-zinc-selenometh
pediatric multivitamin ACand D3 no21	Trivitamin
ferrous sulfatevitamin A palmitateascorbic acidvitamin D3	MyKidz Iron
vitamin Acholecalciferol vitamin D3	Natural Vitamin D
vitamin Acholecalciferol vitamin D3	Olay Vitamin A
vitamin A palmitatevitamin Cvitamin D3zincherbal no331	Alive Immune Health
vitamin Aergocalciferol vitamin D2	Norwegian Cod Liver Oil
vitamin A palmitate	vitamin A palmitate

Appendix F. List of Generic and Brand Names of Medical Products Used to Define Inclusion Criteria in this Request

Generic Name	Brand Name
vitamin Aascorbic acidzincpropolis bee glue	Zinc with Vitamins A and C
vitamin A	Senior Vitamin A
vitamin Aergocalciferol vit D2eucaalyptol	Albatussin NN
vitamin A palmitateergocalciferol vit D2eucaalyptol	Vita-Numonyl
vitamin A palmitate	A-25 (vit A palmitate)
vitamin Acholecalciferol vit D3vit Evit K1zinc ascorb	ADEK Gummies Plus Zinc
vitamin Acholecalciferol vit D3vit Evit K1zinc ascorb	Hi-D ADEK Gummies Plus Zinc
vitamin A palmitateergocalciferol vitamin D2	vitamin A palmitate-vitamin D2
vitamin A palmitatebetacarotene	vitamin a palmitate-B-carotene
vitamin A palmitatebetacarotenevit D2vit Eselenium	Vitamins A-D-E selenium
vitamin A palmitatevitamin D3vitamin Evit E TPGSvit K1	DEKAs Essential
vitamin A palmitateascorbic acidcholecalciferol vit D3	Pediatric Tri-Vite
vitamin Aergocalciferol vitamin D2	Natural Vitamin A and D
vitamin A palmitateascorbic acidcholecalciferol vit D3	Pedia Tri-Vite
vitamin A acetate	vitamin A acetate
vitamin A and cholecalciferol vit D3 in cod liver oil	Norwegian Cod Liver Oil

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
Anxiety Disorders			
293.84	Anxiety disorder in conditions classified elsewhere	Diagnosis	ICD-9-CM
300.00	Anxiety state, unspecified	Diagnosis	ICD-9-CM
300.01	Panic disorder without agoraphobia	Diagnosis	ICD-9-CM
300.02	Generalized anxiety disorder	Diagnosis	ICD-9-CM
300.09	Other anxiety states	Diagnosis	ICD-9-CM
300.10	Hysteria, unspecified	Diagnosis	ICD-9-CM
300.20	Phobia, unspecified	Diagnosis	ICD-9-CM
300.21	Agoraphobia with panic disorder	Diagnosis	ICD-9-CM
300.22	Agoraphobia without mention of panic attacks	Diagnosis	ICD-9-CM
300.23	Social phobia	Diagnosis	ICD-9-CM
300.29	Other isolated or specific phobias	Diagnosis	ICD-9-CM
300.3	Obsessive-compulsive disorders	Diagnosis	ICD-9-CM
300.5	Neurasthenia	Diagnosis	ICD-9-CM
300.89	Other somatoform disorders	Diagnosis	ICD-9-CM
300.9	Unspecified nonpsychotic mental disorder	Diagnosis	ICD-9-CM
308.1	Predominant disturbance of consciousness as reaction to stress	Diagnosis	ICD-9-CM
308.2	Predominant psychomotor disturbance as reaction to stress	Diagnosis	ICD-9-CM
308.3	Other acute reactions to stress	Diagnosis	ICD-9-CM
308.4	Mixed disorders as reaction to stress	Diagnosis	ICD-9-CM
308.9	Unspecified acute reaction to stress	Diagnosis	ICD-9-CM
313.0	Overanxious disorder specific to childhood and adolescence	Diagnosis	ICD-9-CM
313.1	Misery and unhappiness disorder specific to childhood and adolescence	Diagnosis	ICD-9-CM
313.21	Shyness disorder of childhood	Diagnosis	ICD-9-CM
313.22	Introverted disorder of childhood	Diagnosis	ICD-9-CM
313.3	Relationship problems specific to childhood and adolescence	Diagnosis	ICD-9-CM
313.82	Identity disorder of childhood or adolescence	Diagnosis	ICD-9-CM
313.83	Academic underachievement disorder of childhood or adolescence	Diagnosis	ICD-9-CM
F06.4	Anxiety disorder due to known physiological condition	Diagnosis	ICD-10-CM
F40	Phobic anxiety disorders	Diagnosis	ICD-10-CM
F40.0	Agoraphobia	Diagnosis	ICD-10-CM
F40.00	Agoraphobia, unspecified	Diagnosis	ICD-10-CM
F40.01	Agoraphobia with panic disorder	Diagnosis	ICD-10-CM
F40.02	Agoraphobia without panic disorder	Diagnosis	ICD-10-CM
F40.1	Social phobias	Diagnosis	ICD-10-CM
F40.10	Social phobia, unspecified	Diagnosis	ICD-10-CM
F40.11	Social phobia, generalized	Diagnosis	ICD-10-CM
F40.2	Specific (isolated) phobias	Diagnosis	ICD-10-CM
F40.21	Animal type phobia	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
F40.210	Arachnophobia	Diagnosis	ICD-10-CM
F40.218	Other animal type phobia	Diagnosis	ICD-10-CM
F40.22	Natural environment type phobia	Diagnosis	ICD-10-CM
F40.220	Fear of thunderstorms	Diagnosis	ICD-10-CM
F40.228	Other natural environment type phobia	Diagnosis	ICD-10-CM
F40.23	Blood, injection, injury type phobia	Diagnosis	ICD-10-CM
F40.230	Fear of blood	Diagnosis	ICD-10-CM
F40.231	Fear of injections and transfusions	Diagnosis	ICD-10-CM
F40.232	Fear of other medical care	Diagnosis	ICD-10-CM
F40.233	Fear of injury	Diagnosis	ICD-10-CM
F40.24	Situational type phobia	Diagnosis	ICD-10-CM
F40.240	Claustrophobia	Diagnosis	ICD-10-CM
F40.241	Acrophobia	Diagnosis	ICD-10-CM
F40.242	Fear of bridges	Diagnosis	ICD-10-CM
F40.243	Fear of flying	Diagnosis	ICD-10-CM
F40.248	Other situational type phobia	Diagnosis	ICD-10-CM
F40.29	Other specified phobia	Diagnosis	ICD-10-CM
F40.290	Androphobia	Diagnosis	ICD-10-CM
F40.291	Gynephobia	Diagnosis	ICD-10-CM
F40.298	Other specified phobia	Diagnosis	ICD-10-CM
F40.8	Other phobic anxiety disorders	Diagnosis	ICD-10-CM
F40.9	Phobic anxiety disorder, unspecified	Diagnosis	ICD-10-CM
F41	Other anxiety disorders	Diagnosis	ICD-10-CM
F41.0	Panic disorder [episodic paroxysmal anxiety]	Diagnosis	ICD-10-CM
F41.1	Generalized anxiety disorder	Diagnosis	ICD-10-CM
F41.3	Other mixed anxiety disorders	Diagnosis	ICD-10-CM
F41.8	Other specified anxiety disorders	Diagnosis	ICD-10-CM
F41.9	Anxiety disorder, unspecified	Diagnosis	ICD-10-CM
F42	Obsessive-compulsive disorder	Diagnosis	ICD-10-CM
F42.2	Mixed obsessional thoughts and acts	Diagnosis	ICD-10-CM
F42.3	Hoarding disorder	Diagnosis	ICD-10-CM
F42.4	Excoriation (skin-picking) disorder	Diagnosis	ICD-10-CM
F42.8	Other obsessive-compulsive disorder	Diagnosis	ICD-10-CM
F42.9	Obsessive-compulsive disorder, unspecified	Diagnosis	ICD-10-CM
F43	Reaction to severe stress, and adjustment disorders	Diagnosis	ICD-10-CM
F43.0	Acute stress reaction	Diagnosis	ICD-10-CM
F43.1	Post-traumatic stress disorder (PTSD)	Diagnosis	ICD-10-CM
F43.10	Post-traumatic stress disorder, unspecified	Diagnosis	ICD-10-CM
F43.11	Post-traumatic stress disorder, acute	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
F43.12	Post-traumatic stress disorder, chronic	Diagnosis	ICD-10-CM
F44.9	Dissociative and conversion disorder, unspecified	Diagnosis	ICD-10-CM
F45.8	Other somatoform disorders	Diagnosis	ICD-10-CM
F48.8	Other specified nonpsychotic mental disorders	Diagnosis	ICD-10-CM
F48.9	Nonpsychotic mental disorder, unspecified	Diagnosis	ICD-10-CM
F93.8	Other childhood emotional disorders	Diagnosis	ICD-10-CM
F99	Mental disorder, not otherwise specified	Diagnosis	ICD-10-CM
Depressive Disorders			
296.20	Major depressive disorder, single episode, unspecified	Diagnosis	ICD-9-CM
296.21	Major depressive disorder, single episode, mild	Diagnosis	ICD-9-CM
296.22	Major depressive disorder, single episode, moderate	Diagnosis	ICD-9-CM
296.23	Major depressive disorder, single episode, severe, without mention of psychotic	Diagnosis	ICD-9-CM
296.24	Major depressive disorder, single episode, severe, specified as with psychotic	Diagnosis	ICD-9-CM
296.25	Major depressive disorder, single episode, in partial or unspecified remission	Diagnosis	ICD-9-CM
296.26	Major depressive disorder, single episode in full remission	Diagnosis	ICD-9-CM
296.30	Major depressive disorder, recurrent episode, unspecified	Diagnosis	ICD-9-CM
296.31	Major depressive disorder, recurrent episode, mild	Diagnosis	ICD-9-CM
296.32	Major depressive disorder, recurrent episode, moderate	Diagnosis	ICD-9-CM
296.33	Major depressive disorder, recurrent episode, severe, without mention of psychotic	Diagnosis	ICD-9-CM
296.34	Major depressive disorder, recurrent episode, severe, specified as with psychotic	Diagnosis	ICD-9-CM
296.35	Major depressive disorder, recurrent episode, in partial or unspecified remission	Diagnosis	ICD-9-CM
296.36	Major depressive disorder, recurrent episode, in full remission	Diagnosis	ICD-9-CM
296.50	Bipolar I disorder, most recent episode (or current) depressed, unspecified	Diagnosis	ICD-9-CM
296.51	Bipolar I disorder, most recent episode (or current) depressed, mild	Diagnosis	ICD-9-CM
296.52	Bipolar I disorder, most recent episode (or current) depressed, moderate	Diagnosis	ICD-9-CM
296.53	Bipolar I disorder, most recent episode (or current) depressed, severe, without mention of psychotic behavior	Diagnosis	ICD-9-CM
296.54	Bipolar I disorder, most recent episode (or current) depressed, severe, specified as with psychotic behavior	Diagnosis	ICD-9-CM
296.55	Bipolar I disorder, most recent episode (or current) depressed, in partial or	Diagnosis	ICD-9-CM
296.56	Bipolar I disorder, most recent episode (or current) depressed, in full remission	Diagnosis	ICD-9-CM
296.60	Bipolar I disorder, most recent episode (or current) mixed, unspecified	Diagnosis	ICD-9-CM
296.61	Bipolar I disorder, most recent episode (or current) mixed, mild	Diagnosis	ICD-9-CM
296.62	Bipolar I disorder, most recent episode (or current) mixed, moderate	Diagnosis	ICD-9-CM
296.63	Bipolar I disorder, most recent episode (or current) mixed, severe, without mention of psychotic behavior	Diagnosis	ICD-9-CM
296.64	Bipolar I disorder, most recent episode (or current) mixed, severe, specified as with psychotic behavior	Diagnosis	ICD-9-CM
296.65	Bipolar I disorder, most recent episode (or current) mixed, in partial or unspecified	Diagnosis	ICD-9-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
296.66	Bipolar I disorder, most recent episode (or current) mixed, in full remission	Diagnosis	ICD-9-CM
296.89	Other and unspecified bipolar disorders	Diagnosis	ICD-9-CM
298.0	Depressive type psychosis	Diagnosis	ICD-9-CM
300.4	Dysthymic disorder	Diagnosis	ICD-9-CM
309.0	Adjustment disorder with depressed mood	Diagnosis	ICD-9-CM
309.28	Adjustment disorder with mixed anxiety and depressed mood	Diagnosis	ICD-9-CM
311	Depressive disorder, not elsewhere classified	Diagnosis	ICD-9-CM
F31.3	Bipolar disorder, current episode depressed, mild or moderate severity	Diagnosis	ICD-10-CM
F31.30	Bipolar disorder, current episode depressed, mild or moderate severity, unspecified	Diagnosis	ICD-10-CM
F31.31	Bipolar disorder, current episode depressed, mild	Diagnosis	ICD-10-CM
F31.32	Bipolar disorder, current episode depressed, moderate	Diagnosis	ICD-10-CM
F31.4	Bipolar disorder, current episode depressed, severe, without psychotic features	Diagnosis	ICD-10-CM
F31.5	Bipolar disorder, current episode depressed, severe, with psychotic features	Diagnosis	ICD-10-CM
F31.6	Bipolar disorder, current episode mixed	Diagnosis	ICD-10-CM
F31.60	Bipolar disorder, current episode mixed, unspecified	Diagnosis	ICD-10-CM
F31.61	Bipolar disorder, current episode mixed, mild	Diagnosis	ICD-10-CM
F31.62	Bipolar disorder, current episode mixed, moderate	Diagnosis	ICD-10-CM
F31.63	Bipolar disorder, current episode mixed, severe, without psychotic features	Diagnosis	ICD-10-CM
F31.64	Bipolar disorder, current episode mixed, severe, with psychotic features	Diagnosis	ICD-10-CM
F31.7	Bipolar disorder, currently in remission	Diagnosis	ICD-10-CM
F31.70	Bipolar disorder, currently in remission, most recent episode unspecified	Diagnosis	ICD-10-CM
F31.71	Bipolar disorder, in partial remission, most recent episode hypomanic	Diagnosis	ICD-10-CM
F31.72	Bipolar disorder, in full remission, most recent episode hypomanic	Diagnosis	ICD-10-CM
F31.73	Bipolar disorder, in partial remission, most recent episode manic	Diagnosis	ICD-10-CM
F31.74	Bipolar disorder, in full remission, most recent episode manic	Diagnosis	ICD-10-CM
F31.75	Bipolar disorder, in partial remission, most recent episode depressed	Diagnosis	ICD-10-CM
F31.76	Bipolar disorder, in full remission, most recent episode depressed	Diagnosis	ICD-10-CM
F31.77	Bipolar disorder, in partial remission, most recent episode mixed	Diagnosis	ICD-10-CM
F31.78	Bipolar disorder, in full remission, most recent episode mixed	Diagnosis	ICD-10-CM
F31.81	Bipolar II disorder	Diagnosis	ICD-10-CM
F32.0	Major depressive disorder, single episode, mild	Diagnosis	ICD-10-CM
F32.1	Major depressive disorder, single episode, moderate	Diagnosis	ICD-10-CM
F32.2	Major depressive disorder, single episode, severe without psychotic features	Diagnosis	ICD-10-CM
F32.3	Major depressive disorder, single episode, severe with psychotic features	Diagnosis	ICD-10-CM
F32.4	Major depressive disorder, single episode, in partial remission	Diagnosis	ICD-10-CM
F32.5	Major depressive disorder, single episode, in full remission	Diagnosis	ICD-10-CM
F32.9	Major depressive disorder, single episode, unspecified	Diagnosis	ICD-10-CM
F33.0	Major depressive disorder, recurrent, mild	Diagnosis	ICD-10-CM
F33.1	Major depressive disorder, recurrent, moderate	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
F33.2	Major depressive disorder, recurrent severe without psychotic features	Diagnosis	ICD-10-CM
F33.3	Major depressive disorder, recurrent, severe with psychotic symptoms	Diagnosis	ICD-10-CM
F33.4	Major depressive disorder, recurrent, in remission	Diagnosis	ICD-10-CM
F33.40	Major depressive disorder, recurrent, in remission, unspecified	Diagnosis	ICD-10-CM
F33.41	Major depressive disorder, recurrent, in partial remission	Diagnosis	ICD-10-CM
F33.42	Major depressive disorder, recurrent, in full remission	Diagnosis	ICD-10-CM
F33.8	Other recurrent depressive disorders	Diagnosis	ICD-10-CM
F33.9	Major depressive disorder, recurrent, unspecified	Diagnosis	ICD-10-CM
F34.1	Dysthymic disorder	Diagnosis	ICD-10-CM
F43.21	Adjustment disorder with depressed mood	Diagnosis	ICD-10-CM
F43.23	Adjustment disorder with mixed anxiety and depressed mood	Diagnosis	ICD-10-CM
All Other Psychiatric and Neurological Conditions			
290.0	Senile dementia, uncomplicated	Diagnosis	ICD-9-CM
290.10	Presenile dementia, uncomplicated	Diagnosis	ICD-9-CM
290.11	Presenile dementia with delirium	Diagnosis	ICD-9-CM
290.12	Presenile dementia with delusional features	Diagnosis	ICD-9-CM
290.13	Presenile dementia with depressive features	Diagnosis	ICD-9-CM
290.20	Senile dementia with delusional features	Diagnosis	ICD-9-CM
290.21	Senile dementia with depressive features	Diagnosis	ICD-9-CM
290.3	Senile dementia with delirium	Diagnosis	ICD-9-CM
290.40	Vascular dementia, uncomplicated	Diagnosis	ICD-9-CM
290.41	Vascular dementia, with delirium	Diagnosis	ICD-9-CM
290.42	Vascular dementia, with delusions	Diagnosis	ICD-9-CM
290.43	Vascular dementia, with depressed mood	Diagnosis	ICD-9-CM
290.8	Other specified senile psychotic conditions	Diagnosis	ICD-9-CM
290.9	Unspecified senile psychotic condition	Diagnosis	ICD-9-CM
291.0	Alcohol withdrawal delirium	Diagnosis	ICD-9-CM
291.1	Alcohol-induced persisting amnestic disorder	Diagnosis	ICD-9-CM
291.2	Alcohol-induced persisting dementia	Diagnosis	ICD-9-CM
291.3	Alcohol-induced psychotic disorder with hallucinations	Diagnosis	ICD-9-CM
291.4	Idiosyncratic alcohol intoxication	Diagnosis	ICD-9-CM
291.5	Alcohol-induced psychotic disorder with delusions	Diagnosis	ICD-9-CM
291.81	Alcohol withdrawal	Diagnosis	ICD-9-CM
291.82	Alcohol induced sleep disorders	Diagnosis	ICD-9-CM
291.89	Other specified alcohol-induced mental disorders	Diagnosis	ICD-9-CM
291.9	Unspecified alcohol-induced mental disorders	Diagnosis	ICD-9-CM
292.0	Drug withdrawal	Diagnosis	ICD-9-CM
292.11	Drug-induced psychotic disorder with delusions	Diagnosis	ICD-9-CM
292.12	Drug-induced psychotic disorder with hallucinations	Diagnosis	ICD-9-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
292.2	Pathological drug intoxication	Diagnosis	ICD-9-CM
292.81	Drug-induced delirium	Diagnosis	ICD-9-CM
292.82	Drug-induced persisting dementia	Diagnosis	ICD-9-CM
292.83	Drug-induced persisting amnestic disorder	Diagnosis	ICD-9-CM
292.84	Drug-induced mood disorder	Diagnosis	ICD-9-CM
292.85	Drug induced sleep disorders	Diagnosis	ICD-9-CM
292.89	Other specified drug-induced mental disorder	Diagnosis	ICD-9-CM
292.9	Unspecified drug-induced mental disorder	Diagnosis	ICD-9-CM
293.0	Delirium due to conditions classified elsewhere	Diagnosis	ICD-9-CM
293.1	Subacute delirium	Diagnosis	ICD-9-CM
293.81	Psychotic disorder with delusions in conditions classified elsewhere	Diagnosis	ICD-9-CM
293.82	Psychotic disorder with hallucinations in conditions classified elsewhere	Diagnosis	ICD-9-CM
293.83	Mood disorder in conditions classified elsewhere	Diagnosis	ICD-9-CM
293.89	Other transient mental disorders due to conditions classified elsewhere	Diagnosis	ICD-9-CM
293.9	Unspecified transient mental disorder in conditions classified elsewhere	Diagnosis	ICD-9-CM
294.0	Amnestic disorder in conditions classified elsewhere	Diagnosis	ICD-9-CM
294.10	Dementia in conditions classified elsewhere without behavioral disturbance	Diagnosis	ICD-9-CM
294.11	Dementia in conditions classified elsewhere with behavioral disturbance	Diagnosis	ICD-9-CM
294.20	Dementia, unspecified, without behavioral disturbance	Diagnosis	ICD-9-CM
294.21	Dementia, unspecified, with behavioral disturbance	Diagnosis	ICD-9-CM
294.8	Other persistent mental disorders due to conditions classified elsewhere	Diagnosis	ICD-9-CM
294.9	Unspecified persistent mental disorders due to conditions classified elsewhere	Diagnosis	ICD-9-CM
295.00	Simple schizophrenia, unspecified condition	Diagnosis	ICD-9-CM
295.01	Simple schizophrenia, subchronic condition	Diagnosis	ICD-9-CM
295.02	Simple schizophrenia, chronic condition	Diagnosis	ICD-9-CM
295.03	Simple schizophrenia, subchronic condition with acute exacerbation	Diagnosis	ICD-9-CM
295.04	Simple schizophrenia, chronic condition with acute exacerbation	Diagnosis	ICD-9-CM
295.05	Simple schizophrenia, in remission	Diagnosis	ICD-9-CM
295.10	Disorganized schizophrenia, unspecified condition	Diagnosis	ICD-9-CM
295.11	Disorganized schizophrenia, subchronic condition	Diagnosis	ICD-9-CM
295.12	Disorganized schizophrenia, chronic condition	Diagnosis	ICD-9-CM
295.13	Disorganized schizophrenia, subchronic condition with acute exacerbation	Diagnosis	ICD-9-CM
295.14	Disorganized schizophrenia, chronic condition with acute exacerbation	Diagnosis	ICD-9-CM
295.15	Disorganized schizophrenia, in remission	Diagnosis	ICD-9-CM
295.20	Catatonic schizophrenia, unspecified condition	Diagnosis	ICD-9-CM
295.21	Catatonic schizophrenia, subchronic condition	Diagnosis	ICD-9-CM
295.22	Catatonic schizophrenia, chronic condition	Diagnosis	ICD-9-CM
295.23	Catatonic schizophrenia, subchronic condition with acute exacerbation	Diagnosis	ICD-9-CM
295.24	Catatonic schizophrenia, chronic condition with acute exacerbation	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
295.25	Catatonic schizophrenia, in remission	Diagnosis	ICD-9-CM
295.30	Paranoid schizophrenia, unspecified condition	Diagnosis	ICD-9-CM
295.31	Paranoid schizophrenia, subchronic condition	Diagnosis	ICD-9-CM
295.32	Paranoid schizophrenia, chronic condition	Diagnosis	ICD-9-CM
295.33	Paranoid schizophrenia, subchronic condition with acute exacerbation	Diagnosis	ICD-9-CM
295.34	Paranoid schizophrenia, chronic condition with acute exacerbation	Diagnosis	ICD-9-CM
295.35	Paranoid schizophrenia, in remission	Diagnosis	ICD-9-CM
295.40	Schizophreniform disorder, unspecified	Diagnosis	ICD-9-CM
295.41	Schizophreniform disorder, subchronic	Diagnosis	ICD-9-CM
295.42	Schizophreniform disorder, chronic	Diagnosis	ICD-9-CM
295.43	Schizophreniform disorder, subchronic with acute exacerbation	Diagnosis	ICD-9-CM
295.44	Schizophreniform disorder, chronic with acute exacerbation	Diagnosis	ICD-9-CM
295.45	Schizophreniform disorder, in remission	Diagnosis	ICD-9-CM
295.50	Latent schizophrenia, unspecified condition	Diagnosis	ICD-9-CM
295.51	Latent schizophrenia, subchronic condition	Diagnosis	ICD-9-CM
295.52	Latent schizophrenia, chronic condition	Diagnosis	ICD-9-CM
295.53	Latent schizophrenia, subchronic condition with acute exacerbation	Diagnosis	ICD-9-CM
295.54	Latent schizophrenia, chronic condition with acute exacerbation	Diagnosis	ICD-9-CM
295.55	Latent schizophrenia, in remission	Diagnosis	ICD-9-CM
295.60	Schizophrenic disorders, residual type, unspecified	Diagnosis	ICD-9-CM
295.61	Schizophrenic disorders, residual type, subchronic	Diagnosis	ICD-9-CM
295.62	Schizophrenic disorders, residual type, chronic	Diagnosis	ICD-9-CM
295.63	Schizophrenic disorders, residual type, subchronic with acute exacerbation	Diagnosis	ICD-9-CM
295.64	Schizophrenic disorders, residual type, chronic with acute exacerbation	Diagnosis	ICD-9-CM
295.65	Schizophrenic disorders, residual type, in remission	Diagnosis	ICD-9-CM
295.70	Schizoaffective disorder, unspecified	Diagnosis	ICD-9-CM
295.71	Schizoaffective disorder, subchronic	Diagnosis	ICD-9-CM
295.72	Schizoaffective disorder, chronic	Diagnosis	ICD-9-CM
295.73	Schizoaffective disorder, subchronic with acute exacerbation	Diagnosis	ICD-9-CM
295.74	Schizoaffective disorder, chronic with acute exacerbation	Diagnosis	ICD-9-CM
295.75	Schizoaffective disorder, in remission	Diagnosis	ICD-9-CM
295.80	Other specified types of schizophrenia, unspecified condition	Diagnosis	ICD-9-CM
295.81	Other specified types of schizophrenia, subchronic condition	Diagnosis	ICD-9-CM
295.82	Other specified types of schizophrenia, chronic condition	Diagnosis	ICD-9-CM
295.83	Other specified types of schizophrenia, subchronic condition with acute	Diagnosis	ICD-9-CM
295.84	Other specified types of schizophrenia, chronic condition with acute exacerbation	Diagnosis	ICD-9-CM
295.85	Other specified types of schizophrenia, in remission	Diagnosis	ICD-9-CM
295.90	Unspecified schizophrenia, unspecified condition	Diagnosis	ICD-9-CM
295.91	Unspecified schizophrenia, subchronic condition	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
295.92	Unspecified schizophrenia, chronic condition	Diagnosis	ICD-9-CM
295.93	Unspecified schizophrenia, subchronic condition with acute exacerbation	Diagnosis	ICD-9-CM
295.94	Unspecified schizophrenia, chronic condition with acute exacerbation	Diagnosis	ICD-9-CM
295.95	Unspecified schizophrenia, in remission	Diagnosis	ICD-9-CM
296.00	Bipolar I disorder, single manic episode, unspecified	Diagnosis	ICD-9-CM
296.01	Bipolar I disorder, single manic episode, mild	Diagnosis	ICD-9-CM
296.02	Bipolar I disorder, single manic episode, moderate	Diagnosis	ICD-9-CM
296.03	Bipolar I disorder, single manic episode, severe, without mention of psychotic	Diagnosis	ICD-9-CM
296.04	Bipolar I disorder, single manic episode, severe, specified as with psychotic behavior	Diagnosis	ICD-9-CM
296.05	Bipolar I disorder, single manic episode, in partial or unspecified remission	Diagnosis	ICD-9-CM
296.06	Bipolar I disorder, single manic episode, in full remission	Diagnosis	ICD-9-CM
296.10	Manic disorder, recurrent episode, unspecified	Diagnosis	ICD-9-CM
296.11	Manic disorder, recurrent episode, mild	Diagnosis	ICD-9-CM
296.12	Manic disorder, recurrent episode, moderate	Diagnosis	ICD-9-CM
296.13	Manic disorder, recurrent episode, severe, without mention of psychotic behavior	Diagnosis	ICD-9-CM
296.14	Manic disorder, recurrent episode, severe, specified as with psychotic behavior	Diagnosis	ICD-9-CM
296.15	Manic disorder, recurrent episode, in partial or unspecified remission	Diagnosis	ICD-9-CM
296.16	Manic disorder, recurrent episode, in full remission	Diagnosis	ICD-9-CM
296.40	Bipolar I disorder, most recent episode (or current) manic, unspecified	Diagnosis	ICD-9-CM
296.41	Bipolar I disorder, most recent episode (or current) manic, mild	Diagnosis	ICD-9-CM
296.42	Bipolar I disorder, most recent episode (or current) manic, moderate	Diagnosis	ICD-9-CM
296.43	Bipolar I disorder, most recent episode (or current) manic, severe, without mention of psychotic behavior	Diagnosis	ICD-9-CM
296.44	Bipolar I disorder, most recent episode (or current) manic, severe, specified as with psychotic behavior	Diagnosis	ICD-9-CM
296.45	Bipolar I disorder, most recent episode (or current) manic, in partial or unspecified	Diagnosis	ICD-9-CM
296.46	Bipolar I disorder, most recent episode (or current) manic, in full remission	Diagnosis	ICD-9-CM
296.7	Bipolar I disorder, most recent episode (or current) unspecified	Diagnosis	ICD-9-CM
296.80	Bipolar disorder, unspecified	Diagnosis	ICD-9-CM
296.81	Atypical manic disorder	Diagnosis	ICD-9-CM
296.82	Atypical depressive disorder	Diagnosis	ICD-9-CM
296.90	Unspecified episodic mood disorder	Diagnosis	ICD-9-CM
296.99	Other specified episodic mood disorder	Diagnosis	ICD-9-CM
297.0	Paranoid state, simple	Diagnosis	ICD-9-CM
297.1	Delusional disorder	Diagnosis	ICD-9-CM
297.2	Paraphrenia	Diagnosis	ICD-9-CM
297.3	Shared psychotic disorder	Diagnosis	ICD-9-CM
297.8	Other specified paranoid states	Diagnosis	ICD-9-CM
297.9	Unspecified paranoid state	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
298.1	Excitative type psychosis	Diagnosis	ICD-9-CM
298.2	Reactive confusion	Diagnosis	ICD-9-CM
298.3	Acute paranoid reaction	Diagnosis	ICD-9-CM
298.4	Psychogenic paranoid psychosis	Diagnosis	ICD-9-CM
298.8	Other and unspecified reactive psychosis	Diagnosis	ICD-9-CM
298.9	Unspecified psychosis	Diagnosis	ICD-9-CM
299.00	Autistic disorder, current or active state	Diagnosis	ICD-9-CM
299.01	Autistic disorder, residual state	Diagnosis	ICD-9-CM
299.10	Childhood disintegrative disorder, current or active state	Diagnosis	ICD-9-CM
299.11	Childhood disintegrative disorder, residual state	Diagnosis	ICD-9-CM
299.80	Other specified pervasive developmental disorders, current or active state	Diagnosis	ICD-9-CM
299.81	Other specified pervasive developmental disorders, residual state	Diagnosis	ICD-9-CM
299.90	Unspecified pervasive developmental disorder, current or active state	Diagnosis	ICD-9-CM
299.91	Unspecified pervasive developmental disorder, residual state	Diagnosis	ICD-9-CM
300.11	Conversion disorder	Diagnosis	ICD-9-CM
300.12	Dissociative amnesia	Diagnosis	ICD-9-CM
300.13	Dissociative fugue	Diagnosis	ICD-9-CM
300.14	Dissociative identity disorder	Diagnosis	ICD-9-CM
300.15	Dissociative disorder or reaction, unspecified	Diagnosis	ICD-9-CM
300.16	Factitious disorder with predominantly psychological signs and symptoms	Diagnosis	ICD-9-CM
300.19	Other and unspecified factitious illness	Diagnosis	ICD-9-CM
300.6	Depersonalization disorder	Diagnosis	ICD-9-CM
300.7	Hypochondriasis	Diagnosis	ICD-9-CM
300.81	Somatization disorder	Diagnosis	ICD-9-CM
300.82	Undifferentiated somatoform disorder	Diagnosis	ICD-9-CM
301.0	Paranoid personality disorder	Diagnosis	ICD-9-CM
301.10	Affective personality disorder, unspecified	Diagnosis	ICD-9-CM
301.11	Chronic hypomanic personality disorder	Diagnosis	ICD-9-CM
301.12	Chronic depressive personality disorder	Diagnosis	ICD-9-CM
301.13	Cyclothymic disorder	Diagnosis	ICD-9-CM
301.20	Schizoid personality disorder, unspecified	Diagnosis	ICD-9-CM
301.21	Introverted personality	Diagnosis	ICD-9-CM
301.22	Schizotypal personality disorder	Diagnosis	ICD-9-CM
301.3	Explosive personality disorder	Diagnosis	ICD-9-CM
301.4	Obsessive-compulsive personality disorder	Diagnosis	ICD-9-CM
301.50	Histrionic personality disorder, unspecified	Diagnosis	ICD-9-CM
301.51	Chronic factitious illness with physical symptoms	Diagnosis	ICD-9-CM
301.59	Other histrionic personality disorder	Diagnosis	ICD-9-CM
301.6	Dependent personality disorder	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
301.7	Antisocial personality disorder	Diagnosis	ICD-9-CM
301.81	Narcissistic personality disorder	Diagnosis	ICD-9-CM
301.82	Avoidant personality disorder	Diagnosis	ICD-9-CM
301.83	Borderline personality disorder	Diagnosis	ICD-9-CM
301.84	Passive-aggressive personality	Diagnosis	ICD-9-CM
301.89	Other personality disorder	Diagnosis	ICD-9-CM
301.9	Unspecified personality disorder	Diagnosis	ICD-9-CM
302.0	Ego-dystonic sexual orientation	Diagnosis	ICD-9-CM
302.1	Zoophilia	Diagnosis	ICD-9-CM
302.2	Pedophilia	Diagnosis	ICD-9-CM
302.3	Transvestic fetishism	Diagnosis	ICD-9-CM
302.4	Exhibitionism	Diagnosis	ICD-9-CM
302.50	Trans-sexualism with unspecified sexual history	Diagnosis	ICD-9-CM
302.51	Trans-sexualism with asexual history	Diagnosis	ICD-9-CM
302.52	Trans-sexualism with homosexual history	Diagnosis	ICD-9-CM
302.53	Trans-sexualism with heterosexual history	Diagnosis	ICD-9-CM
302.6	Gender identity disorder in children	Diagnosis	ICD-9-CM
302.70	Psychosexual dysfunction, unspecified	Diagnosis	ICD-9-CM
302.71	Hypoactive sexual desire disorder	Diagnosis	ICD-9-CM
302.72	Psychosexual dysfunction with inhibited sexual excitement	Diagnosis	ICD-9-CM
302.73	Female orgasmic disorder	Diagnosis	ICD-9-CM
302.74	Male orgasmic disorder	Diagnosis	ICD-9-CM
302.75	Premature ejaculation	Diagnosis	ICD-9-CM
302.76	Dyspareunia, psychogenic	Diagnosis	ICD-9-CM
302.79	Psychosexual dysfunction with other specified psychosexual dysfunctions	Diagnosis	ICD-9-CM
302.81	Fetishism	Diagnosis	ICD-9-CM
302.82	Voyeurism	Diagnosis	ICD-9-CM
302.83	Sexual masochism	Diagnosis	ICD-9-CM
302.84	Sexual sadism	Diagnosis	ICD-9-CM
302.85	Gender identity disorder in adolescents or adults	Diagnosis	ICD-9-CM
302.89	Other specified psychosexual disorder	Diagnosis	ICD-9-CM
302.9	Unspecified psychosexual disorder	Diagnosis	ICD-9-CM
303.00	Acute alcoholic intoxication, unspecified	Diagnosis	ICD-9-CM
303.01	Acute alcoholic intoxication, continuous	Diagnosis	ICD-9-CM
303.02	Acute alcoholic intoxication, episodic	Diagnosis	ICD-9-CM
303.03	Acute alcoholic intoxication, in remission	Diagnosis	ICD-9-CM
303.90	Other and unspecified alcohol dependence, unspecified	Diagnosis	ICD-9-CM
303.91	Other and unspecified alcohol dependence, continuous	Diagnosis	ICD-9-CM
303.92	Other and unspecified alcohol dependence, episodic	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
303.93	Other and unspecified alcohol dependence, in remission	Diagnosis	ICD-9-CM
304.00	Opioid type dependence, unspecified	Diagnosis	ICD-9-CM
304.01	Opioid type dependence, continuous	Diagnosis	ICD-9-CM
304.02	Opioid type dependence, episodic	Diagnosis	ICD-9-CM
304.03	Opioid type dependence, in remission	Diagnosis	ICD-9-CM
304.10	Sedative, hypnotic or anxiolytic dependence, unspecified	Diagnosis	ICD-9-CM
304.11	Sedative, hypnotic or anxiolytic dependence, continuous	Diagnosis	ICD-9-CM
304.12	Sedative, hypnotic or anxiolytic dependence, episodic	Diagnosis	ICD-9-CM
304.13	Sedative, hypnotic or anxiolytic dependence, in remission	Diagnosis	ICD-9-CM
304.20	Cocaine dependence, unspecified	Diagnosis	ICD-9-CM
304.21	Cocaine dependence, continuous	Diagnosis	ICD-9-CM
304.22	Cocaine dependence, episodic	Diagnosis	ICD-9-CM
304.23	Cocaine dependence, in remission	Diagnosis	ICD-9-CM
304.30	Cannabis dependence, unspecified	Diagnosis	ICD-9-CM
304.31	Cannabis dependence, continuous	Diagnosis	ICD-9-CM
304.32	Cannabis dependence, episodic	Diagnosis	ICD-9-CM
304.33	Cannabis dependence, in remission	Diagnosis	ICD-9-CM
304.40	Amphetamine and other psychostimulant dependence, unspecified	Diagnosis	ICD-9-CM
304.41	Amphetamine and other psychostimulant dependence, continuous	Diagnosis	ICD-9-CM
304.42	Amphetamine and other psychostimulant dependence, episodic	Diagnosis	ICD-9-CM
304.43	Amphetamine and other psychostimulant dependence, in remission	Diagnosis	ICD-9-CM
304.50	Hallucinogen dependence, unspecified	Diagnosis	ICD-9-CM
304.51	Hallucinogen dependence, continuous	Diagnosis	ICD-9-CM
304.52	Hallucinogen dependence, episodic	Diagnosis	ICD-9-CM
304.53	Hallucinogen dependence, in remission	Diagnosis	ICD-9-CM
304.60	Other specified drug dependence, unspecified	Diagnosis	ICD-9-CM
304.61	Other specified drug dependence, continuous	Diagnosis	ICD-9-CM
304.62	Other specified drug dependence, episodic	Diagnosis	ICD-9-CM
304.63	Other specified drug dependence, in remission	Diagnosis	ICD-9-CM
304.70	Combinations of opioid type drug with any other drug dependence, unspecified	Diagnosis	ICD-9-CM
304.71	Combinations of opioid type drug with any other drug dependence, continuous	Diagnosis	ICD-9-CM
304.72	Combinations of opioid type drug with any other drug dependence, episodic	Diagnosis	ICD-9-CM
304.73	Combinations of opioid type drug with any other drug dependence, in remission	Diagnosis	ICD-9-CM
304.80	Combinations of drug dependence excluding opioid type drug, unspecified	Diagnosis	ICD-9-CM
304.81	Combinations of drug dependence excluding opioid type drug, continuous	Diagnosis	ICD-9-CM
304.82	Combinations of drug dependence excluding opioid type drug, episodic	Diagnosis	ICD-9-CM
304.83	Combinations of drug dependence excluding opioid type drug, in remission	Diagnosis	ICD-9-CM
304.90	Unspecified drug dependence, unspecified	Diagnosis	ICD-9-CM
304.91	Unspecified drug dependence, continuous	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
304.92	Unspecified drug dependence, episodic	Diagnosis	ICD-9-CM
304.93	Unspecified drug dependence, in remission	Diagnosis	ICD-9-CM
305.00	Nondependent alcohol abuse, unspecified	Diagnosis	ICD-9-CM
305.01	Nondependent alcohol abuse, continuous	Diagnosis	ICD-9-CM
305.02	Nondependent alcohol abuse, episodic	Diagnosis	ICD-9-CM
305.03	Nondependent alcohol abuse, in remission	Diagnosis	ICD-9-CM
305.1	Nondependent tobacco use disorder	Diagnosis	ICD-9-CM
305.20	Nondependent cannabis abuse, unspecified	Diagnosis	ICD-9-CM
305.21	Nondependent cannabis abuse, continuous	Diagnosis	ICD-9-CM
305.22	Nondependent cannabis abuse, episodic	Diagnosis	ICD-9-CM
305.23	Nondependent cannabis abuse, in remission	Diagnosis	ICD-9-CM
305.30	Nondependent hallucinogen abuse, unspecified	Diagnosis	ICD-9-CM
305.31	Nondependent hallucinogen abuse, continuous	Diagnosis	ICD-9-CM
305.32	Nondependent hallucinogen abuse, episodic	Diagnosis	ICD-9-CM
305.33	Nondependent hallucinogen abuse, in remission	Diagnosis	ICD-9-CM
305.40	Nondependent sedative, hypnotic or anxiolytic abuse, unspecified	Diagnosis	ICD-9-CM
305.41	Nondependent sedative hypnotic or anxiolytic abuse, continuous	Diagnosis	ICD-9-CM
305.42	Nondependent sedative, hypnotic or anxiolytic abuse, episodic	Diagnosis	ICD-9-CM
305.43	Nondependent sedative, hypnotic or anxiolytic abuse, in remission	Diagnosis	ICD-9-CM
305.50	Nondependent opioid abuse, unspecified	Diagnosis	ICD-9-CM
305.51	Nondependent opioid abuse, continuous	Diagnosis	ICD-9-CM
305.52	Nondependent opioid abuse, episodic	Diagnosis	ICD-9-CM
305.53	Nondependent opioid abuse, in remission	Diagnosis	ICD-9-CM
305.60	Nondependent cocaine abuse, unspecified	Diagnosis	ICD-9-CM
305.61	Nondependent cocaine abuse, continuous	Diagnosis	ICD-9-CM
305.62	Nondependent cocaine abuse, episodic	Diagnosis	ICD-9-CM
305.63	Nondependent cocaine abuse, in remission	Diagnosis	ICD-9-CM
305.70	Nondependent amphetamine or related acting sympathomimetic abuse,	Diagnosis	ICD-9-CM
305.71	Nondependent amphetamine or related acting sympathomimetic abuse, continuous	Diagnosis	ICD-9-CM
305.72	Nondependent amphetamine or related acting sympathomimetic abuse, episodic	Diagnosis	ICD-9-CM
305.73	Nondependent amphetamine or related acting sympathomimetic abuse, in	Diagnosis	ICD-9-CM
305.80	Nondependent antidepressant type abuse, unspecified	Diagnosis	ICD-9-CM
305.81	Nondependent antidepressant type abuse, continuous	Diagnosis	ICD-9-CM
305.82	Nondependent antidepressant type abuse, episodic	Diagnosis	ICD-9-CM
305.83	Nondependent antidepressant type abuse, in remission	Diagnosis	ICD-9-CM
306.0	Musculoskeletal malfunction arising from mental factors	Diagnosis	ICD-9-CM
306.1	Respiratory malfunction arising from mental factors	Diagnosis	ICD-9-CM
306.2	Cardiovascular malfunction arising from mental factors	Diagnosis	ICD-9-CM
306.3	Skin malfunction arising from mental factors	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
306.4	Gastrointestinal malfunction arising from mental factors	Diagnosis	ICD-9-CM
306.50	Psychogenic genitourinary malfunction, unspecified	Diagnosis	ICD-9-CM
306.51	Psychogenic vaginismus	Diagnosis	ICD-9-CM
306.52	Psychogenic dysmenorrhea	Diagnosis	ICD-9-CM
306.53	Psychogenic dysuria	Diagnosis	ICD-9-CM
306.59	Other genitourinary malfunction arising from mental factors	Diagnosis	ICD-9-CM
306.6	Endocrine malfunction arising from mental factors	Diagnosis	ICD-9-CM
306.7	Malfunction of organs of special sense arising from mental factors	Diagnosis	ICD-9-CM
306.8	Other specified psychophysiological malfunction	Diagnosis	ICD-9-CM
306.9	Unspecified psychophysiological malfunction	Diagnosis	ICD-9-CM
307.0	Adult onset fluency disorder	Diagnosis	ICD-9-CM
307.1	Anorexia nervosa	Diagnosis	ICD-9-CM
307.20	Tic disorder, unspecified	Diagnosis	ICD-9-CM
307.21	Transient tic disorder	Diagnosis	ICD-9-CM
307.22	Chronic motor or vocal tic disorder	Diagnosis	ICD-9-CM
307.23	Tourette's disorder	Diagnosis	ICD-9-CM
307.3	Stereotypic movement disorder	Diagnosis	ICD-9-CM
307.40	Nonorganic sleep disorder, unspecified	Diagnosis	ICD-9-CM
307.41	Transient disorder of initiating or maintaining sleep	Diagnosis	ICD-9-CM
307.42	Persistent disorder of initiating or maintaining sleep	Diagnosis	ICD-9-CM
307.43	Transient disorder of initiating or maintaining wakefulness	Diagnosis	ICD-9-CM
307.44	Persistent disorder of initiating or maintaining wakefulness	Diagnosis	ICD-9-CM
307.45	Circadian rhythm sleep disorder of nonorganic origin	Diagnosis	ICD-9-CM
307.46	Sleep arousal disorder	Diagnosis	ICD-9-CM
307.47	Other dysfunctions of sleep stages or arousal from sleep	Diagnosis	ICD-9-CM
307.48	Repetitive intrusions of sleep	Diagnosis	ICD-9-CM
307.49	Other specific disorder of sleep of nonorganic origin	Diagnosis	ICD-9-CM
307.50	Eating disorder, unspecified	Diagnosis	ICD-9-CM
307.51	Bulimia nervosa	Diagnosis	ICD-9-CM
307.52	Pica	Diagnosis	ICD-9-CM
307.53	Rumination disorder	Diagnosis	ICD-9-CM
307.54	Psychogenic vomiting	Diagnosis	ICD-9-CM
307.59	Other disorder of eating	Diagnosis	ICD-9-CM
307.6	Enuresis	Diagnosis	ICD-9-CM
307.7	Encopresis	Diagnosis	ICD-9-CM
307.80	Psychogenic pain, site unspecified	Diagnosis	ICD-9-CM
307.89	Other pain disorder related to psychological factors	Diagnosis	ICD-9-CM
307.9	Other and unspecified special symptom or syndrome, not elsewhere classified	Diagnosis	ICD-9-CM
308.0	Predominant disturbance of emotions	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
309.1	Prolonged depressive reaction as adjustment reaction	Diagnosis	ICD-9-CM
309.21	Separation anxiety disorder	Diagnosis	ICD-9-CM
309.22	Emancipation disorder of adolescence and early adult life	Diagnosis	ICD-9-CM
309.23	Specific academic or work inhibition as adjustment reaction	Diagnosis	ICD-9-CM
309.24	Adjustment disorder with anxiety	Diagnosis	ICD-9-CM
309.29	Other adjustment reaction with predominant disturbance of other emotions	Diagnosis	ICD-9-CM
309.3	Adjustment disorder with disturbance of conduct	Diagnosis	ICD-9-CM
309.4	Adjustment disorder with mixed disturbance of emotions and conduct	Diagnosis	ICD-9-CM
309.81	Posttraumatic stress disorder	Diagnosis	ICD-9-CM
309.82	Adjustment reaction with physical symptoms	Diagnosis	ICD-9-CM
309.83	Adjustment reaction with withdrawal	Diagnosis	ICD-9-CM
309.89	Other specified adjustment reaction	Diagnosis	ICD-9-CM
309.9	Unspecified adjustment reaction	Diagnosis	ICD-9-CM
310.0	Frontal lobe syndrome	Diagnosis	ICD-9-CM
310.1	Personality change due to conditions classified elsewhere	Diagnosis	ICD-9-CM
310.2	Postconcussion syndrome	Diagnosis	ICD-9-CM
310.81	Pseudobulbar affect	Diagnosis	ICD-9-CM
310.89	Other specified nonpsychotic mental disorders following organic brain damage	Diagnosis	ICD-9-CM
310.9	Unspecified nonpsychotic mental disorder following organic brain damage	Diagnosis	ICD-9-CM
312.00	Undersocialized conduct disorder, aggressive type, unspecified	Diagnosis	ICD-9-CM
312.01	Undersocialized conduct disorder, aggressive type, mild	Diagnosis	ICD-9-CM
312.02	Undersocialized conduct disorder, aggressive type, moderate	Diagnosis	ICD-9-CM
312.03	Undersocialized conduct disorder, aggressive type, severe	Diagnosis	ICD-9-CM
312.10	Undersocialized conduct disorder, unaggressive type, unspecified	Diagnosis	ICD-9-CM
312.11	Undersocialized conduct disorder, unaggressive type, mild	Diagnosis	ICD-9-CM
312.12	Undersocialized conduct disorder, unaggressive type, moderate	Diagnosis	ICD-9-CM
312.13	Undersocialized conduct disorder, unaggressive type, severe	Diagnosis	ICD-9-CM
312.20	Socialized conduct disorder, unspecified	Diagnosis	ICD-9-CM
312.21	Socialized conduct disorder, mild	Diagnosis	ICD-9-CM
312.22	Socialized conduct disorder, moderate	Diagnosis	ICD-9-CM
312.23	Socialized conduct disorder, severe	Diagnosis	ICD-9-CM
312.30	Impulse control disorder, unspecified	Diagnosis	ICD-9-CM
312.31	Pathological gambling	Diagnosis	ICD-9-CM
312.32	Kleptomania	Diagnosis	ICD-9-CM
312.33	Pyromania	Diagnosis	ICD-9-CM
312.34	Intermittent explosive disorder	Diagnosis	ICD-9-CM
312.35	Isolated explosive disorder	Diagnosis	ICD-9-CM
312.39	Other disorder of impulse control	Diagnosis	ICD-9-CM
312.4	Mixed disturbance of conduct and emotions	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
312.81	Conduct disorder, childhood onset type	Diagnosis	ICD-9-CM
312.82	Conduct disorder, adolescent onset type	Diagnosis	ICD-9-CM
312.89	Other specified disturbance of conduct, not elsewhere classified	Diagnosis	ICD-9-CM
312.9	Unspecified disturbance of conduct	Diagnosis	ICD-9-CM
313.23	Selective mutism	Diagnosis	ICD-9-CM
313.81	Oppositional defiant disorder	Diagnosis	ICD-9-CM
313.89	Other emotional disturbance of childhood or adolescence	Diagnosis	ICD-9-CM
313.9	Unspecified emotional disturbance of childhood or adolescence	Diagnosis	ICD-9-CM
314.00	Attention deficit disorder of childhood without mention of hyperactivity	Diagnosis	ICD-9-CM
314.01	Attention deficit disorder of childhood with hyperactivity	Diagnosis	ICD-9-CM
314.1	Hyperkinesis of childhood with developmental delay	Diagnosis	ICD-9-CM
314.2	Hyperkinetic conduct disorder of childhood	Diagnosis	ICD-9-CM
314.8	Other specified manifestations of hyperkinetic syndrome of childhood	Diagnosis	ICD-9-CM
314.9	Unspecified hyperkinetic syndrome of childhood	Diagnosis	ICD-9-CM
315.00	Developmental reading disorder, unspecified	Diagnosis	ICD-9-CM
315.02	Developmental dyslexia	Diagnosis	ICD-9-CM
315.09	Other specific developmental reading disorder	Diagnosis	ICD-9-CM
315.1	Mathematics disorder	Diagnosis	ICD-9-CM
315.2	Other specific developmental learning difficulties	Diagnosis	ICD-9-CM
315.31	Expressive language disorder	Diagnosis	ICD-9-CM
315.32	Mixed receptive-expressive language disorder	Diagnosis	ICD-9-CM
315.34	Speech and language developmental delay due to hearing loss	Diagnosis	ICD-9-CM
315.35	Childhood onset fluency disorder	Diagnosis	ICD-9-CM
315.39	Other developmental speech or language disorder	Diagnosis	ICD-9-CM
315.4	Developmental coordination disorder	Diagnosis	ICD-9-CM
315.5	Mixed development disorder	Diagnosis	ICD-9-CM
315.8	Other specified delay in development	Diagnosis	ICD-9-CM
315.9	Unspecified delay in development	Diagnosis	ICD-9-CM
316	Psychic factors associated with diseases classified elsewhere	Diagnosis	ICD-9-CM
317	Mild intellectual disabilities	Diagnosis	ICD-9-CM
318.0	Moderate intellectual disabilities	Diagnosis	ICD-9-CM
318.1	Severe intellectual disabilities	Diagnosis	ICD-9-CM
318.2	Profound intellectual disabilities	Diagnosis	ICD-9-CM
319	Unspecified intellectual disabilities	Diagnosis	ICD-9-CM
327.02	Insomnia due to mental disorder	Diagnosis	ICD-9-CM
327.15	Hypersomnia due to mental disorder	Diagnosis	ICD-9-CM
330.8	Other specified cerebral degenerations in childhood	Diagnosis	ICD-9-CM
625.4	Premenstrual tension syndromes	Diagnosis	ICD-9-CM
780.58	Sleep related movement disorder, unspecified	Diagnosis	ICD-9-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
F01	Vascular dementia	Diagnosis	ICD-10-CM
F01.5	Vascular dementia	Diagnosis	ICD-10-CM
F01.50	Vascular dementia without behavioral disturbance	Diagnosis	ICD-10-CM
F01.51	Vascular dementia with behavioral disturbance	Diagnosis	ICD-10-CM
F02	Dementia in other diseases classified elsewhere	Diagnosis	ICD-10-CM
F02.8	Dementia in other diseases classified elsewhere	Diagnosis	ICD-10-CM
F02.80	Dementia in other diseases classified elsewhere without behavioral disturbance	Diagnosis	ICD-10-CM
F02.81	Dementia in other diseases classified elsewhere with behavioral disturbance	Diagnosis	ICD-10-CM
F03	Unspecified dementia	Diagnosis	ICD-10-CM
F03.9	Unspecified dementia	Diagnosis	ICD-10-CM
F03.90	Unspecified dementia without behavioral disturbance	Diagnosis	ICD-10-CM
F03.91	Unspecified dementia with behavioral disturbance	Diagnosis	ICD-10-CM
F04	Amnesic disorder due to known physiological condition	Diagnosis	ICD-10-CM
F05	Delirium due to known physiological condition	Diagnosis	ICD-10-CM
F06	Other mental disorders due to known physiological condition	Diagnosis	ICD-10-CM
F06.0	Psychotic disorder with hallucinations due to known physiological condition	Diagnosis	ICD-10-CM
F06.1	Catatonic disorder due to known physiological condition	Diagnosis	ICD-10-CM
F06.2	Psychotic disorder with delusions due to known physiological condition	Diagnosis	ICD-10-CM
F06.3	Mood disorder due to known physiological condition	Diagnosis	ICD-10-CM
F06.30	Mood disorder due to known physiological condition, unspecified	Diagnosis	ICD-10-CM
F06.31	Mood disorder due to known physiological condition with depressive features	Diagnosis	ICD-10-CM
F06.32	Mood disorder due to known physiological condition with major depressive-like	Diagnosis	ICD-10-CM
F06.33	Mood disorder due to known physiological condition with manic features	Diagnosis	ICD-10-CM
F06.34	Mood disorder due to known physiological condition with mixed features	Diagnosis	ICD-10-CM
F06.8	Other specified mental disorders due to known physiological condition	Diagnosis	ICD-10-CM
F07	Personality and behavioral disorders due to known physiological condition	Diagnosis	ICD-10-CM
F07.0	Personality change due to known physiological condition	Diagnosis	ICD-10-CM
F07.8	Other personality and behavioral disorders due to known physiological condition	Diagnosis	ICD-10-CM
F07.81	Postconcussional syndrome	Diagnosis	ICD-10-CM
F07.89	Other personality and behavioral disorders due to known physiological condition	Diagnosis	ICD-10-CM
F07.9	Unspecified personality and behavioral disorder due to known physiological	Diagnosis	ICD-10-CM
F09	Unspecified mental disorder due to known physiological condition	Diagnosis	ICD-10-CM
F10	Alcohol related disorders	Diagnosis	ICD-10-CM
F10.1	Alcohol abuse	Diagnosis	ICD-10-CM
F10.10	Alcohol abuse, uncomplicated	Diagnosis	ICD-10-CM
F10.11	Alcohol abuse, in remission	Diagnosis	ICD-10-CM
F10.12	Alcohol abuse with intoxication	Diagnosis	ICD-10-CM
F10.120	Alcohol abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F10.121	Alcohol abuse with intoxication delirium	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
F10.129	Alcohol abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F10.14	Alcohol abuse with alcohol-induced mood disorder	Diagnosis	ICD-10-CM
F10.15	Alcohol abuse with alcohol-induced psychotic disorder	Diagnosis	ICD-10-CM
F10.150	Alcohol abuse with alcohol-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F10.151	Alcohol abuse with alcohol-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F10.159	Alcohol abuse with alcohol-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F10.18	Alcohol abuse with other alcohol-induced disorders	Diagnosis	ICD-10-CM
F10.180	Alcohol abuse with alcohol-induced anxiety disorder	Diagnosis	ICD-10-CM
F10.181	Alcohol abuse with alcohol-induced sexual dysfunction	Diagnosis	ICD-10-CM
F10.182	Alcohol abuse with alcohol-induced sleep disorder	Diagnosis	ICD-10-CM
F10.188	Alcohol abuse with other alcohol-induced disorder	Diagnosis	ICD-10-CM
F10.19	Alcohol abuse with unspecified alcohol-induced disorder	Diagnosis	ICD-10-CM
F10.2	Alcohol dependence	Diagnosis	ICD-10-CM
F10.20	Alcohol dependence, uncomplicated	Diagnosis	ICD-10-CM
F10.21	Alcohol dependence, in remission	Diagnosis	ICD-10-CM
F10.22	Alcohol dependence with intoxication	Diagnosis	ICD-10-CM
F10.220	Alcohol dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F10.221	Alcohol dependence with intoxication delirium	Diagnosis	ICD-10-CM
F10.229	Alcohol dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F10.23	Alcohol dependence with withdrawal	Diagnosis	ICD-10-CM
F10.230	Alcohol dependence with withdrawal, uncomplicated	Diagnosis	ICD-10-CM
F10.231	Alcohol dependence with withdrawal delirium	Diagnosis	ICD-10-CM
F10.232	Alcohol dependence with withdrawal with perceptual disturbance	Diagnosis	ICD-10-CM
F10.239	Alcohol dependence with withdrawal, unspecified	Diagnosis	ICD-10-CM
F10.24	Alcohol dependence with alcohol-induced mood disorder	Diagnosis	ICD-10-CM
F10.25	Alcohol dependence with alcohol-induced psychotic disorder	Diagnosis	ICD-10-CM
F10.250	Alcohol dependence with alcohol-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F10.251	Alcohol dependence with alcohol-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F10.259	Alcohol dependence with alcohol-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F10.26	Alcohol dependence with alcohol-induced persisting amnesic disorder	Diagnosis	ICD-10-CM
F10.27	Alcohol dependence with alcohol-induced persisting dementia	Diagnosis	ICD-10-CM
F10.28	Alcohol dependence with other alcohol-induced disorders	Diagnosis	ICD-10-CM
F10.280	Alcohol dependence with alcohol-induced anxiety disorder	Diagnosis	ICD-10-CM
F10.281	Alcohol dependence with alcohol-induced sexual dysfunction	Diagnosis	ICD-10-CM
F10.282	Alcohol dependence with alcohol-induced sleep disorder	Diagnosis	ICD-10-CM
F10.288	Alcohol dependence with other alcohol-induced disorder	Diagnosis	ICD-10-CM
F10.29	Alcohol dependence with unspecified alcohol-induced disorder	Diagnosis	ICD-10-CM
F10.9	Alcohol use, unspecified	Diagnosis	ICD-10-CM
F10.92	Alcohol use, unspecified with intoxication	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F10.920	Alcohol use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F10.921	Alcohol use, unspecified with intoxication delirium	Diagnosis	ICD-10-CM
F10.929	Alcohol use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F10.94	Alcohol use, unspecified with alcohol-induced mood disorder	Diagnosis	ICD-10-CM
F10.95	Alcohol use, unspecified with alcohol-induced psychotic disorder	Diagnosis	ICD-10-CM
F10.950	Alcohol use, unspecified with alcohol-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F10.951	Alcohol use, unspecified with alcohol-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F10.959	Alcohol use, unspecified with alcohol-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F10.96	Alcohol use, unspecified with alcohol-induced persisting amnestic disorder	Diagnosis	ICD-10-CM
F10.97	Alcohol use, unspecified with alcohol-induced persisting dementia	Diagnosis	ICD-10-CM
F10.98	Alcohol use, unspecified with other alcohol-induced disorders	Diagnosis	ICD-10-CM
F10.980	Alcohol use, unspecified with alcohol-induced anxiety disorder	Diagnosis	ICD-10-CM
F10.981	Alcohol use, unspecified with alcohol-induced sexual dysfunction	Diagnosis	ICD-10-CM
F10.982	Alcohol use, unspecified with alcohol-induced sleep disorder	Diagnosis	ICD-10-CM
F10.988	Alcohol use, unspecified with other alcohol-induced disorder	Diagnosis	ICD-10-CM
F10.99	Alcohol use, unspecified with unspecified alcohol-induced disorder	Diagnosis	ICD-10-CM
F11	Opioid related disorders	Diagnosis	ICD-10-CM
F11.1	Opioid abuse	Diagnosis	ICD-10-CM
F11.10	Opioid abuse, uncomplicated	Diagnosis	ICD-10-CM
F11.11	Opioid abuse, in remission	Diagnosis	ICD-10-CM
F11.12	Opioid abuse with intoxication	Diagnosis	ICD-10-CM
F11.120	Opioid abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F11.121	Opioid abuse with intoxication delirium	Diagnosis	ICD-10-CM
F11.122	Opioid abuse with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F11.129	Opioid abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F11.14	Opioid abuse with opioid-induced mood disorder	Diagnosis	ICD-10-CM
F11.15	Opioid abuse with opioid-induced psychotic disorder	Diagnosis	ICD-10-CM
F11.150	Opioid abuse with opioid-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F11.151	Opioid abuse with opioid-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F11.159	Opioid abuse with opioid-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F11.18	Opioid abuse with other opioid-induced disorder	Diagnosis	ICD-10-CM
F11.181	Opioid abuse with opioid-induced sexual dysfunction	Diagnosis	ICD-10-CM
F11.182	Opioid abuse with opioid-induced sleep disorder	Diagnosis	ICD-10-CM
F11.188	Opioid abuse with other opioid-induced disorder	Diagnosis	ICD-10-CM
F11.19	Opioid abuse with unspecified opioid-induced disorder	Diagnosis	ICD-10-CM
F11.2	Opioid dependence	Diagnosis	ICD-10-CM
F11.20	Opioid dependence, uncomplicated	Diagnosis	ICD-10-CM
F11.21	Opioid dependence, in remission	Diagnosis	ICD-10-CM
F11.22	Opioid dependence with intoxication	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
F11.220	Opioid dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F11.221	Opioid dependence with intoxication delirium	Diagnosis	ICD-10-CM
F11.222	Opioid dependence with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F11.229	Opioid dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F11.23	Opioid dependence with withdrawal	Diagnosis	ICD-10-CM
F11.24	Opioid dependence with opioid-induced mood disorder	Diagnosis	ICD-10-CM
F11.25	Opioid dependence with opioid-induced psychotic disorder	Diagnosis	ICD-10-CM
F11.250	Opioid dependence with opioid-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F11.251	Opioid dependence with opioid-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F11.259	Opioid dependence with opioid-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F11.28	Opioid dependence with other opioid-induced disorder	Diagnosis	ICD-10-CM
F11.281	Opioid dependence with opioid-induced sexual dysfunction	Diagnosis	ICD-10-CM
F11.282	Opioid dependence with opioid-induced sleep disorder	Diagnosis	ICD-10-CM
F11.288	Opioid dependence with other opioid-induced disorder	Diagnosis	ICD-10-CM
F11.29	Opioid dependence with unspecified opioid-induced disorder	Diagnosis	ICD-10-CM
F11.9	Opioid use, unspecified	Diagnosis	ICD-10-CM
F11.90	Opioid use, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F11.92	Opioid use, unspecified with intoxication	Diagnosis	ICD-10-CM
F11.920	Opioid use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F11.921	Opioid use, unspecified with intoxication delirium	Diagnosis	ICD-10-CM
F11.922	Opioid use, unspecified with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F11.929	Opioid use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F11.93	Opioid use, unspecified with withdrawal	Diagnosis	ICD-10-CM
F11.94	Opioid use, unspecified with opioid-induced mood disorder	Diagnosis	ICD-10-CM
F11.95	Opioid use, unspecified with opioid-induced psychotic disorder	Diagnosis	ICD-10-CM
F11.950	Opioid use, unspecified with opioid-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F11.951	Opioid use, unspecified with opioid-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F11.959	Opioid use, unspecified with opioid-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F11.98	Opioid use, unspecified with other specified opioid-induced disorder	Diagnosis	ICD-10-CM
F11.981	Opioid use, unspecified with opioid-induced sexual dysfunction	Diagnosis	ICD-10-CM
F11.982	Opioid use, unspecified with opioid-induced sleep disorder	Diagnosis	ICD-10-CM
F11.988	Opioid use, unspecified with other opioid-induced disorder	Diagnosis	ICD-10-CM
F11.99	Opioid use, unspecified with unspecified opioid-induced disorder	Diagnosis	ICD-10-CM
F12	Cannabis related disorders	Diagnosis	ICD-10-CM
F12.1	Cannabis abuse	Diagnosis	ICD-10-CM
F12.10	Cannabis abuse, uncomplicated	Diagnosis	ICD-10-CM
F12.11	Cannabis abuse, in remission	Diagnosis	ICD-10-CM
F12.12	Cannabis abuse with intoxication	Diagnosis	ICD-10-CM
F12.120	Cannabis abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F12.121	Cannabis abuse with intoxication delirium	Diagnosis	ICD-10-CM
F12.122	Cannabis abuse with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F12.129	Cannabis abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F12.15	Cannabis abuse with psychotic disorder	Diagnosis	ICD-10-CM
F12.150	Cannabis abuse with psychotic disorder with delusions	Diagnosis	ICD-10-CM
F12.151	Cannabis abuse with psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F12.159	Cannabis abuse with psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F12.18	Cannabis abuse with other cannabis-induced disorder	Diagnosis	ICD-10-CM
F12.180	Cannabis abuse with cannabis-induced anxiety disorder	Diagnosis	ICD-10-CM
F12.188	Cannabis abuse with other cannabis-induced disorder	Diagnosis	ICD-10-CM
F12.19	Cannabis abuse with unspecified cannabis-induced disorder	Diagnosis	ICD-10-CM
F12.2	Cannabis dependence	Diagnosis	ICD-10-CM
F12.20	Cannabis dependence, uncomplicated	Diagnosis	ICD-10-CM
F12.21	Cannabis dependence, in remission	Diagnosis	ICD-10-CM
F12.22	Cannabis dependence with intoxication	Diagnosis	ICD-10-CM
F12.220	Cannabis dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F12.221	Cannabis dependence with intoxication delirium	Diagnosis	ICD-10-CM
F12.222	Cannabis dependence with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F12.229	Cannabis dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F12.23	Cannabis dependence with withdrawal	Diagnosis	ICD-10-CM
F12.25	Cannabis dependence with psychotic disorder	Diagnosis	ICD-10-CM
F12.250	Cannabis dependence with psychotic disorder with delusions	Diagnosis	ICD-10-CM
F12.251	Cannabis dependence with psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F12.259	Cannabis dependence with psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F12.28	Cannabis dependence with other cannabis-induced disorder	Diagnosis	ICD-10-CM
F12.280	Cannabis dependence with cannabis-induced anxiety disorder	Diagnosis	ICD-10-CM
F12.288	Cannabis dependence with other cannabis-induced disorder	Diagnosis	ICD-10-CM
F12.29	Cannabis dependence with unspecified cannabis-induced disorder	Diagnosis	ICD-10-CM
F12.9	Cannabis use, unspecified	Diagnosis	ICD-10-CM
F12.90	Cannabis use, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F12.92	Cannabis use, unspecified with intoxication	Diagnosis	ICD-10-CM
F12.920	Cannabis use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F12.921	Cannabis use, unspecified with intoxication delirium	Diagnosis	ICD-10-CM
F12.922	Cannabis use, unspecified with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F12.929	Cannabis use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F12.93	Cannabis use, unspecified with withdrawal	Diagnosis	ICD-10-CM
F12.95	Cannabis use, unspecified with psychotic disorder	Diagnosis	ICD-10-CM
F12.950	Cannabis use, unspecified with psychotic disorder with delusions	Diagnosis	ICD-10-CM
F12.951	Cannabis use, unspecified with psychotic disorder with hallucinations	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F12.959	Cannabis use, unspecified with psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F12.98	Cannabis use, unspecified with other cannabis-induced disorder	Diagnosis	ICD-10-CM
F12.980	Cannabis use, unspecified with anxiety disorder	Diagnosis	ICD-10-CM
F12.988	Cannabis use, unspecified with other cannabis-induced disorder	Diagnosis	ICD-10-CM
F12.99	Cannabis use, unspecified with unspecified cannabis-induced disorder	Diagnosis	ICD-10-CM
F13	Sedative, hypnotic, or anxiolytic related disorders	Diagnosis	ICD-10-CM
F13.1	Sedative, hypnotic or anxiolytic-related abuse	Diagnosis	ICD-10-CM
F13.10	Sedative, hypnotic or anxiolytic abuse, uncomplicated	Diagnosis	ICD-10-CM
F13.11	Sedative, hypnotic or anxiolytic abuse, in remission	Diagnosis	ICD-10-CM
F13.12	Sedative, hypnotic or anxiolytic abuse with intoxication	Diagnosis	ICD-10-CM
F13.120	Sedative, hypnotic or anxiolytic abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F13.121	Sedative, hypnotic or anxiolytic abuse with intoxication delirium	Diagnosis	ICD-10-CM
F13.129	Sedative, hypnotic or anxiolytic abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F13.14	Sedative, hypnotic or anxiolytic abuse with sedative, hypnotic or anxiolytic-induced	Diagnosis	ICD-10-CM
F13.15	Sedative, hypnotic or anxiolytic abuse with sedative, hypnotic or anxiolytic-induced psychotic disorder	Diagnosis	ICD-10-CM
F13.150	Sedative, hypnotic or anxiolytic abuse with sedative, hypnotic or anxiolytic-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F13.151	Sedative, hypnotic or anxiolytic abuse with sedative, hypnotic or anxiolytic-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F13.159	Sedative, hypnotic or anxiolytic abuse with sedative, hypnotic or anxiolytic-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F13.18	Sedative, hypnotic or anxiolytic abuse with other sedative, hypnotic or anxiolytic-induced disorders	Diagnosis	ICD-10-CM
F13.180	Sedative, hypnotic or anxiolytic abuse with sedative, hypnotic or anxiolytic-induced anxiety disorder	Diagnosis	ICD-10-CM
F13.181	Sedative, hypnotic or anxiolytic abuse with sedative, hypnotic or anxiolytic-induced sexual dysfunction	Diagnosis	ICD-10-CM
F13.182	Sedative, hypnotic or anxiolytic abuse with sedative, hypnotic or anxiolytic-induced	Diagnosis	ICD-10-CM
F13.188	Sedative, hypnotic or anxiolytic abuse with other sedative, hypnotic or anxiolytic-	Diagnosis	ICD-10-CM
F13.19	Sedative, hypnotic or anxiolytic abuse with unspecified sedative, hypnotic or anxiolytic-induced disorder	Diagnosis	ICD-10-CM
F13.2	Sedative, hypnotic or anxiolytic-related dependence	Diagnosis	ICD-10-CM
F13.20	Sedative, hypnotic or anxiolytic dependence, uncomplicated	Diagnosis	ICD-10-CM
F13.21	Sedative, hypnotic or anxiolytic dependence, in remission	Diagnosis	ICD-10-CM
F13.22	Sedative, hypnotic or anxiolytic dependence with intoxication	Diagnosis	ICD-10-CM
F13.220	Sedative, hypnotic or anxiolytic dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F13.221	Sedative, hypnotic or anxiolytic dependence with intoxication delirium	Diagnosis	ICD-10-CM
F13.229	Sedative, hypnotic or anxiolytic dependence with intoxication, unspecified	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F13.23	Sedative, hypnotic or anxiolytic dependence with withdrawal	Diagnosis	ICD-10-CM
F13.230	Sedative, hypnotic or anxiolytic dependence with withdrawal, uncomplicated	Diagnosis	ICD-10-CM
F13.231	Sedative, hypnotic or anxiolytic dependence with withdrawal delirium	Diagnosis	ICD-10-CM
F13.232	Sedative, hypnotic or anxiolytic dependence with withdrawal with perceptual	Diagnosis	ICD-10-CM
F13.239	Sedative, hypnotic or anxiolytic dependence with withdrawal, unspecified	Diagnosis	ICD-10-CM
F13.24	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced mood disorder	Diagnosis	ICD-10-CM
F13.25	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced psychotic disorder	Diagnosis	ICD-10-CM
F13.250	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F13.251	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F13.259	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F13.26	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced persisting amnesic disorder	Diagnosis	ICD-10-CM
F13.27	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced persisting dementia	Diagnosis	ICD-10-CM
F13.28	Sedative, hypnotic or anxiolytic dependence with other sedative, hypnotic or anxiolytic-induced disorders	Diagnosis	ICD-10-CM
F13.280	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced anxiety disorder	Diagnosis	ICD-10-CM
F13.281	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced sexual dysfunction	Diagnosis	ICD-10-CM
F13.282	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced sleep disorder	Diagnosis	ICD-10-CM
F13.288	Sedative, hypnotic or anxiolytic dependence with other sedative, hypnotic or anxiolytic-induced disorder	Diagnosis	ICD-10-CM
F13.29	Sedative, hypnotic or anxiolytic dependence with unspecified sedative, hypnotic or anxiolytic-induced disorder	Diagnosis	ICD-10-CM
F13.9	Sedative, hypnotic or anxiolytic-related use, unspecified	Diagnosis	ICD-10-CM
F13.90	Sedative, hypnotic, or anxiolytic use, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F13.92	Sedative, hypnotic or anxiolytic use, unspecified with intoxication	Diagnosis	ICD-10-CM
F13.920	Sedative, hypnotic or anxiolytic use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F13.921	Sedative, hypnotic or anxiolytic use, unspecified with intoxication delirium	Diagnosis	ICD-10-CM
F13.929	Sedative, hypnotic or anxiolytic use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F13.93	Sedative, hypnotic or anxiolytic use, unspecified with withdrawal	Diagnosis	ICD-10-CM
F13.930	Sedative, hypnotic or anxiolytic use, unspecified with withdrawal, uncomplicated	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F13.931	Sedative, hypnotic or anxiolytic use, unspecified with withdrawal delirium	Diagnosis	ICD-10-CM
F13.932	Sedative, hypnotic or anxiolytic use, unspecified with withdrawal with perceptual	Diagnosis	ICD-10-CM
F13.939	Sedative, hypnotic or anxiolytic use, unspecified with withdrawal, unspecified	Diagnosis	ICD-10-CM
F13.94	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced mood disorder	Diagnosis	ICD-10-CM
F13.95	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced psychotic disorder	Diagnosis	ICD-10-CM
F13.950	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F13.951	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F13.959	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F13.96	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced persisting amnesic disorder	Diagnosis	ICD-10-CM
F13.97	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced persisting dementia	Diagnosis	ICD-10-CM
F13.98	Sedative, hypnotic or anxiolytic use, unspecified with other sedative, hypnotic or anxiolytic-induced disorders	Diagnosis	ICD-10-CM
F13.980	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced anxiety disorder	Diagnosis	ICD-10-CM
F13.981	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced sexual dysfunction	Diagnosis	ICD-10-CM
F13.982	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced sleep disorder	Diagnosis	ICD-10-CM
F13.988	Sedative, hypnotic or anxiolytic use, unspecified with other sedative, hypnotic or anxiolytic-induced disorder	Diagnosis	ICD-10-CM
F13.99	Sedative, hypnotic or anxiolytic use, unspecified with unspecified sedative, hypnotic or anxiolytic-induced disorder	Diagnosis	ICD-10-CM
F14	Cocaine related disorders	Diagnosis	ICD-10-CM
F14.1	Cocaine abuse	Diagnosis	ICD-10-CM
F14.10	Cocaine abuse, uncomplicated	Diagnosis	ICD-10-CM
F14.11	Cocaine abuse, in remission	Diagnosis	ICD-10-CM
F14.12	Cocaine abuse with intoxication	Diagnosis	ICD-10-CM
F14.120	Cocaine abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F14.121	Cocaine abuse with intoxication with delirium	Diagnosis	ICD-10-CM
F14.122	Cocaine abuse with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F14.129	Cocaine abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F14.14	Cocaine abuse with cocaine-induced mood disorder	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
F14.15	Cocaine abuse with cocaine-induced psychotic disorder	Diagnosis	ICD-10-CM
F14.150	Cocaine abuse with cocaine-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F14.151	Cocaine abuse with cocaine-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F14.159	Cocaine abuse with cocaine-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F14.18	Cocaine abuse with other cocaine-induced disorder	Diagnosis	ICD-10-CM
F14.180	Cocaine abuse with cocaine-induced anxiety disorder	Diagnosis	ICD-10-CM
F14.181	Cocaine abuse with cocaine-induced sexual dysfunction	Diagnosis	ICD-10-CM
F14.182	Cocaine abuse with cocaine-induced sleep disorder	Diagnosis	ICD-10-CM
F14.188	Cocaine abuse with other cocaine-induced disorder	Diagnosis	ICD-10-CM
F14.19	Cocaine abuse with unspecified cocaine-induced disorder	Diagnosis	ICD-10-CM
F14.2	Cocaine dependence	Diagnosis	ICD-10-CM
F14.20	Cocaine dependence, uncomplicated	Diagnosis	ICD-10-CM
F14.21	Cocaine dependence, in remission	Diagnosis	ICD-10-CM
F14.22	Cocaine dependence with intoxication	Diagnosis	ICD-10-CM
F14.220	Cocaine dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F14.221	Cocaine dependence with intoxication delirium	Diagnosis	ICD-10-CM
F14.222	Cocaine dependence with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F14.229	Cocaine dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F14.23	Cocaine dependence with withdrawal	Diagnosis	ICD-10-CM
F14.24	Cocaine dependence with cocaine-induced mood disorder	Diagnosis	ICD-10-CM
F14.25	Cocaine dependence with cocaine-induced psychotic disorder	Diagnosis	ICD-10-CM
F14.250	Cocaine dependence with cocaine-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F14.251	Cocaine dependence with cocaine-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F14.259	Cocaine dependence with cocaine-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F14.28	Cocaine dependence with other cocaine-induced disorder	Diagnosis	ICD-10-CM
F14.280	Cocaine dependence with cocaine-induced anxiety disorder	Diagnosis	ICD-10-CM
F14.281	Cocaine dependence with cocaine-induced sexual dysfunction	Diagnosis	ICD-10-CM
F14.282	Cocaine dependence with cocaine-induced sleep disorder	Diagnosis	ICD-10-CM
F14.288	Cocaine dependence with other cocaine-induced disorder	Diagnosis	ICD-10-CM
F14.29	Cocaine dependence with unspecified cocaine-induced disorder	Diagnosis	ICD-10-CM
F14.9	Cocaine use, unspecified	Diagnosis	ICD-10-CM
F14.90	Cocaine use, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F14.92	Cocaine use, unspecified with intoxication	Diagnosis	ICD-10-CM
F14.920	Cocaine use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F14.921	Cocaine use, unspecified with intoxication delirium	Diagnosis	ICD-10-CM
F14.922	Cocaine use, unspecified with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F14.929	Cocaine use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F14.94	Cocaine use, unspecified with cocaine-induced mood disorder	Diagnosis	ICD-10-CM
F14.95	Cocaine use, unspecified with cocaine-induced psychotic disorder	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
F14.950	Cocaine use, unspecified with cocaine-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F14.951	Cocaine use, unspecified with cocaine-induced psychotic disorder with	Diagnosis	ICD-10-CM
F14.959	Cocaine use, unspecified with cocaine-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F14.98	Cocaine use, unspecified with other specified cocaine-induced disorder	Diagnosis	ICD-10-CM
F14.980	Cocaine use, unspecified with cocaine-induced anxiety disorder	Diagnosis	ICD-10-CM
F14.981	Cocaine use, unspecified with cocaine-induced sexual dysfunction	Diagnosis	ICD-10-CM
F14.982	Cocaine use, unspecified with cocaine-induced sleep disorder	Diagnosis	ICD-10-CM
F14.988	Cocaine use, unspecified with other cocaine-induced disorder	Diagnosis	ICD-10-CM
F14.99	Cocaine use, unspecified with unspecified cocaine-induced disorder	Diagnosis	ICD-10-CM
F15	Other stimulant related disorders	Diagnosis	ICD-10-CM
F15.1	Other stimulant abuse	Diagnosis	ICD-10-CM
F15.10	Other stimulant abuse, uncomplicated	Diagnosis	ICD-10-CM
F15.11	Other stimulant abuse, in remission	Diagnosis	ICD-10-CM
F15.12	Other stimulant abuse with intoxication	Diagnosis	ICD-10-CM
F15.120	Other stimulant abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F15.121	Other stimulant abuse with intoxication delirium	Diagnosis	ICD-10-CM
F15.122	Other stimulant abuse with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F15.129	Other stimulant abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F15.14	Other stimulant abuse with stimulant-induced mood disorder	Diagnosis	ICD-10-CM
F15.15	Other stimulant abuse with stimulant-induced psychotic disorder	Diagnosis	ICD-10-CM
F15.150	Other stimulant abuse with stimulant-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F15.151	Other stimulant abuse with stimulant-induced psychotic disorder with	Diagnosis	ICD-10-CM
F15.159	Other stimulant abuse with stimulant-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F15.18	Other stimulant abuse with other stimulant-induced disorder	Diagnosis	ICD-10-CM
F15.180	Other stimulant abuse with stimulant-induced anxiety disorder	Diagnosis	ICD-10-CM
F15.181	Other stimulant abuse with stimulant-induced sexual dysfunction	Diagnosis	ICD-10-CM
F15.182	Other stimulant abuse with stimulant-induced sleep disorder	Diagnosis	ICD-10-CM
F15.188	Other stimulant abuse with other stimulant-induced disorder	Diagnosis	ICD-10-CM
F15.19	Other stimulant abuse with unspecified stimulant-induced disorder	Diagnosis	ICD-10-CM
F15.2	Other stimulant dependence	Diagnosis	ICD-10-CM
F15.20	Other stimulant dependence, uncomplicated	Diagnosis	ICD-10-CM
F15.21	Other stimulant dependence, in remission	Diagnosis	ICD-10-CM
F15.22	Other stimulant dependence with intoxication	Diagnosis	ICD-10-CM
F15.220	Other stimulant dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F15.221	Other stimulant dependence with intoxication delirium	Diagnosis	ICD-10-CM
F15.222	Other stimulant dependence with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F15.229	Other stimulant dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F15.23	Other stimulant dependence with withdrawal	Diagnosis	ICD-10-CM
F15.24	Other stimulant dependence with stimulant-induced mood disorder	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F15.25	Other stimulant dependence with stimulant-induced psychotic disorder	Diagnosis	ICD-10-CM
F15.250	Other stimulant dependence with stimulant-induced psychotic disorder with	Diagnosis	ICD-10-CM
F15.251	Other stimulant dependence with stimulant-induced psychotic disorder with	Diagnosis	ICD-10-CM
F15.259	Other stimulant dependence with stimulant-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F15.28	Other stimulant dependence with other stimulant-induced disorder	Diagnosis	ICD-10-CM
F15.280	Other stimulant dependence with stimulant-induced anxiety disorder	Diagnosis	ICD-10-CM
F15.281	Other stimulant dependence with stimulant-induced sexual dysfunction	Diagnosis	ICD-10-CM
F15.282	Other stimulant dependence with stimulant-induced sleep disorder	Diagnosis	ICD-10-CM
F15.288	Other stimulant dependence with other stimulant-induced disorder	Diagnosis	ICD-10-CM
F15.29	Other stimulant dependence with unspecified stimulant-induced disorder	Diagnosis	ICD-10-CM
F15.9	Other stimulant use, unspecified	Diagnosis	ICD-10-CM
F15.90	Other stimulant use, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F15.92	Other stimulant use, unspecified with intoxication	Diagnosis	ICD-10-CM
F15.920	Other stimulant use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F15.921	Other stimulant use, unspecified with intoxication delirium	Diagnosis	ICD-10-CM
F15.922	Other stimulant use, unspecified with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F15.929	Other stimulant use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F15.93	Other stimulant use, unspecified with withdrawal	Diagnosis	ICD-10-CM
F15.94	Other stimulant use, unspecified with stimulant-induced mood disorder	Diagnosis	ICD-10-CM
F15.95	Other stimulant use, unspecified with stimulant-induced psychotic disorder	Diagnosis	ICD-10-CM
F15.950	Other stimulant use, unspecified with stimulant-induced psychotic disorder with	Diagnosis	ICD-10-CM
F15.951	Other stimulant use, unspecified with stimulant-induced psychotic disorder with	Diagnosis	ICD-10-CM
F15.959	Other stimulant use, unspecified with stimulant-induced psychotic disorder,	Diagnosis	ICD-10-CM
F15.98	Other stimulant use, unspecified with other stimulant-induced disorder	Diagnosis	ICD-10-CM
F15.980	Other stimulant use, unspecified with stimulant-induced anxiety disorder	Diagnosis	ICD-10-CM
F15.981	Other stimulant use, unspecified with stimulant-induced sexual dysfunction	Diagnosis	ICD-10-CM
F15.982	Other stimulant use, unspecified with stimulant-induced sleep disorder	Diagnosis	ICD-10-CM
F15.988	Other stimulant use, unspecified with other stimulant-induced disorder	Diagnosis	ICD-10-CM
F15.99	Other stimulant use, unspecified with unspecified stimulant-induced disorder	Diagnosis	ICD-10-CM
F16	Hallucinogen related disorders	Diagnosis	ICD-10-CM
F16.1	Hallucinogen abuse	Diagnosis	ICD-10-CM
F16.10	Hallucinogen abuse, uncomplicated	Diagnosis	ICD-10-CM
F16.11	Hallucinogen abuse, in remission	Diagnosis	ICD-10-CM
F16.12	Hallucinogen abuse with intoxication	Diagnosis	ICD-10-CM
F16.120	Hallucinogen abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F16.121	Hallucinogen abuse with intoxication with delirium	Diagnosis	ICD-10-CM
F16.122	Hallucinogen abuse with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F16.129	Hallucinogen abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F16.14	Hallucinogen abuse with hallucinogen-induced mood disorder	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
F16.15	Hallucinogen abuse with hallucinogen-induced psychotic disorder	Diagnosis	ICD-10-CM
F16.150	Hallucinogen abuse with hallucinogen-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F16.151	Hallucinogen abuse with hallucinogen-induced psychotic disorder with	Diagnosis	ICD-10-CM
F16.159	Hallucinogen abuse with hallucinogen-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F16.18	Hallucinogen abuse with other hallucinogen-induced disorder	Diagnosis	ICD-10-CM
F16.180	Hallucinogen abuse with hallucinogen-induced anxiety disorder	Diagnosis	ICD-10-CM
F16.183	Hallucinogen abuse with hallucinogen persisting perception disorder (flashbacks)	Diagnosis	ICD-10-CM
F16.188	Hallucinogen abuse with other hallucinogen-induced disorder	Diagnosis	ICD-10-CM
F16.19	Hallucinogen abuse with unspecified hallucinogen-induced disorder	Diagnosis	ICD-10-CM
F16.2	Hallucinogen dependence	Diagnosis	ICD-10-CM
F16.20	Hallucinogen dependence, uncomplicated	Diagnosis	ICD-10-CM
F16.21	Hallucinogen dependence, in remission	Diagnosis	ICD-10-CM
F16.22	Hallucinogen dependence with intoxication	Diagnosis	ICD-10-CM
F16.220	Hallucinogen dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F16.221	Hallucinogen dependence with intoxication with delirium	Diagnosis	ICD-10-CM
F16.229	Hallucinogen dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F16.24	Hallucinogen dependence with hallucinogen-induced mood disorder	Diagnosis	ICD-10-CM
F16.25	Hallucinogen dependence with hallucinogen-induced psychotic disorder	Diagnosis	ICD-10-CM
F16.250	Hallucinogen dependence with hallucinogen-induced psychotic disorder with	Diagnosis	ICD-10-CM
F16.251	Hallucinogen dependence with hallucinogen-induced psychotic disorder with	Diagnosis	ICD-10-CM
F16.259	Hallucinogen dependence with hallucinogen-induced psychotic disorder,	Diagnosis	ICD-10-CM
F16.28	Hallucinogen dependence with other hallucinogen-induced disorder	Diagnosis	ICD-10-CM
F16.280	Hallucinogen dependence with hallucinogen-induced anxiety disorder	Diagnosis	ICD-10-CM
F16.283	Hallucinogen dependence with hallucinogen persisting perception disorder	Diagnosis	ICD-10-CM
F16.288	Hallucinogen dependence with other hallucinogen-induced disorder	Diagnosis	ICD-10-CM
F16.29	Hallucinogen dependence with unspecified hallucinogen-induced disorder	Diagnosis	ICD-10-CM
F16.9	Hallucinogen use, unspecified	Diagnosis	ICD-10-CM
F16.90	Hallucinogen use, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F16.92	Hallucinogen use, unspecified with intoxication	Diagnosis	ICD-10-CM
F16.920	Hallucinogen use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F16.921	Hallucinogen use, unspecified with intoxication with delirium	Diagnosis	ICD-10-CM
F16.929	Hallucinogen use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F16.94	Hallucinogen use, unspecified with hallucinogen-induced mood disorder	Diagnosis	ICD-10-CM
F16.95	Hallucinogen use, unspecified with hallucinogen-induced psychotic disorder	Diagnosis	ICD-10-CM
F16.950	Hallucinogen use, unspecified with hallucinogen-induced psychotic disorder with	Diagnosis	ICD-10-CM
F16.951	Hallucinogen use, unspecified with hallucinogen-induced psychotic disorder with	Diagnosis	ICD-10-CM
F16.959	Hallucinogen use, unspecified with hallucinogen-induced psychotic disorder,	Diagnosis	ICD-10-CM
F16.98	Hallucinogen use, unspecified with other specified hallucinogen-induced disorder	Diagnosis	ICD-10-CM
F16.980	Hallucinogen use, unspecified with hallucinogen-induced anxiety disorder	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F16.983	Hallucinogen use, unspecified with hallucinogen persisting perception disorder	Diagnosis	ICD-10-CM
F16.988	Hallucinogen use, unspecified with other hallucinogen-induced disorder	Diagnosis	ICD-10-CM
F16.99	Hallucinogen use, unspecified with unspecified hallucinogen-induced disorder	Diagnosis	ICD-10-CM
F17	Nicotine dependence	Diagnosis	ICD-10-CM
F17.2	Nicotine dependence	Diagnosis	ICD-10-CM
F17.20	Nicotine dependence, unspecified	Diagnosis	ICD-10-CM
F17.200	Nicotine dependence, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F17.201	Nicotine dependence, unspecified, in remission	Diagnosis	ICD-10-CM
F17.203	Nicotine dependence unspecified, with withdrawal	Diagnosis	ICD-10-CM
F17.208	Nicotine dependence, unspecified, with other nicotine-induced disorders	Diagnosis	ICD-10-CM
F17.209	Nicotine dependence, unspecified, with unspecified nicotine-induced disorders	Diagnosis	ICD-10-CM
F17.21	Nicotine dependence, cigarettes	Diagnosis	ICD-10-CM
F17.210	Nicotine dependence, cigarettes, uncomplicated	Diagnosis	ICD-10-CM
F17.211	Nicotine dependence, cigarettes, in remission	Diagnosis	ICD-10-CM
F17.213	Nicotine dependence, cigarettes, with withdrawal	Diagnosis	ICD-10-CM
F17.218	Nicotine dependence, cigarettes, with other nicotine-induced disorders	Diagnosis	ICD-10-CM
F17.219	Nicotine dependence, cigarettes, with unspecified nicotine-induced disorders	Diagnosis	ICD-10-CM
F17.22	Nicotine dependence, chewing tobacco	Diagnosis	ICD-10-CM
F17.220	Nicotine dependence, chewing tobacco, uncomplicated	Diagnosis	ICD-10-CM
F17.221	Nicotine dependence, chewing tobacco, in remission	Diagnosis	ICD-10-CM
F17.223	Nicotine dependence, chewing tobacco, with withdrawal	Diagnosis	ICD-10-CM
F17.228	Nicotine dependence, chewing tobacco, with other nicotine-induced disorders	Diagnosis	ICD-10-CM
F17.229	Nicotine dependence, chewing tobacco, with unspecified nicotine-induced disorders	Diagnosis	ICD-10-CM
F17.29	Nicotine dependence, other tobacco product	Diagnosis	ICD-10-CM
F17.290	Nicotine dependence, other tobacco product, uncomplicated	Diagnosis	ICD-10-CM
F17.291	Nicotine dependence, other tobacco product, in remission	Diagnosis	ICD-10-CM
F17.293	Nicotine dependence, other tobacco product, with withdrawal	Diagnosis	ICD-10-CM
F17.298	Nicotine dependence, other tobacco product, with other nicotine-induced disorders	Diagnosis	ICD-10-CM
F17.299	Nicotine dependence, other tobacco product, with unspecified nicotine-induced	Diagnosis	ICD-10-CM
F18	Inhalant related disorders	Diagnosis	ICD-10-CM
F18.1	Inhalant abuse	Diagnosis	ICD-10-CM
F18.10	Inhalant abuse, uncomplicated	Diagnosis	ICD-10-CM
F18.11	Inhalant abuse, in remission	Diagnosis	ICD-10-CM
F18.12	Inhalant abuse with intoxication	Diagnosis	ICD-10-CM
F18.120	Inhalant abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F18.121	Inhalant abuse with intoxication delirium	Diagnosis	ICD-10-CM
F18.129	Inhalant abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F18.14	Inhalant abuse with inhalant-induced mood disorder	Diagnosis	ICD-10-CM
F18.15	Inhalant abuse with inhalant-induced psychotic disorder	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
F18.150	Inhalant abuse with inhalant-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F18.151	Inhalant abuse with inhalant-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F18.159	Inhalant abuse with inhalant-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F18.17	Inhalant abuse with inhalant-induced dementia	Diagnosis	ICD-10-CM
F18.18	Inhalant abuse with other inhalant-induced disorders	Diagnosis	ICD-10-CM
F18.180	Inhalant abuse with inhalant-induced anxiety disorder	Diagnosis	ICD-10-CM
F18.188	Inhalant abuse with other inhalant-induced disorder	Diagnosis	ICD-10-CM
F18.19	Inhalant abuse with unspecified inhalant-induced disorder	Diagnosis	ICD-10-CM
F18.2	Inhalant dependence	Diagnosis	ICD-10-CM
F18.20	Inhalant dependence, uncomplicated	Diagnosis	ICD-10-CM
F18.21	Inhalant dependence, in remission	Diagnosis	ICD-10-CM
F18.22	Inhalant dependence with intoxication	Diagnosis	ICD-10-CM
F18.220	Inhalant dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F18.221	Inhalant dependence with intoxication delirium	Diagnosis	ICD-10-CM
F18.229	Inhalant dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F18.24	Inhalant dependence with inhalant-induced mood disorder	Diagnosis	ICD-10-CM
F18.25	Inhalant dependence with inhalant-induced psychotic disorder	Diagnosis	ICD-10-CM
F18.250	Inhalant dependence with inhalant-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F18.251	Inhalant dependence with inhalant-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F18.259	Inhalant dependence with inhalant-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F18.27	Inhalant dependence with inhalant-induced dementia	Diagnosis	ICD-10-CM
F18.28	Inhalant dependence with other inhalant-induced disorders	Diagnosis	ICD-10-CM
F18.280	Inhalant dependence with inhalant-induced anxiety disorder	Diagnosis	ICD-10-CM
F18.288	Inhalant dependence with other inhalant-induced disorder	Diagnosis	ICD-10-CM
F18.29	Inhalant dependence with unspecified inhalant-induced disorder	Diagnosis	ICD-10-CM
F18.9	Inhalant use, unspecified	Diagnosis	ICD-10-CM
F18.90	Inhalant use, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F18.92	Inhalant use, unspecified with intoxication	Diagnosis	ICD-10-CM
F18.920	Inhalant use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F18.921	Inhalant use, unspecified with intoxication with delirium	Diagnosis	ICD-10-CM
F18.929	Inhalant use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F18.94	Inhalant use, unspecified with inhalant-induced mood disorder	Diagnosis	ICD-10-CM
F18.95	Inhalant use, unspecified with inhalant-induced psychotic disorder	Diagnosis	ICD-10-CM
F18.950	Inhalant use, unspecified with inhalant-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F18.951	Inhalant use, unspecified with inhalant-induced psychotic disorder with	Diagnosis	ICD-10-CM
F18.959	Inhalant use, unspecified with inhalant-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F18.97	Inhalant use, unspecified with inhalant-induced persisting dementia	Diagnosis	ICD-10-CM
F18.98	Inhalant use, unspecified with other inhalant-induced disorders	Diagnosis	ICD-10-CM
F18.980	Inhalant use, unspecified with inhalant-induced anxiety disorder	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F18.988	Inhalant use, unspecified with other inhalant-induced disorder	Diagnosis	ICD-10-CM
F18.99	Inhalant use, unspecified with unspecified inhalant-induced disorder	Diagnosis	ICD-10-CM
F19	Other psychoactive substance related disorders	Diagnosis	ICD-10-CM
F19.1	Other psychoactive substance abuse	Diagnosis	ICD-10-CM
F19.10	Other psychoactive substance abuse, uncomplicated	Diagnosis	ICD-10-CM
F19.11	Other psychoactive substance abuse, in remission	Diagnosis	ICD-10-CM
F19.12	Other psychoactive substance abuse with intoxication	Diagnosis	ICD-10-CM
F19.120	Other psychoactive substance abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F19.121	Other psychoactive substance abuse with intoxication delirium	Diagnosis	ICD-10-CM
F19.122	Other psychoactive substance abuse with intoxication with perceptual disturbances	Diagnosis	ICD-10-CM
F19.129	Other psychoactive substance abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F19.14	Other psychoactive substance abuse with psychoactive substance-induced mood	Diagnosis	ICD-10-CM
F19.15	Other psychoactive substance abuse with psychoactive substance-induced psychotic	Diagnosis	ICD-10-CM
F19.150	Other psychoactive substance abuse with psychoactive substance-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F19.151	Other psychoactive substance abuse with psychoactive substance-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F19.159	Other psychoactive substance abuse with psychoactive substance-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F19.16	Other psychoactive substance abuse with psychoactive substance-induced persisting amnestic disorder	Diagnosis	ICD-10-CM
F19.17	Other psychoactive substance abuse with psychoactive substance-induced	Diagnosis	ICD-10-CM
F19.18	Other psychoactive substance abuse with other psychoactive substance-induced	Diagnosis	ICD-10-CM
F19.180	Other psychoactive substance abuse with psychoactive substance-induced anxiety	Diagnosis	ICD-10-CM
F19.181	Other psychoactive substance abuse with psychoactive substance-induced sexual	Diagnosis	ICD-10-CM
F19.182	Other psychoactive substance abuse with psychoactive substance-induced sleep	Diagnosis	ICD-10-CM
F19.188	Other psychoactive substance abuse with other psychoactive substance-induced	Diagnosis	ICD-10-CM
F19.19	Other psychoactive substance abuse with unspecified psychoactive substance-	Diagnosis	ICD-10-CM
F19.2	Other psychoactive substance dependence	Diagnosis	ICD-10-CM
F19.20	Other psychoactive substance dependence, uncomplicated	Diagnosis	ICD-10-CM
F19.21	Other psychoactive substance dependence, in remission	Diagnosis	ICD-10-CM
F19.22	Other psychoactive substance dependence with intoxication	Diagnosis	ICD-10-CM
F19.220	Other psychoactive substance dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F19.221	Other psychoactive substance dependence with intoxication delirium	Diagnosis	ICD-10-CM
F19.222	Other psychoactive substance dependence with intoxication with perceptual	Diagnosis	ICD-10-CM
F19.229	Other psychoactive substance dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F19.23	Other psychoactive substance dependence with withdrawal	Diagnosis	ICD-10-CM
F19.230	Other psychoactive substance dependence with withdrawal, uncomplicated	Diagnosis	ICD-10-CM
F19.231	Other psychoactive substance dependence with withdrawal delirium	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F19.232	Other psychoactive substance dependence with withdrawal with perceptual	Diagnosis	ICD-10-CM
F19.239	Other psychoactive substance dependence with withdrawal, unspecified	Diagnosis	ICD-10-CM
F19.24	Other psychoactive substance dependence with psychoactive substance-induced	Diagnosis	ICD-10-CM
F19.25	Other psychoactive substance dependence with psychoactive substance-induced psychotic disorder	Diagnosis	ICD-10-CM
F19.250	Other psychoactive substance dependence with psychoactive substance-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F19.251	Other psychoactive substance dependence with psychoactive substance-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F19.259	Other psychoactive substance dependence with psychoactive substance-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F19.26	Other psychoactive substance dependence with psychoactive substance-induced persisting amnestic disorder	Diagnosis	ICD-10-CM
F19.27	Other psychoactive substance dependence with psychoactive substance-induced persisting dementia	Diagnosis	ICD-10-CM
F19.28	Other psychoactive substance dependence with other psychoactive substance-	Diagnosis	ICD-10-CM
F19.280	Other psychoactive substance dependence with psychoactive substance-induced	Diagnosis	ICD-10-CM
F19.281	Other psychoactive substance dependence with psychoactive substance-induced sexual dysfunction	Diagnosis	ICD-10-CM
F19.282	Other psychoactive substance dependence with psychoactive substance-induced	Diagnosis	ICD-10-CM
F19.288	Other psychoactive substance dependence with other psychoactive substance-	Diagnosis	ICD-10-CM
F19.29	Other psychoactive substance dependence with unspecified psychoactive substance-induced disorder	Diagnosis	ICD-10-CM
F19.9	Other psychoactive substance use, unspecified	Diagnosis	ICD-10-CM
F19.90	Other psychoactive substance use, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F19.92	Other psychoactive substance use, unspecified with intoxication	Diagnosis	ICD-10-CM
F19.920	Other psychoactive substance use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F19.921	Other psychoactive substance use, unspecified with intoxication with delirium	Diagnosis	ICD-10-CM
F19.922	Other psychoactive substance use, unspecified with intoxication with perceptual	Diagnosis	ICD-10-CM
F19.929	Other psychoactive substance use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F19.93	Other psychoactive substance use, unspecified with withdrawal	Diagnosis	ICD-10-CM
F19.930	Other psychoactive substance use, unspecified with withdrawal, uncomplicated	Diagnosis	ICD-10-CM
F19.931	Other psychoactive substance use, unspecified with withdrawal delirium	Diagnosis	ICD-10-CM
F19.932	Other psychoactive substance use, unspecified with withdrawal with perceptual	Diagnosis	ICD-10-CM
F19.939	Other psychoactive substance use, unspecified with withdrawal, unspecified	Diagnosis	ICD-10-CM
F19.94	Other psychoactive substance use, unspecified with psychoactive substance-induced mood disorder	Diagnosis	ICD-10-CM
F19.95	Other psychoactive substance use, unspecified with psychoactive substance-induced psychotic disorder	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F19.950	Other psychoactive substance use, unspecified with psychoactive substance-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F19.951	Other psychoactive substance use, unspecified with psychoactive substance-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F19.959	Other psychoactive substance use, unspecified with psychoactive substance-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F19.96	Other psychoactive substance use, unspecified with psychoactive substance-induced persisting amnesic disorder	Diagnosis	ICD-10-CM
F19.97	Other psychoactive substance use, unspecified with psychoactive substance-induced persisting dementia	Diagnosis	ICD-10-CM
F19.98	Other psychoactive substance use, unspecified with other psychoactive substance-induced disorders	Diagnosis	ICD-10-CM
F19.980	Other psychoactive substance use, unspecified with psychoactive substance-induced anxiety disorder	Diagnosis	ICD-10-CM
F19.981	Other psychoactive substance use, unspecified with psychoactive substance-induced sexual dysfunction	Diagnosis	ICD-10-CM
F19.982	Other psychoactive substance use, unspecified with psychoactive substance-induced sleep disorder	Diagnosis	ICD-10-CM
F19.988	Other psychoactive substance use, unspecified with other psychoactive substance-induced disorder	Diagnosis	ICD-10-CM
F19.99	Other psychoactive substance use, unspecified with unspecified psychoactive substance-induced disorder	Diagnosis	ICD-10-CM
F20	Schizophrenia	Diagnosis	ICD-10-CM
F20.0	Paranoid schizophrenia	Diagnosis	ICD-10-CM
F20.1	Disorganized schizophrenia	Diagnosis	ICD-10-CM
F20.2	Catatonic schizophrenia	Diagnosis	ICD-10-CM
F20.3	Undifferentiated schizophrenia	Diagnosis	ICD-10-CM
F20.5	Residual schizophrenia	Diagnosis	ICD-10-CM
F20.8	Other schizophrenia	Diagnosis	ICD-10-CM
F20.81	Schizophreniform disorder	Diagnosis	ICD-10-CM
F20.89	Other schizophrenia	Diagnosis	ICD-10-CM
F20.9	Schizophrenia, unspecified	Diagnosis	ICD-10-CM
F21	Schizotypal disorder	Diagnosis	ICD-10-CM
F22	Delusional disorders	Diagnosis	ICD-10-CM
F23	Brief psychotic disorder	Diagnosis	ICD-10-CM
F24	Shared psychotic disorder	Diagnosis	ICD-10-CM
F25	Schizoaffective disorders	Diagnosis	ICD-10-CM
F25.0	Schizoaffective disorder, bipolar type	Diagnosis	ICD-10-CM
F25.1	Schizoaffective disorder, depressive type	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F25.8	Other schizoaffective disorders	Diagnosis	ICD-10-CM
F25.9	Schizoaffective disorder, unspecified	Diagnosis	ICD-10-CM
F28	Other psychotic disorder not due to a substance or known physiological condition	Diagnosis	ICD-10-CM
F29	Unspecified psychosis not due to a substance or known physiological condition	Diagnosis	ICD-10-CM
F30	Manic episode	Diagnosis	ICD-10-CM
F30.1	Manic episode without psychotic symptoms	Diagnosis	ICD-10-CM
F30.10	Manic episode without psychotic symptoms, unspecified	Diagnosis	ICD-10-CM
F30.11	Manic episode without psychotic symptoms, mild	Diagnosis	ICD-10-CM
F30.12	Manic episode without psychotic symptoms, moderate	Diagnosis	ICD-10-CM
F30.13	Manic episode, severe, without psychotic symptoms	Diagnosis	ICD-10-CM
F30.2	Manic episode, severe with psychotic symptoms	Diagnosis	ICD-10-CM
F30.3	Manic episode in partial remission	Diagnosis	ICD-10-CM
F30.4	Manic episode in full remission	Diagnosis	ICD-10-CM
F30.8	Other manic episodes	Diagnosis	ICD-10-CM
F30.9	Manic episode, unspecified	Diagnosis	ICD-10-CM
F31	Bipolar disorder	Diagnosis	ICD-10-CM
F31.0	Bipolar disorder, current episode hypomanic	Diagnosis	ICD-10-CM
F31.1	Bipolar disorder, current episode manic without psychotic features	Diagnosis	ICD-10-CM
F31.10	Bipolar disorder, current episode manic without psychotic features, unspecified	Diagnosis	ICD-10-CM
F31.11	Bipolar disorder, current episode manic without psychotic features, mild	Diagnosis	ICD-10-CM
F31.12	Bipolar disorder, current episode manic without psychotic features, moderate	Diagnosis	ICD-10-CM
F31.13	Bipolar disorder, current episode manic without psychotic features, severe	Diagnosis	ICD-10-CM
F31.2	Bipolar disorder, current episode manic severe with psychotic features	Diagnosis	ICD-10-CM
F31.8	Other bipolar disorders	Diagnosis	ICD-10-CM
F31.89	Other bipolar disorder	Diagnosis	ICD-10-CM
F31.9	Bipolar disorder, unspecified	Diagnosis	ICD-10-CM
F32	Major depressive disorder, single episode	Diagnosis	ICD-10-CM
F32.8	Other depressive episodes	Diagnosis	ICD-10-CM
F32.81	Premenstrual dysphoric disorder	Diagnosis	ICD-10-CM
F32.89	Other specified depressive episodes	Diagnosis	ICD-10-CM
F33	Major depressive disorder, recurrent	Diagnosis	ICD-10-CM
F34	Persistent mood [affective] disorders	Diagnosis	ICD-10-CM
F34.0	Cyclothymic disorder	Diagnosis	ICD-10-CM
F34.8	Other persistent mood [affective] disorders	Diagnosis	ICD-10-CM
F34.81	Disruptive mood dysregulation disorder	Diagnosis	ICD-10-CM
F34.89	Other specified persistent mood disorders	Diagnosis	ICD-10-CM
F34.9	Persistent mood [affective] disorder, unspecified	Diagnosis	ICD-10-CM
F39	Unspecified mood [affective] disorder	Diagnosis	ICD-10-CM
F43.2	Adjustment disorders	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F43.20	Adjustment disorder, unspecified	Diagnosis	ICD-10-CM
F43.22	Adjustment disorder with anxiety	Diagnosis	ICD-10-CM
F43.24	Adjustment disorder with disturbance of conduct	Diagnosis	ICD-10-CM
F43.25	Adjustment disorder with mixed disturbance of emotions and conduct	Diagnosis	ICD-10-CM
F43.29	Adjustment disorder with other symptoms	Diagnosis	ICD-10-CM
F43.8	Other reactions to severe stress	Diagnosis	ICD-10-CM
F43.9	Reaction to severe stress, unspecified	Diagnosis	ICD-10-CM
F44	Dissociative and conversion disorders	Diagnosis	ICD-10-CM
F44.0	Dissociative amnesia	Diagnosis	ICD-10-CM
F44.1	Dissociative fugue	Diagnosis	ICD-10-CM
F44.2	Dissociative stupor	Diagnosis	ICD-10-CM
F44.4	Conversion disorder with motor symptom or deficit	Diagnosis	ICD-10-CM
F44.5	Conversion disorder with seizures or convulsions	Diagnosis	ICD-10-CM
F44.6	Conversion disorder with sensory symptom or deficit	Diagnosis	ICD-10-CM
F44.7	Conversion disorder with mixed symptom presentation	Diagnosis	ICD-10-CM
F44.8	Other dissociative and conversion disorders	Diagnosis	ICD-10-CM
F44.81	Dissociative identity disorder	Diagnosis	ICD-10-CM
F44.89	Other dissociative and conversion disorders	Diagnosis	ICD-10-CM
F45	Somatoform disorders	Diagnosis	ICD-10-CM
F45.0	Somatization disorder	Diagnosis	ICD-10-CM
F45.1	Undifferentiated somatoform disorder	Diagnosis	ICD-10-CM
F45.2	Hypochondriacal disorders	Diagnosis	ICD-10-CM
F45.20	Hypochondriacal disorder, unspecified	Diagnosis	ICD-10-CM
F45.21	Hypochondriasis	Diagnosis	ICD-10-CM
F45.22	Body dysmorphic disorder	Diagnosis	ICD-10-CM
F45.29	Other hypochondriacal disorders	Diagnosis	ICD-10-CM
F45.4	Pain disorders related to psychological factors	Diagnosis	ICD-10-CM
F45.41	Pain disorder exclusively related to psychological factors	Diagnosis	ICD-10-CM
F45.42	Pain disorder with related psychological factors	Diagnosis	ICD-10-CM
F45.9	Somatoform disorder, unspecified	Diagnosis	ICD-10-CM
F48	Other nonpsychotic mental disorders	Diagnosis	ICD-10-CM
F48.1	Depersonalization-derealization syndrome	Diagnosis	ICD-10-CM
F48.2	Pseudobulbar affect	Diagnosis	ICD-10-CM
F50	Eating disorders	Diagnosis	ICD-10-CM
F50.0	Anorexia nervosa	Diagnosis	ICD-10-CM
F50.00	Anorexia nervosa, unspecified	Diagnosis	ICD-10-CM
F50.01	Anorexia nervosa, restricting type	Diagnosis	ICD-10-CM
F50.02	Anorexia nervosa, binge eating/purging type	Diagnosis	ICD-10-CM
F50.2	Bulimia nervosa	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F50.8	Other eating disorders	Diagnosis	ICD-10-CM
F50.81	Binge eating disorder	Diagnosis	ICD-10-CM
F50.82	Avoidant/restrictive food intake disorder	Diagnosis	ICD-10-CM
F50.89	Other specified eating disorder	Diagnosis	ICD-10-CM
F50.9	Eating disorder, unspecified	Diagnosis	ICD-10-CM
F51	Sleep disorders not due to a substance or known physiological condition	Diagnosis	ICD-10-CM
F51.0	Insomnia not due to a substance or known physiological condition	Diagnosis	ICD-10-CM
F51.01	Primary insomnia	Diagnosis	ICD-10-CM
F51.02	Adjustment insomnia	Diagnosis	ICD-10-CM
F51.03	Paradoxical insomnia	Diagnosis	ICD-10-CM
F51.04	Psychophysiologic insomnia	Diagnosis	ICD-10-CM
F51.05	Insomnia due to other mental disorder	Diagnosis	ICD-10-CM
F51.09	Other insomnia not due to a substance or known physiological condition	Diagnosis	ICD-10-CM
F51.1	Hypersomnia not due to a substance or known physiological condition	Diagnosis	ICD-10-CM
F51.11	Primary hypersomnia	Diagnosis	ICD-10-CM
F51.12	Insufficient sleep syndrome	Diagnosis	ICD-10-CM
F51.13	Hypersomnia due to other mental disorder	Diagnosis	ICD-10-CM
F51.19	Other hypersomnia not due to a substance or known physiological condition	Diagnosis	ICD-10-CM
F51.3	Sleepwalking [somnambulism]	Diagnosis	ICD-10-CM
F51.4	Sleep terrors [night terrors]	Diagnosis	ICD-10-CM
F51.5	Nightmare disorder	Diagnosis	ICD-10-CM
F51.8	Other sleep disorders not due to a substance or known physiological condition	Diagnosis	ICD-10-CM
F51.9	Sleep disorder not due to a substance or known physiological condition, unspecified	Diagnosis	ICD-10-CM
F52	Sexual dysfunction not due to a substance or known physiological condition	Diagnosis	ICD-10-CM
F52.0	Hypoactive sexual desire disorder	Diagnosis	ICD-10-CM
F52.1	Sexual aversion disorder	Diagnosis	ICD-10-CM
F52.2	Sexual arousal disorders	Diagnosis	ICD-10-CM
F52.21	Male erectile disorder	Diagnosis	ICD-10-CM
F52.22	Female sexual arousal disorder	Diagnosis	ICD-10-CM
F52.3	Orgasmic disorder	Diagnosis	ICD-10-CM
F52.31	Female orgasmic disorder	Diagnosis	ICD-10-CM
F52.32	Male orgasmic disorder	Diagnosis	ICD-10-CM
F52.4	Premature ejaculation	Diagnosis	ICD-10-CM
F52.5	Vaginismus not due to a substance or known physiological condition	Diagnosis	ICD-10-CM
F52.6	Dyspareunia not due to a substance or known physiological condition	Diagnosis	ICD-10-CM
F52.8	Other sexual dysfunction not due to a substance or known physiological condition	Diagnosis	ICD-10-CM
F52.9	Unspecified sexual dysfunction not due to a substance or known physiological	Diagnosis	ICD-10-CM
F53	Mental and behavioral disorders associated with the puerperium, not elsewhere	Diagnosis	ICD-10-CM
F53.0	Postpartum depression	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F53.1	Puerperal psychosis	Diagnosis	ICD-10-CM
F54	Psychological and behavioral factors associated with disorders or diseases classified	Diagnosis	ICD-10-CM
F59	Unspecified behavioral syndromes associated with physiological disturbances and	Diagnosis	ICD-10-CM
F60	Specific personality disorders	Diagnosis	ICD-10-CM
F60.0	Paranoid personality disorder	Diagnosis	ICD-10-CM
F60.1	Schizoid personality disorder	Diagnosis	ICD-10-CM
F60.2	Antisocial personality disorder	Diagnosis	ICD-10-CM
F60.3	Borderline personality disorder	Diagnosis	ICD-10-CM
F60.4	Histrionic personality disorder	Diagnosis	ICD-10-CM
F60.5	Obsessive-compulsive personality disorder	Diagnosis	ICD-10-CM
F60.6	Avoidant personality disorder	Diagnosis	ICD-10-CM
F60.7	Dependent personality disorder	Diagnosis	ICD-10-CM
F60.8	Other specific personality disorders	Diagnosis	ICD-10-CM
F60.81	Narcissistic personality disorder	Diagnosis	ICD-10-CM
F60.89	Other specific personality disorders	Diagnosis	ICD-10-CM
F60.9	Personality disorder, unspecified	Diagnosis	ICD-10-CM
F63	Impulse disorders	Diagnosis	ICD-10-CM
F63.0	Pathological gambling	Diagnosis	ICD-10-CM
F63.1	Pyromania	Diagnosis	ICD-10-CM
F63.2	Kleptomania	Diagnosis	ICD-10-CM
F63.3	Trichotillomania	Diagnosis	ICD-10-CM
F63.8	Other impulse disorders	Diagnosis	ICD-10-CM
F63.81	Intermittent explosive disorder	Diagnosis	ICD-10-CM
F63.89	Other impulse disorders	Diagnosis	ICD-10-CM
F63.9	Impulse disorder, unspecified	Diagnosis	ICD-10-CM
F64	Gender identity disorders	Diagnosis	ICD-10-CM
F64.0	Transsexualism	Diagnosis	ICD-10-CM
F64.1	Dual role transvestism	Diagnosis	ICD-10-CM
F64.2	Gender identity disorder of childhood	Diagnosis	ICD-10-CM
F64.8	Other gender identity disorders	Diagnosis	ICD-10-CM
F64.9	Gender identity disorder, unspecified	Diagnosis	ICD-10-CM
F65	Paraphilias	Diagnosis	ICD-10-CM
F65.0	Fetishism	Diagnosis	ICD-10-CM
F65.1	Transvestic fetishism	Diagnosis	ICD-10-CM
F65.2	Exhibitionism	Diagnosis	ICD-10-CM
F65.3	Voyeurism	Diagnosis	ICD-10-CM
F65.4	Pedophilia	Diagnosis	ICD-10-CM
F65.5	Sadomasochism	Diagnosis	ICD-10-CM
F65.50	Sadomasochism, unspecified	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F65.51	Sexual masochism	Diagnosis	ICD-10-CM
F65.52	Sexual sadism	Diagnosis	ICD-10-CM
F65.8	Other paraphilias	Diagnosis	ICD-10-CM
F65.81	Frotteurism	Diagnosis	ICD-10-CM
F65.89	Other paraphilias	Diagnosis	ICD-10-CM
F65.9	Paraphilia, unspecified	Diagnosis	ICD-10-CM
F66	Other sexual disorders	Diagnosis	ICD-10-CM
F68	Other disorders of adult personality and behavior	Diagnosis	ICD-10-CM
F68.1	Factitious disorder imposed on self	Diagnosis	ICD-10-CM
F68.10	Factitious disorder imposed on self, unspecified	Diagnosis	ICD-10-CM
F68.11	Factitious disorder imposed on self, with predominantly psychological signs and	Diagnosis	ICD-10-CM
F68.12	Factitious disorder imposed on self, with predominantly physical signs and	Diagnosis	ICD-10-CM
F68.13	Factitious disorder imposed on self, with combined psychological and physical signs	Diagnosis	ICD-10-CM
F68.8	Other specified disorders of adult personality and behavior	Diagnosis	ICD-10-CM
F68.A	Factitious disorder imposed on another	Diagnosis	ICD-10-CM
F69	Unspecified disorder of adult personality and behavior	Diagnosis	ICD-10-CM
F70	Mild intellectual disabilities	Diagnosis	ICD-10-CM
F71	Moderate intellectual disabilities	Diagnosis	ICD-10-CM
F72	Severe intellectual disabilities	Diagnosis	ICD-10-CM
F73	Profound intellectual disabilities	Diagnosis	ICD-10-CM
F78	Other intellectual disabilities	Diagnosis	ICD-10-CM
F79	Unspecified intellectual disabilities	Diagnosis	ICD-10-CM
F80	Specific developmental disorders of speech and language	Diagnosis	ICD-10-CM
F80.0	Phonological disorder	Diagnosis	ICD-10-CM
F80.1	Expressive language disorder	Diagnosis	ICD-10-CM
F80.2	Mixed receptive-expressive language disorder	Diagnosis	ICD-10-CM
F80.4	Speech and language development delay due to hearing loss	Diagnosis	ICD-10-CM
F80.8	Other developmental disorders of speech and language	Diagnosis	ICD-10-CM
F80.81	Childhood onset fluency disorder	Diagnosis	ICD-10-CM
F80.82	Social pragmatic communication disorder	Diagnosis	ICD-10-CM
F80.89	Other developmental disorders of speech and language	Diagnosis	ICD-10-CM
F80.9	Developmental disorder of speech and language, unspecified	Diagnosis	ICD-10-CM
F81	Specific developmental disorders of scholastic skills	Diagnosis	ICD-10-CM
F81.0	Specific reading disorder	Diagnosis	ICD-10-CM
F81.2	Mathematics disorder	Diagnosis	ICD-10-CM
F81.8	Other developmental disorders of scholastic skills	Diagnosis	ICD-10-CM
F81.81	Disorder of written expression	Diagnosis	ICD-10-CM
F81.89	Other developmental disorders of scholastic skills	Diagnosis	ICD-10-CM
F81.9	Developmental disorder of scholastic skills, unspecified	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F82	Specific developmental disorder of motor function	Diagnosis	ICD-10-CM
F84	Pervasive developmental disorders	Diagnosis	ICD-10-CM
F84.0	Autistic disorder	Diagnosis	ICD-10-CM
F84.2	Rett's syndrome	Diagnosis	ICD-10-CM
F84.3	Other childhood disintegrative disorder	Diagnosis	ICD-10-CM
F84.5	Asperger's syndrome	Diagnosis	ICD-10-CM
F84.8	Other pervasive developmental disorders	Diagnosis	ICD-10-CM
F84.9	Pervasive developmental disorder, unspecified	Diagnosis	ICD-10-CM
F88	Other disorders of psychological development	Diagnosis	ICD-10-CM
F89	Unspecified disorder of psychological development	Diagnosis	ICD-10-CM
F90	Attention-deficit hyperactivity disorders	Diagnosis	ICD-10-CM
F90.0	Attention-deficit hyperactivity disorder, predominantly inattentive type	Diagnosis	ICD-10-CM
F90.1	Attention-deficit hyperactivity disorder, predominantly hyperactive type	Diagnosis	ICD-10-CM
F90.2	Attention-deficit hyperactivity disorder, combined type	Diagnosis	ICD-10-CM
F90.8	Attention-deficit hyperactivity disorder, other type	Diagnosis	ICD-10-CM
F90.9	Attention-deficit hyperactivity disorder, unspecified type	Diagnosis	ICD-10-CM
F91	Conduct disorders	Diagnosis	ICD-10-CM
F91.0	Conduct disorder confined to family context	Diagnosis	ICD-10-CM
F91.1	Conduct disorder, childhood-onset type	Diagnosis	ICD-10-CM
F91.2	Conduct disorder, adolescent-onset type	Diagnosis	ICD-10-CM
F91.3	Oppositional defiant disorder	Diagnosis	ICD-10-CM
F91.8	Other conduct disorders	Diagnosis	ICD-10-CM
F91.9	Conduct disorder, unspecified	Diagnosis	ICD-10-CM
F93	Emotional disorders with onset specific to childhood	Diagnosis	ICD-10-CM
F93.0	Separation anxiety disorder of childhood	Diagnosis	ICD-10-CM
F93.9	Childhood emotional disorder, unspecified	Diagnosis	ICD-10-CM
F94	Disorders of social functioning with onset specific to childhood and adolescence	Diagnosis	ICD-10-CM
F94.0	Selective mutism	Diagnosis	ICD-10-CM
F94.1	Reactive attachment disorder of childhood	Diagnosis	ICD-10-CM
F94.2	Disinhibited attachment disorder of childhood	Diagnosis	ICD-10-CM
F94.8	Other childhood disorders of social functioning	Diagnosis	ICD-10-CM
F94.9	Childhood disorder of social functioning, unspecified	Diagnosis	ICD-10-CM
F95	Tic disorder	Diagnosis	ICD-10-CM
F95.0	Transient tic disorder	Diagnosis	ICD-10-CM
F95.1	Chronic motor or vocal tic disorder	Diagnosis	ICD-10-CM
F95.2	Tourette's disorder	Diagnosis	ICD-10-CM
F95.8	Other tic disorders	Diagnosis	ICD-10-CM
F95.9	Tic disorder, unspecified	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
F98	Other behavioral and emotional disorders with onset usually occurring in childhood and adolescence	Diagnosis	ICD-10-CM
F98.0	Enuresis not due to a substance or known physiological condition	Diagnosis	ICD-10-CM
F98.1	Encopresis not due to a substance or known physiological condition	Diagnosis	ICD-10-CM
F98.2	Other feeding disorders of infancy and childhood	Diagnosis	ICD-10-CM
F98.21	Rumination disorder of infancy	Diagnosis	ICD-10-CM
F98.29	Other feeding disorders of infancy and early childhood	Diagnosis	ICD-10-CM
F98.3	Pica of infancy and childhood	Diagnosis	ICD-10-CM
F98.4	Stereotyped movement disorders	Diagnosis	ICD-10-CM
F98.5	Adult onset fluency disorder	Diagnosis	ICD-10-CM
F98.8	Other specified behavioral and emotional disorders with onset usually occurring in childhood and adolescence	Diagnosis	ICD-10-CM
F98.9	Unspecified behavioral and emotional disorders with onset usually occurring in childhood and adolescence	Diagnosis	ICD-10-CM
V40.0	Problems with learning	Diagnosis	ICD-9-CM
V40.2	Other mental problems	Diagnosis	ICD-9-CM
V40.39	Other specified behavioral problem	Diagnosis	ICD-9-CM
V40.9	Unspecified mental or behavioral problem	Diagnosis	ICD-9-CM
V41.7	Problems with sexual function	Diagnosis	ICD-9-CM
Obesity			
0D16079	Bypass Stomach to Duodenum with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D1607A	Bypass Stomach to Jejunum with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D1607B	Bypass Stomach to Ileum with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D1607L	Bypass Stomach to Transverse Colon with Autologous Tissue Substitute, Open	Procedure	ICD-10-PCS
0D160J9	Bypass Stomach to Duodenum with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0D160JA	Bypass Stomach to Jejunum with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0D160JB	Bypass Stomach to Ileum with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0D160JL	Bypass Stomach to Transverse Colon with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0D160K9	Bypass Stomach to Duodenum with Nonautologous Tissue Substitute, Open	Procedure	ICD-10-PCS
0D160KA	Bypass Stomach to Jejunum with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D160KB	Bypass Stomach to Ileum with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D160KL	Bypass Stomach to Transverse Colon with Nonautologous Tissue Substitute, Open	Procedure	ICD-10-PCS
0D160Z9	Bypass Stomach to Duodenum, Open Approach	Procedure	ICD-10-PCS
0D160ZA	Bypass Stomach to Jejunum, Open Approach	Procedure	ICD-10-PCS
0D160ZB	Bypass Stomach to Ileum, Open Approach	Procedure	ICD-10-PCS
0D160ZL	Bypass Stomach to Transverse Colon, Open Approach	Procedure	ICD-10-PCS
0D16479	Bypass Stomach to Duodenum with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
0D1647A	Bypass Stomach to Jejunum with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D1647B	Bypass Stomach to Ileum with Autologous Tissue Substitute, Percutaneous	Procedure	ICD-10-PCS
0D1647L	Bypass Stomach to Transverse Colon with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D164J9	Bypass Stomach to Duodenum with Synthetic Substitute, Percutaneous Endoscopic	Procedure	ICD-10-PCS
0D164JA	Bypass Stomach to Jejunum with Synthetic Substitute, Percutaneous Endoscopic	Procedure	ICD-10-PCS
0D164JB	Bypass Stomach to Ileum with Synthetic Substitute, Percutaneous Endoscopic	Procedure	ICD-10-PCS
0D164JL	Bypass Stomach to Transverse Colon with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D164K9	Bypass Stomach to Duodenum with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D164KA	Bypass Stomach to Jejunum with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D164KB	Bypass Stomach to Ileum with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D164KL	Bypass Stomach to Transverse Colon with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D164Z9	Bypass Stomach to Duodenum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D164ZA	Bypass Stomach to Jejunum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D164ZB	Bypass Stomach to Ileum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D164ZL	Bypass Stomach to Transverse Colon, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D16879	Bypass Stomach to Duodenum with Autologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D1687A	Bypass Stomach to Jejunum with Autologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D1687B	Bypass Stomach to Ileum with Autologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D1687L	Bypass Stomach to Transverse Colon with Autologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D168J9	Bypass Stomach to Duodenum with Synthetic Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D168JA	Bypass Stomach to Jejunum with Synthetic Substitute, Via Natural or Artificial	Procedure	ICD-10-PCS
0D168JB	Bypass Stomach to Ileum with Synthetic Substitute, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
0D168JL	Bypass Stomach to Transverse Colon with Synthetic Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D168K9	Bypass Stomach to Duodenum with Nonautologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
0D168KA	Bypass Stomach to Jejunum with Nonautologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D168KB	Bypass Stomach to Ileum with Nonautologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D168KL	Bypass Stomach to Transverse Colon with Nonautologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D168Z9	Bypass Stomach to Duodenum, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D168ZA	Bypass Stomach to Jejunum, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D168ZB	Bypass Stomach to Ileum, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D168ZL	Bypass Stomach to Transverse Colon, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D19079	Bypass Duodenum to Duodenum with Autologous Tissue Substitute, Open	Procedure	ICD-10-PCS
0D1907A	Bypass Duodenum to Jejunum with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D1907B	Bypass Duodenum to Ileum with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D190J9	Bypass Duodenum to Duodenum with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0D190JA	Bypass Duodenum to Jejunum with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0D190JB	Bypass Duodenum to Ileum with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0D190K9	Bypass Duodenum to Duodenum with Nonautologous Tissue Substitute, Open	Procedure	ICD-10-PCS
0D190KA	Bypass Duodenum to Jejunum with Nonautologous Tissue Substitute, Open	Procedure	ICD-10-PCS
0D190KB	Bypass Duodenum to Ileum with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D190Z9	Bypass Duodenum to Duodenum, Open Approach	Procedure	ICD-10-PCS
0D190ZA	Bypass Duodenum to Jejunum, Open Approach	Procedure	ICD-10-PCS
0D190ZB	Bypass Duodenum to Ileum, Open Approach	Procedure	ICD-10-PCS
0D19479	Bypass Duodenum to Duodenum with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D1947A	Bypass Duodenum to Jejunum with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D1947B	Bypass Duodenum to Ileum with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D194J9	Bypass Duodenum to Duodenum with Synthetic Substitute, Percutaneous	Procedure	ICD-10-PCS
0D194JA	Bypass Duodenum to Jejunum with Synthetic Substitute, Percutaneous Endoscopic	Procedure	ICD-10-PCS
0D194JB	Bypass Duodenum to Ileum with Synthetic Substitute, Percutaneous Endoscopic	Procedure	ICD-10-PCS
0D194K9	Bypass Duodenum to Duodenum with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D194KA	Bypass Duodenum to Jejunum with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D194KB	Bypass Duodenum to Ileum with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D194Z9	Bypass Duodenum to Duodenum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D194ZA	Bypass Duodenum to Jejunum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
0D194ZB	Bypass Duodenum to Ileum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D19879	Bypass Duodenum to Duodenum with Autologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D1987A	Bypass Duodenum to Jejunum with Autologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D1987B	Bypass Duodenum to Ileum with Autologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D198J9	Bypass Duodenum to Duodenum with Synthetic Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D198JA	Bypass Duodenum to Jejunum with Synthetic Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D198JB	Bypass Duodenum to Ileum with Synthetic Substitute, Via Natural or Artificial	Procedure	ICD-10-PCS
0D198K9	Bypass Duodenum to Duodenum with Nonautologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D198KA	Bypass Duodenum to Jejunum with Nonautologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D198KB	Bypass Duodenum to Ileum with Nonautologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D198Z9	Bypass Duodenum to Duodenum, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D198ZA	Bypass Duodenum to Jejunum, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D198ZB	Bypass Duodenum to Ileum, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D1A07A	Bypass Jejunum to Jejunum with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D1A07B	Bypass Jejunum to Ileum with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D1A0JA	Bypass Jejunum to Jejunum with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0D1A0JB	Bypass Jejunum to Ileum with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0D1A0KA	Bypass Jejunum to Jejunum with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D1A0KB	Bypass Jejunum to Ileum with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D1A0ZA	Bypass Jejunum to Jejunum, Open Approach	Procedure	ICD-10-PCS
0D1A0ZB	Bypass Jejunum to Ileum, Open Approach	Procedure	ICD-10-PCS
0D1A47A	Bypass Jejunum to Jejunum with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D1A47B	Bypass Jejunum to Ileum with Autologous Tissue Substitute, Percutaneous	Procedure	ICD-10-PCS
0D1A4JA	Bypass Jejunum to Jejunum with Synthetic Substitute, Percutaneous Endoscopic	Procedure	ICD-10-PCS
0D1A4JB	Bypass Jejunum to Ileum with Synthetic Substitute, Percutaneous Endoscopic	Procedure	ICD-10-PCS
0D1A4KA	Bypass Jejunum to Jejunum with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D1A4KB	Bypass Jejunum to Ileum with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D1A4ZA	Bypass Jejunum to Jejunum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
0D1A4ZB	Bypass Jejunum to Ileum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D1A87A	Bypass Jejunum to Jejunum with Autologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D1A87B	Bypass Jejunum to Ileum with Autologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D1A8JA	Bypass Jejunum to Jejunum with Synthetic Substitute, Via Natural or Artificial	Procedure	ICD-10-PCS
0D1A8JB	Bypass Jejunum to Ileum with Synthetic Substitute, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
0D1A8KA	Bypass Jejunum to Jejunum with Nonautologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D1A8KB	Bypass Jejunum to Ileum with Nonautologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D1A8ZA	Bypass Jejunum to Jejunum, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D1A8ZB	Bypass Jejunum to Ileum, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D1A8ZH	Bypass Jejunum to Cecum, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D1B07B	Bypass Ileum to Ileum with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D1B0JB	Bypass Ileum to Ileum with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0D1B0KB	Bypass Ileum to Ileum with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D1B0ZB	Bypass Ileum to Ileum, Open Approach	Procedure	ICD-10-PCS
0D1B47B	Bypass Ileum to Ileum with Autologous Tissue Substitute, Percutaneous Endoscopic	Procedure	ICD-10-PCS
0D1B4JB	Bypass Ileum to Ileum with Synthetic Substitute, Percutaneous Endoscopic	Procedure	ICD-10-PCS
0D1B4KB	Bypass Ileum to Ileum with Nonautologous Tissue Substitute, Percutaneous	Procedure	ICD-10-PCS
0D1B4ZB	Bypass Ileum to Ileum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0D1B87B	Bypass Ileum to Ileum with Autologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D1B8JB	Bypass Ileum to Ileum with Synthetic Substitute, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
0D1B8KB	Bypass Ileum to Ileum with Nonautologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D1B8ZB	Bypass Ileum to Ileum, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D1B8ZH	Bypass Ileum to Cecum, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0DB60Z3	Excision of Stomach, Open Approach, Vertical	Procedure	ICD-10-PCS
0DB60ZZ	Excision of Stomach, Open Approach	Procedure	ICD-10-PCS
0DB63Z3	Excision of Stomach, Percutaneous Approach, Vertical	Procedure	ICD-10-PCS
0DB63ZZ	Excision of Stomach, Percutaneous Approach	Procedure	ICD-10-PCS
0DB67Z3	Excision of Stomach, Via Natural or Artificial Opening, Vertical	Procedure	ICD-10-PCS
0DB67ZZ	Excision of Stomach, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
0DB68Z3	Excision of Stomach, Via Natural or Artificial Opening Endoscopic, Vertical	Procedure	ICD-10-PCS
0DB80ZZ	Excision of Small Intestine, Open Approach	Procedure	ICD-10-PCS
0DB90ZZ	Excision of Duodenum, Open Approach	Procedure	ICD-10-PCS
0DBB0ZZ	Excision of Ileum, Open Approach	Procedure	ICD-10-PCS

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Code	Description	Code Category	Code Type
0DQ64ZZ	Repair Stomach, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0DV64CZ	Restriction of Stomach with Extraluminal Device, Percutaneous Endoscopic	Procedure	ICD-10-PCS
0F190Z3	Bypass Common Bile Duct to Duodenum, Open Approach	Procedure	ICD-10-PCS
0TRB07Z	Replacement of Bladder with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
278.00	Obesity, unspecified	Diagnosis	ICD-9-CM
278.01	Morbid obesity	Diagnosis	ICD-9-CM
278.03	Obesity hypoventilation syndrome	Diagnosis	ICD-9-CM
43.89	Open and other partial gastrectomy	Procedure	ICD-9-CM
43644	Laparoscopy, surgical, gastric restrictive procedure; with gastric bypass and Roux-en-Y gastroenterostomy (roux limb 150 cm or less)	Procedure	CPT-4
43645	Laparoscopy, surgical, gastric restrictive procedure; with gastric bypass and small intestine reconstruction to limit absorption	Procedure	CPT-4
43770	Laparoscopy, surgical, gastric restrictive procedure; placement of adjustable gastric restrictive device (eg, gastric band and subcutaneous port components)	Procedure	CPT-4
43842	Gastric restrictive procedure, without gastric bypass, for morbid obesity; vertical-banded gastroplasty	Procedure	CPT-4
43843	Gastric restrictive procedure, without gastric bypass, for morbid obesity; other than vertical-banded gastroplasty	Procedure	CPT-4
43845	Gastric restrictive procedure with partial gastrectomy, pylorus-preserving duodenoileostomy and ileoileostomy (50 to 100 cm common channel) to limit absorption (biliopancreatic diversion with duodenal switch)	Procedure	CPT-4
43846	Gastric restrictive procedure, with gastric bypass for morbid obesity; with short limb (150 cm or less) Roux-en-Y gastroenterostomy	Procedure	CPT-4
43847	Gastric restrictive procedure, with gastric bypass for morbid obesity; with small intestine reconstruction to limit absorption	Procedure	CPT-4
44.38	Laparoscopic gastroenterostomy	Procedure	ICD-9-CM
44.39	Other gastroenterostomy without gastrectomy	Procedure	ICD-9-CM
44.68	Laparoscopic gastroplasty	Procedure	ICD-9-CM
44.95	Laparoscopic gastric restrictive procedure	Procedure	ICD-9-CM
45.51	Isolation of segment of small intestine	Procedure	ICD-9-CM
45.91	Small-to-small intestinal anastomosis	Procedure	ICD-9-CM
539.0	Complications of gastric band procedure	Diagnosis	ICD-9-CM
539.01	Infection due to gastric band procedure	Diagnosis	ICD-9-CM
539.09	Other complications of gastric band procedure	Diagnosis	ICD-9-CM
539.8	Complications of other bariatric procedure	Diagnosis	ICD-9-CM
539.81	Infection due to other bariatric procedure	Diagnosis	ICD-9-CM
539.89	Other complications of other bariatric procedure	Diagnosis	ICD-9-CM
649.1	Obesity complicating pregnancy, childbirth, or the puerperium	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
649.10	Obesity complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable	Diagnosis	ICD-9-CM
649.11	Obesity complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
649.12	Obesity complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
649.13	Obesity complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication	Diagnosis	ICD-9-CM
649.14	Obesity complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	Diagnosis	ICD-9-CM
649.2	Bariatric surgery status complicating pregnancy, childbirth, or the puerperium	Diagnosis	ICD-9-CM
649.20	Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable	Diagnosis	ICD-9-CM
649.21	Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
649.22	Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
649.23	Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication	Diagnosis	ICD-9-CM
649.24	Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	Diagnosis	ICD-9-CM
E66.01	Morbid (severe) obesity due to excess calories	Diagnosis	ICD-10-CM
E66.09	Other obesity due to excess calories	Diagnosis	ICD-10-CM
E66.1	Drug-induced obesity	Diagnosis	ICD-10-CM
E66.2	Morbid (severe) obesity with alveolar hypoventilation	Diagnosis	ICD-10-CM
E66.8	Other obesity	Diagnosis	ICD-10-CM
E66.9	Obesity, unspecified	Diagnosis	ICD-10-CM
K95.01	Infection due to gastric band procedure	Diagnosis	ICD-10-CM
K95.09	Other complications of gastric band procedure	Diagnosis	ICD-10-CM
K95.81	Infection due to other bariatric procedure	Diagnosis	ICD-10-CM
K95.89	Other complications of other bariatric procedure	Diagnosis	ICD-10-CM
O99.210	Obesity complicating pregnancy, unspecified trimester	Diagnosis	ICD-10-CM
O99.211	Obesity complicating pregnancy, first trimester	Diagnosis	ICD-10-CM
O99.212	Obesity complicating pregnancy, second trimester	Diagnosis	ICD-10-CM
O99.213	Obesity complicating pregnancy, third trimester	Diagnosis	ICD-10-CM
O99.214	Obesity complicating childbirth	Diagnosis	ICD-10-CM
O99.215	Obesity complicating the puerperium	Diagnosis	ICD-10-CM
O99.840	Bariatric surgery status complicating pregnancy, unspecified trimester	Diagnosis	ICD-10-CM
O99.841	Bariatric surgery status complicating pregnancy, first trimester	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
O99.842	Bariatric surgery status complicating pregnancy, second trimester	Diagnosis	ICD-10-CM
O99.843	Bariatric surgery status complicating pregnancy, third trimester	Diagnosis	ICD-10-CM
O99.844	Bariatric surgery status complicating childbirth	Diagnosis	ICD-10-CM
O99.845	Bariatric surgery status complicating the puerperium	Diagnosis	ICD-10-CM
V85.3	Body Mass Index between 30-39, adult	Diagnosis	ICD-9-CM
V85.30	Body Mass Index 30.0-30.9, adult	Diagnosis	ICD-9-CM
V85.31	Body Mass Index 31.0-31.9, adult	Diagnosis	ICD-9-CM
V85.32	Body Mass Index 32.0-32.9, adult	Diagnosis	ICD-9-CM
V85.33	Body Mass Index 33.0-33.9, adult	Diagnosis	ICD-9-CM
V85.34	Body Mass Index 34.0-34.9, adult	Diagnosis	ICD-9-CM
V85.35	Body Mass Index 35.0-35.9, adult	Diagnosis	ICD-9-CM
V85.36	Body Mass Index 36.0-36.9, adult	Diagnosis	ICD-9-CM
V85.37	Body Mass Index 37.0-37.9, adult	Diagnosis	ICD-9-CM
V85.38	Body Mass Index 38.0-38.9, adult	Diagnosis	ICD-9-CM
V85.39	Body Mass Index 39.0-39.9, adult	Diagnosis	ICD-9-CM
V85.4	Body Mass Index 40 and over, adult	Diagnosis	ICD-9-CM
V85.41	Body Mass Index 40.0-44.9, adult	Diagnosis	ICD-9-CM
V85.42	Body Mass Index 45.0-49.9, adult	Diagnosis	ICD-9-CM
V85.43	Body Mass Index 50.0-59.9, adult	Diagnosis	ICD-9-CM
V85.44	Body Mass Index 60.0-69.9, adult	Diagnosis	ICD-9-CM
V85.45	Body Mass Index 70 and over, adult	Diagnosis	ICD-9-CM
Z68.30	Body mass index (BMI) 30.0-30.9, adult	Diagnosis	ICD-10-CM
Z68.31	Body mass index (BMI) 31.0-31.9, adult	Diagnosis	ICD-10-CM
Z68.32	Body mass index (BMI) 32.0-32.9, adult	Diagnosis	ICD-10-CM
Z68.33	Body mass index (BMI) 33.0-33.9, adult	Diagnosis	ICD-10-CM
Z68.34	Body mass index (BMI) 34.0-34.9, adult	Diagnosis	ICD-10-CM
Z68.35	Body mass index (BMI) 35.0-35.9, adult	Diagnosis	ICD-10-CM
Z68.36	Body mass index (BMI) 36.0-36.9, adult	Diagnosis	ICD-10-CM
Z68.37	Body mass index (BMI) 37.0-37.9, adult	Diagnosis	ICD-10-CM
Z68.38	Body mass index (BMI) 38.0-38.9, adult	Diagnosis	ICD-10-CM
Z68.39	Body mass index (BMI) 39.0-39.9, adult	Diagnosis	ICD-10-CM
Z68.41	Body mass index (BMI) 40.0-44.9, adult	Diagnosis	ICD-10-CM
Z68.42	Body mass index (BMI) 45.0-49.9, adult	Diagnosis	ICD-10-CM
Z68.43	Body mass index (BMI) 50.0-59.9, adult	Diagnosis	ICD-10-CM
Z68.44	Body mass index (BMI) 60.0-69.9, adult	Diagnosis	ICD-10-CM
Z68.45	Body mass index (BMI) 70 or greater, adult	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
Renal Disease			
580	Acute glomerulonephritis	Diagnosis	ICD-9-CM
580.0	Acute glomerulonephritis with lesion of proliferative glomerulonephritis	Diagnosis	ICD-9-CM
580.4	Acute glomerulonephritis with lesion of rapidly progressive glomerulonephritis	Diagnosis	ICD-9-CM
580.8	Acute glomerulonephritis with other specified pathological lesion in kidney	Diagnosis	ICD-9-CM
580.81	Acute glomerulonephritis with other specified pathological lesion in kidney in disease classified elsewhere	Diagnosis	ICD-9-CM
580.89	Other acute glomerulonephritis with other specified pathological lesion in kidney	Diagnosis	ICD-9-CM
580.9	Acute glomerulonephritis with unspecified pathological lesion in kidney	Diagnosis	ICD-9-CM
581	Nephrotic syndrome	Diagnosis	ICD-9-CM
581.0	Nephrotic syndrome with lesion of proliferative glomerulonephritis	Diagnosis	ICD-9-CM
581.1	Nephrotic syndrome with lesion of membranous glomerulonephritis	Diagnosis	ICD-9-CM
581.2	Nephrotic syndrome with lesion of membranoproliferative glomerulonephritis	Diagnosis	ICD-9-CM
581.3	Nephrotic syndrome with lesion of minimal change glomerulonephritis	Diagnosis	ICD-9-CM
581.8	Nephrotic syndrome with other specified pathological lesion in kidney	Diagnosis	ICD-9-CM
581.81	Nephrotic syndrome with other specified pathological lesion in kidney in diseases classified elsewhere	Diagnosis	ICD-9-CM
581.89	Other nephrotic syndrome with specified pathological lesion in kidney	Diagnosis	ICD-9-CM
581.9	Nephrotic syndrome with unspecified pathological lesion in kidney	Diagnosis	ICD-9-CM
582	Chronic glomerulonephritis	Diagnosis	ICD-9-CM
582.0	Chronic glomerulonephritis with lesion of proliferative glomerulonephritis	Diagnosis	ICD-9-CM
582.1	Chronic glomerulonephritis with lesion of membranous glomerulonephritis	Diagnosis	ICD-9-CM
582.2	Chronic glomerulonephritis with lesion of membranoproliferative	Diagnosis	ICD-9-CM
582.4	Chronic glomerulonephritis with lesion of rapidly progressive glomerulonephritis	Diagnosis	ICD-9-CM
582.8	Chronic glomerulonephritis with other specified pathological lesion in kidney	Diagnosis	ICD-9-CM
582.81	Chronic glomerulonephritis with other specified pathological lesion in kidney in diseases classified elsewhere	Diagnosis	ICD-9-CM
582.89	Other chronic glomerulonephritis with specified pathological lesion in kidney	Diagnosis	ICD-9-CM
582.9	Chronic glomerulonephritis with unspecified pathological lesion in kidney	Diagnosis	ICD-9-CM
583	Nephritis and nephropathy, not specified as acute or chronic	Diagnosis	ICD-9-CM
583.0	Nephritis and nephropathy, not specified as acute or chronic, with lesion of proliferative glomerulonephritis	Diagnosis	ICD-9-CM
583.1	Nephritis and nephropathy, not specified as acute or chronic, with lesion of membranous glomerulonephritis	Diagnosis	ICD-9-CM
583.2	Nephritis and nephropathy, not specified as acute or chronic, with lesion of membranoproliferative glomerulonephritis	Diagnosis	ICD-9-CM
583.4	Nephritis and nephropathy, not specified as acute or chronic, with lesion of rapidly progressive glomerulonephritis	Diagnosis	ICD-9-CM
583.6	Nephritis and nephropathy, not specified as acute or chronic, with lesion of renal	Diagnosis	ICD-9-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
583.7	Nephritis and nephropathy, not specified as acute or chronic, with lesion of renal medullary necrosis	Diagnosis	ICD-9-CM
583.8	Nephritis and nephropathy, not specified as acute or chronic, with other specified pathological lesion in kidney	Diagnosis	ICD-9-CM
583.81	Nephritis and nephropathy, not specified as acute or chronic, with other specified pathological lesion in kidney, in diseases classified elsewhere	Diagnosis	ICD-9-CM
583.89	Other nephritis and nephropathy, not specified as acute or chronic, with specified pathological lesion in kidney	Diagnosis	ICD-9-CM
583.9	Nephritis and nephropathy, not specified as acute or chronic, with unspecified pathological lesion in kidney	Diagnosis	ICD-9-CM
584	Acute kidney failure	Diagnosis	ICD-9-CM
584.5	Acute kidney failure with lesion of tubular necrosis	Diagnosis	ICD-9-CM
584.6	Acute kidney failure with lesion of renal cortical necrosis	Diagnosis	ICD-9-CM
584.7	Acute kidney failure with lesion of medullary [papillary] necrosis	Diagnosis	ICD-9-CM
584.8	Acute kidney failure with other specified pathological lesion in kidney	Diagnosis	ICD-9-CM
584.9	Acute kidney failure, unspecified	Diagnosis	ICD-9-CM
585	Chronic kidney disease (CKD)	Diagnosis	ICD-9-CM
585.1	Chronic kidney disease, Stage I	Diagnosis	ICD-9-CM
585.2	Chronic kidney disease, Stage II (mild)	Diagnosis	ICD-9-CM
585.3	Chronic kidney disease, Stage III (moderate)	Diagnosis	ICD-9-CM
585.4	Chronic kidney disease, Stage IV (severe)	Diagnosis	ICD-9-CM
585.5	Chronic kidney disease, Stage V	Diagnosis	ICD-9-CM
585.9	Chronic kidney disease, unspecified	Diagnosis	ICD-9-CM
586	Unspecified renal failure	Diagnosis	ICD-9-CM
587	Unspecified renal sclerosis	Diagnosis	ICD-9-CM
588	Disorders resulting from impaired renal function	Diagnosis	ICD-9-CM
588.0	Renal osteodystrophy	Diagnosis	ICD-9-CM
588.1	Nephrogenic diabetes insipidus	Diagnosis	ICD-9-CM
588.8	Other specified disorder resulting from impaired renal function	Diagnosis	ICD-9-CM
588.81	Secondary hyperparathyroidism (of renal origin)	Diagnosis	ICD-9-CM
588.89	Other specified disorders resulting from impaired renal function	Diagnosis	ICD-9-CM
588.9	Unspecified disorder resulting from impaired renal function	Diagnosis	ICD-9-CM
589	Small kidney of unknown cause	Diagnosis	ICD-9-CM
589.0	Unilateral small kidney	Diagnosis	ICD-9-CM
589.1	Bilateral small kidneys	Diagnosis	ICD-9-CM
589.9	Unspecified small kidney	Diagnosis	ICD-9-CM
590	Infections of kidney	Diagnosis	ICD-9-CM
590.0	Chronic pyelonephritis	Diagnosis	ICD-9-CM
590.00	Chronic pyelonephritis without lesion of renal medullary necrosis	Diagnosis	ICD-9-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
590.01	Chronic pyelonephritis with lesion of renal medullary necrosis	Diagnosis	ICD-9-CM
590.1	Acute pyelonephritis	Diagnosis	ICD-9-CM
590.10	Acute pyelonephritis without lesion of renal medullary necrosis	Diagnosis	ICD-9-CM
590.11	Acute pyelonephritis with lesion of renal medullary necrosis	Diagnosis	ICD-9-CM
590.2	Renal and perinephric abscess	Diagnosis	ICD-9-CM
590.3	Pyeloureteritis cystica	Diagnosis	ICD-9-CM
590.8	Other pyelonephritis or pyonephrosis, not specified as acute or chronic	Diagnosis	ICD-9-CM
590.80	Unspecified pyelonephritis	Diagnosis	ICD-9-CM
590.81	Pyelitis or pyelonephritis in diseases classified elsewhere	Diagnosis	ICD-9-CM
590.9	Unspecified infection of kidney	Diagnosis	ICD-9-CM
591	Hydronephrosis	Diagnosis	ICD-9-CM
592	Calculus of kidney and ureter	Diagnosis	ICD-9-CM
592.0	Calculus of kidney	Diagnosis	ICD-9-CM
592.1	Calculus of ureter	Diagnosis	ICD-9-CM
592.9	Unspecified urinary calculus	Diagnosis	ICD-9-CM
593	Other disorders of kidney and ureter	Diagnosis	ICD-9-CM
593.0	Nephroptosis	Diagnosis	ICD-9-CM
593.1	Hypertrophy of kidney	Diagnosis	ICD-9-CM
593.2	Acquired cyst of kidney	Diagnosis	ICD-9-CM
593.3	Stricture or kinking of ureter	Diagnosis	ICD-9-CM
593.4	Other ureteric obstruction	Diagnosis	ICD-9-CM
593.5	Hydroureter	Diagnosis	ICD-9-CM
593.6	Postural proteinuria	Diagnosis	ICD-9-CM
593.7	Vesicoureteral reflux	Diagnosis	ICD-9-CM
593.70	Vesicoureteral reflux, unspecified or without reflex nephropathy	Diagnosis	ICD-9-CM
593.71	Vesicoureteral reflux with reflux nephropathy, unilateral	Diagnosis	ICD-9-CM
593.72	Vesicoureteral reflux with reflux nephropathy, bilateral	Diagnosis	ICD-9-CM
593.73	Vesicoureteral reflux with reflux nephropathy, NOS	Diagnosis	ICD-9-CM
593.8	Other specified disorders of kidney and ureter	Diagnosis	ICD-9-CM
593.81	Vascular disorders of kidney	Diagnosis	ICD-9-CM
593.82	Ureteral fistula	Diagnosis	ICD-9-CM
593.89	Other specified disorder of kidney and ureter	Diagnosis	ICD-9-CM
593.9	Unspecified disorder of kidney and ureter	Diagnosis	ICD-9-CM
594	Calculus of lower urinary tract	Diagnosis	ICD-9-CM
594.0	Calculus in diverticulum of bladder	Diagnosis	ICD-9-CM
594.1	Other calculus in bladder	Diagnosis	ICD-9-CM
594.2	Calculus in urethra	Diagnosis	ICD-9-CM
594.8	Other lower urinary tract calculus	Diagnosis	ICD-9-CM
594.9	Unspecified calculus of lower urinary tract	Diagnosis	ICD-9-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
595	Cystitis	Diagnosis	ICD-9-CM
595.0	Acute cystitis	Diagnosis	ICD-9-CM
595.1	Chronic interstitial cystitis	Diagnosis	ICD-9-CM
595.2	Other chronic cystitis	Diagnosis	ICD-9-CM
595.3	Trigonitis	Diagnosis	ICD-9-CM
595.4	Cystitis in diseases classified elsewhere	Diagnosis	ICD-9-CM
595.8	Other specified types of cystitis	Diagnosis	ICD-9-CM
595.81	Cystitis cystica	Diagnosis	ICD-9-CM
595.82	Irradiation cystitis	Diagnosis	ICD-9-CM
595.89	Other specified types of cystitis	Diagnosis	ICD-9-CM
595.9	Unspecified cystitis	Diagnosis	ICD-9-CM
596	Other disorders of bladder	Diagnosis	ICD-9-CM
596.0	Bladder neck obstruction	Diagnosis	ICD-9-CM
596.1	Intestinovesical fistula	Diagnosis	ICD-9-CM
596.2	Vesical fistula, not elsewhere classified	Diagnosis	ICD-9-CM
596.3	Diverticulum of bladder	Diagnosis	ICD-9-CM
596.4	Atony of bladder	Diagnosis	ICD-9-CM
596.5	Other functional disorders of bladder	Diagnosis	ICD-9-CM
596.51	Hypertonicity of bladder	Diagnosis	ICD-9-CM
596.52	Low bladder compliance	Diagnosis	ICD-9-CM
596.53	Paralysis of bladder	Diagnosis	ICD-9-CM
596.54	Neurogenic bladder, NOS	Diagnosis	ICD-9-CM
596.55	Detrusor sphincter dyssynergia	Diagnosis	ICD-9-CM
596.59	Other functional disorder of bladder	Diagnosis	ICD-9-CM
596.6	Nontraumatic rupture of bladder	Diagnosis	ICD-9-CM
596.7	Hemorrhage into bladder wall	Diagnosis	ICD-9-CM
596.8	Other specified disorders of bladder	Diagnosis	ICD-9-CM
596.81	Infection of cystostomy	Diagnosis	ICD-9-CM
596.82	Mechanical complication of cystostomy	Diagnosis	ICD-9-CM
596.83	Other complication of cystostomy	Diagnosis	ICD-9-CM
596.89	Other specified disorders of bladder	Diagnosis	ICD-9-CM
596.9	Unspecified disorder of bladder	Diagnosis	ICD-9-CM
597	Urethritis, not sexually transmitted, and urethral syndrome	Diagnosis	ICD-9-CM
597.0	Urethral abscess	Diagnosis	ICD-9-CM
597.8	Other urethritis	Diagnosis	ICD-9-CM
597.80	Unspecified urethritis	Diagnosis	ICD-9-CM
597.81	Urethral syndrome NOS	Diagnosis	ICD-9-CM
597.89	Other urethritis	Diagnosis	ICD-9-CM
598	Urethral stricture	Diagnosis	ICD-9-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
598.0	Urethral stricture due to infection	Diagnosis	ICD-9-CM
598.00	Urethral stricture due to unspecified infection	Diagnosis	ICD-9-CM
598.01	Urethral stricture due to infective diseases classified elsewhere	Diagnosis	ICD-9-CM
598.1	Traumatic urethral stricture	Diagnosis	ICD-9-CM
598.2	Postoperative urethral stricture	Diagnosis	ICD-9-CM
598.8	Other specified causes of urethral stricture	Diagnosis	ICD-9-CM
598.9	Unspecified urethral stricture	Diagnosis	ICD-9-CM
599	Other disorders of urethra and urinary tract	Diagnosis	ICD-9-CM
599.0	Urinary tract infection, site not specified	Diagnosis	ICD-9-CM
599.1	Urethral fistula	Diagnosis	ICD-9-CM
599.2	Urethral diverticulum	Diagnosis	ICD-9-CM
599.3	Urethral caruncle	Diagnosis	ICD-9-CM
599.4	Urethral false passage	Diagnosis	ICD-9-CM
599.5	Prolapsed urethral mucosa	Diagnosis	ICD-9-CM
599.6	Urinary obstruction	Diagnosis	ICD-9-CM
599.60	Urinary obstruction, unspecified	Diagnosis	ICD-9-CM
599.69	Urinary obstruction, not elsewhere classified	Diagnosis	ICD-9-CM
599.7	Hematuria	Diagnosis	ICD-9-CM
599.70	Hematuria, unspecified	Diagnosis	ICD-9-CM
599.71	Gross hematuria	Diagnosis	ICD-9-CM
599.72	Microscopic hematuria	Diagnosis	ICD-9-CM
599.8	Other specified disorder of urethra and urinary tract	Diagnosis	ICD-9-CM
599.81	Urethral hypermobility	Diagnosis	ICD-9-CM
599.82	Intrinsic (urethral) sphincter deficiency (ISD)	Diagnosis	ICD-9-CM
599.83	Urethral instability	Diagnosis	ICD-9-CM
599.84	Other specified disorders of urethra	Diagnosis	ICD-9-CM
599.89	Other specified disorders of urinary tract	Diagnosis	ICD-9-CM
599.9	Unspecified disorder of urethra and urinary tract	Diagnosis	ICD-9-CM
A56.01	Chlamydial cystitis and urethritis	Diagnosis	ICD-10-CM
B52.0	Plasmodium malariae malaria with nephropathy	Diagnosis	ICD-10-CM
M32.14	Glomerular disease in systemic lupus erythematosus	Diagnosis	ICD-10-CM
M32.15	Tubulo-interstitial nephropathy in systemic lupus erythematosus	Diagnosis	ICD-10-CM
M35.04	Sicca syndrome with tubulo-interstitial nephropathy	Diagnosis	ICD-10-CM
N00.0	Acute nephritic syndrome with minor glomerular abnormality	Diagnosis	ICD-10-CM
N00.1	Acute nephritic syndrome with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N00.2	Acute nephritic syndrome with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N00.3	Acute nephritic syndrome with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N00.4	Acute nephritic syndrome with diffuse endocapillary proliferative	Diagnosis	ICD-10-CM
N00.5	Acute nephritic syndrome with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
N00.6	Acute nephritic syndrome with dense deposit disease	Diagnosis	ICD-10-CM
N00.7	Acute nephritic syndrome with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N00.8	Acute nephritic syndrome with other morphologic changes	Diagnosis	ICD-10-CM
N00.9	Acute nephritic syndrome with unspecified morphologic changes	Diagnosis	ICD-10-CM
N01.0	Rapidly progressive nephritic syndrome with minor glomerular abnormality	Diagnosis	ICD-10-CM
N01.1	Rapidly progressive nephritic syndrome with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N01.2	Rapidly progressive nephritic syndrome with diffuse membranous	Diagnosis	ICD-10-CM
N01.3	Rapidly progressive nephritic syndrome with diffuse mesangial proliferative	Diagnosis	ICD-10-CM
N01.4	Rapidly progressive nephritic syndrome with diffuse endocapillary proliferative	Diagnosis	ICD-10-CM
N01.5	Rapidly progressive nephritic syndrome with diffuse mesangiocapillary	Diagnosis	ICD-10-CM
N01.6	Rapidly progressive nephritic syndrome with dense deposit disease	Diagnosis	ICD-10-CM
N01.7	Rapidly progressive nephritic syndrome with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N01.8	Rapidly progressive nephritic syndrome with other morphologic changes	Diagnosis	ICD-10-CM
N01.9	Rapidly progressive nephritic syndrome with unspecified morphologic changes	Diagnosis	ICD-10-CM
N02.0	Recurrent and persistent hematuria with minor glomerular abnormality	Diagnosis	ICD-10-CM
N02.1	Recurrent and persistent hematuria with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N02.2	Recurrent and persistent hematuria with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N02.3	Recurrent and persistent hematuria with diffuse mesangial proliferative	Diagnosis	ICD-10-CM
N02.4	Recurrent and persistent hematuria with diffuse endocapillary proliferative	Diagnosis	ICD-10-CM
N02.5	Recurrent and persistent hematuria with diffuse mesangiocapillary	Diagnosis	ICD-10-CM
N02.6	Recurrent and persistent hematuria with dense deposit disease	Diagnosis	ICD-10-CM
N02.7	Recurrent and persistent hematuria with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N02.8	Recurrent and persistent hematuria with other morphologic changes	Diagnosis	ICD-10-CM
N02.9	Recurrent and persistent hematuria with unspecified morphologic changes	Diagnosis	ICD-10-CM
N03.0	Chronic nephritic syndrome with minor glomerular abnormality	Diagnosis	ICD-10-CM
N03.1	Chronic nephritic syndrome with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N03.2	Chronic nephritic syndrome with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N03.3	Chronic nephritic syndrome with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N03.4	Chronic nephritic syndrome with diffuse endocapillary proliferative	Diagnosis	ICD-10-CM
N03.5	Chronic nephritic syndrome with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N03.6	Chronic nephritic syndrome with dense deposit disease	Diagnosis	ICD-10-CM
N03.7	Chronic nephritic syndrome with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N03.8	Chronic nephritic syndrome with other morphologic changes	Diagnosis	ICD-10-CM
N03.9	Chronic nephritic syndrome with unspecified morphologic changes	Diagnosis	ICD-10-CM
N04.0	Nephrotic syndrome with minor glomerular abnormality	Diagnosis	ICD-10-CM
N04.1	Nephrotic syndrome with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N04.2	Nephrotic syndrome with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N04.3	Nephrotic syndrome with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N04.4	Nephrotic syndrome with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
N04.5	Nephrotic syndrome with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N04.6	Nephrotic syndrome with dense deposit disease	Diagnosis	ICD-10-CM
N04.7	Nephrotic syndrome with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N04.8	Nephrotic syndrome with other morphologic changes	Diagnosis	ICD-10-CM
N04.9	Nephrotic syndrome with unspecified morphologic changes	Diagnosis	ICD-10-CM
N05.0	Unspecified nephritic syndrome with minor glomerular abnormality	Diagnosis	ICD-10-CM
N05.1	Unspecified nephritic syndrome with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N05.2	Unspecified nephritic syndrome with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N05.3	Unspecified nephritic syndrome with diffuse mesangial proliferative	Diagnosis	ICD-10-CM
N05.4	Unspecified nephritic syndrome with diffuse endocapillary proliferative	Diagnosis	ICD-10-CM
N05.5	Unspecified nephritic syndrome with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N05.6	Unspecified nephritic syndrome with dense deposit disease	Diagnosis	ICD-10-CM
N05.7	Unspecified nephritic syndrome with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N05.8	Unspecified nephritic syndrome with other morphologic changes	Diagnosis	ICD-10-CM
N05.9	Unspecified nephritic syndrome with unspecified morphologic changes	Diagnosis	ICD-10-CM
N06.0	Isolated proteinuria with minor glomerular abnormality	Diagnosis	ICD-10-CM
N06.1	Isolated proteinuria with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N06.2	Isolated proteinuria with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N06.3	Isolated proteinuria with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N06.4	Isolated proteinuria with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N06.5	Isolated proteinuria with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N06.6	Isolated proteinuria with dense deposit disease	Diagnosis	ICD-10-CM
N06.7	Isolated proteinuria with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N06.8	Isolated proteinuria with other morphologic lesion	Diagnosis	ICD-10-CM
N06.9	Isolated proteinuria with unspecified morphologic lesion	Diagnosis	ICD-10-CM
N07.0	Hereditary nephropathy, not elsewhere classified with minor glomerular	Diagnosis	ICD-10-CM
N07.1	Hereditary nephropathy, not elsewhere classified with focal and segmental	Diagnosis	ICD-10-CM
N07.2	Hereditary nephropathy, not elsewhere classified with diffuse membranous	Diagnosis	ICD-10-CM
N07.3	Hereditary nephropathy, not elsewhere classified with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N07.4	Hereditary nephropathy, not elsewhere classified with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N07.5	Hereditary nephropathy, not elsewhere classified with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N07.6	Hereditary nephropathy, not elsewhere classified with dense deposit disease	Diagnosis	ICD-10-CM
N07.7	Hereditary nephropathy, not elsewhere classified with diffuse crescentic	Diagnosis	ICD-10-CM
N07.8	Hereditary nephropathy, not elsewhere classified with other morphologic lesions	Diagnosis	ICD-10-CM
N07.9	Hereditary nephropathy, not elsewhere classified with unspecified morphologic	Diagnosis	ICD-10-CM
N08	Glomerular disorders in diseases classified elsewhere	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
N10	Acute pyelonephritis	Diagnosis	ICD-10-CM
N11.0	Nonobstructive reflux-associated chronic pyelonephritis	Diagnosis	ICD-10-CM
N11.1	Chronic obstructive pyelonephritis	Diagnosis	ICD-10-CM
N11.8	Other chronic tubulo-interstitial nephritis	Diagnosis	ICD-10-CM
N11.9	Chronic tubulo-interstitial nephritis, unspecified	Diagnosis	ICD-10-CM
N12	Tubulo-interstitial nephritis, not specified as acute or chronic	Diagnosis	ICD-10-CM
N13.0	Hydronephrosis with ureteropelvic junction obstruction	Diagnosis	ICD-10-CM
N13.1	Hydronephrosis with ureteral stricture, not elsewhere classified	Diagnosis	ICD-10-CM
N13.2	Hydronephrosis with renal and ureteral calculous obstruction	Diagnosis	ICD-10-CM
N13.30	Unspecified hydronephrosis	Diagnosis	ICD-10-CM
N13.39	Other hydronephrosis	Diagnosis	ICD-10-CM
N13.4	Hydroureter	Diagnosis	ICD-10-CM
N13.5	Crossing vessel and stricture of ureter without hydronephrosis	Diagnosis	ICD-10-CM
N13.6	Pyonephrosis	Diagnosis	ICD-10-CM
N13.70	Vesicoureteral-reflux, unspecified	Diagnosis	ICD-10-CM
N13.71	Vesicoureteral-reflux without reflux nephropathy	Diagnosis	ICD-10-CM
N13.721	Vesicoureteral-reflux with reflux nephropathy without hydroureter, unilateral	Diagnosis	ICD-10-CM
N13.722	Vesicoureteral-reflux with reflux nephropathy without hydroureter, bilateral	Diagnosis	ICD-10-CM
N13.729	Vesicoureteral-reflux with reflux nephropathy without hydroureter, unspecified	Diagnosis	ICD-10-CM
N13.731	Vesicoureteral-reflux with reflux nephropathy with hydroureter, unilateral	Diagnosis	ICD-10-CM
N13.732	Vesicoureteral-reflux with reflux nephropathy with hydroureter, bilateral	Diagnosis	ICD-10-CM
N13.739	Vesicoureteral-reflux with reflux nephropathy with hydroureter, unspecified	Diagnosis	ICD-10-CM
N13.8	Other obstructive and reflux uropathy	Diagnosis	ICD-10-CM
N13.9	Obstructive and reflux uropathy, unspecified	Diagnosis	ICD-10-CM
N14.0	Analgesic nephropathy	Diagnosis	ICD-10-CM
N14.1	Nephropathy induced by other drugs, medicaments and biological substances	Diagnosis	ICD-10-CM
N14.2	Nephropathy induced by unspecified drug, medicament or biological substance	Diagnosis	ICD-10-CM
N14.3	Nephropathy induced by heavy metals	Diagnosis	ICD-10-CM
N14.4	Toxic nephropathy, not elsewhere classified	Diagnosis	ICD-10-CM
N15.0	Balkan nephropathy	Diagnosis	ICD-10-CM
N15.1	Renal and perinephric abscess	Diagnosis	ICD-10-CM
N15.8	Other specified renal tubulo-interstitial diseases	Diagnosis	ICD-10-CM
N15.9	Renal tubulo-interstitial disease, unspecified	Diagnosis	ICD-10-CM
N16	Renal tubulo-interstitial disorders in diseases classified elsewhere	Diagnosis	ICD-10-CM
N17.0	Acute kidney failure with tubular necrosis	Diagnosis	ICD-10-CM
N17.1	Acute kidney failure with acute cortical necrosis	Diagnosis	ICD-10-CM
N17.2	Acute kidney failure with medullary necrosis	Diagnosis	ICD-10-CM
N17.8	Other acute kidney failure	Diagnosis	ICD-10-CM
N17.9	Acute kidney failure, unspecified	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
N18.1	Chronic kidney disease, stage 1	Diagnosis	ICD-10-CM
N18.2	Chronic kidney disease, stage 2 (mild)	Diagnosis	ICD-10-CM
N18.3	Chronic kidney disease, stage 3 (moderate)	Diagnosis	ICD-10-CM
N18.4	Chronic kidney disease, stage 4 (severe)	Diagnosis	ICD-10-CM
N18.5	Chronic kidney disease, stage 5	Diagnosis	ICD-10-CM
N18.9	Chronic kidney disease, unspecified	Diagnosis	ICD-10-CM
N19	Unspecified kidney failure	Diagnosis	ICD-10-CM
N20.0	Calculus of kidney	Diagnosis	ICD-10-CM
N20.1	Calculus of ureter	Diagnosis	ICD-10-CM
N20.2	Calculus of kidney with calculus of ureter	Diagnosis	ICD-10-CM
N20.9	Urinary calculus, unspecified	Diagnosis	ICD-10-CM
N21.0	Calculus in bladder	Diagnosis	ICD-10-CM
N21.1	Calculus in urethra	Diagnosis	ICD-10-CM
N21.8	Other lower urinary tract calculus	Diagnosis	ICD-10-CM
N21.9	Calculus of lower urinary tract, unspecified	Diagnosis	ICD-10-CM
N22	Calculus of urinary tract in diseases classified elsewhere	Diagnosis	ICD-10-CM
N25.0	Renal osteodystrophy	Diagnosis	ICD-10-CM
N25.1	Nephrogenic diabetes insipidus	Diagnosis	ICD-10-CM
N25.81	Secondary hyperparathyroidism of renal origin	Diagnosis	ICD-10-CM
N25.89	Other disorders resulting from impaired renal tubular function	Diagnosis	ICD-10-CM
N25.9	Disorder resulting from impaired renal tubular function, unspecified	Diagnosis	ICD-10-CM
N26.1	Atrophy of kidney (terminal)	Diagnosis	ICD-10-CM
N26.9	Renal sclerosis, unspecified	Diagnosis	ICD-10-CM
N27.0	Small kidney, unilateral	Diagnosis	ICD-10-CM
N27.1	Small kidney, bilateral	Diagnosis	ICD-10-CM
N27.9	Small kidney, unspecified	Diagnosis	ICD-10-CM
N28.0	Ischemia and infarction of kidney	Diagnosis	ICD-10-CM
N28.1	Cyst of kidney, acquired	Diagnosis	ICD-10-CM
N28.81	Hypertrophy of kidney	Diagnosis	ICD-10-CM
N28.82	Megaloureter	Diagnosis	ICD-10-CM
N28.83	Nephroptosis	Diagnosis	ICD-10-CM
N28.84	Pyelitis cystica	Diagnosis	ICD-10-CM
N28.85	Pyeloureteritis cystica	Diagnosis	ICD-10-CM
N28.86	Ureteritis cystica	Diagnosis	ICD-10-CM
N28.89	Other specified disorders of kidney and ureter	Diagnosis	ICD-10-CM
N28.9	Disorder of kidney and ureter, unspecified	Diagnosis	ICD-10-CM
N29	Other disorders of kidney and ureter in diseases classified elsewhere	Diagnosis	ICD-10-CM
N30.00	Acute cystitis without hematuria	Diagnosis	ICD-10-CM
N30.01	Acute cystitis with hematuria	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
N30.10	Interstitial cystitis (chronic) without hematuria	Diagnosis	ICD-10-CM
N30.11	Interstitial cystitis (chronic) with hematuria	Diagnosis	ICD-10-CM
N30.20	Other chronic cystitis without hematuria	Diagnosis	ICD-10-CM
N30.21	Other chronic cystitis with hematuria	Diagnosis	ICD-10-CM
N30.30	Trigonitis without hematuria	Diagnosis	ICD-10-CM
N30.31	Trigonitis with hematuria	Diagnosis	ICD-10-CM
N30.40	Irradiation cystitis without hematuria	Diagnosis	ICD-10-CM
N30.41	Irradiation cystitis with hematuria	Diagnosis	ICD-10-CM
N30.80	Other cystitis without hematuria	Diagnosis	ICD-10-CM
N30.81	Other cystitis with hematuria	Diagnosis	ICD-10-CM
N30.90	Cystitis, unspecified without hematuria	Diagnosis	ICD-10-CM
N30.91	Cystitis, unspecified with hematuria	Diagnosis	ICD-10-CM
N31.0	Uninhibited neuropathic bladder, not elsewhere classified	Diagnosis	ICD-10-CM
N31.1	Reflex neuropathic bladder, not elsewhere classified	Diagnosis	ICD-10-CM
N31.2	Flaccid neuropathic bladder, not elsewhere classified	Diagnosis	ICD-10-CM
N31.8	Other neuromuscular dysfunction of bladder	Diagnosis	ICD-10-CM
N31.9	Neuromuscular dysfunction of bladder, unspecified	Diagnosis	ICD-10-CM
N32.0	Bladder-neck obstruction	Diagnosis	ICD-10-CM
N32.1	Vesicointestinal fistula	Diagnosis	ICD-10-CM
N32.2	Vesical fistula, not elsewhere classified	Diagnosis	ICD-10-CM
N32.3	Diverticulum of bladder	Diagnosis	ICD-10-CM
N32.81	Overactive bladder	Diagnosis	ICD-10-CM
N32.89	Other specified disorders of bladder	Diagnosis	ICD-10-CM
N32.9	Bladder disorder, unspecified	Diagnosis	ICD-10-CM
N33	Bladder disorders in diseases classified elsewhere	Diagnosis	ICD-10-CM
N34.0	Urethral abscess	Diagnosis	ICD-10-CM
N34.1	Nonspecific urethritis	Diagnosis	ICD-10-CM
N34.2	Other urethritis	Diagnosis	ICD-10-CM
N34.3	Urethral syndrome, unspecified	Diagnosis	ICD-10-CM
N35.010	Post-traumatic urethral stricture, male, meatal	Diagnosis	ICD-10-CM
N35.011	Post-traumatic bulbous urethral stricture	Diagnosis	ICD-10-CM
N35.012	Post-traumatic membranous urethral stricture	Diagnosis	ICD-10-CM
N35.013	Post-traumatic anterior urethral stricture	Diagnosis	ICD-10-CM
N35.014	Post-traumatic urethral stricture, male, unspecified	Diagnosis	ICD-10-CM
N35.021	Urethral stricture due to childbirth	Diagnosis	ICD-10-CM
N35.028	Other post-traumatic urethral stricture, female	Diagnosis	ICD-10-CM
N35.111	Postinfective urethral stricture, not elsewhere classified, male, meatal	Diagnosis	ICD-10-CM
N35.112	Postinfective bulbous urethral stricture, not elsewhere classified, male	Diagnosis	ICD-10-CM
N35.113	Postinfective membranous urethral stricture, not elsewhere classified, male	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
N35.114	Postinfective anterior urethral stricture, not elsewhere classified, male	Diagnosis	ICD-10-CM
N35.119	Postinfective urethral stricture, not elsewhere classified, male, unspecified	Diagnosis	ICD-10-CM
N35.12	Postinfective urethral stricture, not elsewhere classified, female	Diagnosis	ICD-10-CM
N35.8	Other urethral stricture	Diagnosis	ICD-10-CM
N35.9	Urethral stricture, unspecified	Diagnosis	ICD-10-CM
N36.0	Urethral fistula	Diagnosis	ICD-10-CM
N36.1	Urethral diverticulum	Diagnosis	ICD-10-CM
N36.2	Urethral caruncle	Diagnosis	ICD-10-CM
N36.41	Hypermobility of urethra	Diagnosis	ICD-10-CM
N36.42	Intrinsic sphincter deficiency (ISD)	Diagnosis	ICD-10-CM
N36.43	Combined hypermobility of urethra and intrinsic sphincter deficiency	Diagnosis	ICD-10-CM
N36.44	Muscular disorders of urethra	Diagnosis	ICD-10-CM
N36.5	Urethral false passage	Diagnosis	ICD-10-CM
N36.8	Other specified disorders of urethra	Diagnosis	ICD-10-CM
N36.9	Urethral disorder, unspecified	Diagnosis	ICD-10-CM
N37	Urethral disorders in diseases classified elsewhere	Diagnosis	ICD-10-CM
N39.0	Urinary tract infection, site not specified	Diagnosis	ICD-10-CM
N39.8	Other specified disorders of urinary system	Diagnosis	ICD-10-CM
N39.9	Disorder of urinary system, unspecified	Diagnosis	ICD-10-CM
N99.110	Postprocedural urethral stricture, male, meatal	Diagnosis	ICD-10-CM
N99.111	Postprocedural bulbous urethral stricture, male	Diagnosis	ICD-10-CM
N99.112	Postprocedural membranous urethral stricture, male	Diagnosis	ICD-10-CM
N99.113	Postprocedural anterior bulbous urethral stricture, male	Diagnosis	ICD-10-CM
N99.114	Postprocedural urethral stricture, male, unspecified	Diagnosis	ICD-10-CM
N99.115	Postprocedural fossa navicularis urethral stricture	Diagnosis	ICD-10-CM
N99.12	Postprocedural urethral stricture, female	Diagnosis	ICD-10-CM
N99.510	Cystostomy hemorrhage	Diagnosis	ICD-10-CM
N99.511	Cystostomy infection	Diagnosis	ICD-10-CM
N99.512	Cystostomy malfunction	Diagnosis	ICD-10-CM
N99.518	Other cystostomy complication	Diagnosis	ICD-10-CM
R31.0	Gross hematuria	Diagnosis	ICD-10-CM
R31.1	Benign essential microscopic hematuria	Diagnosis	ICD-10-CM
R31.21	Asymptomatic microscopic hematuria	Diagnosis	ICD-10-CM
R31.29	Other microscopic hematuria	Diagnosis	ICD-10-CM
R31.9	Hematuria, unspecified	Diagnosis	ICD-10-CM
R80.2	Orthostatic proteinuria, unspecified	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
Alcohol Use or Dependence			
291	Alcohol-induced mental disorders	Diagnosis	ICD-9-CM
291.0	Alcohol withdrawal delirium	Diagnosis	ICD-9-CM
291.1	Alcohol-induced persisting amnestic disorder	Diagnosis	ICD-9-CM
291.2	Alcohol-induced persisting dementia	Diagnosis	ICD-9-CM
291.3	Alcohol-induced psychotic disorder with hallucinations	Diagnosis	ICD-9-CM
291.4	Idiosyncratic alcohol intoxication	Diagnosis	ICD-9-CM
291.5	Alcohol-induced psychotic disorder with delusions	Diagnosis	ICD-9-CM
291.8	Other specified alcohol-induced mental disorders	Diagnosis	ICD-9-CM
291.81	Alcohol withdrawal	Diagnosis	ICD-9-CM
291.82	Alcohol induced sleep disorders	Diagnosis	ICD-9-CM
291.89	Other specified alcohol-induced mental disorders	Diagnosis	ICD-9-CM
291.9	Unspecified alcohol-induced mental disorders	Diagnosis	ICD-9-CM
303	Alcohol dependence syndrome	Diagnosis	ICD-9-CM
303.0	Acute alcoholic intoxication	Diagnosis	ICD-9-CM
303.00	Acute alcoholic intoxication, unspecified	Diagnosis	ICD-9-CM
303.01	Acute alcoholic intoxication, continuous	Diagnosis	ICD-9-CM
303.02	Acute alcoholic intoxication, episodic	Diagnosis	ICD-9-CM
303.03	Acute alcoholic intoxication, in remission	Diagnosis	ICD-9-CM
303.9	Other and unspecified alcohol dependence	Diagnosis	ICD-9-CM
303.90	Other and unspecified alcohol dependence, unspecified	Diagnosis	ICD-9-CM
303.91	Other and unspecified alcohol dependence, continuous	Diagnosis	ICD-9-CM
303.92	Other and unspecified alcohol dependence, episodic	Diagnosis	ICD-9-CM
303.93	Other and unspecified alcohol dependence, in remission	Diagnosis	ICD-9-CM
305.0	Nondependent alcohol abuse	Diagnosis	ICD-9-CM
305.00	Nondependent alcohol abuse, unspecified	Diagnosis	ICD-9-CM
305.01	Nondependent alcohol abuse, continuous	Diagnosis	ICD-9-CM
305.02	Nondependent alcohol abuse, episodic	Diagnosis	ICD-9-CM
305.03	Nondependent alcohol abuse, in remission	Diagnosis	ICD-9-CM
357.5	Alcoholic polyneuropathy	Diagnosis	ICD-9-CM
425.5	Alcoholic cardiomyopathy	Diagnosis	ICD-9-CM
535.3	Alcoholic gastritis	Diagnosis	ICD-9-CM
535.30	Alcoholic gastritis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.31	Alcoholic gastritis with hemorrhage	Diagnosis	ICD-9-CM
571.0	Alcoholic fatty liver	Diagnosis	ICD-9-CM
571.1	Acute alcoholic hepatitis	Diagnosis	ICD-9-CM
571.2	Alcoholic cirrhosis of liver	Diagnosis	ICD-9-CM
571.3	Unspecified alcoholic liver damage	Diagnosis	ICD-9-CM
760.71	Noxious influences affecting fetus or newborn via placenta or breast milk, alcohol	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
790.3	Excessive blood level of alcohol	Diagnosis	ICD-9-CM
94.46	Alcoholism counseling	Procedure	ICD-9-CM
94.53	Referral for alcoholism rehabilitation	Procedure	ICD-9-CM
94.6	Alcohol and drug rehabilitation and detoxification	Procedure	ICD-9-CM
94.61	Alcohol rehabilitation	Procedure	ICD-9-CM
94.62	Alcohol detoxification	Procedure	ICD-9-CM
94.63	Alcohol rehabilitation and detoxification	Procedure	ICD-9-CM
94.67	Combined alcohol and drug rehabilitation	Procedure	ICD-9-CM
94.68	Combined alcohol and drug detoxification	Procedure	ICD-9-CM
94.69	Combined alcohol and drug rehabilitation and detoxification	Procedure	ICD-9-CM
977.3	Poisoning by alcohol deterrents	Diagnosis	ICD-9-CM
980	Toxic effect of alcohol	Diagnosis	ICD-9-CM
980.0	Toxic effect of ethyl alcohol	Diagnosis	ICD-9-CM
980.1	Toxic effect of methyl alcohol	Diagnosis	ICD-9-CM
980.2	Toxic effect of isopropyl alcohol	Diagnosis	ICD-9-CM
980.8	Toxic effect of other specified alcohols	Diagnosis	ICD-9-CM
980.9	Toxic effect of unspecified alcohol	Diagnosis	ICD-9-CM
E860	Accidental poisoning by alcohol, not elsewhere classified	Diagnosis	ICD-9-CM
E860.0	Accidental poisoning by alcoholic beverages	Diagnosis	ICD-9-CM
E860.1	Accidental poisoning by other and unspecified ethyl alcohol and its products	Diagnosis	ICD-9-CM
E860.2	Accidental poisoning by methyl alcohol	Diagnosis	ICD-9-CM
E860.3	Accidental poisoning by isopropyl alcohol	Diagnosis	ICD-9-CM
E860.8	Accidental poisoning by other specified alcohols	Diagnosis	ICD-9-CM
E860.9	Accidental poisoning by unspecified alcohol	Diagnosis	ICD-9-CM
E947.3	Alcohol deterrents causing adverse effect in therapeutic use	Diagnosis	ICD-9-CM
F10.10	Alcohol abuse, uncomplicated	Diagnosis	ICD-10-CM
F10.11	Alcohol abuse, in remission	Diagnosis	ICD-10-CM
F10.120	Alcohol abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F10.121	Alcohol abuse with intoxication delirium	Diagnosis	ICD-10-CM
F10.129	Alcohol abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F10.130	Alcohol abuse with withdrawal, uncomplicated	Diagnosis	ICD-10-CM
F10.131	Alcohol abuse with withdrawal delirium	Diagnosis	ICD-10-CM
F10.132	Alcohol abuse with withdrawal with perceptual disturbance	Diagnosis	ICD-10-CM
F10.139	Alcohol abuse with withdrawal, unspecified	Diagnosis	ICD-10-CM
F10.14	Alcohol abuse with alcohol-induced mood disorder	Diagnosis	ICD-10-CM
F10.150	Alcohol abuse with alcohol-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F10.151	Alcohol abuse with alcohol-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F10.159	Alcohol abuse with alcohol-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F10.180	Alcohol abuse with alcohol-induced anxiety disorder	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F10.181	Alcohol abuse with alcohol-induced sexual dysfunction	Diagnosis	ICD-10-CM
F10.182	Alcohol abuse with alcohol-induced sleep disorder	Diagnosis	ICD-10-CM
F10.188	Alcohol abuse with other alcohol-induced disorder	Diagnosis	ICD-10-CM
F10.19	Alcohol abuse with unspecified alcohol-induced disorder	Diagnosis	ICD-10-CM
F10.20	Alcohol dependence, uncomplicated	Diagnosis	ICD-10-CM
F10.21	Alcohol dependence, in remission	Diagnosis	ICD-10-CM
F10.220	Alcohol dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F10.221	Alcohol dependence with intoxication delirium	Diagnosis	ICD-10-CM
F10.229	Alcohol dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F10.230	Alcohol dependence with withdrawal, uncomplicated	Diagnosis	ICD-10-CM
F10.231	Alcohol dependence with withdrawal delirium	Diagnosis	ICD-10-CM
F10.232	Alcohol dependence with withdrawal with perceptual disturbance	Diagnosis	ICD-10-CM
F10.239	Alcohol dependence with withdrawal, unspecified	Diagnosis	ICD-10-CM
F10.24	Alcohol dependence with alcohol-induced mood disorder	Diagnosis	ICD-10-CM
F10.250	Alcohol dependence with alcohol-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F10.251	Alcohol dependence with alcohol-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F10.259	Alcohol dependence with alcohol-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F10.26	Alcohol dependence with alcohol-induced persisting amnestic disorder	Diagnosis	ICD-10-CM
F10.27	Alcohol dependence with alcohol-induced persisting dementia	Diagnosis	ICD-10-CM
F10.280	Alcohol dependence with alcohol-induced anxiety disorder	Diagnosis	ICD-10-CM
F10.281	Alcohol dependence with alcohol-induced sexual dysfunction	Diagnosis	ICD-10-CM
F10.282	Alcohol dependence with alcohol-induced sleep disorder	Diagnosis	ICD-10-CM
F10.288	Alcohol dependence with other alcohol-induced disorder	Diagnosis	ICD-10-CM
F10.29	Alcohol dependence with unspecified alcohol-induced disorder	Diagnosis	ICD-10-CM
F10.920	Alcohol use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F10.921	Alcohol use, unspecified with intoxication delirium	Diagnosis	ICD-10-CM
F10.929	Alcohol use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F10.930	Alcohol use, unspecified with withdrawal, uncomplicated	Diagnosis	ICD-10-CM
F10.931	Alcohol use, unspecified with withdrawal delirium	Diagnosis	ICD-10-CM
F10.932	Alcohol use, unspecified with withdrawal with perceptual disturbance	Diagnosis	ICD-10-CM
F10.939	Alcohol use, unspecified with withdrawal, unspecified	Diagnosis	ICD-10-CM
F10.94	Alcohol use, unspecified with alcohol-induced mood disorder	Diagnosis	ICD-10-CM
F10.950	Alcohol use, unspecified with alcohol-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F10.951	Alcohol use, unspecified with alcohol-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F10.959	Alcohol use, unspecified with alcohol-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F10.96	Alcohol use, unspecified with alcohol-induced persisting amnestic disorder	Diagnosis	ICD-10-CM
F10.97	Alcohol use, unspecified with alcohol-induced persisting dementia	Diagnosis	ICD-10-CM
F10.980	Alcohol use, unspecified with alcohol-induced anxiety disorder	Diagnosis	ICD-10-CM
F10.981	Alcohol use, unspecified with alcohol-induced sexual dysfunction	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F10.982	Alcohol use, unspecified with alcohol-induced sleep disorder	Diagnosis	ICD-10-CM
F10.988	Alcohol use, unspecified with other alcohol-induced disorder	Diagnosis	ICD-10-CM
F10.99	Alcohol use, unspecified with unspecified alcohol-induced disorder	Diagnosis	ICD-10-CM
G62.1	Alcoholic polyneuropathy	Diagnosis	ICD-10-CM
HZ83ZZZ	Medication Management for Substance Abuse Treatment, Antabuse	Procedure	ICD-10-PCS
I42.6	Alcoholic cardiomyopathy	Diagnosis	ICD-10-CM
K29.20	Alcoholic gastritis without bleeding	Diagnosis	ICD-10-CM
K29.21	Alcoholic gastritis with bleeding	Diagnosis	ICD-10-CM
K70.0	Alcoholic fatty liver	Diagnosis	ICD-10-CM
K70.10	Alcoholic hepatitis without ascites	Diagnosis	ICD-10-CM
K70.11	Alcoholic hepatitis with ascites	Diagnosis	ICD-10-CM
K70.2	Alcoholic fibrosis and sclerosis of liver	Diagnosis	ICD-10-CM
K70.30	Alcoholic cirrhosis of liver without ascites	Diagnosis	ICD-10-CM
K70.31	Alcoholic cirrhosis of liver with ascites	Diagnosis	ICD-10-CM
K70.40	Alcoholic hepatic failure without coma	Diagnosis	ICD-10-CM
K70.41	Alcoholic hepatic failure with coma	Diagnosis	ICD-10-CM
K70.9	Alcoholic liver disease, unspecified	Diagnosis	ICD-10-CM
K74.69	Other cirrhosis of liver	Diagnosis	ICD-10-CM
O99.31	Alcohol use complicating pregnancy, childbirth, and the puerperium	Diagnosis	ICD-10-CM
O99.310	Alcohol use complicating pregnancy, unspecified trimester	Diagnosis	ICD-10-CM
O99.311	Alcohol use complicating pregnancy, first trimester	Diagnosis	ICD-10-CM
O99.312	Alcohol use complicating pregnancy, second trimester	Diagnosis	ICD-10-CM
O99.313	Alcohol use complicating pregnancy, third trimester	Diagnosis	ICD-10-CM
O99.314	Alcohol use complicating childbirth	Diagnosis	ICD-10-CM
O99.315	Alcohol use complicating the puerperium	Diagnosis	ICD-10-CM
P04.3	Newborn affected by maternal use of alcohol	Diagnosis	ICD-10-CM
R78.0	Finding of alcohol in blood	Diagnosis	ICD-10-CM
T51.0X1A	Toxic effect of ethanol, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T51.0X1D	Toxic effect of ethanol, accidental (unintentional), subsequent encounter	Diagnosis	ICD-10-CM
T51.0X1S	Toxic effect of ethanol, accidental (unintentional), sequela	Diagnosis	ICD-10-CM
T51.0X2A	Toxic effect of ethanol, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T51.0X2D	Toxic effect of ethanol, intentional self-harm, subsequent encounter	Diagnosis	ICD-10-CM
T51.0X2S	Toxic effect of ethanol, intentional self-harm, sequela	Diagnosis	ICD-10-CM
T51.0X3A	Toxic effect of ethanol, assault, initial encounter	Diagnosis	ICD-10-CM
T51.0X3D	Toxic effect of ethanol, assault, subsequent encounter	Diagnosis	ICD-10-CM
T51.0X3S	Toxic effect of ethanol, assault, sequela	Diagnosis	ICD-10-CM
T51.0X4A	Toxic effect of ethanol, undetermined, initial encounter	Diagnosis	ICD-10-CM
T51.0X4D	Toxic effect of ethanol, undetermined, subsequent encounter	Diagnosis	ICD-10-CM
T51.0X4S	Toxic effect of ethanol, undetermined, sequela	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
T51.1X1A	Toxic effect of methanol, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T51.1X2A	Toxic effect of methanol, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T51.1X3A	Toxic effect of methanol, assault, initial encounter	Diagnosis	ICD-10-CM
T51.1X4A	Toxic effect of methanol, undetermined, initial encounter	Diagnosis	ICD-10-CM
T51.2X1A	Toxic effect of 2-Propanol, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T51.2X2A	Toxic effect of 2-Propanol, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T51.2X3A	Toxic effect of 2-Propanol, assault, initial encounter	Diagnosis	ICD-10-CM
T51.2X4A	Toxic effect of 2-Propanol, undetermined, initial encounter	Diagnosis	ICD-10-CM
T51.8X1A	Toxic effect of other alcohols, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T51.8X2A	Toxic effect of other alcohols, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T51.8X3A	Toxic effect of other alcohols, assault, initial encounter	Diagnosis	ICD-10-CM
T51.8X4A	Toxic effect of other alcohols, undetermined, initial encounter	Diagnosis	ICD-10-CM
T51.91XA	Toxic effect of unspecified alcohol, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T51.92XA	Toxic effect of unspecified alcohol, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T51.93XA	Toxic effect of unspecified alcohol, assault, initial encounter	Diagnosis	ICD-10-CM
T51.94XA	Toxic effect of unspecified alcohol, undetermined, initial encounter	Diagnosis	ICD-10-CM
V11.3	Personal history of alcoholism	Diagnosis	ICD-9-CM
Z65.8	Other specified problems related to psychosocial circumstances	Diagnosis	ICD-10-CM
Z71.41	Alcohol abuse counseling and surveillance of alcoholic	Diagnosis	ICD-10-CM
Diabetes			
249.00	Secondary diabetes mellitus without mention of complication, not stated as uncontrolled, or unspecified	Diagnosis	ICD-9-CM
249.01	Secondary diabetes mellitus without mention of complication, uncontrolled	Diagnosis	ICD-9-CM
249.10	Secondary diabetes mellitus with ketoacidosis, not stated as uncontrolled, or	Diagnosis	ICD-9-CM
249.11	Secondary diabetes mellitus with ketoacidosis, uncontrolled	Diagnosis	ICD-9-CM
249.20	Secondary diabetes mellitus with hyperosmolarity, not stated as uncontrolled, or	Diagnosis	ICD-9-CM
249.21	Secondary diabetes mellitus with hyperosmolarity, uncontrolled	Diagnosis	ICD-9-CM
249.30	Secondary diabetes mellitus with other coma, not stated as uncontrolled, or	Diagnosis	ICD-9-CM
249.31	Secondary diabetes mellitus with other coma, uncontrolled	Diagnosis	ICD-9-CM
249.40	Secondary diabetes mellitus with renal manifestations, not stated as uncontrolled,	Diagnosis	ICD-9-CM
249.41	Secondary diabetes mellitus with renal manifestations, uncontrolled	Diagnosis	ICD-9-CM
249.50	Secondary diabetes mellitus with ophthalmic manifestations, not stated as uncontrolled, or unspecified	Diagnosis	ICD-9-CM
249.51	Secondary diabetes mellitus with ophthalmic manifestations, uncontrolled	Diagnosis	ICD-9-CM
249.60	Secondary diabetes mellitus with neurological manifestations, not stated as uncontrolled, or unspecified	Diagnosis	ICD-9-CM
249.61	Secondary diabetes mellitus with neurological manifestations, uncontrolled	Diagnosis	ICD-9-CM
249.70	Secondary diabetes mellitus with peripheral circulatory disorders, not stated as uncontrolled, or unspecified	Diagnosis	ICD-9-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
249.71	Secondary diabetes mellitus with peripheral circulatory disorders, uncontrolled	Diagnosis	ICD-9-CM
249.80	Secondary diabetes mellitus with other specified manifestations, not stated as uncontrolled, or unspecified	Diagnosis	ICD-9-CM
249.81	Secondary diabetes mellitus with other specified manifestations, uncontrolled	Diagnosis	ICD-9-CM
249.90	Secondary diabetes mellitus with unspecified complication, not stated as uncontrolled, or unspecified	Diagnosis	ICD-9-CM
249.91	Secondary diabetes mellitus with unspecified complication, uncontrolled	Diagnosis	ICD-9-CM
250.00	Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.01	Diabetes mellitus without mention of complication, type I [juvenile type], not stated as uncontrolled	Diagnosis	ICD-9-CM
250.02	Diabetes mellitus without mention of complication, type II or unspecified type,	Diagnosis	ICD-9-CM
250.03	Diabetes mellitus without mention of complication, type I [juvenile type],	Diagnosis	ICD-9-CM
250.10	Diabetes with ketoacidosis, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.11	Diabetes with ketoacidosis, type I [juvenile type], not stated as uncontrolled	Diagnosis	ICD-9-CM
250.12	Diabetes with ketoacidosis, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.13	Diabetes with ketoacidosis, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
250.20	Diabetes with hyperosmolarity, type II or unspecified type, not stated as	Diagnosis	ICD-9-CM
250.21	Diabetes with hyperosmolarity, type I [juvenile type], not stated as uncontrolled	Diagnosis	ICD-9-CM
250.22	Diabetes with hyperosmolarity, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.23	Diabetes with hyperosmolarity, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
250.30	Diabetes with other coma, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.31	Diabetes with other coma, type I [juvenile type], not stated as uncontrolled	Diagnosis	ICD-9-CM
250.32	Diabetes with other coma, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.33	Diabetes with other coma, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
250.40	Diabetes with renal manifestations, type II or unspecified type, not stated as	Diagnosis	ICD-9-CM
250.41	Diabetes with renal manifestations, type I [juvenile type], not stated as uncontrolled	Diagnosis	ICD-9-CM
250.42	Diabetes with renal manifestations, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.43	Diabetes with renal manifestations, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
250.50	Diabetes with ophthalmic manifestations, type II or unspecified type, not stated as	Diagnosis	ICD-9-CM
250.51	Diabetes with ophthalmic manifestations, type I [juvenile type], not stated as	Diagnosis	ICD-9-CM
250.52	Diabetes with ophthalmic manifestations, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.53	Diabetes with ophthalmic manifestations, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
250.60	Diabetes with neurological manifestations, type II or unspecified type, not stated as	Diagnosis	ICD-9-CM
250.61	Diabetes with neurological manifestations, type I [juvenile type], not stated as	Diagnosis	ICD-9-CM
250.62	Diabetes with neurological manifestations, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.63	Diabetes with neurological manifestations, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
250.70	Diabetes with peripheral circulatory disorders, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
250.71	Diabetes with peripheral circulatory disorders, type I [juvenile type], not stated as	Diagnosis	ICD-9-CM
250.72	Diabetes with peripheral circulatory disorders, type II or unspecified type,	Diagnosis	ICD-9-CM
250.73	Diabetes with peripheral circulatory disorders, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
250.80	Diabetes with other specified manifestations, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.81	Diabetes with other specified manifestations, type I [juvenile type], not stated as	Diagnosis	ICD-9-CM
250.82	Diabetes with other specified manifestations, type II or unspecified type,	Diagnosis	ICD-9-CM
250.83	Diabetes with other specified manifestations, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
250.90	Diabetes with unspecified complication, type II or unspecified type, not stated as	Diagnosis	ICD-9-CM
250.91	Diabetes with unspecified complication, type I [juvenile type], not stated as	Diagnosis	ICD-9-CM
250.92	Diabetes with unspecified complication, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.93	Diabetes with unspecified complication, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
357.2	Polyneuropathy in diabetes	Diagnosis	ICD-9-CM
362.01	Background diabetic retinopathy	Diagnosis	ICD-9-CM
362.02	Proliferative diabetic retinopathy	Diagnosis	ICD-9-CM
362.03	Nonproliferative diabetic retinopathy NOS	Diagnosis	ICD-9-CM
362.04	Mild nonproliferative diabetic retinopathy	Diagnosis	ICD-9-CM
362.05	Moderate nonproliferative diabetic retinopathy	Diagnosis	ICD-9-CM
362.06	Severe nonproliferative diabetic retinopathy	Diagnosis	ICD-9-CM
366.41	Diabetic cataract	Diagnosis	ICD-9-CM
648.00	Maternal diabetes mellitus, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	Diagnosis	ICD-9-CM
648.01	Maternal diabetes mellitus with delivery	Diagnosis	ICD-9-CM
648.02	Maternal diabetes mellitus with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
648.03	Maternal diabetes mellitus, antepartum	Diagnosis	ICD-9-CM
648.04	Maternal diabetes mellitus, complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	Diagnosis	ICD-9-CM
E08.00	Diabetes mellitus due to underlying condition with hyperosmolarity without nonketotic hyperglycemic-hyperosmolar coma (NKHHC)	Diagnosis	ICD-10-CM
E08.01	Diabetes mellitus due to underlying condition with hyperosmolarity with coma	Diagnosis	ICD-10-CM
E08.10	Diabetes mellitus due to underlying condition with ketoacidosis without coma	Diagnosis	ICD-10-CM
E08.11	Diabetes mellitus due to underlying condition with ketoacidosis with coma	Diagnosis	ICD-10-CM
E08.21	Diabetes mellitus due to underlying condition with diabetic nephropathy	Diagnosis	ICD-10-CM
E08.22	Diabetes mellitus due to underlying condition with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E08.29	Diabetes mellitus due to underlying condition with other diabetic kidney	Diagnosis	ICD-10-CM
E08.311	Diabetes mellitus due to underlying condition with unspecified diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E08.319	Diabetes mellitus due to underlying condition with unspecified diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
E08.321	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E08.3211	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E08.3212	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E08.3213	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E08.3219	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E08.329	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E08.3291	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E08.3292	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E08.3293	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E08.3299	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E08.331	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E08.3311	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E08.3312	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E08.3313	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E08.3319	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E08.339	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E08.3391	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E08.3392	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E08.3393	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
E08.3399	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E08.341	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E08.3411	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E08.3412	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E08.3413	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E08.3419	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E08.349	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E08.3491	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E08.3492	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E08.3493	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E08.3499	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E08.351	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E08.3511	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E08.3512	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E08.3513	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E08.3519	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E08.3521	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with traction retinal detachment involving the macula, right eye	Diagnosis	ICD-10-CM
E08.3522	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with traction retinal detachment involving the macula, left eye	Diagnosis	ICD-10-CM
E08.3523	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with traction retinal detachment involving the macula, bilateral	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
E08.3529	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with traction retinal detachment involving the macula, unspecified eye	Diagnosis	ICD-10-CM
E08.3531	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, right eye	Diagnosis	ICD-10-CM
E08.3532	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, left eye	Diagnosis	ICD-10-CM
E08.3533	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, bilateral	Diagnosis	ICD-10-CM
E08.3539	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, unspecified eye	Diagnosis	ICD-10-CM
E08.3541	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal	Diagnosis	ICD-10-CM
E08.3542	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal	Diagnosis	ICD-10-CM
E08.3543	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal	Diagnosis	ICD-10-CM
E08.3549	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal	Diagnosis	ICD-10-CM
E08.3551	Diabetes mellitus due to underlying condition with stable proliferative diabetic retinopathy, right eye	Diagnosis	ICD-10-CM
E08.3552	Diabetes mellitus due to underlying condition with stable proliferative diabetic retinopathy, left eye	Diagnosis	ICD-10-CM
E08.3553	Diabetes mellitus due to underlying condition with stable proliferative diabetic retinopathy, bilateral	Diagnosis	ICD-10-CM
E08.3559	Diabetes mellitus due to underlying condition with stable proliferative diabetic retinopathy, unspecified eye	Diagnosis	ICD-10-CM
E08.359	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E08.3591	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E08.3592	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E08.3593	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E08.3599	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E08.36	Diabetes mellitus due to underlying condition with diabetic cataract	Diagnosis	ICD-10-CM
E08.37X1	Diabetes mellitus due to underlying condition with diabetic macular edema, resolved following treatment, right eye	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
E08.37X2	Diabetes mellitus due to underlying condition with diabetic macular edema, resolved following treatment, left eye	Diagnosis	ICD-10-CM
E08.37X3	Diabetes mellitus due to underlying condition with diabetic macular edema, resolved following treatment, bilateral	Diagnosis	ICD-10-CM
E08.37X9	Diabetes mellitus due to underlying condition with diabetic macular edema, resolved following treatment, unspecified eye	Diagnosis	ICD-10-CM
E08.39	Diabetes mellitus due to underlying condition with other diabetic ophthalmic	Diagnosis	ICD-10-CM
E08.40	Diabetes mellitus due to underlying condition with diabetic neuropathy, unspecified	Diagnosis	ICD-10-CM
E08.41	Diabetes mellitus due to underlying condition with diabetic mononeuropathy	Diagnosis	ICD-10-CM
E08.42	Diabetes mellitus due to underlying condition with diabetic polyneuropathy	Diagnosis	ICD-10-CM
E08.43	Diabetes mellitus due to underlying condition with diabetic autonomic	Diagnosis	ICD-10-CM
E08.44	Diabetes mellitus due to underlying condition with diabetic amyotrophy	Diagnosis	ICD-10-CM
E08.49	Diabetes mellitus due to underlying condition with other diabetic neurological	Diagnosis	ICD-10-CM
E08.51	Diabetes mellitus due to underlying condition with diabetic peripheral angiopathy without gangrene	Diagnosis	ICD-10-CM
E08.52	Diabetes mellitus due to underlying condition with diabetic peripheral angiopathy	Diagnosis	ICD-10-CM
E08.59	Diabetes mellitus due to underlying condition with other circulatory complications	Diagnosis	ICD-10-CM
E08.610	Diabetes mellitus due to underlying condition with diabetic neuropathic	Diagnosis	ICD-10-CM
E08.618	Diabetes mellitus due to underlying condition with other diabetic arthropathy	Diagnosis	ICD-10-CM
E08.620	Diabetes mellitus due to underlying condition with diabetic dermatitis	Diagnosis	ICD-10-CM
E08.621	Diabetes mellitus due to underlying condition with foot ulcer	Diagnosis	ICD-10-CM
E08.622	Diabetes mellitus due to underlying condition with other skin ulcer	Diagnosis	ICD-10-CM
E08.628	Diabetes mellitus due to underlying condition with other skin complications	Diagnosis	ICD-10-CM
E08.630	Diabetes mellitus due to underlying condition with periodontal disease	Diagnosis	ICD-10-CM
E08.638	Diabetes mellitus due to underlying condition with other oral complications	Diagnosis	ICD-10-CM
E08.641	Diabetes mellitus due to underlying condition with hypoglycemia with coma	Diagnosis	ICD-10-CM
E08.649	Diabetes mellitus due to underlying condition with hypoglycemia without coma	Diagnosis	ICD-10-CM
E08.65	Diabetes mellitus due to underlying condition with hyperglycemia	Diagnosis	ICD-10-CM
E08.69	Diabetes mellitus due to underlying condition with other specified complication	Diagnosis	ICD-10-CM
E08.8	Diabetes mellitus due to underlying condition with unspecified complications	Diagnosis	ICD-10-CM
E08.9	Diabetes mellitus due to underlying condition without complications	Diagnosis	ICD-10-CM
E09.00	Drug or chemical induced diabetes mellitus with hyperosmolarity without nonketotic hyperglycemic-hyperosmolar coma (NKHHC)	Diagnosis	ICD-10-CM
E09.01	Drug or chemical induced diabetes mellitus with hyperosmolarity with coma	Diagnosis	ICD-10-CM
E09.10	Drug or chemical induced diabetes mellitus with ketoacidosis without coma	Diagnosis	ICD-10-CM
E09.11	Drug or chemical induced diabetes mellitus with ketoacidosis with coma	Diagnosis	ICD-10-CM
E09.21	Drug or chemical induced diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM
E09.22	Drug or chemical induced diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E09.29	Drug or chemical induced diabetes mellitus with other diabetic kidney complication	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
E09.311	Drug or chemical induced diabetes mellitus with unspecified diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E09.319	Drug or chemical induced diabetes mellitus with unspecified diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E09.321	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E09.3211	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E09.3212	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E09.3213	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E09.3219	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E09.329	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E09.3291	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E09.3292	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E09.3293	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E09.3299	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E09.331	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E09.3311	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E09.3312	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E09.3313	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E09.3319	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E09.339	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E09.3391	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
E09.3392	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E09.3393	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E09.3399	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E09.341	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E09.3411	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E09.3412	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E09.3413	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E09.3419	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E09.349	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E09.3491	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E09.3492	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E09.3493	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E09.3499	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E09.351	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E09.3511	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E09.3512	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E09.3513	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E09.3519	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E09.3521	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, right eye	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
E09.3522	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, left eye	Diagnosis	ICD-10-CM
E09.3523	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, bilateral	Diagnosis	ICD-10-CM
E09.3529	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, unspecified eye	Diagnosis	ICD-10-CM
E09.3531	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, right eye	Diagnosis	ICD-10-CM
E09.3532	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, left eye	Diagnosis	ICD-10-CM
E09.3533	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, bilateral	Diagnosis	ICD-10-CM
E09.3539	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, unspecified eye	Diagnosis	ICD-10-CM
E09.3541	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal	Diagnosis	ICD-10-CM
E09.3542	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal	Diagnosis	ICD-10-CM
E09.3543	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal	Diagnosis	ICD-10-CM
E09.3549	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal	Diagnosis	ICD-10-CM
E09.3551	Drug or chemical induced diabetes mellitus with stable proliferative diabetic	Diagnosis	ICD-10-CM
E09.3552	Drug or chemical induced diabetes mellitus with stable proliferative diabetic	Diagnosis	ICD-10-CM
E09.3553	Drug or chemical induced diabetes mellitus with stable proliferative diabetic	Diagnosis	ICD-10-CM
E09.3559	Drug or chemical induced diabetes mellitus with stable proliferative diabetic retinopathy, unspecified eye	Diagnosis	ICD-10-CM
E09.359	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E09.3591	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E09.3592	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E09.3593	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E09.3599	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E09.36	Drug or chemical induced diabetes mellitus with diabetic cataract	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
E09.37X1	Drug or chemical induced diabetes mellitus with diabetic macular edema, resolved following treatment, right eye	Diagnosis	ICD-10-CM
E09.37X2	Drug or chemical induced diabetes mellitus with diabetic macular edema, resolved following treatment, left eye	Diagnosis	ICD-10-CM
E09.37X3	Drug or chemical induced diabetes mellitus with diabetic macular edema, resolved following treatment, bilateral	Diagnosis	ICD-10-CM
E09.37X9	Drug or chemical induced diabetes mellitus with diabetic macular edema, resolved following treatment, unspecified eye	Diagnosis	ICD-10-CM
E09.39	Drug or chemical induced diabetes mellitus with other diabetic ophthalmic	Diagnosis	ICD-10-CM
E09.40	Drug or chemical induced diabetes mellitus with neurological complications with diabetic neuropathy, unspecified	Diagnosis	ICD-10-CM
E09.41	Drug or chemical induced diabetes mellitus with neurological complications with diabetic mononeuropathy	Diagnosis	ICD-10-CM
E09.42	Drug or chemical induced diabetes mellitus with neurological complications with diabetic polyneuropathy	Diagnosis	ICD-10-CM
E09.43	Drug or chemical induced diabetes mellitus with neurological complications with diabetic autonomic (poly)neuropathy	Diagnosis	ICD-10-CM
E09.44	Drug or chemical induced diabetes mellitus with neurological complications with diabetic amyotrophy	Diagnosis	ICD-10-CM
E09.49	Drug or chemical induced diabetes mellitus with neurological complications with other diabetic neurological complication	Diagnosis	ICD-10-CM
E09.51	Drug or chemical induced diabetes mellitus with diabetic peripheral angiopathy	Diagnosis	ICD-10-CM
E09.52	Drug or chemical induced diabetes mellitus with diabetic peripheral angiopathy	Diagnosis	ICD-10-CM
E09.59	Drug or chemical induced diabetes mellitus with other circulatory complications	Diagnosis	ICD-10-CM
E09.610	Drug or chemical induced diabetes mellitus with diabetic neuropathic arthropathy	Diagnosis	ICD-10-CM
E09.618	Drug or chemical induced diabetes mellitus with other diabetic arthropathy	Diagnosis	ICD-10-CM
E09.620	Drug or chemical induced diabetes mellitus with diabetic dermatitis	Diagnosis	ICD-10-CM
E09.621	Drug or chemical induced diabetes mellitus with foot ulcer	Diagnosis	ICD-10-CM
E09.622	Drug or chemical induced diabetes mellitus with other skin ulcer	Diagnosis	ICD-10-CM
E09.628	Drug or chemical induced diabetes mellitus with other skin complications	Diagnosis	ICD-10-CM
E09.630	Drug or chemical induced diabetes mellitus with periodontal disease	Diagnosis	ICD-10-CM
E09.638	Drug or chemical induced diabetes mellitus with other oral complications	Diagnosis	ICD-10-CM
E09.641	Drug or chemical induced diabetes mellitus with hypoglycemia with coma	Diagnosis	ICD-10-CM
E09.649	Drug or chemical induced diabetes mellitus with hypoglycemia without coma	Diagnosis	ICD-10-CM
E09.65	Drug or chemical induced diabetes mellitus with hyperglycemia	Diagnosis	ICD-10-CM
E09.69	Drug or chemical induced diabetes mellitus with other specified complication	Diagnosis	ICD-10-CM
E09.8	Drug or chemical induced diabetes mellitus with unspecified complications	Diagnosis	ICD-10-CM
E09.9	Drug or chemical induced diabetes mellitus without complications	Diagnosis	ICD-10-CM
E10.10	Type 1 diabetes mellitus with ketoacidosis without coma	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
E10.11	Type 1 diabetes mellitus with ketoacidosis with coma	Diagnosis	ICD-10-CM
E10.21	Type 1 diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM
E10.22	Type 1 diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E10.29	Type 1 diabetes mellitus with other diabetic kidney complication	Diagnosis	ICD-10-CM
E10.311	Type 1 diabetes mellitus with unspecified diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E10.319	Type 1 diabetes mellitus with unspecified diabetic retinopathy without macular	Diagnosis	ICD-10-CM
E10.321	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with	Diagnosis	ICD-10-CM
E10.3211	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E10.3212	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E10.3213	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E10.3219	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E10.329	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without	Diagnosis	ICD-10-CM
E10.3291	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E10.3292	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E10.3293	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E10.3299	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E10.331	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with	Diagnosis	ICD-10-CM
E10.3311	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E10.3312	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E10.3313	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E10.3319	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E10.339	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E10.3391	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E10.3392	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
E10.3393	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E10.3399	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E10.341	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with	Diagnosis	ICD-10-CM
E10.3411	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E10.3412	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E10.3413	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E10.3419	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E10.349	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without	Diagnosis	ICD-10-CM
E10.3491	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E10.3492	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E10.3493	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E10.3499	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E10.351	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E10.3511	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular	Diagnosis	ICD-10-CM
E10.3512	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular	Diagnosis	ICD-10-CM
E10.3513	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular	Diagnosis	ICD-10-CM
E10.3519	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E10.359	Type 1 diabetes mellitus with proliferative diabetic retinopathy without macular	Diagnosis	ICD-10-CM
E10.36	Type 1 diabetes mellitus with diabetic cataract	Diagnosis	ICD-10-CM
E10.37X1	Type 1 diabetes mellitus with diabetic macular edema, resolved following	Diagnosis	ICD-10-CM
E10.37X2	Type 1 diabetes mellitus with diabetic macular edema, resolved following	Diagnosis	ICD-10-CM
E10.37X3	Type 1 diabetes mellitus with diabetic macular edema, resolved following	Diagnosis	ICD-10-CM
E10.37X9	Type 1 diabetes mellitus with diabetic macular edema, resolved following treatment, unspecified eye	Diagnosis	ICD-10-CM
E10.39	Type 1 diabetes mellitus with other diabetic ophthalmic complication	Diagnosis	ICD-10-CM
E10.40	Type 1 diabetes mellitus with diabetic neuropathy, unspecified	Diagnosis	ICD-10-CM
E10.41	Type 1 diabetes mellitus with diabetic mononeuropathy	Diagnosis	ICD-10-CM
E10.42	Type 1 diabetes mellitus with diabetic polyneuropathy	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
E10.43	Type 1 diabetes mellitus with diabetic autonomic (poly)neuropathy	Diagnosis	ICD-10-CM
E10.44	Type 1 diabetes mellitus with diabetic amyotrophy	Diagnosis	ICD-10-CM
E10.49	Type 1 diabetes mellitus with other diabetic neurological complication	Diagnosis	ICD-10-CM
E10.51	Type 1 diabetes mellitus with diabetic peripheral angiopathy without gangrene	Diagnosis	ICD-10-CM
E10.52	Type 1 diabetes mellitus with diabetic peripheral angiopathy with gangrene	Diagnosis	ICD-10-CM
E10.59	Type 1 diabetes mellitus with other circulatory complications	Diagnosis	ICD-10-CM
E10.610	Type 1 diabetes mellitus with diabetic neuropathic arthropathy	Diagnosis	ICD-10-CM
E10.618	Type 1 diabetes mellitus with other diabetic arthropathy	Diagnosis	ICD-10-CM
E10.620	Type 1 diabetes mellitus with diabetic dermatitis	Diagnosis	ICD-10-CM
E10.621	Type 1 diabetes mellitus with foot ulcer	Diagnosis	ICD-10-CM
E10.622	Type 1 diabetes mellitus with other skin ulcer	Diagnosis	ICD-10-CM
E10.628	Type 1 diabetes mellitus with other skin complications	Diagnosis	ICD-10-CM
E10.630	Type 1 diabetes mellitus with periodontal disease	Diagnosis	ICD-10-CM
E10.638	Type 1 diabetes mellitus with other oral complications	Diagnosis	ICD-10-CM
E10.641	Type 1 diabetes mellitus with hypoglycemia with coma	Diagnosis	ICD-10-CM
E10.649	Type 1 diabetes mellitus with hypoglycemia without coma	Diagnosis	ICD-10-CM
E10.65	Type 1 diabetes mellitus with hyperglycemia	Diagnosis	ICD-10-CM
E10.69	Type 1 diabetes mellitus with other specified complication	Diagnosis	ICD-10-CM
E10.8	Type 1 diabetes mellitus with unspecified complications	Diagnosis	ICD-10-CM
E10.9	Type 1 diabetes mellitus without complications	Diagnosis	ICD-10-CM
E11.00	Type 2 diabetes mellitus with hyperosmolarity without nonketotic hyperglycemic-hyperosmolar coma (NKHHC)	Diagnosis	ICD-10-CM
E11.01	Type 2 diabetes mellitus with hyperosmolarity with coma	Diagnosis	ICD-10-CM
E11.10	Type 2 diabetes mellitus with ketoacidosis without coma	Diagnosis	ICD-10-CM
E11.11	Type 2 diabetes mellitus with ketoacidosis with coma	Diagnosis	ICD-10-CM
E11.21	Type 2 diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM
E11.22	Type 2 diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E11.29	Type 2 diabetes mellitus with other diabetic kidney complication	Diagnosis	ICD-10-CM
E11.311	Type 2 diabetes mellitus with unspecified diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E11.319	Type 2 diabetes mellitus with unspecified diabetic retinopathy without macular	Diagnosis	ICD-10-CM
E11.321	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with	Diagnosis	ICD-10-CM
E11.3211	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E11.3212	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E11.3213	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3219	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
E11.329	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without	Diagnosis	ICD-10-CM
E11.3291	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E11.3292	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E11.3293	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3299	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.331	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with	Diagnosis	ICD-10-CM
E11.3311	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E11.3312	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E11.3313	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3319	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.339	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E11.3391	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E11.3392	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E11.3393	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3399	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.341	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with	Diagnosis	ICD-10-CM
E11.3411	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E11.3412	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E11.3413	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3419	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.349	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
E11.3491	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E11.3492	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E11.3493	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3499	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.351	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E11.3511	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular	Diagnosis	ICD-10-CM
E11.3512	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular	Diagnosis	ICD-10-CM
E11.3513	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular	Diagnosis	ICD-10-CM
E11.3519	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.3521	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, right eye	Diagnosis	ICD-10-CM
E11.3522	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, left eye	Diagnosis	ICD-10-CM
E11.3523	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, bilateral	Diagnosis	ICD-10-CM
E11.3529	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, unspecified eye	Diagnosis	ICD-10-CM
E11.3531	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, right eye	Diagnosis	ICD-10-CM
E11.3532	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, left eye	Diagnosis	ICD-10-CM
E11.3533	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, bilateral	Diagnosis	ICD-10-CM
E11.3539	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, unspecified eye	Diagnosis	ICD-10-CM
E11.3541	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, right eye	Diagnosis	ICD-10-CM
E11.3542	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, left eye	Diagnosis	ICD-10-CM
E11.3543	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, bilateral	Diagnosis	ICD-10-CM
E11.3549	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, unspecified	Diagnosis	ICD-10-CM
E11.3551	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, right eye	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
E11.3552	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, left eye	Diagnosis	ICD-10-CM
E11.3553	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, bilateral	Diagnosis	ICD-10-CM
E11.3559	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, unspecified	Diagnosis	ICD-10-CM
E11.359	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular	Diagnosis	ICD-10-CM
E11.3591	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular	Diagnosis	ICD-10-CM
E11.3592	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular	Diagnosis	ICD-10-CM
E11.3593	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular	Diagnosis	ICD-10-CM
E11.3599	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.36	Type 2 diabetes mellitus with diabetic cataract	Diagnosis	ICD-10-CM
E11.37X1	Type 2 diabetes mellitus with diabetic macular edema, resolved following	Diagnosis	ICD-10-CM
E11.37X2	Type 2 diabetes mellitus with diabetic macular edema, resolved following	Diagnosis	ICD-10-CM
E11.37X3	Type 2 diabetes mellitus with diabetic macular edema, resolved following	Diagnosis	ICD-10-CM
E11.37X9	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment, unspecified eye	Diagnosis	ICD-10-CM
E11.39	Type 2 diabetes mellitus with other diabetic ophthalmic complication	Diagnosis	ICD-10-CM
E11.40	Type 2 diabetes mellitus with diabetic neuropathy, unspecified	Diagnosis	ICD-10-CM
E11.41	Type 2 diabetes mellitus with diabetic mononeuropathy	Diagnosis	ICD-10-CM
E11.42	Type 2 diabetes mellitus with diabetic polyneuropathy	Diagnosis	ICD-10-CM
E11.43	Type 2 diabetes mellitus with diabetic autonomic (poly)neuropathy	Diagnosis	ICD-10-CM
E11.44	Type 2 diabetes mellitus with diabetic amyotrophy	Diagnosis	ICD-10-CM
E11.49	Type 2 diabetes mellitus with other diabetic neurological complication	Diagnosis	ICD-10-CM
E11.51	Type 2 diabetes mellitus with diabetic peripheral angiopathy without gangrene	Diagnosis	ICD-10-CM
E11.52	Type 2 diabetes mellitus with diabetic peripheral angiopathy with gangrene	Diagnosis	ICD-10-CM
E11.59	Type 2 diabetes mellitus with other circulatory complications	Diagnosis	ICD-10-CM
E11.610	Type 2 diabetes mellitus with diabetic neuropathic arthropathy	Diagnosis	ICD-10-CM
E11.618	Type 2 diabetes mellitus with other diabetic arthropathy	Diagnosis	ICD-10-CM
E11.620	Type 2 diabetes mellitus with diabetic dermatitis	Diagnosis	ICD-10-CM
E11.621	Type 2 diabetes mellitus with foot ulcer	Diagnosis	ICD-10-CM
E11.622	Type 2 diabetes mellitus with other skin ulcer	Diagnosis	ICD-10-CM
E11.628	Type 2 diabetes mellitus with other skin complications	Diagnosis	ICD-10-CM
E11.630	Type 2 diabetes mellitus with periodontal disease	Diagnosis	ICD-10-CM
E11.638	Type 2 diabetes mellitus with other oral complications	Diagnosis	ICD-10-CM
E11.641	Type 2 diabetes mellitus with hypoglycemia with coma	Diagnosis	ICD-10-CM
E11.649	Type 2 diabetes mellitus with hypoglycemia without coma	Diagnosis	ICD-10-CM
E11.65	Type 2 diabetes mellitus with hyperglycemia	Diagnosis	ICD-10-CM
E11.69	Type 2 diabetes mellitus with other specified complication	Diagnosis	ICD-10-CM
E11.8	Type 2 diabetes mellitus with unspecified complications	Diagnosis	ICD-10-CM
E11.9	Type 2 diabetes mellitus without complications	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
E13.00	Other specified diabetes mellitus with hyperosmolarity without nonketotic hyperglycemic-hyperosmolar coma (NKHHC)	Diagnosis	ICD-10-CM
E13.01	Other specified diabetes mellitus with hyperosmolarity with coma	Diagnosis	ICD-10-CM
E13.10	Other specified diabetes mellitus with ketoacidosis without coma	Diagnosis	ICD-10-CM
E13.11	Other specified diabetes mellitus with ketoacidosis with coma	Diagnosis	ICD-10-CM
E13.21	Other specified diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM
E13.22	Other specified diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E13.29	Other specified diabetes mellitus with other diabetic kidney complication	Diagnosis	ICD-10-CM
E13.311	Other specified diabetes mellitus with unspecified diabetic retinopathy with	Diagnosis	ICD-10-CM
E13.319	Other specified diabetes mellitus with unspecified diabetic retinopathy without	Diagnosis	ICD-10-CM
E13.321	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E13.3211	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E13.3212	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E13.3213	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E13.3219	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.329	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E13.3291	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E13.3292	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E13.3293	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E13.3299	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.331	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E13.3311	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E13.3312	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E13.3313	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
E13.3319	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.339	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E13.3391	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E13.3392	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E13.3393	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E13.3399	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.341	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E13.3411	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E13.3412	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E13.3413	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E13.3419	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.349	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E13.3491	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E13.3492	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E13.3493	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E13.3499	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.351	Other specified diabetes mellitus with proliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E13.3511	Other specified diabetes mellitus with proliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E13.3512	Other specified diabetes mellitus with proliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E13.3513	Other specified diabetes mellitus with proliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
E13.3519	Other specified diabetes mellitus with proliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.3521	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, right eye	Diagnosis	ICD-10-CM
E13.3522	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, left eye	Diagnosis	ICD-10-CM
E13.3523	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, bilateral	Diagnosis	ICD-10-CM
E13.3529	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, unspecified eye	Diagnosis	ICD-10-CM
E13.3531	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, right eye	Diagnosis	ICD-10-CM
E13.3532	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, left eye	Diagnosis	ICD-10-CM
E13.3533	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, bilateral	Diagnosis	ICD-10-CM
E13.3539	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, unspecified eye	Diagnosis	ICD-10-CM
E13.3541	Other specified diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment,	Diagnosis	ICD-10-CM
E13.3542	Other specified diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment,	Diagnosis	ICD-10-CM
E13.3543	Other specified diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment,	Diagnosis	ICD-10-CM
E13.3549	Other specified diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment,	Diagnosis	ICD-10-CM
E13.3551	Other specified diabetes mellitus with stable proliferative diabetic retinopathy, right	Diagnosis	ICD-10-CM
E13.3552	Other specified diabetes mellitus with stable proliferative diabetic retinopathy, left	Diagnosis	ICD-10-CM
E13.3553	Other specified diabetes mellitus with stable proliferative diabetic retinopathy,	Diagnosis	ICD-10-CM
E13.3559	Other specified diabetes mellitus with stable proliferative diabetic retinopathy,	Diagnosis	ICD-10-CM
E13.359	Other specified diabetes mellitus with proliferative diabetic retinopathy without	Diagnosis	ICD-10-CM
E13.36	Other specified diabetes mellitus with diabetic cataract	Diagnosis	ICD-10-CM
E13.39	Other specified diabetes mellitus with other diabetic ophthalmic complication	Diagnosis	ICD-10-CM
E13.40	Other specified diabetes mellitus with diabetic neuropathy, unspecified	Diagnosis	ICD-10-CM
E13.41	Other specified diabetes mellitus with diabetic mononeuropathy	Diagnosis	ICD-10-CM
E13.42	Other specified diabetes mellitus with diabetic polyneuropathy	Diagnosis	ICD-10-CM
E13.43	Other specified diabetes mellitus with diabetic autonomic (poly)neuropathy	Diagnosis	ICD-10-CM
E13.44	Other specified diabetes mellitus with diabetic amyotrophy	Diagnosis	ICD-10-CM
E13.49	Other specified diabetes mellitus with other diabetic neurological complication	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
E13.51	Other specified diabetes mellitus with diabetic peripheral angiopathy without	Diagnosis	ICD-10-CM
E13.52	Other specified diabetes mellitus with diabetic peripheral angiopathy with gangrene	Diagnosis	ICD-10-CM
E13.59	Other specified diabetes mellitus with other circulatory complications	Diagnosis	ICD-10-CM
E13.610	Other specified diabetes mellitus with diabetic neuropathic arthropathy	Diagnosis	ICD-10-CM
E13.618	Other specified diabetes mellitus with other diabetic arthropathy	Diagnosis	ICD-10-CM
E13.620	Other specified diabetes mellitus with diabetic dermatitis	Diagnosis	ICD-10-CM
E13.621	Other specified diabetes mellitus with foot ulcer	Diagnosis	ICD-10-CM
E13.622	Other specified diabetes mellitus with other skin ulcer	Diagnosis	ICD-10-CM
E13.628	Other specified diabetes mellitus with other skin complications	Diagnosis	ICD-10-CM
E13.630	Other specified diabetes mellitus with periodontal disease	Diagnosis	ICD-10-CM
E13.638	Other specified diabetes mellitus with other oral complications	Diagnosis	ICD-10-CM
E13.641	Other specified diabetes mellitus with hypoglycemia with coma	Diagnosis	ICD-10-CM
E13.649	Other specified diabetes mellitus with hypoglycemia without coma	Diagnosis	ICD-10-CM
E13.65	Other specified diabetes mellitus with hyperglycemia	Diagnosis	ICD-10-CM
E13.69	Other specified diabetes mellitus with other specified complication	Diagnosis	ICD-10-CM
E13.8	Other specified diabetes mellitus with unspecified complications	Diagnosis	ICD-10-CM
E13.9	Other specified diabetes mellitus without complications	Diagnosis	ICD-10-CM
O24.0	Pre-existing type 1 diabetes mellitus, in pregnancy, childbirth and the puerperium	Diagnosis	ICD-10-CM
O24.01	Pre-existing type 1 diabetes mellitus, in pregnancy	Diagnosis	ICD-10-CM
O24.011	Pre-existing type 1 diabetes mellitus, in pregnancy, first trimester	Diagnosis	ICD-10-CM
O24.012	Pre-existing type 1 diabetes mellitus, in pregnancy, second trimester	Diagnosis	ICD-10-CM
O24.013	Pre-existing type 1 diabetes mellitus, in pregnancy, third trimester	Diagnosis	ICD-10-CM
O24.019	Pre-existing type 1 diabetes mellitus, in pregnancy, unspecified trimester	Diagnosis	ICD-10-CM
O24.02	Pre-existing type 1 diabetes mellitus, in childbirth	Diagnosis	ICD-10-CM
O24.03	Pre-existing type 1 diabetes mellitus, in the puerperium	Diagnosis	ICD-10-CM
O24.1	Pre-existing type 2 diabetes mellitus, in pregnancy, childbirth and the puerperium	Diagnosis	ICD-10-CM
O24.11	Pre-existing type 2 diabetes mellitus, in pregnancy	Diagnosis	ICD-10-CM
O24.111	Pre-existing type 2 diabetes mellitus, in pregnancy, first trimester	Diagnosis	ICD-10-CM
O24.112	Pre-existing type 2 diabetes mellitus, in pregnancy, second trimester	Diagnosis	ICD-10-CM
O24.113	Pre-existing type 2 diabetes mellitus, in pregnancy, third trimester	Diagnosis	ICD-10-CM
O24.119	Pre-existing type 2 diabetes mellitus, in pregnancy, unspecified trimester	Diagnosis	ICD-10-CM
O24.12	Pre-existing type 2 diabetes mellitus, in childbirth	Diagnosis	ICD-10-CM
O24.13	Pre-existing type 2 diabetes mellitus, in the puerperium	Diagnosis	ICD-10-CM
O24.3	Unspecified pre-existing diabetes mellitus in pregnancy, childbirth and the	Diagnosis	ICD-10-CM
O24.31	Unspecified pre-existing diabetes mellitus in pregnancy	Diagnosis	ICD-10-CM
O24.311	Unspecified pre-existing diabetes mellitus in pregnancy, first trimester	Diagnosis	ICD-10-CM
O24.312	Unspecified pre-existing diabetes mellitus in pregnancy, second trimester	Diagnosis	ICD-10-CM
O24.313	Unspecified pre-existing diabetes mellitus in pregnancy, third trimester	Diagnosis	ICD-10-CM
O24.319	Unspecified pre-existing diabetes mellitus in pregnancy, unspecified trimester	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
O24.32	Unspecified pre-existing diabetes mellitus in childbirth	Diagnosis	ICD-10-CM
O24.33	Unspecified pre-existing diabetes mellitus in the puerperium	Diagnosis	ICD-10-CM
O24.8	Other pre-existing diabetes mellitus in pregnancy, childbirth, and the puerperium	Diagnosis	ICD-10-CM
O24.81	Other pre-existing diabetes mellitus in pregnancy	Diagnosis	ICD-10-CM
O24.811	Other pre-existing diabetes mellitus in pregnancy, first trimester	Diagnosis	ICD-10-CM
O24.812	Other pre-existing diabetes mellitus in pregnancy, second trimester	Diagnosis	ICD-10-CM
O24.813	Other pre-existing diabetes mellitus in pregnancy, third trimester	Diagnosis	ICD-10-CM
O24.819	Other pre-existing diabetes mellitus in pregnancy, unspecified trimester	Diagnosis	ICD-10-CM
O24.82	Other pre-existing diabetes mellitus in childbirth	Diagnosis	ICD-10-CM
O24.83	Other pre-existing diabetes mellitus in the puerperium	Diagnosis	ICD-10-CM
O24.9	Unspecified diabetes mellitus in pregnancy, childbirth and the puerperium	Diagnosis	ICD-10-CM
O24.91	Unspecified diabetes mellitus in pregnancy	Diagnosis	ICD-10-CM
O24.911	Unspecified diabetes mellitus in pregnancy, first trimester	Diagnosis	ICD-10-CM
O24.912	Unspecified diabetes mellitus in pregnancy, second trimester	Diagnosis	ICD-10-CM
O24.913	Unspecified diabetes mellitus in pregnancy, third trimester	Diagnosis	ICD-10-CM
O24.919	Unspecified diabetes mellitus in pregnancy, unspecified trimester	Diagnosis	ICD-10-CM
O24.92	Unspecified diabetes mellitus in childbirth	Diagnosis	ICD-10-CM
O24.93	Unspecified diabetes mellitus in the puerperium	Diagnosis	ICD-10-CM
Drug Abuse or Dependence			
292.0	Drug withdrawal	Diagnosis	ICD-9-CM
292.1	Drug-induced psychotic disorder	Diagnosis	ICD-9-CM
292.11	Drug-induced psychotic disorder with delusions	Diagnosis	ICD-9-CM
292.12	Drug-induced psychotic disorder with hallucinations	Diagnosis	ICD-9-CM
292.2	Pathological drug intoxication	Diagnosis	ICD-9-CM
292.8	Other specified drug-induced mental disorders	Diagnosis	ICD-9-CM
292.81	Drug-induced delirium	Diagnosis	ICD-9-CM
292.82	Drug-induced persisting dementia	Diagnosis	ICD-9-CM
292.83	Drug-induced persisting amnestic disorder	Diagnosis	ICD-9-CM
292.84	Drug-induced mood disorder	Diagnosis	ICD-9-CM
292.85	Drug induced sleep disorders	Diagnosis	ICD-9-CM
292.89	Other specified drug-induced mental disorder	Diagnosis	ICD-9-CM
292.9	Unspecified drug-induced mental disorder	Diagnosis	ICD-9-CM
304.0	Opioid type dependence	Diagnosis	ICD-9-CM
304.00	Opioid type dependence, unspecified	Diagnosis	ICD-9-CM
304.01	Opioid type dependence, continuous	Diagnosis	ICD-9-CM
304.02	Opioid type dependence, episodic	Diagnosis	ICD-9-CM
304.10	Sedative, hypnotic or anxiolytic dependence, unspecified	Diagnosis	ICD-9-CM
304.11	Sedative, hypnotic or anxiolytic dependence, continuous	Diagnosis	ICD-9-CM
304.12	Sedative, hypnotic or anxiolytic dependence, episodic	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
304.2	Cocaine dependence	Diagnosis	ICD-9-CM
304.20	Cocaine dependence, unspecified	Diagnosis	ICD-9-CM
304.21	Cocaine dependence, continuous	Diagnosis	ICD-9-CM
304.22	Cocaine dependence, episodic	Diagnosis	ICD-9-CM
304.3	Cannabis dependence	Diagnosis	ICD-9-CM
304.30	Cannabis dependence, unspecified	Diagnosis	ICD-9-CM
304.31	Cannabis dependence, continuous	Diagnosis	ICD-9-CM
304.32	Cannabis dependence, episodic	Diagnosis	ICD-9-CM
304.4	Amphetamine and other psychostimulant dependence	Diagnosis	ICD-9-CM
304.40	Amphetamine and other psychostimulant dependence, unspecified	Diagnosis	ICD-9-CM
304.41	Amphetamine and other psychostimulant dependence, continuous	Diagnosis	ICD-9-CM
304.42	Amphetamine and other psychostimulant dependence, episodic	Diagnosis	ICD-9-CM
304.5	Hallucinogen dependence	Diagnosis	ICD-9-CM
304.50	Hallucinogen dependence, unspecified	Diagnosis	ICD-9-CM
304.51	Hallucinogen dependence, continuous	Diagnosis	ICD-9-CM
304.52	Hallucinogen dependence, episodic	Diagnosis	ICD-9-CM
304.6	Other specified drug dependence	Diagnosis	ICD-9-CM
304.60	Other specified drug dependence, unspecified	Diagnosis	ICD-9-CM
304.61	Other specified drug dependence, continuous	Diagnosis	ICD-9-CM
304.62	Other specified drug dependence, episodic	Diagnosis	ICD-9-CM
304.8	Combinations of drug dependence excluding opioid type drug	Diagnosis	ICD-9-CM
304.80	Combinations of drug dependence excluding opioid type drug, unspecified	Diagnosis	ICD-9-CM
304.81	Combinations of drug dependence excluding opioid type drug, continuous	Diagnosis	ICD-9-CM
304.82	Combinations of drug dependence excluding opioid type drug, episodic	Diagnosis	ICD-9-CM
304.9	Unspecified drug dependence	Diagnosis	ICD-9-CM
304.90	Unspecified drug dependence, unspecified	Diagnosis	ICD-9-CM
304.91	Unspecified drug dependence, continuous	Diagnosis	ICD-9-CM
304.92	Unspecified drug dependence, episodic	Diagnosis	ICD-9-CM
305.2	Nondependent cannabis abuse	Diagnosis	ICD-9-CM
305.20	Nondependent cannabis abuse, unspecified	Diagnosis	ICD-9-CM
305.21	Nondependent cannabis abuse, continuous	Diagnosis	ICD-9-CM
305.22	Nondependent cannabis abuse, episodic	Diagnosis	ICD-9-CM
305.23	Nondependent cannabis abuse, in remission	Diagnosis	ICD-9-CM
305.3	Nondependent hallucinogen abuse	Diagnosis	ICD-9-CM
305.30	Nondependent hallucinogen abuse, unspecified	Diagnosis	ICD-9-CM
305.31	Nondependent hallucinogen abuse, continuous	Diagnosis	ICD-9-CM
305.32	Nondependent hallucinogen abuse, episodic	Diagnosis	ICD-9-CM
305.33	Nondependent hallucinogen abuse, in remission	Diagnosis	ICD-9-CM
305.4	Nondependent sedative, hypnotic or anxiolytic abuse	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
305.40	Nondependent sedative, hypnotic or anxiolytic abuse, unspecified	Diagnosis	ICD-9-CM
305.41	Nondependent sedative hypnotic or anxiolytic abuse, continuous	Diagnosis	ICD-9-CM
305.42	Nondependent sedative, hypnotic or anxiolytic abuse, episodic	Diagnosis	ICD-9-CM
305.43	Nondependent sedative, hypnotic or anxiolytic abuse, in remission	Diagnosis	ICD-9-CM
305.5	Nondependent opioid abuse	Diagnosis	ICD-9-CM
305.50	Nondependent opioid abuse, unspecified	Diagnosis	ICD-9-CM
305.51	Nondependent opioid abuse, continuous	Diagnosis	ICD-9-CM
305.52	Nondependent opioid abuse, episodic	Diagnosis	ICD-9-CM
305.53	Nondependent opioid abuse, in remission	Diagnosis	ICD-9-CM
305.6	Nondependent cocaine abuse	Diagnosis	ICD-9-CM
305.60	Nondependent cocaine abuse, unspecified	Diagnosis	ICD-9-CM
305.61	Nondependent cocaine abuse, continuous	Diagnosis	ICD-9-CM
305.62	Nondependent cocaine abuse, episodic	Diagnosis	ICD-9-CM
305.63	Nondependent cocaine abuse, in remission	Diagnosis	ICD-9-CM
305.7	Nondependent amphetamine or related acting sympathomimetic abuse	Diagnosis	ICD-9-CM
305.70	Nondependent amphetamine or related acting sympathomimetic abuse,	Diagnosis	ICD-9-CM
305.71	Nondependent amphetamine or related acting sympathomimetic abuse, continuous	Diagnosis	ICD-9-CM
305.72	Nondependent amphetamine or related acting sympathomimetic abuse, episodic	Diagnosis	ICD-9-CM
305.73	Nondependent amphetamine or related acting sympathomimetic abuse, in	Diagnosis	ICD-9-CM
305.8	Nondependent antidepressant type abuse	Diagnosis	ICD-9-CM
305.80	Nondependent antidepressant type abuse, unspecified	Diagnosis	ICD-9-CM
305.81	Nondependent antidepressant type abuse, continuous	Diagnosis	ICD-9-CM
305.82	Nondependent antidepressant type abuse, episodic	Diagnosis	ICD-9-CM
305.83	Nondependent antidepressant type abuse, in remission	Diagnosis	ICD-9-CM
305.9	Other, mixed, or unspecified nondependent drug abuse	Diagnosis	ICD-9-CM
305.90	Other, mixed, or unspecified nondependent drug abuse, unspecified	Diagnosis	ICD-9-CM
305.91	Other, mixed, or unspecified nondependent drug abuse, continuous	Diagnosis	ICD-9-CM
305.92	Other, mixed, or unspecified nondependent drug abuse, episodic	Diagnosis	ICD-9-CM
305.93	Other, mixed, or unspecified nondependent drug abuse, in remission	Diagnosis	ICD-9-CM
648.3	Maternal drug dependence complicating pregnancy, childbirth, or the puerperium	Diagnosis	ICD-9-CM
648.30	Maternal drug dependence complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	Diagnosis	ICD-9-CM
648.31	Maternal drug dependence, with delivery	Diagnosis	ICD-9-CM
648.32	Maternal drug dependence, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
648.33	Maternal drug dependence, antepartum	Diagnosis	ICD-9-CM
648.34	Maternal drug dependence complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	Diagnosis	ICD-9-CM
655.5	Suspected damage to fetus from drugs, affecting management of mother	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
655.50	Suspected damage to fetus from drugs, affecting management of mother, unspecified as to episode of care	Diagnosis	ICD-9-CM
655.51	Suspected damage to fetus from drugs, affecting management of mother, delivered	Diagnosis	ICD-9-CM
655.53	Suspected damage to fetus from drugs, affecting management of mother,	Diagnosis	ICD-9-CM
760.72	Noxious influences affecting fetus or newborn via placenta or breast milk, narcotics	Diagnosis	ICD-9-CM
760.73	Noxious influences affecting fetus or newborn via placenta or breast milk,	Diagnosis	ICD-9-CM
760.75	Noxious influences affecting fetus or newborn via placenta or breast milk, cocaine	Diagnosis	ICD-9-CM
779.5	Drug withdrawal syndrome in newborn	Diagnosis	ICD-9-CM
94.64	Drug rehabilitation	Procedure	ICD-9-CM
94.65	Drug detoxification	Procedure	ICD-9-CM
94.66	Drug rehabilitation and detoxification	Procedure	ICD-9-CM
965.0	Poisoning by opiates and related narcotics	Diagnosis	ICD-9-CM
965.00	Poisoning by opium (alkaloids), unspecified	Diagnosis	ICD-9-CM
965.01	Poisoning by heroin	Diagnosis	ICD-9-CM
965.02	Poisoning by methadone	Diagnosis	ICD-9-CM
965.09	Poisoning by opiates and related narcotics, other	Diagnosis	ICD-9-CM
970.1	Poisoning by opiate antagonists	Diagnosis	ICD-9-CM
E850.0	Accidental poisoning by heroin	Diagnosis	ICD-9-CM
E850.1	Accidental poisoning by methadone	Diagnosis	ICD-9-CM
E850.2	Accidental poisoning by other opiates and related narcotics	Diagnosis	ICD-9-CM
E854.1	Accidental poisoning by psychodysleptics (hallucinogens)	Diagnosis	ICD-9-CM
E935.0	Heroin causing adverse effect in therapeutic use	Diagnosis	ICD-9-CM
E935.1	Methadone causing averse effect in therapeutic use	Diagnosis	ICD-9-CM
E935.2	Other opiates and related narcotics causing adverse effect in therapeutic use	Diagnosis	ICD-9-CM
E940.1	Opiate antagonists causing adverse effect in therapeutic use	Diagnosis	ICD-9-CM
F11.10	Opioid abuse, uncomplicated	Diagnosis	ICD-10-CM
F11.11	Opioid abuse, in remission	Diagnosis	ICD-10-CM
F11.120	Opioid abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F11.121	Opioid abuse with intoxication delirium	Diagnosis	ICD-10-CM
F11.122	Opioid abuse with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F11.129	Opioid abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F11.13	Opioid abuse with withdrawal	Diagnosis	ICD-10-CM
F11.14	Opioid abuse with opioid-induced mood disorder	Diagnosis	ICD-10-CM
F11.150	Opioid abuse with opioid-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F11.151	Opioid abuse with opioid-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F11.159	Opioid abuse with opioid-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F11.181	Opioid abuse with opioid-induced sexual dysfunction	Diagnosis	ICD-10-CM
F11.182	Opioid abuse with opioid-induced sleep disorder	Diagnosis	ICD-10-CM
F11.188	Opioid abuse with other opioid-induced disorder	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
F11.19	Opioid abuse with unspecified opioid-induced disorder	Diagnosis	ICD-10-CM
F11.20	Opioid dependence, uncomplicated	Diagnosis	ICD-10-CM
F11.220	Opioid dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F11.221	Opioid dependence with intoxication delirium	Diagnosis	ICD-10-CM
F11.222	Opioid dependence with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F11.229	Opioid dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F11.23	Opioid dependence with withdrawal	Diagnosis	ICD-10-CM
F11.24	Opioid dependence with opioid-induced mood disorder	Diagnosis	ICD-10-CM
F11.250	Opioid dependence with opioid-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F11.251	Opioid dependence with opioid-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F11.259	Opioid dependence with opioid-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F11.281	Opioid dependence with opioid-induced sexual dysfunction	Diagnosis	ICD-10-CM
F11.282	Opioid dependence with opioid-induced sleep disorder	Diagnosis	ICD-10-CM
F11.288	Opioid dependence with other opioid-induced disorder	Diagnosis	ICD-10-CM
F11.29	Opioid dependence with unspecified opioid-induced disorder	Diagnosis	ICD-10-CM
F11.90	Opioid use, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F11.920	Opioid use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F11.921	Opioid use, unspecified with intoxication delirium	Diagnosis	ICD-10-CM
F11.922	Opioid use, unspecified with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F11.929	Opioid use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F11.93	Opioid use, unspecified with withdrawal	Diagnosis	ICD-10-CM
F11.94	Opioid use, unspecified with opioid-induced mood disorder	Diagnosis	ICD-10-CM
F11.950	Opioid use, unspecified with opioid-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F11.951	Opioid use, unspecified with opioid-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F11.959	Opioid use, unspecified with opioid-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F11.981	Opioid use, unspecified with opioid-induced sexual dysfunction	Diagnosis	ICD-10-CM
F11.982	Opioid use, unspecified with opioid-induced sleep disorder	Diagnosis	ICD-10-CM
F11.988	Opioid use, unspecified with other opioid-induced disorder	Diagnosis	ICD-10-CM
F11.99	Opioid use, unspecified with unspecified opioid-induced disorder	Diagnosis	ICD-10-CM
F12.10	Cannabis abuse, uncomplicated	Diagnosis	ICD-10-CM
F12.11	Cannabis abuse, in remission	Diagnosis	ICD-10-CM
F12.120	Cannabis abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F12.121	Cannabis abuse with intoxication delirium	Diagnosis	ICD-10-CM
F12.122	Cannabis abuse with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F12.129	Cannabis abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F12.13	Cannabis abuse with withdrawal	Diagnosis	ICD-10-CM
F12.150	Cannabis abuse with psychotic disorder with delusions	Diagnosis	ICD-10-CM
F12.151	Cannabis abuse with psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F12.159	Cannabis abuse with psychotic disorder, unspecified	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F12.180	Cannabis abuse with cannabis-induced anxiety disorder	Diagnosis	ICD-10-CM
F12.188	Cannabis abuse with other cannabis-induced disorder	Diagnosis	ICD-10-CM
F12.19	Cannabis abuse with unspecified cannabis-induced disorder	Diagnosis	ICD-10-CM
F12.20	Cannabis dependence, uncomplicated	Diagnosis	ICD-10-CM
F12.220	Cannabis dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F12.221	Cannabis dependence with intoxication delirium	Diagnosis	ICD-10-CM
F12.222	Cannabis dependence with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F12.229	Cannabis dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F12.250	Cannabis dependence with psychotic disorder with delusions	Diagnosis	ICD-10-CM
F12.251	Cannabis dependence with psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F12.259	Cannabis dependence with psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F12.280	Cannabis dependence with cannabis-induced anxiety disorder	Diagnosis	ICD-10-CM
F12.288	Cannabis dependence with other cannabis-induced disorder	Diagnosis	ICD-10-CM
F12.29	Cannabis dependence with unspecified cannabis-induced disorder	Diagnosis	ICD-10-CM
F12.90	Cannabis use, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F12.920	Cannabis use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F12.921	Cannabis use, unspecified with intoxication delirium	Diagnosis	ICD-10-CM
F12.922	Cannabis use, unspecified with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F12.929	Cannabis use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F12.950	Cannabis use, unspecified with psychotic disorder with delusions	Diagnosis	ICD-10-CM
F12.951	Cannabis use, unspecified with psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F12.959	Cannabis use, unspecified with psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F12.980	Cannabis use, unspecified with anxiety disorder	Diagnosis	ICD-10-CM
F12.988	Cannabis use, unspecified with other cannabis-induced disorder	Diagnosis	ICD-10-CM
F12.99	Cannabis use, unspecified with unspecified cannabis-induced disorder	Diagnosis	ICD-10-CM
F13.10	Sedative, hypnotic or anxiolytic abuse, uncomplicated	Diagnosis	ICD-10-CM
F13.11	Sedative, hypnotic or anxiolytic abuse, in remission	Diagnosis	ICD-10-CM
F13.120	Sedative, hypnotic or anxiolytic abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F13.121	Sedative, hypnotic or anxiolytic abuse with intoxication delirium	Diagnosis	ICD-10-CM
F13.129	Sedative, hypnotic or anxiolytic abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F13.130	Sedative, hypnotic or anxiolytic abuse with withdrawal, uncomplicated	Diagnosis	ICD-10-CM
F13.131	Sedative, hypnotic or anxiolytic abuse with withdrawal delirium	Diagnosis	ICD-10-CM
F13.132	Sedative, hypnotic or anxiolytic abuse with withdrawal with perceptual disturbance	Diagnosis	ICD-10-CM
F13.139	Sedative, hypnotic or anxiolytic abuse with withdrawal, unspecified	Diagnosis	ICD-10-CM
F13.14	Sedative, hypnotic or anxiolytic abuse with sedative, hypnotic or anxiolytic-induced	Diagnosis	ICD-10-CM
F13.150	Sedative, hypnotic or anxiolytic abuse with sedative, hypnotic or anxiolytic-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F13.151	Sedative, hypnotic or anxiolytic abuse with sedative, hypnotic or anxiolytic-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F13.159	Sedative, hypnotic or anxiolytic abuse with sedative, hypnotic or anxiolytic-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F13.180	Sedative, hypnotic or anxiolytic abuse with sedative, hypnotic or anxiolytic-induced anxiety disorder	Diagnosis	ICD-10-CM
F13.181	Sedative, hypnotic or anxiolytic abuse with sedative, hypnotic or anxiolytic-induced sexual dysfunction	Diagnosis	ICD-10-CM
F13.182	Sedative, hypnotic or anxiolytic abuse with sedative, hypnotic or anxiolytic-induced	Diagnosis	ICD-10-CM
F13.188	Sedative, hypnotic or anxiolytic abuse with other sedative, hypnotic or anxiolytic-	Diagnosis	ICD-10-CM
F13.19	Sedative, hypnotic or anxiolytic abuse with unspecified sedative, hypnotic or anxiolytic-induced disorder	Diagnosis	ICD-10-CM
F13.20	Sedative, hypnotic or anxiolytic dependence, uncomplicated	Diagnosis	ICD-10-CM
F13.220	Sedative, hypnotic or anxiolytic dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F13.221	Sedative, hypnotic or anxiolytic dependence with intoxication delirium	Diagnosis	ICD-10-CM
F13.229	Sedative, hypnotic or anxiolytic dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F13.230	Sedative, hypnotic or anxiolytic dependence with withdrawal, uncomplicated	Diagnosis	ICD-10-CM
F13.231	Sedative, hypnotic or anxiolytic dependence with withdrawal delirium	Diagnosis	ICD-10-CM
F13.232	Sedative, hypnotic or anxiolytic dependence with withdrawal with perceptual	Diagnosis	ICD-10-CM
F13.239	Sedative, hypnotic or anxiolytic dependence with withdrawal, unspecified	Diagnosis	ICD-10-CM
F13.24	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced mood disorder	Diagnosis	ICD-10-CM
F13.250	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F13.251	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F13.259	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F13.26	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced persisting amnesic disorder	Diagnosis	ICD-10-CM
F13.27	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced persisting dementia	Diagnosis	ICD-10-CM
F13.280	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced anxiety disorder	Diagnosis	ICD-10-CM
F13.281	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced sexual dysfunction	Diagnosis	ICD-10-CM
F13.282	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced sleep disorder	Diagnosis	ICD-10-CM
F13.288	Sedative, hypnotic or anxiolytic dependence with other sedative, hypnotic or anxiolytic-induced disorder	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F13.29	Sedative, hypnotic or anxiolytic dependence with unspecified sedative, hypnotic or anxiolytic-induced disorder	Diagnosis	ICD-10-CM
F13.90	Sedative, hypnotic, or anxiolytic use, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F13.920	Sedative, hypnotic or anxiolytic use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F13.921	Sedative, hypnotic or anxiolytic use, unspecified with intoxication delirium	Diagnosis	ICD-10-CM
F13.929	Sedative, hypnotic or anxiolytic use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F13.930	Sedative, hypnotic or anxiolytic use, unspecified with withdrawal, uncomplicated	Diagnosis	ICD-10-CM
F13.931	Sedative, hypnotic or anxiolytic use, unspecified with withdrawal delirium	Diagnosis	ICD-10-CM
F13.932	Sedative, hypnotic or anxiolytic use, unspecified with withdrawal with perceptual	Diagnosis	ICD-10-CM
F13.939	Sedative, hypnotic or anxiolytic use, unspecified with withdrawal, unspecified	Diagnosis	ICD-10-CM
F13.94	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced mood disorder	Diagnosis	ICD-10-CM
F13.950	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F13.951	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F13.959	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F13.96	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced persisting amnestic disorder	Diagnosis	ICD-10-CM
F13.97	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced persisting dementia	Diagnosis	ICD-10-CM
F13.980	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced anxiety disorder	Diagnosis	ICD-10-CM
F13.981	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced sexual dysfunction	Diagnosis	ICD-10-CM
F13.982	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced sleep disorder	Diagnosis	ICD-10-CM
F13.988	Sedative, hypnotic or anxiolytic use, unspecified with other sedative, hypnotic or anxiolytic-induced disorder	Diagnosis	ICD-10-CM
F13.99	Sedative, hypnotic or anxiolytic use, unspecified with unspecified sedative, hypnotic or anxiolytic-induced disorder	Diagnosis	ICD-10-CM
F14.10	Cocaine abuse, uncomplicated	Diagnosis	ICD-10-CM
F14.11	Cocaine abuse, in remission	Diagnosis	ICD-10-CM
F14.120	Cocaine abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F14.121	Cocaine abuse with intoxication with delirium	Diagnosis	ICD-10-CM
F14.122	Cocaine abuse with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F14.129	Cocaine abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F14.13	Cocaine abuse, unspecified with withdrawal	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F14.14	Cocaine abuse with cocaine-induced mood disorder	Diagnosis	ICD-10-CM
F14.150	Cocaine abuse with cocaine-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F14.151	Cocaine abuse with cocaine-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F14.159	Cocaine abuse with cocaine-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F14.180	Cocaine abuse with cocaine-induced anxiety disorder	Diagnosis	ICD-10-CM
F14.181	Cocaine abuse with cocaine-induced sexual dysfunction	Diagnosis	ICD-10-CM
F14.182	Cocaine abuse with cocaine-induced sleep disorder	Diagnosis	ICD-10-CM
F14.188	Cocaine abuse with other cocaine-induced disorder	Diagnosis	ICD-10-CM
F14.19	Cocaine abuse with unspecified cocaine-induced disorder	Diagnosis	ICD-10-CM
F14.20	Cocaine dependence, uncomplicated	Diagnosis	ICD-10-CM
F14.220	Cocaine dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F14.221	Cocaine dependence with intoxication delirium	Diagnosis	ICD-10-CM
F14.222	Cocaine dependence with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F14.229	Cocaine dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F14.23	Cocaine dependence with withdrawal	Diagnosis	ICD-10-CM
F14.24	Cocaine dependence with cocaine-induced mood disorder	Diagnosis	ICD-10-CM
F14.250	Cocaine dependence with cocaine-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F14.251	Cocaine dependence with cocaine-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F14.259	Cocaine dependence with cocaine-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F14.280	Cocaine dependence with cocaine-induced anxiety disorder	Diagnosis	ICD-10-CM
F14.281	Cocaine dependence with cocaine-induced sexual dysfunction	Diagnosis	ICD-10-CM
F14.282	Cocaine dependence with cocaine-induced sleep disorder	Diagnosis	ICD-10-CM
F14.288	Cocaine dependence with other cocaine-induced disorder	Diagnosis	ICD-10-CM
F14.29	Cocaine dependence with unspecified cocaine-induced disorder	Diagnosis	ICD-10-CM
F14.90	Cocaine use, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F14.920	Cocaine use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F14.921	Cocaine use, unspecified with intoxication delirium	Diagnosis	ICD-10-CM
F14.922	Cocaine use, unspecified with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F14.929	Cocaine use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F14.93	Cocaine use, unspecified with withdrawal	Diagnosis	ICD-10-CM
F14.94	Cocaine use, unspecified with cocaine-induced mood disorder	Diagnosis	ICD-10-CM
F14.950	Cocaine use, unspecified with cocaine-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F14.951	Cocaine use, unspecified with cocaine-induced psychotic disorder with	Diagnosis	ICD-10-CM
F14.959	Cocaine use, unspecified with cocaine-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F14.980	Cocaine use, unspecified with cocaine-induced anxiety disorder	Diagnosis	ICD-10-CM
F14.981	Cocaine use, unspecified with cocaine-induced sexual dysfunction	Diagnosis	ICD-10-CM
F14.982	Cocaine use, unspecified with cocaine-induced sleep disorder	Diagnosis	ICD-10-CM
F14.988	Cocaine use, unspecified with other cocaine-induced disorder	Diagnosis	ICD-10-CM
F14.99	Cocaine use, unspecified with unspecified cocaine-induced disorder	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F15.10	Other stimulant abuse, uncomplicated	Diagnosis	ICD-10-CM
F15.11	Other stimulant abuse, in remission	Diagnosis	ICD-10-CM
F15.120	Other stimulant abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F15.121	Other stimulant abuse with intoxication delirium	Diagnosis	ICD-10-CM
F15.122	Other stimulant abuse with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F15.129	Other stimulant abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F15.13	Other stimulant abuse with withdrawal	Diagnosis	ICD-10-CM
F15.14	Other stimulant abuse with stimulant-induced mood disorder	Diagnosis	ICD-10-CM
F15.150	Other stimulant abuse with stimulant-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F15.151	Other stimulant abuse with stimulant-induced psychotic disorder with	Diagnosis	ICD-10-CM
F15.159	Other stimulant abuse with stimulant-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F15.180	Other stimulant abuse with stimulant-induced anxiety disorder	Diagnosis	ICD-10-CM
F15.181	Other stimulant abuse with stimulant-induced sexual dysfunction	Diagnosis	ICD-10-CM
F15.182	Other stimulant abuse with stimulant-induced sleep disorder	Diagnosis	ICD-10-CM
F15.188	Other stimulant abuse with other stimulant-induced disorder	Diagnosis	ICD-10-CM
F15.19	Other stimulant abuse with unspecified stimulant-induced disorder	Diagnosis	ICD-10-CM
F15.20	Other stimulant dependence, uncomplicated	Diagnosis	ICD-10-CM
F15.220	Other stimulant dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F15.221	Other stimulant dependence with intoxication delirium	Diagnosis	ICD-10-CM
F15.222	Other stimulant dependence with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F15.229	Other stimulant dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F15.23	Other stimulant dependence with withdrawal	Diagnosis	ICD-10-CM
F15.24	Other stimulant dependence with stimulant-induced mood disorder	Diagnosis	ICD-10-CM
F15.250	Other stimulant dependence with stimulant-induced psychotic disorder with	Diagnosis	ICD-10-CM
F15.251	Other stimulant dependence with stimulant-induced psychotic disorder with	Diagnosis	ICD-10-CM
F15.259	Other stimulant dependence with stimulant-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F15.280	Other stimulant dependence with stimulant-induced anxiety disorder	Diagnosis	ICD-10-CM
F15.281	Other stimulant dependence with stimulant-induced sexual dysfunction	Diagnosis	ICD-10-CM
F15.282	Other stimulant dependence with stimulant-induced sleep disorder	Diagnosis	ICD-10-CM
F15.288	Other stimulant dependence with other stimulant-induced disorder	Diagnosis	ICD-10-CM
F15.29	Other stimulant dependence with unspecified stimulant-induced disorder	Diagnosis	ICD-10-CM
F15.90	Other stimulant use, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F15.920	Other stimulant use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F15.921	Other stimulant use, unspecified with intoxication delirium	Diagnosis	ICD-10-CM
F15.922	Other stimulant use, unspecified with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F15.929	Other stimulant use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F15.93	Other stimulant use, unspecified with withdrawal	Diagnosis	ICD-10-CM
F15.94	Other stimulant use, unspecified with stimulant-induced mood disorder	Diagnosis	ICD-10-CM
F15.950	Other stimulant use, unspecified with stimulant-induced psychotic disorder with	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F15.951	Other stimulant use, unspecified with stimulant-induced psychotic disorder with	Diagnosis	ICD-10-CM
F15.959	Other stimulant use, unspecified with stimulant-induced psychotic disorder,	Diagnosis	ICD-10-CM
F15.980	Other stimulant use, unspecified with stimulant-induced anxiety disorder	Diagnosis	ICD-10-CM
F15.981	Other stimulant use, unspecified with stimulant-induced sexual dysfunction	Diagnosis	ICD-10-CM
F15.982	Other stimulant use, unspecified with stimulant-induced sleep disorder	Diagnosis	ICD-10-CM
F15.988	Other stimulant use, unspecified with other stimulant-induced disorder	Diagnosis	ICD-10-CM
F15.99	Other stimulant use, unspecified with unspecified stimulant-induced disorder	Diagnosis	ICD-10-CM
F16.10	Hallucinogen abuse, uncomplicated	Diagnosis	ICD-10-CM
F16.11	Hallucinogen abuse, in remission	Diagnosis	ICD-10-CM
F16.120	Hallucinogen abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F16.121	Hallucinogen abuse with intoxication with delirium	Diagnosis	ICD-10-CM
F16.122	Hallucinogen abuse with intoxication with perceptual disturbance	Diagnosis	ICD-10-CM
F16.129	Hallucinogen abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F16.14	Hallucinogen abuse with hallucinogen-induced mood disorder	Diagnosis	ICD-10-CM
F16.150	Hallucinogen abuse with hallucinogen-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F16.151	Hallucinogen abuse with hallucinogen-induced psychotic disorder with	Diagnosis	ICD-10-CM
F16.159	Hallucinogen abuse with hallucinogen-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F16.180	Hallucinogen abuse with hallucinogen-induced anxiety disorder	Diagnosis	ICD-10-CM
F16.183	Hallucinogen abuse with hallucinogen persisting perception disorder (flashbacks)	Diagnosis	ICD-10-CM
F16.188	Hallucinogen abuse with other hallucinogen-induced disorder	Diagnosis	ICD-10-CM
F16.19	Hallucinogen abuse with unspecified hallucinogen-induced disorder	Diagnosis	ICD-10-CM
F16.20	Hallucinogen dependence, uncomplicated	Diagnosis	ICD-10-CM
F16.220	Hallucinogen dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F16.221	Hallucinogen dependence with intoxication with delirium	Diagnosis	ICD-10-CM
F16.229	Hallucinogen dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F16.24	Hallucinogen dependence with hallucinogen-induced mood disorder	Diagnosis	ICD-10-CM
F16.250	Hallucinogen dependence with hallucinogen-induced psychotic disorder with	Diagnosis	ICD-10-CM
F16.251	Hallucinogen dependence with hallucinogen-induced psychotic disorder with	Diagnosis	ICD-10-CM
F16.259	Hallucinogen dependence with hallucinogen-induced psychotic disorder,	Diagnosis	ICD-10-CM
F16.280	Hallucinogen dependence with hallucinogen-induced anxiety disorder	Diagnosis	ICD-10-CM
F16.283	Hallucinogen dependence with hallucinogen persisting perception disorder	Diagnosis	ICD-10-CM
F16.288	Hallucinogen dependence with other hallucinogen-induced disorder	Diagnosis	ICD-10-CM
F16.29	Hallucinogen dependence with unspecified hallucinogen-induced disorder	Diagnosis	ICD-10-CM
F16.90	Hallucinogen use, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F16.920	Hallucinogen use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F16.921	Hallucinogen use, unspecified with intoxication with delirium	Diagnosis	ICD-10-CM
F16.929	Hallucinogen use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F16.94	Hallucinogen use, unspecified with hallucinogen-induced mood disorder	Diagnosis	ICD-10-CM
F16.950	Hallucinogen use, unspecified with hallucinogen-induced psychotic disorder with	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
F16.951	Hallucinogen use, unspecified with hallucinogen-induced psychotic disorder with	Diagnosis	ICD-10-CM
F16.959	Hallucinogen use, unspecified with hallucinogen-induced psychotic disorder,	Diagnosis	ICD-10-CM
F16.980	Hallucinogen use, unspecified with hallucinogen-induced anxiety disorder	Diagnosis	ICD-10-CM
F16.983	Hallucinogen use, unspecified with hallucinogen persisting perception disorder	Diagnosis	ICD-10-CM
F16.988	Hallucinogen use, unspecified with other hallucinogen-induced disorder	Diagnosis	ICD-10-CM
F16.99	Hallucinogen use, unspecified with unspecified hallucinogen-induced disorder	Diagnosis	ICD-10-CM
F17.203	Nicotine dependence unspecified, with withdrawal	Diagnosis	ICD-10-CM
F17.208	Nicotine dependence, unspecified, with other nicotine-induced disorders	Diagnosis	ICD-10-CM
F17.209	Nicotine dependence, unspecified, with unspecified nicotine-induced disorders	Diagnosis	ICD-10-CM
F17.213	Nicotine dependence, cigarettes, with withdrawal	Diagnosis	ICD-10-CM
F17.218	Nicotine dependence, cigarettes, with other nicotine-induced disorders	Diagnosis	ICD-10-CM
F17.219	Nicotine dependence, cigarettes, with unspecified nicotine-induced disorders	Diagnosis	ICD-10-CM
F17.223	Nicotine dependence, chewing tobacco, with withdrawal	Diagnosis	ICD-10-CM
F17.228	Nicotine dependence, chewing tobacco, with other nicotine-induced disorders	Diagnosis	ICD-10-CM
F17.229	Nicotine dependence, chewing tobacco, with unspecified nicotine-induced disorders	Diagnosis	ICD-10-CM
F17.293	Nicotine dependence, other tobacco product, with withdrawal	Diagnosis	ICD-10-CM
F17.298	Nicotine dependence, other tobacco product, with other nicotine-induced disorders	Diagnosis	ICD-10-CM
F17.299	Nicotine dependence, other tobacco product, with unspecified nicotine-induced	Diagnosis	ICD-10-CM
F18.10	Inhalant abuse, uncomplicated	Diagnosis	ICD-10-CM
F18.11	Inhalant abuse, in remission	Diagnosis	ICD-10-CM
F18.120	Inhalant abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F18.121	Inhalant abuse with intoxication delirium	Diagnosis	ICD-10-CM
F18.129	Inhalant abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F18.14	Inhalant abuse with inhalant-induced mood disorder	Diagnosis	ICD-10-CM
F18.150	Inhalant abuse with inhalant-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F18.151	Inhalant abuse with inhalant-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F18.159	Inhalant abuse with inhalant-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F18.17	Inhalant abuse with inhalant-induced dementia	Diagnosis	ICD-10-CM
F18.180	Inhalant abuse with inhalant-induced anxiety disorder	Diagnosis	ICD-10-CM
F18.188	Inhalant abuse with other inhalant-induced disorder	Diagnosis	ICD-10-CM
F18.19	Inhalant abuse with unspecified inhalant-induced disorder	Diagnosis	ICD-10-CM
F18.20	Inhalant dependence, uncomplicated	Diagnosis	ICD-10-CM
F18.220	Inhalant dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F18.221	Inhalant dependence with intoxication delirium	Diagnosis	ICD-10-CM
F18.229	Inhalant dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F18.24	Inhalant dependence with inhalant-induced mood disorder	Diagnosis	ICD-10-CM
F18.250	Inhalant dependence with inhalant-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F18.251	Inhalant dependence with inhalant-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F18.259	Inhalant dependence with inhalant-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F18.27	Inhalant dependence with inhalant-induced dementia	Diagnosis	ICD-10-CM
F18.280	Inhalant dependence with inhalant-induced anxiety disorder	Diagnosis	ICD-10-CM
F18.288	Inhalant dependence with other inhalant-induced disorder	Diagnosis	ICD-10-CM
F18.29	Inhalant dependence with unspecified inhalant-induced disorder	Diagnosis	ICD-10-CM
F18.90	Inhalant use, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F18.920	Inhalant use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F18.921	Inhalant use, unspecified with intoxication with delirium	Diagnosis	ICD-10-CM
F18.929	Inhalant use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F18.94	Inhalant use, unspecified with inhalant-induced mood disorder	Diagnosis	ICD-10-CM
F18.950	Inhalant use, unspecified with inhalant-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F18.951	Inhalant use, unspecified with inhalant-induced psychotic disorder with	Diagnosis	ICD-10-CM
F18.959	Inhalant use, unspecified with inhalant-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F18.97	Inhalant use, unspecified with inhalant-induced persisting dementia	Diagnosis	ICD-10-CM
F18.980	Inhalant use, unspecified with inhalant-induced anxiety disorder	Diagnosis	ICD-10-CM
F18.988	Inhalant use, unspecified with other inhalant-induced disorder	Diagnosis	ICD-10-CM
F18.99	Inhalant use, unspecified with unspecified inhalant-induced disorder	Diagnosis	ICD-10-CM
F19.10	Other psychoactive substance abuse, uncomplicated	Diagnosis	ICD-10-CM
F19.11	Other psychoactive substance abuse, in remission	Diagnosis	ICD-10-CM
F19.120	Other psychoactive substance abuse with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F19.121	Other psychoactive substance abuse with intoxication delirium	Diagnosis	ICD-10-CM
F19.122	Other psychoactive substance abuse with intoxication with perceptual disturbances	Diagnosis	ICD-10-CM
F19.129	Other psychoactive substance abuse with intoxication, unspecified	Diagnosis	ICD-10-CM
F19.130	Other psychoactive substance abuse with withdrawal, uncomplicated	Diagnosis	ICD-10-CM
F19.131	Other psychoactive substance abuse with withdrawal delirium	Diagnosis	ICD-10-CM
F19.132	Other psychoactive substance abuse with withdrawal with perceptual disturbance	Diagnosis	ICD-10-CM
F19.139	Other psychoactive substance abuse with withdrawal, unspecified	Diagnosis	ICD-10-CM
F19.14	Other psychoactive substance abuse with psychoactive substance-induced mood	Diagnosis	ICD-10-CM
F19.150	Other psychoactive substance abuse with psychoactive substance-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F19.151	Other psychoactive substance abuse with psychoactive substance-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F19.159	Other psychoactive substance abuse with psychoactive substance-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F19.16	Other psychoactive substance abuse with psychoactive substance-induced persisting amnesic disorder	Diagnosis	ICD-10-CM
F19.17	Other psychoactive substance abuse with psychoactive substance-induced	Diagnosis	ICD-10-CM
F19.180	Other psychoactive substance abuse with psychoactive substance-induced anxiety	Diagnosis	ICD-10-CM
F19.181	Other psychoactive substance abuse with psychoactive substance-induced sexual	Diagnosis	ICD-10-CM
F19.182	Other psychoactive substance abuse with psychoactive substance-induced sleep	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F19.188	Other psychoactive substance abuse with other psychoactive substance-induced	Diagnosis	ICD-10-CM
F19.19	Other psychoactive substance abuse with unspecified psychoactive substance-	Diagnosis	ICD-10-CM
F19.20	Other psychoactive substance dependence, uncomplicated	Diagnosis	ICD-10-CM
F19.21	Other psychoactive substance dependence, in remission	Diagnosis	ICD-10-CM
F19.220	Other psychoactive substance dependence with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F19.221	Other psychoactive substance dependence with intoxication delirium	Diagnosis	ICD-10-CM
F19.222	Other psychoactive substance dependence with intoxication with perceptual	Diagnosis	ICD-10-CM
F19.229	Other psychoactive substance dependence with intoxication, unspecified	Diagnosis	ICD-10-CM
F19.230	Other psychoactive substance dependence with withdrawal, uncomplicated	Diagnosis	ICD-10-CM
F19.231	Other psychoactive substance dependence with withdrawal delirium	Diagnosis	ICD-10-CM
F19.232	Other psychoactive substance dependence with withdrawal with perceptual	Diagnosis	ICD-10-CM
F19.239	Other psychoactive substance dependence with withdrawal, unspecified	Diagnosis	ICD-10-CM
F19.24	Other psychoactive substance dependence with psychoactive substance-induced	Diagnosis	ICD-10-CM
F19.250	Other psychoactive substance dependence with psychoactive substance-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F19.251	Other psychoactive substance dependence with psychoactive substance-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F19.259	Other psychoactive substance dependence with psychoactive substance-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F19.26	Other psychoactive substance dependence with psychoactive substance-induced persisting amnesic disorder	Diagnosis	ICD-10-CM
F19.27	Other psychoactive substance dependence with psychoactive substance-induced persisting dementia	Diagnosis	ICD-10-CM
F19.280	Other psychoactive substance dependence with psychoactive substance-induced	Diagnosis	ICD-10-CM
F19.281	Other psychoactive substance dependence with psychoactive substance-induced sexual dysfunction	Diagnosis	ICD-10-CM
F19.282	Other psychoactive substance dependence with psychoactive substance-induced	Diagnosis	ICD-10-CM
F19.288	Other psychoactive substance dependence with other psychoactive substance-	Diagnosis	ICD-10-CM
F19.29	Other psychoactive substance dependence with unspecified psychoactive substance-induced disorder	Diagnosis	ICD-10-CM
F19.90	Other psychoactive substance use, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F19.920	Other psychoactive substance use, unspecified with intoxication, uncomplicated	Diagnosis	ICD-10-CM
F19.921	Other psychoactive substance use, unspecified with intoxication with delirium	Diagnosis	ICD-10-CM
F19.922	Other psychoactive substance use, unspecified with intoxication with perceptual	Diagnosis	ICD-10-CM
F19.929	Other psychoactive substance use, unspecified with intoxication, unspecified	Diagnosis	ICD-10-CM
F19.930	Other psychoactive substance use, unspecified with withdrawal, uncomplicated	Diagnosis	ICD-10-CM
F19.931	Other psychoactive substance use, unspecified with withdrawal delirium	Diagnosis	ICD-10-CM
F19.932	Other psychoactive substance use, unspecified with withdrawal with perceptual	Diagnosis	ICD-10-CM
F19.939	Other psychoactive substance use, unspecified with withdrawal, unspecified	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
F19.94	Other psychoactive substance use, unspecified with psychoactive substance-induced mood disorder	Diagnosis	ICD-10-CM
F19.950	Other psychoactive substance use, unspecified with psychoactive substance-induced psychotic disorder with delusions	Diagnosis	ICD-10-CM
F19.951	Other psychoactive substance use, unspecified with psychoactive substance-induced psychotic disorder with hallucinations	Diagnosis	ICD-10-CM
F19.959	Other psychoactive substance use, unspecified with psychoactive substance-induced psychotic disorder, unspecified	Diagnosis	ICD-10-CM
F19.96	Other psychoactive substance use, unspecified with psychoactive substance-induced persisting amnesic disorder	Diagnosis	ICD-10-CM
F19.97	Other psychoactive substance use, unspecified with psychoactive substance-induced persisting dementia	Diagnosis	ICD-10-CM
F19.980	Other psychoactive substance use, unspecified with psychoactive substance-induced anxiety disorder	Diagnosis	ICD-10-CM
F19.981	Other psychoactive substance use, unspecified with psychoactive substance-induced sexual dysfunction	Diagnosis	ICD-10-CM
F19.982	Other psychoactive substance use, unspecified with psychoactive substance-induced sleep disorder	Diagnosis	ICD-10-CM
F19.988	Other psychoactive substance use, unspecified with other psychoactive substance-induced disorder	Diagnosis	ICD-10-CM
F19.99	Other psychoactive substance use, unspecified with unspecified psychoactive substance-induced disorder	Diagnosis	ICD-10-CM
F55.0	Abuse of antacids	Diagnosis	ICD-10-CM
F55.1	Abuse of herbal or folk remedies	Diagnosis	ICD-10-CM
F55.2	Abuse of laxatives	Diagnosis	ICD-10-CM
F55.3	Abuse of steroids or hormones	Diagnosis	ICD-10-CM
F55.4	Abuse of vitamins	Diagnosis	ICD-10-CM
F55.8	Abuse of other non-psychoactive substances	Diagnosis	ICD-10-CM
HZ2ZZZZ	Detoxification Services for Substance Abuse Treatment	Procedure	ICD-10-PCS
HZ30ZZZ	Individual Counseling for Substance Abuse Treatment, Cognitive	Procedure	ICD-10-PCS
HZ31ZZZ	Individual Counseling for Substance Abuse Treatment, Behavioral	Procedure	ICD-10-PCS
HZ32ZZZ	Individual Counseling for Substance Abuse Treatment, Cognitive-Behavioral	Procedure	ICD-10-PCS
HZ33ZZZ	Individual Counseling for Substance Abuse Treatment, 12-Step	Procedure	ICD-10-PCS
HZ34ZZZ	Individual Counseling for Substance Abuse Treatment, Interpersonal	Procedure	ICD-10-PCS
HZ35ZZZ	Individual Counseling for Substance Abuse Treatment, Vocational	Procedure	ICD-10-PCS
HZ36ZZZ	Individual Counseling for Substance Abuse Treatment, Psychoeducation	Procedure	ICD-10-PCS
HZ37ZZZ	Individual Counseling for Substance Abuse Treatment, Motivational Enhancement	Procedure	ICD-10-PCS
HZ38ZZZ	Individual Counseling for Substance Abuse Treatment, Confrontational	Procedure	ICD-10-PCS
HZ39ZZZ	Individual Counseling for Substance Abuse Treatment, Continuing Care	Procedure	ICD-10-PCS

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Code	Description	Code Category	Code Type
HZ3BZZZ	Individual Counseling for Substance Abuse Treatment, Spiritual	Procedure	ICD-10-PCS
HZ40ZZZ	Group Counseling for Substance Abuse Treatment, Cognitive	Procedure	ICD-10-PCS
HZ6	Substance Abuse Treatment, Family Counseling	Procedure	ICD-10-PCS
HZ80ZZZ	Medication Management for Substance Abuse Treatment, Nicotine Replacement	Procedure	ICD-10-PCS
HZ81ZZZ	Medication Management for Substance Abuse Treatment, Methadone Maintenance	Procedure	ICD-10-PCS
HZ82ZZZ	Medication Management for Substance Abuse Treatment, Levo-alpha-acetyl-	Procedure	ICD-10-PCS
HZ84ZZZ	Medication Management for Substance Abuse Treatment, Naltrexone	Procedure	ICD-10-PCS
HZ85ZZZ	Medication Management for Substance Abuse Treatment, Naloxone	Procedure	ICD-10-PCS
HZ87ZZZ	Medication Management for Substance Abuse Treatment, Bupropion	Procedure	ICD-10-PCS
HZ9	Substance Abuse Treatment, Pharmacotherapy	Procedure	ICD-10-PCS
HZ90ZZZ	Pharmacotherapy for Substance Abuse Treatment, Nicotine Replacement	Procedure	ICD-10-PCS
HZ91ZZZ	Pharmacotherapy for Substance Abuse Treatment, Methadone Maintenance	Procedure	ICD-10-PCS
HZ92ZZZ	Pharmacotherapy for Substance Abuse Treatment, Levo-alpha-acetyl-methadol	Procedure	ICD-10-PCS
HZ94ZZZ	Pharmacotherapy for Substance Abuse Treatment, Naltrexone	Procedure	ICD-10-PCS
HZ95ZZZ	Pharmacotherapy for Substance Abuse Treatment, Naloxone	Procedure	ICD-10-PCS
HZ96ZZZ	Pharmacotherapy for Substance Abuse Treatment, Clonidine	Procedure	ICD-10-PCS
HZ97ZZZ	Pharmacotherapy for Substance Abuse Treatment, Bupropion	Procedure	ICD-10-PCS
O35.5XX0	Maternal care for (suspected) damage to fetus by drugs, not applicable or	Diagnosis	ICD-10-CM
O35.5XX1	Maternal care for (suspected) damage to fetus by drugs, fetus 1	Diagnosis	ICD-10-CM
O35.5XX2	Maternal care for (suspected) damage to fetus by drugs, fetus 2	Diagnosis	ICD-10-CM
O35.5XX3	Maternal care for (suspected) damage to fetus by drugs, fetus 3	Diagnosis	ICD-10-CM
O35.5XX4	Maternal care for (suspected) damage to fetus by drugs, fetus 4	Diagnosis	ICD-10-CM
O35.5XX5	Maternal care for (suspected) damage to fetus by drugs, fetus 5	Diagnosis	ICD-10-CM
O35.5XX9	Maternal care for (suspected) damage to fetus by drugs, other fetus	Diagnosis	ICD-10-CM
O99.320	Drug use complicating pregnancy, unspecified trimester	Diagnosis	ICD-10-CM
O99.321	Drug use complicating pregnancy, first trimester	Diagnosis	ICD-10-CM
O99.322	Drug use complicating pregnancy, second trimester	Diagnosis	ICD-10-CM
O99.323	Drug use complicating pregnancy, third trimester	Diagnosis	ICD-10-CM
O99.324	Drug use complicating childbirth	Diagnosis	ICD-10-CM
O99.325	Drug use complicating the puerperium	Diagnosis	ICD-10-CM
P04.41	Newborn affected by maternal use of cocaine	Diagnosis	ICD-10-CM
P04.49	Newborn affected by maternal use of other drugs of addiction	Diagnosis	ICD-10-CM
P96.1	Neonatal withdrawal symptoms from maternal use of drugs of addiction	Diagnosis	ICD-10-CM
P96.2	Withdrawal symptoms from therapeutic use of drugs in newborn	Diagnosis	ICD-10-CM
T40.0X1A	Poisoning by opium, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T40.0X1D	Poisoning by opium, accidental (unintentional), subsequent encounter	Diagnosis	ICD-10-CM
T40.0X1S	Poisoning by opium, accidental (unintentional), sequela	Diagnosis	ICD-10-CM
T40.0X2A	Poisoning by opium, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T40.0X2D	Poisoning by opium, intentional self-harm, subsequent encounter	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
T40.0X2S	Poisoning by opium, intentional self-harm, sequela	Diagnosis	ICD-10-CM
T40.0X3A	Poisoning by opium, assault, initial encounter	Diagnosis	ICD-10-CM
T40.0X3D	Poisoning by opium, assault, subsequent encounter	Diagnosis	ICD-10-CM
T40.0X3S	Poisoning by opium, assault, sequela	Diagnosis	ICD-10-CM
T40.0X4A	Poisoning by opium, undetermined, initial encounter	Diagnosis	ICD-10-CM
T40.0X4D	Poisoning by opium, undetermined, subsequent encounter	Diagnosis	ICD-10-CM
T40.0X4S	Poisoning by opium, undetermined, sequela	Diagnosis	ICD-10-CM
T40.0X5A	Adverse effect of opium, initial encounter	Diagnosis	ICD-10-CM
T40.0X5D	Adverse effect of opium, subsequent encounter	Diagnosis	ICD-10-CM
T40.0X5S	Adverse effect of opium, sequela	Diagnosis	ICD-10-CM
T40.1X1A	Poisoning by heroin, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T40.1X1D	Poisoning by heroin, accidental (unintentional), subsequent encounter	Diagnosis	ICD-10-CM
T40.1X1S	Poisoning by heroin, accidental (unintentional), sequela	Diagnosis	ICD-10-CM
T40.1X2A	Poisoning by heroin, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T40.1X2D	Poisoning by heroin, intentional self-harm, subsequent encounter	Diagnosis	ICD-10-CM
T40.1X2S	Poisoning by heroin, intentional self-harm, sequela	Diagnosis	ICD-10-CM
T40.1X3A	Poisoning by heroin, assault, initial encounter	Diagnosis	ICD-10-CM
T40.1X3D	Poisoning by heroin, assault, subsequent encounter	Diagnosis	ICD-10-CM
T40.1X3S	Poisoning by heroin, assault, sequela	Diagnosis	ICD-10-CM
T40.1X4A	Poisoning by heroin, undetermined, initial encounter	Diagnosis	ICD-10-CM
T40.1X4D	Poisoning by heroin, undetermined, subsequent encounter	Diagnosis	ICD-10-CM
T40.1X4S	Poisoning by heroin, undetermined, sequela	Diagnosis	ICD-10-CM
T40.2X1A	Poisoning by other opioids, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T40.2X1D	Poisoning by other opioids, accidental (unintentional), subsequent encounter	Diagnosis	ICD-10-CM
T40.2X1S	Poisoning by other opioids, accidental (unintentional), sequela	Diagnosis	ICD-10-CM
T40.2X2A	Poisoning by other opioids, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T40.2X2D	Poisoning by other opioids, intentional self-harm, subsequent encounter	Diagnosis	ICD-10-CM
T40.2X2S	Poisoning by other opioids, intentional self-harm, sequela	Diagnosis	ICD-10-CM
T40.2X3A	Poisoning by other opioids, assault, initial encounter	Diagnosis	ICD-10-CM
T40.2X3D	Poisoning by other opioids, assault, subsequent encounter	Diagnosis	ICD-10-CM
T40.2X3S	Poisoning by other opioids, assault, sequela	Diagnosis	ICD-10-CM
T40.2X4A	Poisoning by other opioids, undetermined, initial encounter	Diagnosis	ICD-10-CM
T40.2X4D	Poisoning by other opioids, undetermined, subsequent encounter	Diagnosis	ICD-10-CM
T40.2X4S	Poisoning by other opioids, undetermined, sequela	Diagnosis	ICD-10-CM
T40.2X5A	Adverse effect of other opioids, initial encounter	Diagnosis	ICD-10-CM
T40.2X5D	Adverse effect of other opioids, subsequent encounter	Diagnosis	ICD-10-CM
T40.2X5S	Adverse effect of other opioids, sequela	Diagnosis	ICD-10-CM
T40.3X1A	Poisoning by methadone, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T40.3X1D	Poisoning by methadone, accidental (unintentional), subsequent encounter	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
T40.3X1S	Poisoning by methadone, accidental (unintentional), sequela	Diagnosis	ICD-10-CM
T40.3X2A	Poisoning by methadone, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T40.3X2D	Poisoning by methadone, intentional self-harm, subsequent encounter	Diagnosis	ICD-10-CM
T40.3X2S	Poisoning by methadone, intentional self-harm, sequela	Diagnosis	ICD-10-CM
T40.3X3A	Poisoning by methadone, assault, initial encounter	Diagnosis	ICD-10-CM
T40.3X3D	Poisoning by methadone, assault, subsequent encounter	Diagnosis	ICD-10-CM
T40.3X3S	Poisoning by methadone, assault, sequela	Diagnosis	ICD-10-CM
T40.3X4A	Poisoning by methadone, undetermined, initial encounter	Diagnosis	ICD-10-CM
T40.3X4D	Poisoning by methadone, undetermined, subsequent encounter	Diagnosis	ICD-10-CM
T40.3X4S	Poisoning by methadone, undetermined, sequela	Diagnosis	ICD-10-CM
T40.3X5A	Adverse effect of methadone, initial encounter	Diagnosis	ICD-10-CM
T40.3X5D	Adverse effect of methadone, subsequent encounter	Diagnosis	ICD-10-CM
T40.3X5S	Adverse effect of methadone, sequela	Diagnosis	ICD-10-CM
T40.411A	Poisoning by fentanyl or fentanyl analogs, accidental (unintentional), initial	Diagnosis	ICD-10-CM
T40.412A	Poisoning by fentanyl or fentanyl analogs, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T40.413A	Poisoning by fentanyl or fentanyl analogs, assault, initial encounter	Diagnosis	ICD-10-CM
T40.414A	Poisoning by fentanyl or fentanyl analogs, undetermined, initial encounter	Diagnosis	ICD-10-CM
T40.415A	Adverse effect of fentanyl or fentanyl analogs, initial encounter	Diagnosis	ICD-10-CM
T40.421A	Poisoning by tramadol, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T40.422A	Poisoning by tramadol, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T40.423A	Poisoning by tramadol, assault, initial encounter	Diagnosis	ICD-10-CM
T40.424A	Poisoning by tramadol, undetermined, initial encounter	Diagnosis	ICD-10-CM
T40.425A	Adverse effect of tramadol, initial encounter	Diagnosis	ICD-10-CM
T40.491A	Poisoning by other synthetic narcotics, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T40.492A	Poisoning by other synthetic narcotics, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T40.493A	Poisoning by other synthetic narcotics, assault, initial encounter	Diagnosis	ICD-10-CM
T40.494A	Poisoning by other synthetic narcotics, undetermined, initial encounter	Diagnosis	ICD-10-CM
T40.495A	Adverse effect of other synthetic narcotics, initial encounter	Diagnosis	ICD-10-CM
T40.4X1A	Poisoning by other synthetic narcotics, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T40.4X1D	Poisoning by other synthetic narcotics, accidental (unintentional), subsequent	Diagnosis	ICD-10-CM
T40.4X1S	Poisoning by other synthetic narcotics, accidental (unintentional), sequela	Diagnosis	ICD-10-CM
T40.4X2A	Poisoning by other synthetic narcotics, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T40.4X2D	Poisoning by other synthetic narcotics, intentional self-harm, subsequent encounter	Diagnosis	ICD-10-CM
T40.4X2S	Poisoning by other synthetic narcotics, intentional self-harm, sequela	Diagnosis	ICD-10-CM
T40.4X3A	Poisoning by other synthetic narcotics, assault, initial encounter	Diagnosis	ICD-10-CM
T40.4X3D	Poisoning by other synthetic narcotics, assault, subsequent encounter	Diagnosis	ICD-10-CM
T40.4X3S	Poisoning by other synthetic narcotics, assault, sequela	Diagnosis	ICD-10-CM
T40.4X4A	Poisoning by other synthetic narcotics, undetermined, initial encounter	Diagnosis	ICD-10-CM
T40.4X4D	Poisoning by other synthetic narcotics, undetermined, subsequent encounter	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
T40.4X4S	Poisoning by other synthetic narcotics, undetermined, sequela	Diagnosis	ICD-10-CM
T40.4X5A	Adverse effect of other synthetic narcotics, initial encounter	Diagnosis	ICD-10-CM
T40.4X5D	Adverse effect of other synthetic narcotics, subsequent encounter	Diagnosis	ICD-10-CM
T40.4X5S	Adverse effect of other synthetic narcotics, sequela	Diagnosis	ICD-10-CM
T40.601A	Poisoning by unspecified narcotics, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T40.601D	Poisoning by unspecified narcotics, accidental (unintentional), subsequent	Diagnosis	ICD-10-CM
T40.601S	Poisoning by unspecified narcotics, accidental (unintentional), sequela	Diagnosis	ICD-10-CM
T40.602A	Poisoning by unspecified narcotics, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T40.602D	Poisoning by unspecified narcotics, intentional self-harm, subsequent encounter	Diagnosis	ICD-10-CM
T40.602S	Poisoning by unspecified narcotics, intentional self-harm, sequela	Diagnosis	ICD-10-CM
T40.603A	Poisoning by unspecified narcotics, assault, initial encounter	Diagnosis	ICD-10-CM
T40.603D	Poisoning by unspecified narcotics, assault, subsequent encounter	Diagnosis	ICD-10-CM
T40.603S	Poisoning by unspecified narcotics, assault, sequela	Diagnosis	ICD-10-CM
T40.604A	Poisoning by unspecified narcotics, undetermined, initial encounter	Diagnosis	ICD-10-CM
T40.604D	Poisoning by unspecified narcotics, undetermined, subsequent encounter	Diagnosis	ICD-10-CM
T40.604S	Poisoning by unspecified narcotics, undetermined, sequela	Diagnosis	ICD-10-CM
T40.605A	Adverse effect of unspecified narcotics, initial encounter	Diagnosis	ICD-10-CM
T40.605D	Adverse effect of unspecified narcotics, subsequent encounter	Diagnosis	ICD-10-CM
T40.605S	Adverse effect of unspecified narcotics, sequela	Diagnosis	ICD-10-CM
T40.691A	Poisoning by other narcotics, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T40.691D	Poisoning by other narcotics, accidental (unintentional), subsequent encounter	Diagnosis	ICD-10-CM
T40.691S	Poisoning by other narcotics, accidental (unintentional), sequela	Diagnosis	ICD-10-CM
T40.692A	Poisoning by other narcotics, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T40.692D	Poisoning by other narcotics, intentional self-harm, subsequent encounter	Diagnosis	ICD-10-CM
T40.692S	Poisoning by other narcotics, intentional self-harm, sequela	Diagnosis	ICD-10-CM
T40.693A	Poisoning by other narcotics, assault, initial encounter	Diagnosis	ICD-10-CM
T40.693D	Poisoning by other narcotics, assault, subsequent encounter	Diagnosis	ICD-10-CM
T40.693S	Poisoning by other narcotics, assault, sequela	Diagnosis	ICD-10-CM
T40.694A	Poisoning by other narcotics, undetermined, initial encounter	Diagnosis	ICD-10-CM
T40.694D	Poisoning by other narcotics, undetermined, subsequent encounter	Diagnosis	ICD-10-CM
T40.694S	Poisoning by other narcotics, undetermined, sequela	Diagnosis	ICD-10-CM
T40.695A	Adverse effect of other narcotics, initial encounter	Diagnosis	ICD-10-CM
T40.695D	Adverse effect of other narcotics, subsequent encounter	Diagnosis	ICD-10-CM
T40.695S	Adverse effect of other narcotics, sequela	Diagnosis	ICD-10-CM
T40.711A	Poisoning by cannabis, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T40.721A	Poisoning by synthetic cannabinoids, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T40.7X1A	Poisoning by cannabis (derivatives), accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T40.8X1A	Poisoning by lysergide [LSD], accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
T40.901A	Poisoning by unspecified psychodysleptics [hallucinogens], accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T40.991A	Poisoning by other psychodysleptics [hallucinogens], accidental (unintentional),	Diagnosis	ICD-10-CM
V65.42	Counseling on substance use and abuse	Diagnosis	ICD-9-CM
Z71.51	Drug abuse counseling and surveillance of drug abuser	Diagnosis	ICD-10-CM
Z71.6	Tobacco abuse counseling	Diagnosis	ICD-10-CM
Gestational Diabetes			
648.8	Abnormal maternal glucose tolerance, complicating pregnancy, childbirth, or the	Diagnosis	ICD-9-CM
648.80	Abnormal maternal glucose tolerance, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	Diagnosis	ICD-9-CM
648.81	Abnormal maternal glucose tolerance, with delivery	Diagnosis	ICD-9-CM
648.82	Abnormal maternal glucose tolerance, with delivery, with current postpartum	Diagnosis	ICD-9-CM
648.83	Abnormal maternal glucose tolerance, antepartum	Diagnosis	ICD-9-CM
648.84	Abnormal maternal glucose tolerance complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	Diagnosis	ICD-9-CM
O24.4	Gestational diabetes mellitus	Diagnosis	ICD-10-CM
O24.41	Gestational diabetes mellitus in pregnancy	Diagnosis	ICD-10-CM
O24.410	Gestational diabetes mellitus in pregnancy, diet controlled	Diagnosis	ICD-10-CM
O24.414	Gestational diabetes mellitus in pregnancy, insulin controlled	Diagnosis	ICD-10-CM
O24.415	Gestational diabetes mellitus in pregnancy, controlled by oral hypoglycemic drugs	Diagnosis	ICD-10-CM
O24.419	Gestational diabetes mellitus in pregnancy, unspecified control	Diagnosis	ICD-10-CM
O24.42	Gestational diabetes mellitus in childbirth	Diagnosis	ICD-10-CM
O24.420	Gestational diabetes mellitus in childbirth, diet controlled	Diagnosis	ICD-10-CM
O24.424	Gestational diabetes mellitus in childbirth, insulin controlled	Diagnosis	ICD-10-CM
O24.425	Gestational diabetes mellitus in childbirth, controlled by oral hypoglycemic drugs	Diagnosis	ICD-10-CM
O24.429	Gestational diabetes mellitus in childbirth, unspecified control	Diagnosis	ICD-10-CM
O24.43	Gestational diabetes mellitus in the puerperium	Diagnosis	ICD-10-CM
O24.430	Gestational diabetes mellitus in the puerperium, diet controlled	Diagnosis	ICD-10-CM
O24.434	Gestational diabetes mellitus in the puerperium, insulin controlled	Diagnosis	ICD-10-CM
O24.435	Gestational diabetes mellitus in puerperium, controlled by oral hypoglycemic drugs	Diagnosis	ICD-10-CM
O24.439	Gestational diabetes mellitus in the puerperium, unspecified control	Diagnosis	ICD-10-CM
Gestational Hypertension			
642.3	Transient hypertension of pregnancy	Diagnosis	ICD-9-CM
642.30	Transient hypertension of pregnancy, unspecified as to episode of care	Diagnosis	ICD-9-CM
642.31	Transient hypertension of pregnancy, with delivery	Diagnosis	ICD-9-CM
642.32	Transient hypertension of pregnancy, with delivery, with current postpartum	Diagnosis	ICD-9-CM
642.33	Transient hypertension of pregnancy, antepartum	Diagnosis	ICD-9-CM
642.34	Transient hypertension of pregnancy, postpartum condition or complication	Diagnosis	ICD-9-CM
O13.1	Gestational [pregnancy-induced] hypertension without significant proteinuria, first	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
O13.2	Gestational [pregnancy-induced] hypertension without significant proteinuria,	Diagnosis	ICD-10-CM
O13.3	Gestational [pregnancy-induced] hypertension without significant proteinuria, third	Diagnosis	ICD-10-CM
O13.4	Gestational [pregnancy-induced] hypertension without significant proteinuria, complicating childbirth	Diagnosis	ICD-10-CM
O13.5	Gestational [pregnancy-induced] hypertension without significant proteinuria, complicating the puerperium	Diagnosis	ICD-10-CM
O13.9	Gestational [pregnancy-induced] hypertension without significant proteinuria, unspecified trimester	Diagnosis	ICD-10-CM
Gestational Renal Disease			
646.20	Unspecified renal disease in pregnancy, unspecified as to episode of care	Diagnosis	ICD-9-CM
646.21	Unspecified renal disease in pregnancy, with delivery	Diagnosis	ICD-9-CM
646.22	Unspecified renal disease in pregnancy, with delivery, with current postpartum	Diagnosis	ICD-9-CM
646.23	Unspecified antepartum renal disease	Diagnosis	ICD-9-CM
646.24	Unspecified renal disease in pregnancy, without mention of hypertension, postpartum condition or complication	Diagnosis	ICD-9-CM
O26.831	Pregnancy related renal disease, first trimester	Diagnosis	ICD-10-CM
O26.832	Pregnancy related renal disease, second trimester	Diagnosis	ICD-10-CM
O26.833	Pregnancy related renal disease, third trimester	Diagnosis	ICD-10-CM
O26.839	Pregnancy related renal disease, unspecified trimester	Diagnosis	ICD-10-CM
Hypertension			
362.11	Hypertensive retinopathy	Diagnosis	ICD-9-CM
401.0	Essential hypertension, malignant	Diagnosis	ICD-9-CM
401.1	Essential hypertension, benign	Diagnosis	ICD-9-CM
401.9	Unspecified essential hypertension	Diagnosis	ICD-9-CM
402.00	Malignant hypertensive heart disease without heart failure	Diagnosis	ICD-9-CM
402.01	Malignant hypertensive heart disease with heart failure	Diagnosis	ICD-9-CM
402.10	Benign hypertensive heart disease without heart failure	Diagnosis	ICD-9-CM
402.11	Benign hypertensive heart disease with heart failure	Diagnosis	ICD-9-CM
402.90	Unspecified hypertensive heart disease without heart failure	Diagnosis	ICD-9-CM
402.91	Hypertensive heart disease, unspecified, with heart failure	Diagnosis	ICD-9-CM
403.00	Hypertensive chronic kidney disease, malignant, with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
403.01	Hypertensive chronic kidney disease, malignant, with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
403.10	Hypertensive chronic kidney disease, benign, with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
403.11	Hypertensive chronic kidney disease, benign, with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
403.90	Hypertensive chronic kidney disease, unspecified, with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
403.91	Hypertensive chronic kidney disease, unspecified, with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.00	Hypertensive heart and chronic kidney disease, malignant, without heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.01	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.02	Hypertensive heart and chronic kidney disease, malignant, without heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.03	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.10	Hypertensive heart and chronic kidney disease, benign, without heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.11	Hypertensive heart and chronic kidney disease, benign, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.12	Hypertensive heart and chronic kidney disease, benign, without heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.13	Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.90	Hypertensive heart and chronic kidney disease, unspecified, without heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.91	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.92	Hypertensive heart and chronic kidney disease, unspecified, without heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.93	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
405.01	Secondary renovascular hypertension, malignant	Diagnosis	ICD-9-CM
405.09	Other secondary hypertension, malignant	Diagnosis	ICD-9-CM
405.11	Secondary renovascular hypertension, benign	Diagnosis	ICD-9-CM
405.19	Other secondary hypertension, benign	Diagnosis	ICD-9-CM
405.91	Secondary renovascular hypertension, unspecified	Diagnosis	ICD-9-CM
405.99	Other secondary hypertension, unspecified	Diagnosis	ICD-9-CM
437.2	Hypertensive encephalopathy	Diagnosis	ICD-9-CM
642.00	Benign essential hypertension complicating pregnancy, childbirth, and the puerperium, unspecified as to episode of care	Diagnosis	ICD-9-CM
642.01	Benign essential hypertension with delivery	Diagnosis	ICD-9-CM
642.02	Benign essential hypertension, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM

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Code	Description	Code Category	Code Type
642.03	Benign essential hypertension antepartum	Diagnosis	ICD-9-CM
642.04	Benign essential hypertension, complicating pregnancy, childbirth, and the puerperium, postpartum condition or complication	Diagnosis	ICD-9-CM
642.10	Hypertension secondary to renal disease, complicating pregnancy, childbirth, and the puerperium, unspecified as to episode of care	Diagnosis	ICD-9-CM
642.11	Hypertension secondary to renal disease, with delivery	Diagnosis	ICD-9-CM
642.12	Hypertension secondary to renal disease, with delivery, with current postpartum	Diagnosis	ICD-9-CM
642.13	Hypertension secondary to renal disease, antepartum	Diagnosis	ICD-9-CM
642.14	Hypertension secondary to renal disease, complicating pregnancy, childbirth, and the puerperium, postpartum condition or complication	Diagnosis	ICD-9-CM
642.20	Other pre-existing hypertension complicating pregnancy, childbirth, and the puerperium, unspecified as to episode of care	Diagnosis	ICD-9-CM
642.21	Other pre-existing hypertension, with delivery	Diagnosis	ICD-9-CM
642.22	Other pre-existing hypertension, with delivery, with current postpartum	Diagnosis	ICD-9-CM
642.23	Other pre-existing hypertension, antepartum	Diagnosis	ICD-9-CM
642.24	Other pre-existing hypertension complicating pregnancy, childbirth, and the puerperium, postpartum condition or complication	Diagnosis	ICD-9-CM
642.7	Pre-eclampsia or eclampsia superimposed on pre-existing hypertension	Diagnosis	ICD-9-CM
642.70	Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of	Diagnosis	ICD-9-CM
642.71	Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, with	Diagnosis	ICD-9-CM
642.72	Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
642.73	Pre-eclampsia or eclampsia superimposed on pre-existing hypertension,	Diagnosis	ICD-9-CM
642.74	Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, postpartum condition or complication	Diagnosis	ICD-9-CM
642.90	Unspecified hypertension complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	Diagnosis	ICD-9-CM
642.91	Unspecified hypertension, with delivery	Diagnosis	ICD-9-CM
642.92	Unspecified hypertension, with delivery, with current postpartum complication	Diagnosis	ICD-9-CM
642.93	Unspecified hypertension antepartum	Diagnosis	ICD-9-CM
642.94	Unspecified hypertension complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	Diagnosis	ICD-9-CM
H35.031	Hypertensive retinopathy, right eye	Diagnosis	ICD-10-CM
H35.032	Hypertensive retinopathy, left eye	Diagnosis	ICD-10-CM
H35.033	Hypertensive retinopathy, bilateral	Diagnosis	ICD-10-CM
H35.039	Hypertensive retinopathy, unspecified eye	Diagnosis	ICD-10-CM
I10	Essential (primary) hypertension	Diagnosis	ICD-10-CM
I11.0	Hypertensive heart disease with heart failure	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
I11.9	Hypertensive heart disease without heart failure	Diagnosis	ICD-10-CM
I12.0	Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease	Diagnosis	ICD-10-CM
I12.9	Hypertensive chronic kidney disease with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM
I13.0	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM
I13.10	Hypertensive heart and chronic kidney disease without heart failure, with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM
I13.11	Hypertensive heart and chronic kidney disease without heart failure, with stage 5 chronic kidney disease, or end stage renal disease	Diagnosis	ICD-10-CM
I13.2	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease	Diagnosis	ICD-10-CM
I15.0	Renovascular hypertension	Diagnosis	ICD-10-CM
I15.1	Hypertension secondary to other renal disorders	Diagnosis	ICD-10-CM
I15.2	Hypertension secondary to endocrine disorders	Diagnosis	ICD-10-CM
I15.8	Other secondary hypertension	Diagnosis	ICD-10-CM
I15.9	Secondary hypertension, unspecified	Diagnosis	ICD-10-CM
I67.4	Hypertensive encephalopathy	Diagnosis	ICD-10-CM
N26.2	Page kidney	Diagnosis	ICD-10-CM
O10.0	Pre-existing essential hypertension complicating pregnancy, childbirth and the	Diagnosis	ICD-10-CM
O10.01	Pre-existing essential hypertension complicating pregnancy,	Diagnosis	ICD-10-CM
O10.011	Pre-existing essential hypertension complicating pregnancy, first trimester	Diagnosis	ICD-10-CM
O10.012	Pre-existing essential hypertension complicating pregnancy, second trimester	Diagnosis	ICD-10-CM
O10.013	Pre-existing essential hypertension complicating pregnancy, third trimester	Diagnosis	ICD-10-CM
O10.019	Pre-existing essential hypertension complicating pregnancy, unspecified trimester	Diagnosis	ICD-10-CM
O10.02	Pre-existing essential hypertension complicating childbirth	Diagnosis	ICD-10-CM
O10.03	Pre-existing essential hypertension complicating the puerperium	Diagnosis	ICD-10-CM
O10.1	Pre-existing hypertensive heart disease complicating pregnancy, childbirth and the	Diagnosis	ICD-10-CM
O10.11	Pre-existing hypertensive heart disease complicating pregnancy	Diagnosis	ICD-10-CM
O10.111	Pre-existing hypertensive heart disease complicating pregnancy, first trimester	Diagnosis	ICD-10-CM
O10.112	Pre-existing hypertensive heart disease complicating pregnancy, second trimester	Diagnosis	ICD-10-CM
O10.113	Pre-existing hypertensive heart disease complicating pregnancy, third trimester	Diagnosis	ICD-10-CM
O10.119	Pre-existing hypertensive heart disease complicating pregnancy, unspecified	Diagnosis	ICD-10-CM
O10.12	Pre-existing hypertensive heart disease complicating childbirth	Diagnosis	ICD-10-CM
O10.13	Pre-existing hypertensive heart disease complicating the puerperium	Diagnosis	ICD-10-CM
O10.2	Pre-existing hypertensive chronic kidney disease complicating pregnancy, childbirth and the puerperium	Diagnosis	ICD-10-CM
O10.21	Pre-existing hypertensive chronic kidney disease complicating pregnancy	Diagnosis	ICD-10-CM

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Code	Description	Code Category	Code Type
O10.211	Pre-existing hypertensive chronic kidney disease complicating pregnancy, first	Diagnosis	ICD-10-CM
O10.212	Pre-existing hypertensive chronic kidney disease complicating pregnancy, second	Diagnosis	ICD-10-CM
O10.213	Pre-existing hypertensive chronic kidney disease complicating pregnancy, third	Diagnosis	ICD-10-CM
O10.219	Pre-existing hypertensive chronic kidney disease complicating pregnancy,	Diagnosis	ICD-10-CM
O10.22	Pre-existing hypertensive chronic kidney disease complicating childbirth	Diagnosis	ICD-10-CM
O10.23	Pre-existing hypertensive chronic kidney disease complicating the puerperium	Diagnosis	ICD-10-CM
O10.3	Pre-existing hypertensive heart and chronic kidney disease complicating pregnancy, childbirth and the puerperium	Diagnosis	ICD-10-CM
O10.31	Pre-existing hypertensive heart and chronic kidney disease complicating pregnancy	Diagnosis	ICD-10-CM
O10.311	Pre-existing hypertensive heart and chronic kidney disease complicating pregnancy,	Diagnosis	ICD-10-CM
O10.312	Pre-existing hypertensive heart and chronic kidney disease complicating pregnancy, second trimester	Diagnosis	ICD-10-CM
O10.313	Pre-existing hypertensive heart and chronic kidney disease complicating pregnancy, third trimester	Diagnosis	ICD-10-CM
O10.319	Pre-existing hypertensive heart and chronic kidney disease complicating pregnancy, unspecified trimester	Diagnosis	ICD-10-CM
O10.32	Pre-existing hypertensive heart and chronic kidney disease complicating childbirth	Diagnosis	ICD-10-CM
O10.33	Pre-existing hypertensive heart and chronic kidney disease complicating the	Diagnosis	ICD-10-CM
O10.4	Pre-existing secondary hypertension complicating pregnancy, childbirth and the	Diagnosis	ICD-10-CM
O10.41	Pre-existing secondary hypertension complicating pregnancy	Diagnosis	ICD-10-CM
O10.411	Pre-existing secondary hypertension complicating pregnancy, first trimester	Diagnosis	ICD-10-CM
O10.412	Pre-existing secondary hypertension complicating pregnancy, second trimester	Diagnosis	ICD-10-CM
O10.413	Pre-existing secondary hypertension complicating pregnancy, third trimester	Diagnosis	ICD-10-CM
O10.419	Pre-existing secondary hypertension complicating pregnancy, unspecified trimester	Diagnosis	ICD-10-CM
O10.42	Pre-existing secondary hypertension complicating childbirth	Diagnosis	ICD-10-CM
O10.43	Pre-existing secondary hypertension complicating the puerperium	Diagnosis	ICD-10-CM
O10.9	Unspecified pre-existing hypertension complicating pregnancy, childbirth and the	Diagnosis	ICD-10-CM
O10.91	Unspecified pre-existing hypertension complicating pregnancy	Diagnosis	ICD-10-CM
O10.911	Unspecified pre-existing hypertension complicating pregnancy, first trimester	Diagnosis	ICD-10-CM
O10.912	Unspecified pre-existing hypertension complicating pregnancy, second trimester	Diagnosis	ICD-10-CM
O10.913	Unspecified pre-existing hypertension complicating pregnancy, third trimester	Diagnosis	ICD-10-CM
O10.919	Unspecified pre-existing hypertension complicating pregnancy, unspecified	Diagnosis	ICD-10-CM
O10.92	Unspecified pre-existing hypertension complicating childbirth	Diagnosis	ICD-10-CM
O10.93	Unspecified pre-existing hypertension complicating the puerperium	Diagnosis	ICD-10-CM
O11.1	Pre-existing hypertension with pre-eclampsia, first trimester	Diagnosis	ICD-10-CM
O11.2	Pre-existing hypertension with pre-eclampsia, second trimester	Diagnosis	ICD-10-CM
O11.3	Pre-existing hypertension with pre-eclampsia, third trimester	Diagnosis	ICD-10-CM
O11.4	Pre-existing hypertension with pre-eclampsia, complicating childbirth	Diagnosis	ICD-10-CM
O11.5	Pre-existing hypertension with pre-eclampsia, complicating the puerperium	Diagnosis	ICD-10-CM

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
O11.9	Pre-existing hypertension with pre-eclampsia, unspecified trimester	Diagnosis	ICD-10-CM
O16.1	Unspecified maternal hypertension, first trimester	Diagnosis	ICD-10-CM
O16.2	Unspecified maternal hypertension, second trimester	Diagnosis	ICD-10-CM
O16.3	Unspecified maternal hypertension, third trimester	Diagnosis	ICD-10-CM
O16.4	Unspecified maternal hypertension, complicating childbirth	Diagnosis	ICD-10-CM
O16.5	Unspecified maternal hypertension, complicating the puerperium	Diagnosis	ICD-10-CM
O16.9	Unspecified maternal hypertension, unspecified trimester	Diagnosis	ICD-10-CM
Smoking			
1034F	Current tobacco smoker (CAD, CAP, COPD, PV) (DM)	Procedure	CPT-4
305.1	Nondependent tobacco use disorder	Diagnosis	ICD-9-CM
4001F	Tobacco use cessation intervention, pharmacologic therapy (COPD, CAD, CAP, PV, Asthma) (DM) (PV)	Procedure	CPT-4
4004F	Patient screened for tobacco use and received tobacco cessation intervention (counseling, pharmacotherapy, or both), if identified as a tobacco user (PV, CAD)	Procedure	CPT-4
649.0	Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable	Diagnosis	ICD-9-CM
649.00	Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
649.01	Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	Diagnosis	ICD-9-CM
649.02	Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication	Diagnosis	ICD-9-CM
649.03	Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	Diagnosis	ICD-9-CM
649.04	Toxic effect of tobacco	Diagnosis	ICD-9-CM
989.84	Personal history of tobacco use, presenting hazards to health	Diagnosis	ICD-9-CM
99406	Smoking and tobacco use cessation counseling visit; intermediate, greater than 3 minutes up to 10 minutes	Procedure	CPT-4
99407	Smoking and tobacco use cessation counseling visit; intensive, greater than 10	Procedure	CPT-4
F17.200	Nicotine dependence, unspecified, uncomplicated	Diagnosis	ICD-10-CM
F17.201	Nicotine dependence, unspecified, in remission	Diagnosis	ICD-10-CM
F17.210	Nicotine dependence, cigarettes, uncomplicated	Diagnosis	ICD-10-CM
F17.211	Nicotine dependence, cigarettes, in remission	Diagnosis	ICD-10-CM
F17.220	Nicotine dependence, chewing tobacco, uncomplicated	Diagnosis	ICD-10-CM
F17.221	Nicotine dependence, chewing tobacco, in remission	Diagnosis	ICD-10-CM
F17.290	Nicotine dependence, other tobacco product, uncomplicated	Diagnosis	ICD-10-CM
F17.291	Nicotine dependence, other tobacco product, in remission	Diagnosis	ICD-10-CM
G0436	Smoking and tobacco cessation counseling visit for the asymptomatic patient; intermediate, greater than 3 minutes, up to 10 minutes	Procedure	HCPCS

Appendix G. List of Current Procedural Terminology, Fourth Edition (CPT-4), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes Used to Define Characteristics in this Request

Code	Description	Code Category	Code Type
G0437	Smoking and tobacco cessation counseling visit for the asymptomatic patient; intensive, greater than 10 minutes	Procedure	HCPCS
G9016	Smoking cessation counseling, individual, in the absence of or in addition to any other evaluation and management service, per session (6-10 minutes) [demo	Procedure	HCPCS
G9276	Documentation that patient is a current tobacco user	Procedure	HCPCS
G9458	Patient documented as tobacco user and received tobacco cessation intervention (must include at least one of the following: advice given to quit smoking or tobacco use, counseling on the benefits of quitting smoking or tobacco use, assistance with or referral to external smoking or tobacco cessation support programs, or current enrollment in smoking or tobacco use cessation program) if identified as a tobacco user	Procedure	HCPCS
O99.330	Smoking (tobacco) complicating pregnancy, unspecified trimester	Diagnosis	ICD-10-CM
O99.331	Smoking (tobacco) complicating pregnancy, first trimester	Diagnosis	ICD-10-CM
O99.332	Smoking (tobacco) complicating pregnancy, second trimester	Diagnosis	ICD-10-CM
O99.333	Smoking (tobacco) complicating pregnancy, third trimester	Diagnosis	ICD-10-CM
O99.334	Smoking (tobacco) complicating childbirth	Diagnosis	ICD-10-CM
O99.335	Smoking (tobacco) complicating the puerperium	Diagnosis	ICD-10-CM
S4995	Smoking cessation gum	Procedure	HCPCS
S9075	Smoking cessation treatment	Procedure	HCPCS
S9453	Smoking cessation classes, nonphysician provider, per session	Procedure	HCPCS
T65.211A	Toxic effect of chewing tobacco, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T65.212A	Toxic effect of chewing tobacco, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T65.213A	Toxic effect of chewing tobacco, assault, initial encounter	Diagnosis	ICD-10-CM
T65.214A	Toxic effect of chewing tobacco, undetermined, initial encounter	Diagnosis	ICD-10-CM
T65.221A	Toxic effect of tobacco cigarettes, accidental (unintentional), initial encounter	Diagnosis	ICD-10-CM
T65.222A	Toxic effect of tobacco cigarettes, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T65.223A	Toxic effect of tobacco cigarettes, assault, initial encounter	Diagnosis	ICD-10-CM
T65.224A	Toxic effect of tobacco cigarettes, undetermined, initial encounter	Diagnosis	ICD-10-CM
T65.291A	Toxic effect of other tobacco and nicotine, accidental (unintentional), initial	Diagnosis	ICD-10-CM
T65.292A	Toxic effect of other tobacco and nicotine, intentional self-harm, initial encounter	Diagnosis	ICD-10-CM
T65.293A	Toxic effect of other tobacco and nicotine, assault, initial encounter	Diagnosis	ICD-10-CM
T65.294A	Toxic effect of other tobacco and nicotine, undetermined, initial encounter	Diagnosis	ICD-10-CM
V15.82	Nondependent tobacco use disorder	Diagnosis	ICD-9-CM
Z87.891	Personal history of nicotine dependence	Diagnosis	ICD-10-CM

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
Psychotropic Medications	
AMITRIPTYLINE HCL	EnovaRx-Amitriptyline
GABAPENTIN	Fanatrex
alprazolam	Alprazolam Intensol
alprazolam	Niravam
alprazolam	Xanax
alprazolam	Xanax XR
alprazolam	alprazolam
alprazolam/dietary supplement,misc combo no.17	Gabazolamine
amitriptyline HCl	Elavil
amitriptyline HCl	Vanatrip
amitriptyline HCl	amitriptyline
amitriptyline HCl/chlordiazepoxide	Limbitrol
amitriptyline HCl/chlordiazepoxide	Limbitrol DS
amitriptyline HCl/chlordiazepoxide	amitriptyline-chlordiazepoxide
amobarbital sodium	Amytal
amobarbital sodium/secobarbital sodium	Tuinal
amoxapine	Asendin
amoxapine	amoxapine
aripiprazole	Abilify
aripiprazole	Abilify Discmelt
aripiprazole	Abilify Maintena
aripiprazole	Abilify MyCite
aripiprazole	Abilify MyCite Maintenance Kit
aripiprazole	Abilify MyCite Starter Kit
aripiprazole	aripiprazole
aripiprazole lauroxil	Aristada
aripiprazole lauroxil, submicronized	Aristada Initio
asenapine maleate	Saphris
asenapine maleate	Saphris (black cherry)
asenapine maleate	asenapine maleate
brexpiprazole	Rexulti
brivaracetam	Briviact
bromelains/melatonin/herbal complex no.233	MidNite PM
bupropion HBr	Aplenzin
bupropion HCl	Budeprion SR
bupropion HCl	Budeprion XL
bupropion HCl	Buproban
bupropion HCl	Forfivo XL
bupropion HCl	Wellbutrin
bupropion HCl	Wellbutrin SR
bupropion HCl	Wellbutrin XL
bupropion HCl	Zyban
bupropion HCl	bupropion HCl
bupropion HCl/dietary supplement combination no.15	bupropion HCl (smoking deter)
bupropion HCl/dietary supplement combination no.16	Appbutamone-D
buspirone HCl	Appbutamone
	BuSpar

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
bupirone HCl	Vanspar
bupirone HCl	bupirone
butabarbital sodium	Butisol
calcium carb,hydroxide/soy isoflavone/black cohosh/melatonin	Estroven Nighttime (cal-meltn)
calcium phosphate/melatonin	calcium-melatonin
cannabidiol (CBD)	Epidiolex
carbamazepine	Atretol
carbamazepine	Carbatrol
carbamazepine	Epitol
carbamazepine	Equetro
carbamazepine	Tegretol
carbamazepine	Tegretol XR
carbamazepine	carbamazepine
cariprazine HCl	Vraylar
cenobamate	Xcopri
cenobamate	Xcopri Maintenance Pack
cenobamate	Xcopri Titration Pack
chloral hydrate	Aquachloral
chloral hydrate	Somnote
chloral hydrate	chloral hydrate
chlordiazepoxide HCl	Librium
chlordiazepoxide HCl	Poxi
chlordiazepoxide HCl	chlordiazepoxide HCl
chlordiazepoxide HCl/methscopolamine nitrate	Librax (with methscopolamine)
chlordiazepoxide/clidinium bromide	Librax (with clidinium)
chlordiazepoxide/clidinium bromide	chlordiazepoxide-clidinium
chlorpromazine HCl	Thorazine
chlorpromazine HCl	chlorpromazine
citalopram hydrobromide	Celexa
citalopram hydrobromide	citalopram
clobazam	Onfi
clobazam	Sympazan
clobazam	clobazam
clomipramine HCl	Anafranil
clomipramine HCl	clomipramine
clonazepam	Ceberclon
clonazepam	Klonopin
clonazepam	clonazepam
clorazepate dipotassium	Gen-XENE
clorazepate dipotassium	Tranxene T-Tab
clorazepate dipotassium	Tranxene-SD
clorazepate dipotassium	clorazepate dipotassium
clozapine	Clozaril
clozapine	FazaClo
clozapine	Versacloz
clozapine	clozapine
daridorexant HCl	Quviviq
desipramine HCl	Norpramin

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
desipramine HCl	desipramine
desvenlafaxine	Khedezla
desvenlafaxine	desvenlafaxine
desvenlafaxine fumarate	desvenlafaxine fumarate
desvenlafaxine succinate	Pristiq
desvenlafaxine succinate	desvenlafaxine succinate
dexmedetomidine HCl	Igalmi
dexmedetomidine HCl	Precedex
dexmedetomidine HCl	dexmedetomidine
dexmedetomidine HCl in 0.9 % sodium chloride	Precedex in 0.9 % sodium chlor
dexmedetomidine HCl in 0.9 % sodium chloride	dexmedetomidine in 0.9 % NaCl
dexmedetomidine in 5 % dextrose in water	dexmedetomidine in dextrose 5%
diazepam	Diastat
diazepam	Diastat AcuDial
diazepam	Diastat Pediatric
diazepam	Diastat Universal
diazepam	Diazepam Intensol
diazepam	Valium
diazepam	Valtoco
diazepam	diazepam
diazepam (in soybean oil)	Dizac
diphenhydramine HCl	diphenhydramine HCl
divalproex sodium	Depakote
divalproex sodium	Depakote ER
divalproex sodium	Depakote Sprinkles
divalproex sodium	divalproex
doxepin HCl	Adapin
doxepin HCl	Prudoxin
doxepin HCl	Silenor
doxepin HCl	Sinequan
doxepin HCl	Zonalon
doxepin HCl	doxepin
duloxetine HCl	Cymbalta
duloxetine HCl	Drizalma Sprinkle
duloxetine HCl	Irenka
duloxetine HCl	duloxetine
escitalopram oxalate	Lexapro
escitalopram oxalate	escitalopram oxalate
eslicarbazepine acetate	Aptiom
estazolam	Prosom
estazolam	estazolam
eszopiclone	Lunesta
eszopiclone	eszopiclone
ethchlorvynol	Placidyl
ethosuximide	Zarontin
ethosuximide	ethosuximide
ethotoin	Peganone
ethyl alcohol/herbal drugs	Lydia Pinkham Herbal

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
ezogabine	Potiga
felbamate	Felbatol
felbamate	felbamate
fenfluramine HCl	Fintepla
flumazenil	Romazicon
flumazenil	flumazenil
fluoxetine HCl	Prozac
fluoxetine HCl	Prozac Weekly
fluoxetine HCl	Rapiflux
fluoxetine HCl	Sarafem
fluoxetine HCl	Selfemra
fluoxetine HCl	fluoxetine
fluoxetine HCl/dietary supplement no.17	Gaboxetine
fluoxetine HCl/dietary supplement no.8	Sentroxatine
fluphenazine HCl	Permitil
fluphenazine HCl	Prolixin
fluphenazine HCl	fluphenazine HCl
fluphenazine decanoate	Prolixin Decanoate
fluphenazine decanoate	fluphenazine decanoate
flurazepam HCl	Dalmane
flurazepam HCl	flurazepam
fluvoxamine maleate	Luvox
fluvoxamine maleate	Luvox CR
fluvoxamine maleate	fluvoxamine
fosphenytoin sodium	Cerebyx
fosphenytoin sodium	fosphenytoin
gabapentin	Gabarone
gabapentin	Neurontin
gabapentin	gabapentin
gabapentin/capsaicin/methyl salicylate/menthol	SmartRx Gaba-V Kit
gabapentin/dietary supplement, misc combo no.11	Therapentin-60
gabapentin/dietary supplement, misc combo no.11	Therapentin-90
gabapentin/lidocaine	Gabacaine
gabapentin/lidocaine	Pentican
gabapentin/lidocaine HCl/gauze bandage/silicone adhesive	Gabapal
gabapentin/lidocaine HCl/menthol	Active-Pac
gabapentin/lidocaine HCl/menthol	SmartRx GabaKit
gabapentin/lidocaine HCl/silicone adhesive	Lidotin
gabapentin/lidocaine/prilocaine/transparent dressing	Lipritin
gabapentin/lidocaine/prilocaine/transparent dressing	Lipritin II
ganaxolone	Ztalmy
halazepam	Paxipam
haloperidol	haloperidol
haloperidol decanoate	Haldol Decanoate
haloperidol decanoate	haloperidol decanoate
haloperidol lactate	Haldol
haloperidol lactate	Haloperidol Intensol
haloperidol lactate	haloperidol lactate

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
hydroxyzine HCl	ANX
hydroxyzine HCl	Atarax
hydroxyzine HCl	Hyzine
hydroxyzine HCl	Neucalm
hydroxyzine HCl	Rezine
hydroxyzine HCl	Vistacot
hydroxyzine HCl	Vistaril IM (HCl salt)
hydroxyzine HCl	Vistazine
hydroxyzine HCl	hydroxyzine HCl
hydroxyzine pamoate	Vistaril
hydroxyzine pamoate	hydroxyzine pamoate
iloperidone	Fanapt
imipramine HCl	Tofranil
imipramine HCl	imipramine HCl
imipramine pamoate	Tofranil-PM
imipramine pamoate	imipramine pamoate
lacosamide	Vimpat
lacosamide	lacosamide
lamotrigine	Lamictal
lamotrigine	Lamictal ODT
lamotrigine	Lamictal ODT Starter (Blue)
lamotrigine	Lamictal ODT Starter (Green)
lamotrigine	Lamictal ODT Starter (Orange)
lamotrigine	Lamictal Starter (Blue) Kit
lamotrigine	Lamictal Starter (Green) Kit
lamotrigine	Lamictal Starter (Orange) Kit
lamotrigine	Lamictal XR
lamotrigine	Lamictal XR Starter (Blue)
lamotrigine	Lamictal XR Starter (Green)
lamotrigine	Lamictal XR Starter (Orange)
lamotrigine	Subvenite
lamotrigine	Subvenite Starter (Blue) Kit
lamotrigine	Subvenite Starter (Green) Kit
lamotrigine	Subvenite Starter (Orange) Kit
lamotrigine	lamotrigine
lemborexant	Dayvigo
levetiracetam	Elepsia XR
levetiracetam	Keppra
levetiracetam	Keppra XR
levetiracetam	Roweepra
levetiracetam	Roweepra XR
levetiracetam	Spritam
levetiracetam	levetiracetam
levetiracetam in sodium chloride, iso-osmotic	levetiracetam in NaCl (iso-os)
lorazepam	Ativan
lorazepam	Lorazepam Intensol
lorazepam	Loreev XR
lorazepam	lorazepam

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
lorazepam in 0.9 % sodium chloride	lorazepam in 0.9% sod chloride
lorazepam in 5 % dextrose and water	lorazepam in dextrose 5 %
loxapine	Adasuve
loxapine HCl	Loxitane
loxapine HCl	Loxitane-C
loxapine succinate	Loxitane
loxapine succinate	loxapine succinate
lurasidone HCl	Latuda
maprotiline HCl	Ludiomil
maprotiline HCl	maprotiline
melatonin	Children's Sleep (melatonin)
melatonin	Meladox
melatonin	Melatin
melatonin	VitaJoy Melatonin
melatonin	melatonin
melatonin/5-HTP/valerian/folic acid/dietary combination 28	Hypnosom
melatonin/5-Hydroxytryptophan/tryptophan/B6/magnesium oxide	Somnicin
melatonin/GABA/5-HTP/theanine/magnesium citrate,oxide/herbs	Sopordren
melatonin/chamomile flower	melatonin-chamomile flower
melatonin/gamma-aminobutyric acid/herbal complex no.183	Sintralyne-PM
melatonin/gamma-aminobutyric acid/valerian	Medi-Doze
melatonin/genistein/herbal complex no.233	Midnite for Menopause
melatonin/herbal complex no.184	Sleep Caps
melatonin/herbal complex no.184	melatonin-herbal complex #184
melatonin/herbal complex no.233	MidNite
melatonin/lemon balm leaf extract	melatonin-lemon balm leaf extr
melatonin/pyridoxal phosphate	Melatonin-B6 (pyridoxal phos)
melatonin/pyridoxal phosphate	melatonin-pyridoxal phos (B6)
melatonin/pyridoxine	Melatonin (with B6)
melatonin/pyridoxine	melatonin-pyridoxine (vit B6)
melatonin/pyridoxine HCl (vit B6)	Melatonex
melatonin/pyridoxine HCl (vit B6)	melatonin-pyridoxine HCl (B6)
melatonin/theanine	melatonin-theanine
melatonin/tryptophan	Restone
melatonin/tryptophan	Wrestone
melatonin/tryptophan/valerian/chamomile/niacin/inositol/B6	Toprophan
mephenytoin	Mesantoin
mephobarbital	Mebaral
mephobarbital	mephobarbital
meprobamate	Equanil
meprobamate	MB-Tab
meprobamate	Miltown
meprobamate	meprobamate
methsuximide	Celontin
midazolam	Nayzilam
midazolam HCl	Versed
midazolam HCl	midazolam
midazolam HCl in 0.9 % sodium chloride	midazolam in 0.9 % sod chlorid

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
midazolam HCl in 0.9 % sodium chloride/PF	midazolam (PF) in 0.9 % NaCl
midazolam HCl in 5 % dextrose and water/PF	midazolam in dextrose 5 % (PF)
midazolam HCl in dextrose 5% in water	midazolam in dextrose 5 %
midazolam HCl/PF	midazolam (PF)
midazolam in sodium chloride, iso-osmotic	midazolam in NaCl, iso-osmotic
midazolam in sodium chloride, iso-osmotic/PF	midazolam in NaCl,iso-osmo(PF)
midazolam/ketamine HCl/ondansetron HCl	MKO (Midazolam-Ketamine-Ondan)
mirtazapine	Remeron
mirtazapine	Remeron SolTab
mirtazapine	mirtazapine
molindone HCl	Moban
molindone HCl	molindone
nefazodone HCl	Serzone
nefazodone HCl	nefazodone
nortriptyline HCl	Aventyl
nortriptyline HCl	Pamelor
nortriptyline HCl	nortriptyline
olanzapine	Zyprexa
olanzapine	Zyprexa Zydis
olanzapine	olanzapine
olanzapine pamoate	Zyprexa Relprevv
olanzapine/fluoxetine HCl	Symbyax
olanzapine/fluoxetine HCl	olanzapine-fluoxetine
olanzapine/samidorphan malate	Lybalvi
oxazepam	Serax
oxazepam	oxazepam
oxcarbazepine	Oxtellar XR
oxcarbazepine	Trileptal
oxcarbazepine	oxcarbazepine
paliperidone	Invega
paliperidone	paliperidone
paliperidone palmitate	Invega Hafyera
paliperidone palmitate	Invega Sustenna
paliperidone palmitate	Invega Trinza
paramethadione	Paradione
pentobarbital	Nembutal
pentobarbital sodium	Nembutal
pentobarbital sodium	Nembutal Sodium
pentobarbital sodium	pentobarbital sodium
pentylene-tetrazol	Pentylene-tetrazole
perampanel	Fycompa
perphenazine	Trilafon
perphenazine	perphenazine
perphenazine/amitriptyline HCl	Duo-Vil 2-10
perphenazine/amitriptyline HCl	Duo-Vil 2-25
perphenazine/amitriptyline HCl	Etrafon 2-10
perphenazine/amitriptyline HCl	Etrafon 2-25
perphenazine/amitriptyline HCl	Etrafon Forte 4-25

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
perphenazine/amitriptyline HCl	Triavil 2-10
perphenazine/amitriptyline HCl	Triavil 2-25
perphenazine/amitriptyline HCl	Triavil 4-25
perphenazine/amitriptyline HCl	perphenazine-amitriptyline
phenobarbital	phenobarbital
phenobarbital sodium	Luminal
phenobarbital sodium	phenobarbital sodium
phenobarbital sodium in 0.9 % sodium chloride	phenobarbital in 0.9 % sod chl
phenytoin	Dilantin Infatabs
phenytoin	Dilantin-125
phenytoin	phenytoin
phenytoin sodium	Di-Phen
phenytoin sodium	phenytoin sodium
phenytoin sodium extended	Dilantin
phenytoin sodium extended	Dilantin Extended
phenytoin sodium extended	Dilantin Kapseal
phenytoin sodium extended	Phenytek
phenytoin sodium extended	phenytoin sodium extended
pimavanserin tartrate	Nuplazid
pimozide	Orap
pimozide	pimozide
pregabalin	Lyrica
pregabalin	pregabalin
primidone	Mysoline
primidone	primidone
prochlorperazine maleate	Compazine
prochlorperazine maleate	prochlorperazine maleate
protriptyline HCl	Vivactil
protriptyline HCl	protriptyline
quazepam	Doral
quazepam	quazepam
quetiapine fumarate	Seroquel
quetiapine fumarate	Seroquel XR
quetiapine fumarate	quetiapine
ramelteon	Rozerem
ramelteon	ramelteon
remimazolam besylate	Byfavo
risperidone	Perseris
risperidone	Risperdal
risperidone	Risperdal M-TAB
risperidone	risperidone
risperidone microspheres	Risperdal Consta
rufinamide	Banzel
rufinamide	rufinamide
secobarbital sodium	Seconal
secobarbital sodium	Seconal Sodium
selegiline	Emsam
selegiline HCl	Atapryl

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
selegiline HCl	Carbex
selegiline HCl	Eldepryl
selegiline HCl	Zelapar
selegiline HCl	selegiline HCl
sertraline HCl	Zoloft
sertraline HCl	sertraline
stiripentol	Diacomit
suvorexant	Belsomra
tasimelteon	Hetlioz
tasimelteon	Hetlioz LQ
temazepam	Restoril
temazepam	temazepam
temazepam/dietary supplement no.8	Strazepam
thioridazine HCl	Mellaril
thioridazine HCl	Mellaril-S
thioridazine HCl	thioridazine
thiothixene	Navane
thiothixene	thiothixene
thiothixene HCl	Navane
thiothixene HCl	thiothixene HCl
tiagabine HCl	Gabitril
tiagabine HCl	tiagabine
topiramate	Eprontia
topiramate	Qudexy XR
topiramate	Topamax
topiramate	Topiragen
topiramate	Trokendi XR
topiramate	topiramate
trazodone HCl	Desyrel
trazodone HCl	Oleptro ER
trazodone HCl	trazodone
trazodone HCl/dietary supplement no.8	Trazamine
triazolam	Halcion
triazolam	triazolam
trifluoperazine HCl	Stelazine
trifluoperazine HCl	trifluoperazine
trimipramine maleate	Surmontil
trimipramine maleate	trimipramine
tryptophan	tryptophan
valerian root extract	valerian root extract
valerian root extract/hops	valerian root extract-hops
valerian root/valerian root extract	valerian root-valerian root xt
valerian/passion flower/hops/lemon balm	valerian-flower-hops-lemon
valproic acid	Depakene
valproic acid	Stavzor
valproic acid	valproic acid
valproic acid (as sodium salt) (valproate sodium)	Depacon
valproic acid (as sodium salt) (valproate sodium)	Depakene

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
valproic acid (as sodium salt) (valproate sodium)	valproate sodium
valproic acid (as sodium salt) (valproate sodium)	valproic acid (as sodium salt)
venlafaxine HCl	Effexor
venlafaxine HCl	Effexor XR
venlafaxine HCl	venlafaxine
venlafaxine besylate	venlafaxine besylate
vigabatrin	Sabril
vigabatrin	Vigadrone
vigabatrin	vigabatrin
zaleplon	Sonata
zaleplon	zaleplon
ziprasidone HCl	Geodon
ziprasidone HCl	ziprasidone HCl
ziprasidone mesylate	Geodon
ziprasidone mesylate	ziprasidone mesylate
zolpidem tartrate	AMBIEN PAK
zolpidem tartrate	Ambien
zolpidem tartrate	Ambien CR
zolpidem tartrate	Edluar
zolpidem tartrate	Intermezzo
zolpidem tartrate	Zolpimist
zolpidem tartrate	zolpidem
zonisamide	Zonegran
zonisamide	Zonisade
zonisamide	zonisamide
Antihypertensive Medications	
acebutolol HCl	Sectral
acebutolol HCl	acebutolol
aliskiren hemifumarate	Tekturna
aliskiren hemifumarate	aliskiren
aliskiren hemifumarate/amlodipine besylate	Tekamlo
aliskiren hemifumarate/amlodipine/hydrochlorothiazide	Amturnide
aliskiren hemifumarate/hydrochlorothiazide	Tekturna HCT
aliskiren/valsartan	Valturna
amiloride HCl	Midamor
amiloride HCl	amiloride
amiloride HCl/hydrochlorothiazide	Moduretic
amiloride HCl/hydrochlorothiazide	amiloride-hydrochlorothiazide
amlodipine besylate	Norliqva
amlodipine besylate	Norvasc
amlodipine besylate	amlodipine
amlodipine besylate/atorvastatin calcium	Caduet
amlodipine besylate/atorvastatin calcium	amlodipine-atorvastatin
amlodipine besylate/benazepril HCl	Lotrel
amlodipine besylate/benazepril HCl	amlodipine-benazepril
amlodipine besylate/celecoxib	Consensi
amlodipine besylate/olmesartan medoxomil	Azor
amlodipine besylate/olmesartan medoxomil	amlodipine-olmesartan

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
amlodipine besylate/valsartan	Exforge
amlodipine besylate/valsartan	amlodipine-valsartan
amlodipine besylate/valsartan/hydrochlorothiazide	Exforge HCT
amlodipine besylate/valsartan/hydrochlorothiazide	amlodipine-valsartan-hcthiazid
atenolol	Senormin
atenolol	Tenormin
atenolol	atenolol
atenolol/chlorthalidone	Tenoretic 100
atenolol/chlorthalidone	Tenoretic 50
atenolol/chlorthalidone	atenolol-chlorthalidone
azilsartan medoxomil	Edarbi
azilsartan medoxomil/chlorthalidone	Edarbyclor
benazepril HCl	Lotensin
benazepril HCl	benazepril
benazepril HCl/hydrochlorothiazide	Lotensin HCT
benazepril HCl/hydrochlorothiazide	benazepril-hydrochlorothiazide
betaxolol HCl	Kerlone
betaxolol HCl	betaxolol
bisoprolol fumarate	Zebeta
bisoprolol fumarate	bisoprolol fumarate
bisoprolol fumarate/hydrochlorothiazide	Ziac
bisoprolol fumarate/hydrochlorothiazide	bisoprolol-hydrochlorothiazide
bumetanide	Bumex
bumetanide	bumetanide
canakinumab/PF	Ilaris (PF)
candesartan cilexetil	Atacand
candesartan cilexetil	candesartan
candesartan cilexetil/hydrochlorothiazide	Atacand HCT
candesartan cilexetil/hydrochlorothiazide	candesartan-hydrochlorothiazid
captopril	Capoten
captopril	captopril
captopril/hydrochlorothiazide	Capozide
captopril/hydrochlorothiazide	captopril-hydrochlorothiazide
carvedilol	Coreg
carvedilol	carvedilol
carvedilol phosphate	Coreg CR
carvedilol phosphate	carvedilol phosphate
chlorothiazide	Diuril
chlorothiazide	chlorothiazide
chlorothiazide sodium	Diuril IV
chlorothiazide sodium	chlorothiazide sodium
chlorthalidone	Hygroton
chlorthalidone	Thalitone
chlorthalidone	chlorthalidone
clevidipine butyrate	Cleviprex
clonidine HCl	Catapres
clonidine HCl	Nexiclon XR
clonidine HCl	clonidine HCl

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Generic Name	Brand Name
clonidine HCl/chlorthalidone	Clorpres
clonidine HCl/chlorthalidone	Combipres-1
clonidine HCl/chlorthalidone	Combipres-2
clonidine HCl/chlorthalidone	clonidine-chlorthalidone
deserpidine/methylothiazide	Enduronyl
deserpidine/methylothiazide	Enduronyl Forte
diltiazem HCl	Cardizem
diltiazem HCl	Cardizem CD
diltiazem HCl	Cardizem LA
diltiazem HCl	Cardizem SR
diltiazem HCl	Cartia XT
diltiazem HCl	DILT-CD
diltiazem HCl	DILT-XR
diltiazem HCl	Dilacor XR
diltiazem HCl	Diltia XT
diltiazem HCl	Diltzac ER
diltiazem HCl	Matzim LA
diltiazem HCl	Taztia XT
diltiazem HCl	Tiadylt ER
diltiazem HCl	Tiazac
diltiazem HCl	diltiazem HCl
diltiazem HCl in 0.9 % sodium chloride	diltiazem HCl in 0.9% NaCl
diltiazem HCl/dextrose 5 % in water	diltiazem in dextrose 5 %
doxazosin mesylate	Cardura
doxazosin mesylate	Cardura XL
doxazosin mesylate	doxazosin
enalapril maleate	Epaned
enalapril maleate	Vasotec
enalapril maleate	enalapril maleate
enalapril maleate/diltiazem maleate	Teczem
enalapril maleate/felodipine	Lexxel
enalapril maleate/hydrochlorothiazide	Vaseretic
enalapril maleate/hydrochlorothiazide	enalapril-hydrochlorothiazide
enalaprilat dihydrate	Vasotec
enalaprilat dihydrate	enalaprilat
eplerenone	Inspira
eplerenone	eplerenone
eprosartan mesylate	Teveten
eprosartan mesylate	eprosartan
eprosartan mesylate/hydrochlorothiazide	Teveten HCT
esmolol HCl	Brevibloc
esmolol HCl	esmolol
esmolol HCl in sodium chloride, iso-osmotic	Brevibloc in NaCl (iso-osm)
esmolol HCl in sodium chloride, iso-osmotic	esmolol in NaCl (iso-osm)
esmolol HCl in sterile water	esmolol in sterile water
ethacrynate sodium	Sodium Edecrin
ethacrynate sodium	ethacrynate sodium
ethacrynic acid	Edecrin

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
ethacrynic acid	ethacrynic acid
felodipine	Plendil
felodipine	felodipine
fosinopril sodium	Monopril
fosinopril sodium	fosinopril
fosinopril sodium/hydrochlorothiazide	Monopril HCT
fosinopril sodium/hydrochlorothiazide	fosinopril-hydrochlorothiazide
furosemide	Lasix
furosemide	furosemide
furosemide in 0.9 % sodium chloride	furosemide in 0.9 % NaCl
furosemide/dextrose 5 % in water	furosemide in dextrose 5 %
guanethidine sulfate/hydrochlorothiazide	Esimil
hydralazine HCl	Apresoline
hydralazine HCl	hydralazine
hydralazine HCl/hydrochlorothiazide	Apresazide
hydralazine HCl/hydrochlorothiazide	Hydra-Zide
hydralazine HCl/hydrochlorothiazide	hydralazine-hydrochlorothiazid
hydralazine HCl/reserpine/hydrochlorothiazide	Cam-Ap-Es
hydralazine HCl/reserpine/hydrochlorothiazide	Ser-A-Gen
hydralazine HCl/reserpine/hydrochlorothiazide	Serpazide
hydralazine HCl/reserpine/hydrochlorothiazide	Tri-Hydroserpine
hydralazine HCl/reserpine/hydrochlorothiazide	Uni-Serp
hydralazine HCl/reserpine/hydrochlorothiazide	hydralazine-reserpin-hcthiazid
hydrochlorothiazide	Aquazide-H
hydrochlorothiazide	Carozide
hydrochlorothiazide	Esidrix
hydrochlorothiazide	HydroDiuril
hydrochlorothiazide	Microzide
hydrochlorothiazide	Oretic
hydrochlorothiazide	hydrochlorothiazide
indapamide	Lozol
indapamide	indapamide
irbesartan	Avapro
irbesartan	irbesartan
irbesartan/hydrochlorothiazide	Avalide
irbesartan/hydrochlorothiazide	irbesartan-hydrochlorothiazide
isosorbide dinitrate/hydralazine HCl	BiDil
isosorbide dinitrate/hydralazine HCl	isosorbide-hydralazine
isradipine	DynaCirc
isradipine	DynaCirc CR
isradipine	isradipine
labetalol HCl	Normodyne
labetalol HCl	Trandate
labetalol HCl	labetalol
labetalol HCl in dextrose, iso-osmotic	labetalol in dextrose,iso-osm
labetalol HCl in sodium chloride, iso-osmotic	labetalol in NaCl (iso-osmot)
lisinopril	Prinivil
lisinopril	Qbrelis

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
lisinopril	Zestril
lisinopril	lisinopril
lisinopril/dietary supplement,comb.10	Lytensopril
lisinopril/dietary supplement,comb.10	Lytensopril-90
lisinopril/hydrochlorothiazide	Prinzide
lisinopril/hydrochlorothiazide	Zestoretic
lisinopril/hydrochlorothiazide	lisinopril-hydrochlorothiazide
losartan potassium	Cozaar
losartan potassium	losartan
losartan potassium/hydrochlorothiazide	Hyzaar
losartan potassium/hydrochlorothiazide	losartan-hydrochlorothiazide
methyclothiazide	Aquatensen
methyclothiazide	Enduron
methyclothiazide	methyclothiazide
methyl dopa	Aldomet
methyl dopa	methyl dopa
methyl dopa/chlorothiazide	Aldoclor
methyl dopa/hydrochlorothiazide	Aldoril D30
methyl dopa/hydrochlorothiazide	Aldoril D50
methyl dopa/hydrochlorothiazide	Aldoril-15
methyl dopa/hydrochlorothiazide	Aldoril-25
methyl dopa/hydrochlorothiazide	methyl dopa-hydrochlorothiazide
methyl dopate HCl	methyl dopate
metolazone	Mykrox
metolazone	Zaroxolyn
metolazone	metolazone
metoprolol succinate	Kapsargo Sprinkle
metoprolol succinate	Toprol XL
metoprolol succinate	metoprolol succinate
metoprolol succinate/hydrochlorothiazide	Dutoprol
metoprolol succinate/hydrochlorothiazide	metoprolol su-hydrochlorothiaz
metoprolol tartrate	Lopressor
metoprolol tartrate	metoprolol tartrate
metoprolol tartrate/dietary supplement,comb.10	Hypertensolol
metoprolol tartrate/hydrochlorothiazide	Lopressor HCT
metoprolol tartrate/hydrochlorothiazide	metoprolol ta-hydrochlorothiaz
minoxidil	Loniten
minoxidil	minoxidil
moexipril HCl	Univasc
moexipril HCl	moexipril
moexipril HCl/hydrochlorothiazide	Uniretic
moexipril HCl/hydrochlorothiazide	moexipril-hydrochlorothiazide
nadolol	Corgard
nadolol	nadolol
nadolol/bendroflumethiazide	Corzide
nadolol/bendroflumethiazide	nadolol-bendroflumethiazide
nebivolol HCl	Bystolic
nebivolol HCl	nebivolol

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Generic Name	Brand Name
nebivolol HCl/valsartan	Byvalson
nicardipine HCl	Cardene
nicardipine HCl	Cardene IV
nicardipine HCl	Cardene SR
nicardipine HCl	nicardipine
nicardipine HCl in 0.9 % sodium chloride	nicardipine in 0.9 % sod chlor
nicardipine in 5 % dextrose in water	nicardipine in 5 % dextrose
nicardipine in dextrose, iso-osmotic	Cardene IV in dextrose
nicardipine in sodium chloride, iso-osmotic	Cardene IV in sodium chloride
nicardipine in sodium chloride, iso-osmotic	nicardipine in NaCl (iso-os)
nifedipine	Adalat
nifedipine	Adalat CC
nifedipine	Afeditab CR
nifedipine	Nifediac CC
nifedipine	Nifedical XL
nifedipine	Procardia
nifedipine	Procardia XL
nifedipine	nifedipine
nimodipine	Nimotop
nimodipine	Nymalize
nimodipine	nimodipine
nisoldipine	Sular
nisoldipine	nisoldipine
nitroprusside sodium	Nitropress
nitroprusside sodium	sodium nitroprusside
nitroprusside sodium in 0.9 % sodium chloride	Nipride RTU
olmesartan medoxomil	Benicar
olmesartan medoxomil	olmesartan
olmesartan medoxomil/amlodipine besylate/hydrochlorothiazide	Tribenzor
olmesartan medoxomil/amlodipine besylate/hydrochlorothiazide	olmesartan-amlodipin-hcthiazyd
olmesartan medoxomil/hydrochlorothiazide	Benicar HCT
olmesartan medoxomil/hydrochlorothiazide	olmesartan-hydrochlorothiazide
penbutolol sulfate	Levatol
perindopril arginine/amlodipine besylate	Prestalia
perindopril erbumine	Aceon
perindopril erbumine	perindopril erbumine
phenoxybenzamine HCl	Dibenzyline
phenoxybenzamine HCl	phenoxybenzamine
phentolamine mesylate	Regitine
phentolamine mesylate	phentolamine
pindolol	Visken
pindolol	pindolol
prazosin HCl	Minipress
prazosin HCl	prazosin
prazosin HCl/polythiazide	Minizide
prazosin HCl/polythiazide	Minizide 2
propranolol HCl	Hemangeol
propranolol HCl	Inderal

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Generic Name	Brand Name
propranolol HCl	Inderal LA
propranolol HCl	Inderal XL
propranolol HCl	InnoPran XL
propranolol HCl	propranolol
propranolol HCl/hydrochlorothiazide	Inderide
propranolol HCl/hydrochlorothiazide	Inderide LA
propranolol HCl/hydrochlorothiazide	propranolol-hydrochlorothiazid
quinapril HCl	Accupril
quinapril HCl	quinapril
quinapril HCl/hydrochlorothiazide	Accuretic
quinapril HCl/hydrochlorothiazide	Quinaretic
quinapril HCl/hydrochlorothiazide	quinapril-hydrochlorothiazide
ramipril	Altace
ramipril	ramipril
reserpine/hydrochlorothiazide	Hydro-Reserp
reserpine/hydrochlorothiazide	reserpine-hydrochlorothiazide
reserpine/methyclothiazide	Diutensen-R
sacubitril/valsartan	Entresto
sotalol HCl	Betapace
sotalol HCl	Betapace AF
sotalol HCl	Sorine
sotalol HCl	Sotalol AF
sotalol HCl	Sotylize
sotalol HCl	sotalol
spironolactone	Aldactone
spironolactone	CaroSpir
spironolactone	spironolactone
spironolactone/hydrochlorothiazide	Aldactazide
spironolactone/hydrochlorothiazide	spironolacton-hydrochlorothiaz
telmisartan	Micardis
telmisartan	telmisartan
telmisartan/amlodipine besylate	Twynsta
telmisartan/amlodipine besylate	telmisartan-amlodipine
telmisartan/hydrochlorothiazide	Micardis HCT
telmisartan/hydrochlorothiazide	telmisartan-hydrochlorothiazid
terazosin HCl	Hytrin
terazosin HCl	terazosin
timolol maleate	Blocadren
timolol maleate	timolol maleate
timolol maleate/hydrochlorothiazide	Timolide
toremide	Demadex
toremide	Soaanz
toremide	toremide
trandolapril	Mavik
trandolapril	trandolapril
trandolapril/verapamil HCl	Tarka
trandolapril/verapamil HCl	trandolapril-verapamil
triamterene	Dyrenium

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
triamterene	triamterene
triamterene/hydrochlorothiazide	Dyazide
triamterene/hydrochlorothiazide	Maxzide
triamterene/hydrochlorothiazide	Maxzide-25mg
triamterene/hydrochlorothiazide	triamterene-hydrochlorothiazid
valsartan	Diovan
valsartan	valsartan
valsartan/hydrochlorothiazide	Diovan HCT
valsartan/hydrochlorothiazide	valsartan-hydrochlorothiazide
verapamil HCl	Calan
verapamil HCl	Calan SR
verapamil HCl	Covera-HS
verapamil HCl	Isoptin
verapamil HCl	Isoptin SR
verapamil HCl	Verelan
verapamil HCl	Verelan PM
verapamil HCl	verapamil
Opioids	
acetaminophen with codeine phosphate	Capital with Codeine
acetaminophen with codeine phosphate	Cocet
acetaminophen with codeine phosphate	Cocet Plus
acetaminophen with codeine phosphate	Phenaphen/Codeine #3
acetaminophen with codeine phosphate	Phenaphen/Codeine #4
acetaminophen with codeine phosphate	Tylenol-Codeine #3
acetaminophen with codeine phosphate	Tylenol-Codeine #4
acetaminophen with codeine phosphate	Tylenol-Codeine Elixir
acetaminophen with codeine phosphate	Vopac
acetaminophen with codeine phosphate	acetaminophen-codeine
acetaminophen/caffeine/dihydrocodeine bitartrate	DHC Plus
acetaminophen/caffeine/dihydrocodeine bitartrate	Dvorah
acetaminophen/caffeine/dihydrocodeine bitartrate	Panlor DC
acetaminophen/caffeine/dihydrocodeine bitartrate	Panlor SS
acetaminophen/caffeine/dihydrocodeine bitartrate	Panlor(acetam-caff-dihydrocod)
acetaminophen/caffeine/dihydrocodeine bitartrate	Trezix
acetaminophen/caffeine/dihydrocodeine bitartrate	Zerlor
acetaminophen/caffeine/dihydrocodeine bitartrate	acetaminophen-caff-dihydrocod
alfentanil HCl	Alfenta
alfentanil HCl	alfentanil
aspirin/caffeine/dihydrocodeine	Synalgos-DC
aspirin/caffeine/dihydrocodeine bitartrate	Synalgos-DC
aspirin/caffeine/dihydrocodeine bitartrate	aspirin-caffeine-dihydrocodein
aspirin/codeine phosphate	Aspirin-Codeine #3
aspirin/codeine phosphate	Aspirin-Codeine #4
aspirin/codeine phosphate	aspirin-codeine
benzhydrocodone HCl/acetaminophen	Apadaz
benzhydrocodone HCl/acetaminophen	benzhydrocodone-acetaminophen
buprenorphine	Butrans
buprenorphine	buprenorphine

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Generic Name	Brand Name
buprenorphine HCl	Belbuca
buprenorphine HCl	Buprenex
buprenorphine HCl	buprenorphine HCl
butalbital/acetaminophen/caffeine/codeine phosphate	Fioricet with Codeine
butalbital/acetaminophen/caffeine/codeine phosphate	Phrenilin w/Caffeine-Codeine
butalbital/acetaminophen/caffeine/codeine phosphate	butalbital-acetaminop-caf-cod
butorphanol tartrate	Stadol
butorphanol tartrate	Stadol NS
butorphanol tartrate	butorphanol
carisoprodol/aspirin/codeine phosphate	Carisoprodol Compound-Codeine
carisoprodol/aspirin/codeine phosphate	Soma Compound with Codeine
carisoprodol/aspirin/codeine phosphate	carisoprodol-aspirin-codeine
codeine phosphate	Codeine Phosphate Soluble
codeine phosphate	codeine phosphate
codeine phosphate/butalbital/aspirin/caffeine	Ascomp with Codeine
codeine phosphate/butalbital/aspirin/caffeine	Butalbital Compound W/Codeine
codeine phosphate/butalbital/aspirin/caffeine	Butalbital Compound-Codeine
codeine phosphate/butalbital/aspirin/caffeine	Fiorinal-Codeine #3
codeine phosphate/butalbital/aspirin/caffeine	Fiortal/Codeine
codeine phosphate/butalbital/aspirin/caffeine	codeine-butalbital-ASA-caff
codeine sulfate	codeine sulfate
codeine/aspirin/salicylamide/acetaminophen/caffeine	Rid-A-Pain
codeine/aspirin/salicylamide/acetaminophen/caffeine	Rid-A-Pain W/Codeine
dezocine	Dalgan
difelikefalin acetate	Korsuva
fentanyl	Duragesic
fentanyl	Subsys
fentanyl	fentanyl
fentanyl HCl	Ionsys
fentanyl citrate	Abstral
fentanyl citrate	Actiq
fentanyl citrate	Fentanyl Oralet
fentanyl citrate	Fentora
fentanyl citrate	Lazanda
fentanyl citrate	Onsolis
fentanyl citrate	fentanyl citrate
fentanyl citrate in 0.9 % sodium chloride/PF	fentanyl citrate (PF)-0.9%NaCl
fentanyl citrate in dextrose 5% in water/PF	fentanyl citrate in D5W (PF)
fentanyl citrate/PF	Sublimaze (PF)
fentanyl citrate/PF	fentanyl citrate (PF)
fentanyl citrate/bupivacaine HCl in 0.9 % sodium chloride/PF	fentanyl (PF)-bupivacaine-NaCl
fentanyl citrate/droperidol	fentanyl-droperidol
fentanyl citrate/ropivacaine HCl/sodium chloride 0.9%/PF	fentanyl-ropivacaine-NaCl (PF)
hydrocodone bitartrate	Hysingla ER
hydrocodone bitartrate	Zohydro ER
hydrocodone bitartrate	hydrocodone bitartrate
hydrocodone bitartrate/acetaminophen	Anexsia
hydrocodone bitartrate/acetaminophen	Bancap HC

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Generic Name	Brand Name
hydrocodone bitartrate/acetaminophen	Ceta Plus
hydrocodone bitartrate/acetaminophen	Co-Gesic
hydrocodone bitartrate/acetaminophen	Dolacet
hydrocodone bitartrate/acetaminophen	Dolagesic
hydrocodone bitartrate/acetaminophen	Dolorex Forte
hydrocodone bitartrate/acetaminophen	Duocet
hydrocodone bitartrate/acetaminophen	Hy-Phen
hydrocodone bitartrate/acetaminophen	Hycet
hydrocodone bitartrate/acetaminophen	Hycomed
hydrocodone bitartrate/acetaminophen	Hydrocet
hydrocodone bitartrate/acetaminophen	Hydrogesic
hydrocodone bitartrate/acetaminophen	Liquicet
hydrocodone bitartrate/acetaminophen	Lorcet (hydrocodone)
hydrocodone bitartrate/acetaminophen	Lorcet 10/650
hydrocodone bitartrate/acetaminophen	Lorcet HD
hydrocodone bitartrate/acetaminophen	Lorcet Plus
hydrocodone bitartrate/acetaminophen	Lortab
hydrocodone bitartrate/acetaminophen	Lortab 10-325
hydrocodone bitartrate/acetaminophen	Lortab 5-325
hydrocodone bitartrate/acetaminophen	Lortab 7.5-325
hydrocodone bitartrate/acetaminophen	Lortab Elixir
hydrocodone bitartrate/acetaminophen	Margesic-H
hydrocodone bitartrate/acetaminophen	Maxidone
hydrocodone bitartrate/acetaminophen	Norco
hydrocodone bitartrate/acetaminophen	Polygesic
hydrocodone bitartrate/acetaminophen	Procet
hydrocodone bitartrate/acetaminophen	Stagesic
hydrocodone bitartrate/acetaminophen	Stagesic-10
hydrocodone bitartrate/acetaminophen	Vanacet
hydrocodone bitartrate/acetaminophen	Vendone
hydrocodone bitartrate/acetaminophen	Verdrocet
hydrocodone bitartrate/acetaminophen	Vicodin
hydrocodone bitartrate/acetaminophen	Vicodin ES
hydrocodone bitartrate/acetaminophen	Vicodin HP
hydrocodone bitartrate/acetaminophen	Xodol 10/300
hydrocodone bitartrate/acetaminophen	Xodol 5/300
hydrocodone bitartrate/acetaminophen	Xodol 7.5/300
hydrocodone bitartrate/acetaminophen	Zamicet
hydrocodone bitartrate/acetaminophen	Zolvit
hydrocodone bitartrate/acetaminophen	Zydone
hydrocodone bitartrate/acetaminophen	hydrocodone-acetaminophen
hydrocodone bitartrate/acetaminophen/dietary supplement #11	Theracodophen-325
hydrocodone bitartrate/acetaminophen/dietary supplement #11	Theracodophen-650
hydrocodone bitartrate/acetaminophen/dietary supplement #11	Theracodophen-Low-90
hydrocodone bitartrate/aspirin	Alor
hydrocodone bitartrate/aspirin	Damason-P
hydrocodone bitartrate/aspirin	Lortab ASA
hydrocodone/ibuprofen	Ibudone

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Generic Name	Brand Name
hydrocodone/ibuprofen	Reprexain
hydrocodone/ibuprofen	Vicoprofen
hydrocodone/ibuprofen	Xylon 10
hydrocodone/ibuprofen	hydrocodone-ibuprofen
hydromorphone HCl	Dilaudid
hydromorphone HCl	Dilaudid-5
hydromorphone HCl	Exalgo ER
hydromorphone HCl	Hydrostat
hydromorphone HCl	Palladone
hydromorphone HCl	hydromorphone
hydromorphone HCl in 0.9 % sodium chloride	hydromorphone in 0.9 % NaCl
hydromorphone HCl in 0.9 % sodium chloride/PF	hydromorphone (PF)-0.9 % NaCl
hydromorphone HCl in dextrose 5 %-water/PF	hydromorphone in D5W (PF)
hydromorphone HCl in sodium chloride, iso-osmotic/PF	hydromorphone(PF)-NaCl,iso-osm
hydromorphone HCl in sterile water/PF	hydromorphone (PF) in water
hydromorphone HCl/PF	Dilaudid (PF)
hydromorphone HCl/PF	Dilaudid-HP (PF)
hydromorphone HCl/PF	hydromorphone (PF)
hydromorphone HCl/bupivacaine HCl in 0.9% sodium chloride/PF	hydromorphone-bupiv (PF)-NaCl
hydromorphone HCl/ropivacaine in 0.9 % sodium chloride/PF	hydromorph(PF)-ropiv-0.9% NaCl
ibuprofen/oxycodone HCl	Combunox
ibuprofen/oxycodone HCl	ibuprofen-oxycodone
levomethadyl acetate HCl	Orlaam
levorphanol tartrate	Levo-Dromoran
levorphanol tartrate	levorphanol tartrate
meperidine HCl	Demerol
meperidine HCl	Meperitab
meperidine HCl	meperidine
meperidine HCl in 0.9 % sodium chloride	meperidine in 0.9 % NaCl
meperidine HCl in 0.9 % sodium chloride/PF	meperidine (PF) in 0.9 % NaCl
meperidine HCl/PF	Demerol (PF)
meperidine HCl/PF	meperidine (PF)
meperidine HCl/promethazine HCl	Mepergan
meperidine HCl/promethazine HCl	Mepergan Fortis
meperidine HCl/promethazine HCl	Meprozone
meperidine HCl/promethazine HCl	meperidine-promethazine
methadone HCl	Diskets
methadone HCl	Dolophine
methadone HCl	Methadone Intensol
methadone HCl	Methadose
methadone HCl	methadone
methadone hydrochloride in 0.9 % sodium chloride	methadone in 0.9 % sod.chlorid
morphine sulfate	Arymo ER
morphine sulfate	Avinza
morphine sulfate	Kadian
morphine sulfate	MS Contin
morphine sulfate	MS/L
morphine sulfate	MSir

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
morphine sulfate	MSir Concentrate
morphine sulfate	MorphaBond ER
morphine sulfate	OMS Concentrate
morphine sulfate	Oramorph SR
morphine sulfate	RMS
morphine sulfate	Roxanol Concentrate
morphine sulfate	Roxanol-T Concentrate
morphine sulfate	morphine
morphine sulfate	morphine concentrate
morphine sulfate in 0.9 % sodium chloride	morphine in 0.9 % sodium chlor
morphine sulfate in 0.9 % sodium chloride/PF	morphine (PF) in 0.9 % sod chl
morphine sulfate in sodium chloride, iso-osmotic/PF	morphine(PF)in iso sod chlorid
morphine sulfate liposomal/PF	DepoDur (PF)
morphine sulfate/PF	Astramorph-PF
morphine sulfate/PF	Duramorph (PF)
morphine sulfate/PF	Infumorph 200 P/F
morphine sulfate/PF	Infumorph 500 P/F
morphine sulfate/PF	Infumorph P/F
morphine sulfate/PF	Mitigo (PF)
morphine sulfate/PF	morphine (PF)
morphine sulfate/dextrose 5 % in water	morphine in dextrose 5 %
morphine sulfate/dextrose 5%-water/PF	morphine (PF) in dextrose 5 %
morphine sulfate/naltrexone HCl	Embeda
nalbuphine HCl	Nubain
nalbuphine HCl	nalbuphine
oliceridine fumarate	Olinvyk
oxycodone HCl	Dazidox
oxycodone HCl	ETH-Oxydose
oxycodone HCl	Endocodone
oxycodone HCl	Oxaydo
oxycodone HCl	Oxecta
oxycodone HCl	OxyContin
oxycodone HCl	OxyIR
oxycodone HCl	Oxyfast
oxycodone HCl	Percolone
oxycodone HCl	Roxicodone
oxycodone HCl	Roxicodone Intensol
oxycodone HCl	RoxyBond
oxycodone HCl	oxycodone
oxycodone HCl/acetaminophen	ALCET
oxycodone HCl/acetaminophen	Endocet
oxycodone HCl/acetaminophen	Lynox
oxycodone HCl/acetaminophen	Magnacet
oxycodone HCl/acetaminophen	Nalocet
oxycodone HCl/acetaminophen	Narvox
oxycodone HCl/acetaminophen	Percocet
oxycodone HCl/acetaminophen	Perloxx
oxycodone HCl/acetaminophen	Primalev

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
oxycodone HCl/acetaminophen	Primlev
oxycodone HCl/acetaminophen	Prolate
oxycodone HCl/acetaminophen	Roxicet
oxycodone HCl/acetaminophen	Tylox
oxycodone HCl/acetaminophen	Xartemis XR
oxycodone HCl/acetaminophen	Xolox
oxycodone HCl/acetaminophen	oxycodone-acetaminophen
oxycodone HCl/aspirin	Endodan
oxycodone HCl/aspirin	Percodan
oxycodone HCl/aspirin	oxycodone-aspirin
oxycodone HCl/oxycodone terephthalate/aspirin	Endodan (Old Formula)
oxycodone HCl/oxycodone terephthalate/aspirin	Percodan
oxycodone HCl/oxycodone terephthalate/aspirin	Roxiprin
oxycodone HCl/oxycodone terephthalate/aspirin	oxycodone HCl-oxycodone-ASA
oxycodone myristate	Xtampza ER
oxycodone/aspirin	Percodan Demi
oxymorphone HCl	Numorphan
oxymorphone HCl	Opana
oxymorphone HCl	Opana ER
oxymorphone HCl	oxymorphone
pentazocine HCl/acetaminophen	Talacen
pentazocine HCl/acetaminophen	pentazocine-acetaminophen
pentazocine HCl/aspirin	Talwin Compound
pentazocine HCl/naloxone HCl	Talwin NX
pentazocine HCl/naloxone HCl	pentazocine-naloxone
pentazocine lactate	Talwin
propoxyphene HCl	Darvon
propoxyphene HCl	PP-Cap
propoxyphene HCl	propoxyphene
propoxyphene HCl/acetaminophen	Wygesic
propoxyphene HCl/acetaminophen	propoxyphene-acetaminophen
propoxyphene HCl/aspirin/caffeine	Darvon Compound 32
propoxyphene HCl/aspirin/caffeine	Darvon Compound-65
propoxyphene HCl/aspirin/caffeine	PC-Cap
propoxyphene HCl/aspirin/caffeine	Propoxyphene Compound-65
propoxyphene napsylate	Darvon-N
propoxyphene napsylate	propoxyphene napsylate
propoxyphene napsylate/acetaminophen	Balacet 325
propoxyphene napsylate/acetaminophen	Darvocet A500
propoxyphene napsylate/acetaminophen	Darvocet-N 100
propoxyphene napsylate/acetaminophen	Darvocet-N 50
propoxyphene napsylate/acetaminophen	Propacet 100
propoxyphene napsylate/acetaminophen	Propoxacet-N 100
propoxyphene napsylate/acetaminophen	Trycet
propoxyphene napsylate/acetaminophen	propoxyphene N-acetaminophen
remifentanil HCl	Ultiva
remifentanil HCl	remifentanil
remifentanil HCl in 0.9 % sodium chloride/PF	remifentanil HCl-0.9%NaCl (PF)

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
sufentanil citrate	Dsuvia
sufentanil citrate	Sufenta
sufentanil citrate	sufentanil citrate
sufentanil citrate/PF	sufentanil citrate (PF)
sufentanil citrate/bupivacaine HCl/0.9 % sodium chloride/PF	sufentanil-bupivacain-NaCl(PF)
tapentadol HCl	Nucynta
tapentadol HCl	Nucynta ER
tramadol HCl	ConZip
tramadol HCl	Qdolo
tramadol HCl	Rybix ODT
tramadol HCl	Ryzolt
tramadol HCl	Ultram
tramadol HCl	Ultram ER
tramadol HCl	tramadol
tramadol HCl/acetaminophen	Ultracet
tramadol HCl/acetaminophen	tramadol-acetaminophen
tramadol HCl/celecoxib	Seglentis
tramadol HCl/dietary supplement,misc. cb.11	Theratramadol-60
tramadol HCl/dietary supplement,misc. cb.11	Theratramadol-90

Suspected Teratogens

PROGESTERONE,MICRONIZED	FIRST-Progesterone MC 10
PROGESTERONE,MICRONIZED	FIRST-Progesterone MC 5
Prednisolone Sodium Phosphate/Peak Flow Meter	Asmalpred
Prednisolone Sodium Phosphate/Peak Flow Meter	Asmalpred Plus
amlodipine besylate/benazepril HCl	Lotrel
amlodipine besylate/benazepril HCl	amlodipine-benazepril
benazepril HCl	Lotensin
benazepril HCl	benazepril
benazepril HCl/hydrochlorothiazide	Lotensin HCT
benazepril HCl/hydrochlorothiazide	benazepril-hydrochlorothiazide
betamethasone	Celestone
betamethasone acetate and sodium phos in sterile water/PF	betameth ac,sod phos(PF)-water
betamethasone acetate and sodium phosph/norflurane/HFC 245fa	Betalan SUIK
betamethasone acetate and sodium phosph/norflurane/HFC 245fa	Pod-Care 100CG
betamethasone acetate/betamethasone sodium phosphate	BSP-0820
betamethasone acetate/betamethasone sodium phosphate	Beta-1
betamethasone acetate/betamethasone sodium phosphate	Celestone Soluspan
betamethasone acetate/betamethasone sodium phosphate	Pod-Care 100C
betamethasone acetate/betamethasone sodium phosphate	ReadySharp Betamethasone
betamethasone acetate/betamethasone sodium phosphate	betamethasone acet,sod phos
betamethasone acetate/betamethasone sodium phosphate/water	betamethasone ace,sod phos-wtr
betamethasone sodium phosph in sterile water for injection	betamethasone sod phosph-water
betamethasone sodium phosphate	Adbeon
betamethasone sodium phosphate	Celestone
betamethasone sodium phosphate	betamethasone sodium phosphate
budesonide	Tarpeyo
bupivacaine HCl/dexamethasone sodium phos in sterile water	bupivacaine-dexameth in water
captopril	Capoten

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
captopril	captopril
captopril/hydrochlorothiazide	Capozide
captopril/hydrochlorothiazide	captopril-hydrochlorothiazide
ciclopirox olamine/fluconazole/terbinafine HCl	Hixdefrima
cortisone acetate	Cortone
cortisone acetate	cortisone
danazol	Danocrine
danazol	danazol
deflazacort	Emflaza
dexamethasone	Baycadron
dexamethasone	Decadron
dexamethasone	Decadron Dose Pack
dexamethasone	DexPak 10 day
dexamethasone	DexPak 13 Day
dexamethasone	DexPak 6 Day
dexamethasone	Dexabliss
dexamethasone	Dexamethasone Intensol
dexamethasone	Dexone
dexamethasone	Dxevo
dexamethasone	Hemady
dexamethasone	Hexadrol
dexamethasone	HiDex
dexamethasone	LoCort
dexamethasone	TaperDex
dexamethasone	ZCort
dexamethasone	Zema-Pak
dexamethasone	ZoDex
dexamethasone	ZonaCort
dexamethasone	dexamethasone
dexamethasone acetate	Adrenocot LA
dexamethasone acetate	Dalalone D.P.
dexamethasone acetate	Dalalone LA
dexamethasone acetate	De-Sone LA
dexamethasone acetate	Decaject
dexamethasone acetate	Dexacen LA-8
dexamethasone acetate	Dexasone LA
dexamethasone acetate	Dexone LA
dexamethasone acetate	Solurex LA
dexamethasone acetate	dexamethasone acetate
dexamethasone acetate and sodium phosphate in sterile water	dexamethasone ac, sod ph-water
dexamethasone acetate in sodium chloride, iso-osmotic	dexamethasone ace-NaCl,iso-osm
dexamethasone phosphate	Primethasone
dexamethasone sodium phosphate	Adrenocot
dexamethasone sodium phosphate	Cpc-Cort-D
dexamethasone sodium phosphate	Dalalone
dexamethasone sodium phosphate	Decadron Phosphate
dexamethasone sodium phosphate	Decaject
dexamethasone sodium phosphate	Dexasone 10

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
dexamethasone sodium phosphate	Dexasone 4
dexamethasone sodium phosphate	Dexone
dexamethasone sodium phosphate	Dexonto
dexamethasone sodium phosphate	ReadySharp dexamethasone
dexamethasone sodium phosphate	Solurex
dexamethasone sodium phosphate	dexamethasone sodium phosphate
dexamethasone sodium phosphate in 0.9 % sodium chloride	dexamethasone-0.9 % sod. chlor
dexamethasone sodium phosphate/PF	Active Injection Kit D (PF)
dexamethasone sodium phosphate/PF	DoubleDex (PF)
dexamethasone sodium phosphate/PF	MAS Care-Pak (PF)
dexamethasone sodium phosphate/PF	dexamethasone sodium phos (PF)
dexamethasone sodium phosphate/lidocaine HCl	Lidocidex-I
dexamethasone/PF/norflurane/pentafluoropropane (HFC 245fa)	DMT SUIK
drospirenone	Slynd
drospirenone/estradiol	Angeliq
elagolix sodium/estradiol/norethindrone acetate	Oriahnn
enalapril maleate	Epaned
enalapril maleate	Vasotec
enalapril maleate	enalapril maleate
enalapril maleate/diltiazem malate	Teczem
enalapril maleate/felodipine	Lexxel
enalapril maleate/hydrochlorothiazide	Vaseretic
enalapril maleate/hydrochlorothiazide	enalapril-hydrochlorothiazide
enalaprilat dihydrate	Vasotec
enalaprilat dihydrate	enalaprilat
estradiol cypionate/medroxyprogesterone acetate	Lunelle
estradiol cypionate/medroxyprogesterone acetate	medroxyprogest-estradiol cyp
estradiol/levonorgestrel	Climara Pro
estradiol/norethindrone acetate	Activella
estradiol/norethindrone acetate	Amabelz
estradiol/norethindrone acetate	CombiPatch
estradiol/norethindrone acetate	Lopreeza
estradiol/norethindrone acetate	Mimvey
estradiol/norethindrone acetate	Mimvey Lo
estradiol/norethindrone acetate	estradiol-norethindrone acet
estradiol/norgestimate	Ortho-Prefest
estradiol/norgestimate	Prefest
estradiol/progesterone	Bijuva
estrogens, conjugated/medroxyprogesterone acetate	Premphase
estrogens, conjugated/medroxyprogesterone acetate	Prempro
etonogestrel	Implanon
etonogestrel	Nexplanon
etonogestrel/ethinyl estradiol	EluRyng
etonogestrel/ethinyl estradiol	NuvaRing
etonogestrel/ethinyl estradiol	etonogestrel-ethinyl estradiol
fluconazole	Diflucan
fluconazole	fluconazole
fluconazole in dextrose, iso-osmotic	Diflucan in dextrose (iso-osm)

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
fluconazole in dextrose, iso-osmotic	fluconazole in dextrose(iso-o)
fluconazole in sodium chloride, iso-osmotic	Diflucan in NaCl (iso-osm)
fluconazole in sodium chloride, iso-osmotic	fluconazole in NaCl (iso-osm)
fluconazole/ibuprofen/itraconazole/terbinafine HCl	Difmetioxime
fluconazole/ibuprofen/itraconazole/terbinafine HCl	flucona-ibuprof-itracon-terbin
fludrocortisone acetate	Florinef
fludrocortisone acetate	fludrocortisone
fosinopril sodium	Monopril
fosinopril sodium	fosinopril
fosinopril sodium/hydrochlorothiazide	Monopril HCT
fosinopril sodium/hydrochlorothiazide	fosinopril-hydrochlorothiazide
hydrocortisone	Alkindi Sprinkle
hydrocortisone	Cortef
hydrocortisone	Hydrocortone
hydrocortisone	hydrocortisone
hydrocortisone acetate	hydrocortisone acetate
hydrocortisone cypionate	Cortef (as cypionate)
hydrocortisone sod phosphate	Hydrocortone
hydrocortisone sod succinate	A-Hydrocort
hydrocortisone sod succinate	Solu-Cortef
hydrocortisone sod succinate	Solu-Cortef Act-O-Vial
hydrocortisone sod succinate	hydrocortisone sod succinate
hydrocortisone sodium succinate/PF	Solu-Cortef Act-O-Vial (PF)
hydroxyprogesterone caproate	Hylutin
hydroxyprogesterone caproate	Hyprogest 250
hydroxyprogesterone caproate	Hyproval
hydroxyprogesterone caproate	La Progesterone
hydroxyprogesterone caproate	Makena
hydroxyprogesterone caproate	Prodrox
hydroxyprogesterone caproate	hydroxyprogesterone cap(ppres)
hydroxyprogesterone caproate	hydroxyprogesterone caproate
hydroxyprogesterone caproate/PF	Makena
hydroxyprogesterone caproate/PF	Makena (PF)
hydroxyprogesterone caproate/PF	hydroxyprogest(PF)(preg presv)
leuprolide acetate/norethindrone acetate	Lupaneta Pack (1 month)
leuprolide acetate/norethindrone acetate	Lupaneta Pack (3 month)
levonorgestrel	After Pill
levonorgestrel	Aftera
levonorgestrel	EContra EZ
levonorgestrel	Econtra One-Step
levonorgestrel	Fallback Solo
levonorgestrel	My Choice
levonorgestrel	My Way
levonorgestrel	New Day
levonorgestrel	Next Choice
levonorgestrel	Next Choice One Dose
levonorgestrel	Norplant System
levonorgestrel	Opcicon One-Step

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
levonorgestrel	Option-2
levonorgestrel	Plan B
levonorgestrel	Plan B One-Step
levonorgestrel	React
levonorgestrel	Take Action
levonorgestrel	levonorgestrel
levonorgestrel-ethinyl estradiol/pregnancy test kit	Preven Emergency Contraceptive
levonorgestrel/ethinyl estradiol	Twirla
lisinopril	Prinivil
lisinopril	Qbrelis
lisinopril	Zestril
lisinopril	lisinopril
lisinopril/dietary supplement,comb.10	Lytensopril
lisinopril/dietary supplement,comb.10	Lytensopril-90
lisinopril/hydrochlorothiazide	Prinzide
lisinopril/hydrochlorothiazide	Zestoretic
lisinopril/hydrochlorothiazide	lisinopril-hydrochlorothiazide
medroxyprogesterone acetate	Amen
medroxyprogesterone acetate	Cycrin
medroxyprogesterone acetate	Depo-Provera
medroxyprogesterone acetate	Depo-SubQ provera 104
medroxyprogesterone acetate	Provera
medroxyprogesterone acetate	medroxyprogesterone
megestrol acetate	Megace
megestrol acetate	Megace ES
megestrol acetate	megestrol
methimazole	Northyx
methimazole	Tapazole
methimazole	methimazole
methylprednisolone	Medrol
methylprednisolone	Medrol (Pak)
methylprednisolone	Meprolone Unipak
methylprednisolone	Methylpred
methylprednisolone	Methylpred DP
methylprednisolone	methylprednisolone
methylprednisolone acetate	Adlone
methylprednisolone acetate	Cpc-Depmed-40
methylprednisolone acetate	Cpc-Depmed-80
methylprednisolone acetate	Dep-Medalone 40
methylprednisolone acetate	Dep-Medalone 80
methylprednisolone acetate	Depo-Medrol
methylprednisolone acetate	Depo-Predate
methylprednisolone acetate	Depoject-40
methylprednisolone acetate	Depoject-80
methylprednisolone acetate	Depopred 40
methylprednisolone acetate	Depopred 80
methylprednisolone acetate	Medralone 40
methylprednisolone acetate	Medralone 80

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
methylprednisolone acetate	Methylcotonone
methylprednisolone acetate	P-Care D40
methylprednisolone acetate	P-Care D80
methylprednisolone acetate	ReadySharp Methylprednisolone
methylprednisolone acetate	Rep-Pred 40
methylprednisolone acetate	Rep-Pred 80
methylprednisolone acetate	methylprednisolone acetate
methylprednisolone acetate in sodium chloride,iso-osmotic/PF	methylpred ac(PF)-NaCl,iso-osm
methylprednisolone acetate in sterile water for injection	methylprednisolone acet-water
methylprednisolone acetate/bupivacaine HCl	Physicians EZ Use M-Pred
methylprednisolone acetate/bupivacaine HCl in sterile water	methylprednisol ac-bupivac-wat
methylprednisolone acetate/norflurane/HFC 245fa	Medroloan II SUIK
methylprednisolone acetate/norflurane/HFC 245fa	Medroloan SUIK
methylprednisolone acetate/norflurane/HFC 245fa	P-Care D40G
methylprednisolone acetate/norflurane/HFC 245fa	P-Care D80G
methylprednisolone sodium succinate	A-Methapred
methylprednisolone sodium succinate	Solu-Medrol
methylprednisolone sodium succinate	methylprednisolone sodium succ
methylprednisolone sodium succinate/PF	Solu-Medrol (PF)
moexipril HCl	Univasc
moexipril HCl	moexipril
moexipril HCl/hydrochlorothiazide	Uniretic
moexipril HCl/hydrochlorothiazide	moexipril-hydrochlorothiazide
norelgestromin/ethinyl estradiol	Ortho Evra
norelgestromin/ethinyl estradiol	Xulane
norelgestromin/ethinyl estradiol	Zafemy
norethindrone	Camila
norethindrone	Deblitane
norethindrone	Errin
norethindrone	Heather
norethindrone	Incassia
norethindrone	Jencycla
norethindrone	Jolivette
norethindrone	Lyleq
norethindrone	Lyza
norethindrone	Micronor (28)
norethindrone	Nor-Q-D
norethindrone	Nor-Q-D (21)
norethindrone	Nora-BE
norethindrone	Norlyda
norethindrone	Norlyroc
norethindrone	Ortho Micronor
norethindrone	Sharobel
norethindrone	Tulana
norethindrone	norethindrone (contraceptive)
norethindrone acetate	Aygestin
norethindrone acetate	norethindrone acetate
norethindrone acetate-ethinyl estradiol	Femhrt 1/5

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
norethindrone acetate-ethinyl estradiol	Femhrt Low Dose
norethindrone acetate-ethinyl estradiol	Fyavolv
norethindrone acetate-ethinyl estradiol	Jevantique
norethindrone acetate-ethinyl estradiol	Jevantique Lo
norethindrone acetate-ethinyl estradiol	Jinteli
norethindrone acetate-ethinyl estradiol	norethindrone ac-eth estradiol
norgestrel	Ovrette
perindopril arginine/amlodipine besylate	Prestalia
perindopril erbumine	Aceon
perindopril erbumine	perindopril erbumine
prednisolone	Millipred
prednisolone	Millipred DP
prednisolone	Prednisolone Anhydrous
prednisolone	Prelone
prednisolone	prednisolone
prednisolone acetate	Cotolone
prednisolone acetate	Flo-Pred
prednisolone acetate	Key-Pred
prednisolone acetate	Predalone 50
prednisolone acetate	Predicort-50
prednisolone acetate	Pri-Cortin 50
prednisolone acetate	UAD Pred
prednisolone acetate	prednisolone acetate
prednisolone sodium phosphate	Bubbli-Pred
prednisolone sodium phosphate	Millipred
prednisolone sodium phosphate	Orapred
prednisolone sodium phosphate	Orapred ODT
prednisolone sodium phosphate	Pediapred
prednisolone sodium phosphate	Veripred 20
prednisolone sodium phosphate	prednisolone sodium phosphate
prednisone	Deltasone
prednisone	Deltasone Dose Pack
prednisone	Liquid Pred
prednisone	Meticorten
prednisone	Prednisone Intensol
prednisone	Rayos
prednisone	Sterapred
prednisone	Sterapred DS
prednisone	prednisone
progesterone	Eveready Progesterone
progesterone	Progesterone 50 in Oil
progesterone	Progesterone in Oil
progesterone	progesterone
progesterone, micronized	Crinone
progesterone, micronized	Prochieve
progesterone, micronized	Prometrium
progesterone, micronized	progesterone micronized
propylthiouracil	propylthiouracil

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Generic Name	Brand Name
quinapril HCl	Accupril
quinapril HCl	quinapril
quinapril HCl/hydrochlorothiazide	Accuretic
quinapril HCl/hydrochlorothiazide	Quinaretic
quinapril HCl/hydrochlorothiazide	quinapril-hydrochlorothiazide
ramipril	Altace
ramipril	ramipril
relugolix/estradiol/norethindrone acetate	Myfembree
segesteron acetate/ethinyl estradiol	Annovera
trandolapril	Mavik
trandolapril	trandolapril
trandolapril/verapamil HCl	Tarka
trandolapril/verapamil HCl	trandolapril-verapamil
triamcinolone	Aristo-Pak
triamcinolone	Aristocort
triamcinolone	triamcinolone
triamcinolone acetonide	Acetocot
triamcinolone acetonide	Arze-Ject-A
triamcinolone acetonide	Cenocort A-40
triamcinolone acetonide	Cinonide 40
triamcinolone acetonide	Kenaject
triamcinolone acetonide	Kenalog
triamcinolone acetonide	Kenalog-40
triamcinolone acetonide	Kenalog-80
triamcinolone acetonide	P-Care K40
triamcinolone acetonide	P-Care K80
triamcinolone acetonide	Pod-Care 100K
triamcinolone acetonide	Pro-C-Dure 5
triamcinolone acetonide	Pro-C-Dure 6
triamcinolone acetonide	ReadySharp Triamcinolone
triamcinolone acetonide	Tac-3
triamcinolone acetonide	Tri-Kort
triamcinolone acetonide	Triam-A
triamcinolone acetonide	Triamonide 40
triamcinolone acetonide	Zilretta
triamcinolone acetonide	triamcinolone acetonide
triamcinolone acetonide in 0.9 % sodium chloride	triamcinolone acetone-0.9% NaCl
triamcinolone acetonide/0.9% sodium chloride/PF	triamcinol ac (PF) in 0.9%NaCl
triamcinolone acetonide/bupivacaine/in 0.9% sodium chloride	triamcinol ace-bupiv-0.9% NaCl
triamcinolone acetonide/lidocaine HCl	EZ Use Joint-Tunnel-Trigger
triamcinolone acetonide/lidocaine HCl	Lidocilone I
triamcinolone acetonide/lidocaine/prilocaine	DermacinRx Cinlone-I CPI
triamcinolone diacetate	Amcort
triamcinolone diacetate	Aristocort Forte
triamcinolone diacetate	Aristocort Intralesional
triamcinolone diacetate	Cenocort Forte Suspension
triamcinolone diacetate	Cinalone 40
triamcinolone diacetate	Triam Forte

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
triamcinolone diacetate	Triamcot
triamcinolone diacetate	Tristoject
triamcinolone diacetate	U-Tri-Lone
triamcinolone diacetate	triamcinolone diacetate
triamcinolone diacetate in 0.9 % sodium chloride	triamcinolone diacet-0.9% NaCl
triamcinolone diacetate in 0.9 % sodium chloride/PF	triamcinolone dia(PF)-0.9%NaCl
triamcinolone hexacetonide	Aristospan Intra-Articular
triamcinolone hexacetonide	Aristospan Intralesional
triamcinolone hexacetonide	Hexatrione
triamcinolone/norflurane and pentafluoropropane (HFC 245fa)	P-Care K40G
triamcinolone/norflurane and pentafluoropropane (HFC 245fa)	P-Care K80G
triamcinolone/norflurane and pentafluoropropane (HFC 245fa)	Pod-Care 100KG
triamcinolone/norflurane and pentafluoropropane (HFC 245fa)	Triloan II SUIK
triamcinolone/norflurane and pentafluoropropane (HFC 245fa)	Triloan SUIK
Smoking	
bupropion HCl	Budeprion SR
bupropion HCl	Budeprion XL
bupropion HCl	Buproban
bupropion HCl	Forfivo XL
bupropion HCl	Wellbutrin
bupropion HCl	Wellbutrin SR
bupropion HCl	Wellbutrin XL
bupropion HCl	Zyban
bupropion HCl	bupropion HCl
bupropion HCl	bupropion HCl (smoking deter)
bupropion HCl/dietary supplement combination no.15	Appbutamone-D
bupropion HCl/dietary supplement combination no.16	Appbutamone
dextromethorphan HBr/bupropion HCl	Auvelity
naltrexone HCl/bupropion HCl	Contrave
nicotine	Habitrol
nicotine	NTS Step 1
nicotine	NTS Step 2
nicotine	NTS Step 3
nicotine	Nicoderm
nicotine	Nicoderm CQ
nicotine	Nicotrol
nicotine	Nicotrol NS
nicotine	Prostep
nicotine	nicotine
nicotine bitartrate	Nicotine Tartrate
nicotine polacrilex	Commit
nicotine polacrilex	Nicorelief
nicotine polacrilex	Nicorette
nicotine polacrilex	Nicorette Refill
nicotine polacrilex	Nicorette Starter Kit
nicotine polacrilex	Quit 2
nicotine polacrilex	Quit 4
nicotine polacrilex	Stop Smoking Aid

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
nicotine polacrilex	Thrive Nicotine
nicotine polacrilex	nicotine (polacrilex)
varenicline tartrate	Chantix
varenicline tartrate	Chantix Continuing Month Box
varenicline tartrate	Chantix Continuing Month Pak
varenicline tartrate	Chantix Starting Month Box
varenicline tartrate	Chantix Starting Month Pak
varenicline tartrate	Tyrvaya
varenicline tartrate	varenicline

Antidiabetic Medications

acarbose	Precose
acarbose	acarbose
albiglutide	Tanzeum
alogliptin benzoate	Nesina
alogliptin benzoate	alogliptin
alogliptin benzoate/metformin HCl	Kazano
alogliptin benzoate/metformin HCl	alogliptin-metformin
alogliptin benzoate/pioglitazone HCl	Oseni
alogliptin benzoate/pioglitazone HCl	alogliptin-pioglitazone
canagliflozin	Invokana
canagliflozin/metformin HCl	Invokamet
canagliflozin/metformin HCl	Invokamet XR
dapagliflozin propanediol	Farxiga
dapagliflozin propanediol/metformin HCl	Xigduo XR
dapagliflozin propanediol/saxagliptin HCl	Qtern
empagliflozin	Jardiance
empagliflozin/linagliptin	Glyxambi
empagliflozin/linagliptin/metformin HCl	Trijardy XR
empagliflozin/metformin HCl	Synjardy
empagliflozin/metformin HCl	Synjardy XR
ertugliflozin pidolate/metformin HCl	Segluromet
ertugliflozin pidolate/sitagliptin phosphate	Steglujan
exenatide	Byetta
exenatide microspheres	Bydureon
exenatide microspheres	Bydureon BCise
glimepiride	Amaryl
glimepiride	glimepiride
glipizide	Glucotrol
glipizide	Glucotrol XL
glipizide	glipizide
glipizide/metformin HCl	Metaglip
glipizide/metformin HCl	glipizide-metformin
glyburide	Diabeta
glyburide	Micronase
glyburide	glyburide
glyburide,micronized	Glycron
glyburide,micronized	Glynase
glyburide,micronized	glyburide micronized

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
glyburide/metformin HCl	Glucovance
glyburide/metformin HCl	glyburide-metformin
insulin degludec/liraglutide	Xultophy 100/3.6
linagliptin	Tradjenta
linagliptin/metformin HCl	Jentadueto
linagliptin/metformin HCl	Jentadueto XR
liraglutide	Saxenda
liraglutide	Victoza 2-Pak
liraglutide	Victoza 3-Pak
metformin HCl	Fortamet
metformin HCl	Glucophage
metformin HCl	Glucophage XR
metformin HCl	Glumetza
metformin HCl	Riomet
metformin HCl	Riomet ER
metformin HCl	metformin
nateglinide	Starlix
nateglinide	nateglinide
pioglitazone HCl	Actos
pioglitazone HCl	pioglitazone
pioglitazone HCl/glimepiride	DUETACT
pioglitazone HCl/glimepiride	pioglitazone-glimepiride
pioglitazone HCl/metformin HCl	Actoplus MET
pioglitazone HCl/metformin HCl	Actoplus Met XR
pioglitazone HCl/metformin HCl	pioglitazone-metformin
repaglinide	Prandin
repaglinide	repaglinide
repaglinide/metformin HCl	Prandimet
repaglinide/metformin HCl	repaglinide-metformin
rosiglitazone maleate/glimepiride	Avandaryl
rosiglitazone maleate/metformin HCl	Avandamet
saxagliptin HCl	Onglyza
saxagliptin HCl/metformin HCl	Kombiglyze XR
sitagliptin phosphate	Januvia
sitagliptin phosphate/metformin HCl	Janumet
sitagliptin phosphate/metformin HCl	Janumet XR
sitagliptin phosphate/simvastatin	Juvisync
Buprenorphine	
buprenorphine	Butrans
buprenorphine	Sublocade
buprenorphine	buprenorphine
buprenorphine HCl	Belbuca
buprenorphine HCl	Buprenex
buprenorphine HCl	Probuphine
buprenorphine HCl	Subutex
buprenorphine HCl	buprenorphine HCl
buprenorphine HCl	buprenorphine HCl (bulk)
buprenorphine HCl/naloxone HCl	Bunavail

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
buprenorphine HCl/naloxone HCl	Suboxone
buprenorphine HCl/naloxone HCl	Zubsolv
buprenorphine HCl/naloxone HCl	buprenorphine-naloxone
Insulin	
Insulin Regular, Human/Insulin Release Unit/Chamber/Inhaler	Exubera Kit
insulin NPH human isophane	Humulin N NPH Insulin KwikPen
insulin NPH human isophane	Humulin N NPH U-100 Insulin
insulin NPH human isophane	Humulin N Pen
insulin NPH human isophane	Novolin N Flexpen
insulin NPH human isophane	Novolin N InnoLet
insulin NPH human isophane	Novolin N NPH U-100 Insulin
insulin NPH human isophane	Novolin N PenFill
insulin NPH human isophane/insulin regular, human	Humulin 50/50
insulin NPH human isophane/insulin regular, human	Humulin 70/30 Insulin Pen
insulin NPH human isophane/insulin regular, human	Humulin 70/30 U-100 Insulin
insulin NPH human isophane/insulin regular, human	Humulin 70/30 U-100 KwikPen
insulin NPH human isophane/insulin regular, human	Novolin 70-30 FlexPen U-100
insulin NPH human isophane/insulin regular, human	Novolin 70/30 InnoLet Insulin
insulin NPH human isophane/insulin regular, human	Novolin 70/30 PenFill
insulin NPH human isophane/insulin regular, human	Novolin 70/30 U-100 Insulin
insulin aspart	Novolog Flexpen U-100 Insulin
insulin aspart	Novolog PenFill U-100 Insulin
insulin aspart	Novolog U-100 Insulin aspart
insulin aspart	insulin aspart U-100
insulin aspart (niacinamide)	Fiasp FlexTouch U-100 Insulin
insulin aspart (niacinamide)	Fiasp Penfill U-100 Insulin
insulin aspart (niacinamide)	Fiasp U-100 Insulin
insulin aspart protamine human/insulin aspart	Novolog Mix 70-30 U-100 Insulin
insulin aspart protamine human/insulin aspart	Novolog Mix 70-30FlexPen U-100
insulin aspart protamine human/insulin aspart	insulin asp prt-insulin aspart
insulin degludec	Tresiba FlexTouch U-100
insulin degludec	Tresiba FlexTouch U-200
insulin degludec	Tresiba U-100 Insulin
insulin detemir	Levemir FlexTouch U-100 Insulin
insulin detemir	Levemir Flexpen
insulin detemir	Levemir U-100 Insulin
insulin glargine,human recombinant analog	Basaglar KwikPen U-100 Insulin
insulin glargine,human recombinant analog	Lantus Solostar U-100 Insulin
insulin glargine,human recombinant analog	Lantus U-100 Insulin
insulin glargine,human recombinant analog	Semglee Pen U-100 Insulin
insulin glargine,human recombinant analog	Semglee U-100 Insulin
insulin glargine,human recombinant analog	Toujeo Max U-300 SoloStar
insulin glargine,human recombinant analog	Toujeo SoloStar U-300 Insulin
insulin glargine,human recombinant analog	insulin glargine
insulin glargine-yfgn	Semglee(insulin glarg-yfgn)Pen
insulin glargine-yfgn	Semglee(insulin glargine-yfgn)
insulin glargine-yfgn	insulin glargine-yfgn
insulin glulisine	Apidra SoloStar U-100 Insulin

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
insulin glulisine	Apidra U-100 Insulin
insulin isophane NPH,bf-pk	Iletin I NPH
insulin isophane,beef	insulin isophane beef
insulin isophane,pork pure	Iletin II NPH (Pork)
insulin isophane,pork pure	insulin isophane pork pure
insulin lispro	Admelog SoloStar U-100 Insulin
insulin lispro	Admelog U-100 Insulin lispro
insulin lispro	Humalog Junior KwikPen U-100
insulin lispro	Humalog KwikPen Insulin
insulin lispro	Humalog Pen
insulin lispro	Humalog U-100 Insulin
insulin lispro	insulin lispro
insulin lispro protamine and insulin lispro	Humalog Mix 50-50 Insulin U-100
insulin lispro protamine and insulin lispro	Humalog Mix 50-50 KwikPen
insulin lispro protamine and insulin lispro	Humalog Mix 75-25 KwikPen
insulin lispro protamine and insulin lispro	Humalog Mix 75-25(U-100)Insulin
insulin lispro protamine and insulin lispro	insulin lispro protamin-lispro
insulin lispro-aabc	Lyumjev KwikPen U-100 Insulin
insulin lispro-aabc	Lyumjev KwikPen U-200 Insulin
insulin lispro-aabc	Lyumjev U-100 Insulin
insulin reg, hum s-s buff	Velosulin BR
insulin reg, hum s-s buff	Velosulin Human Br
insulin regular, human	Afrezza
insulin regular, human	Humulin R Regular U-100 Insulin
insulin regular, human	Humulin R U-500 (Conc) Insulin
insulin regular, human	Humulin R U-500 (Conc) Kwikpen
insulin regular, human	Novolin R Flexpen
insulin regular, human	Novolin R InnoLet
insulin regular, human	Novolin R PenFill
insulin regular, human	Novolin R Regular U-100 Insulin
insulin regular, human in 0.9 % sodium chloride	Myxredlin
insulin regular, human/insulin release unit	Exubera Combination Pack 12
insulin regular, human/insulin release unit	Exubera Combination Pack 15
insulin regular, human/insulin release unit	Exubera Patient Pack
insulin regular,beef-pork	Iletin I Regular
insulin regular,human buffered	Velosulin BR (rDNA)
insulin regular,human buffered	Velosulin Human Br
insulin zinc beef	Insulin Lente Beef
insulin zinc extended human recombinant	Humulin U Insulin
insulin zinc human recombinant	Humulin L
insulin zinc human recombinant	Novolin L
insulin zinc,beef-pork	Iletin I Lente
insulin zinc,pork purified	Iletin II Lente (Pork)
insulin zinc,pork purified	insulin zinc pork purified
insulin,pork	insulin regular pork
insulin,pork purified	Iletin II Regular (Pork)
insulin,pork purified	Insulin Purified Regular(Pork)
insulin,pork purified	Insulin Regular Purified Pork

Appendix H. List of Generic and Brand Names of Medical Products Used to Define Characteristics in this Request

Generic Name	Brand Name
Methadone	
methadone HCl	Diskets
methadone HCl	Dolophine
methadone HCl	Methadone Intensol
methadone HCl	Methadose
methadone HCl	methadone
methadone hydrochloride in 0.9 % sodium chloride	methadone in 0.9 % sod.chlorid
Naloxone	
naloxone HCl	Evzio
naloxone HCl	Kloxxado
naloxone HCl	LifEMS Naloxone
naloxone HCl	Narcan
naloxone HCl	Zimhi
naloxone HCl	naloxone
pentazocine HCl/naloxone HCl	Talwin NX
pentazocine HCl/naloxone HCl	pentazocine-naloxone
Naltrexone	
methylnaltrexone bromide	Relistor
naltrexone HCl	Depade
naltrexone HCl	Revia
naltrexone HCl	naltrexone
naltrexone microspheres	Vivitrol

Appendix I. Specifications Defining Parameters for this Request

Purpose: The execution of Cohort Identification and Descriptive Analysis (CIDA) Pregnancy tool [QRP 12.1.2] to assess risk of non-cardiac malformations following armodafinil or modafinil use during the first trimester of pregnancy in the Sentinel Distributed Database (SDD).

Query Period: 01/01/2000-all available data
Coverage Requirement: Medical and Drug Coverage
Enrollment Gap: 45 days
Enrollment Requirement prior to Delivery Date: 391 days (301 day pregnancy length + 90 day pre-pregnancy exposure assessment period)
Enrollment Requirement following Delivery Date: 30 days for mother, 0 days for infant (malformations algorithm looks for death within 30 days of birth)
Age Restriction: 10-54 years (<35, 35-54)
Sex: Female
Stratifications: None. Standard Table 1

	1. Non-Cardiac Malformations					
	Unexposed Comparison		Methylphenidate Comparison		Amphetamines Comparison	
Pregnancy Episode Creation						
Delivery washout*	180	180	180	180	180	180
Pre/post term evaluation window	7	7	7	7	7	7
Pregnancy duration in absence of specific duration	273	273	273	273	273	273
Mother-infant linkage requirement	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)
Allowed # of days b-n infant BD and delivery date	3 days	3 days	3 days	3 days	3 days	3 days
Allowed gap between infant delivery and enrollment	Any	Any	Any	Any	Any	Any
Drug/Exposure						
Prevalent exposure/comparator	Modafinil or Armodafinil	Unexposed	Modafinil or Armodafinil	Methylphenidate	Modafinil or Armodafinil	Amphetamines
Incident w/ respect to:	N/A	N/A	N/A	N/A	N/A	N/A
Washout (days)	0	0	0	0	0	0
Exposure episode length (ITT)	None	None	None	None	None	None
Cohort definition	Cohort includes all valid medical product exposure episodes during a pregnancy episode	Cohort includes all valid medical product exposure episodes during a pregnancy episode	Cohort includes all valid medical product exposure episodes during a pregnancy episode	Cohort includes all valid medical product exposure episodes during a pregnancy episode	Cohort includes all valid medical product exposure episodes during a pregnancy episode	Cohort includes all valid medical product exposure episodes during a pregnancy episode
Exposure unit	Trimester	Trimester	Trimester	Trimester	Trimester	Trimester
Evaluation window	(1,1)	(1,1)	(1,1)	(1,1)	(1,1)	(1,1)
Episode gap	0	0	0	0	0	0
Episode extension period	0	0	0	0	0	0
Blackout period relative to pregnancy start date	0	0	0	0	0	0
Minimum days supplied	1	1	1	1	1	1
Stockpiling option	default	default	default	default	default	default
Exclude days supply?	No	No	No	No	No	No
Inclusion/Exclusion						
Pre-Existing Condition	Chromosomal abnormality	Chromosomal abnormality	Chromosomal abnormality	Chromosomal abnormality	Chromosomal abnormality	Chromosomal abnormality
Include/exclude	Exclusion	Exclusion	Exclusion	Exclusion	Exclusion	Exclusion
Evaluation period	(-301, 30)	(-301, 30)	(-301, 30)	(-301, 30)	(-301, 30)	(-301, 30)
Codedays	1	1	1	1	1	1
Population to which inclusion/exclusion applies	Mom and infant claims (applied to each MIL group)	Mom and infant claims (applied to each MIL group)	Mom and infant claims (applied to each MIL group)	Mom and infant claims (applied to each MIL group)	Mom and infant claims (applied to each MIL group)	Mom and infant claims (applied to each MIL group)
Index date to define inclusion/exclusion criteria	Delivery date	Delivery date	Delivery date	Delivery date	Delivery date	Delivery date

Appendix I. Specifications Defining Parameters for this Request

Medications	Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)
Include/exclude	Exclusion	Exclusion	Exclusion	Exclusion	Exclusion	Exclusion
Evaluation period	(0, 301)	(0, 301)	(0, 301)	(0, 301)	(0, 301)	(0, 301)
Codedays	1	1	1	1	1	1
CodeSupply	5x half-life of teratogen	5x half-life of teratogen	5x half-life of teratogen	5x half-life of teratogen	5x half-life of teratogen	5x half-life of teratogen
DateOnly	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval
Population to which inclusion/exclusion applies	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)
Index date to define inclusion/exclusion criteria	Pregnancy start date (default)	Pregnancy start date (default)	Pregnancy start date (default)	Pregnancy start date (default)	Pregnancy start date (default)	Pregnancy start date (default)
Other Exposures/Comparators	Methylphenidate, Amphetamines	Modafinil, Armodafinil, Methylphenidate, Amphetamines	Methylphenidate, Amphetamines	Modafinil, Armodafinil, Amphetamines	Methylphenidate, Amphetamines	Modafinil, Armodafinil, Methylphenidate
Include/exclude	Exclusion	Exclusion	Exclusion	Exclusion	Exclusion	Exclusion
Evaluation Period	(0, 90) or 1st trimester	(0, 90) or 1st trimester	(0, 90) or 1st trimester	(0, 90) or 1st trimester	(0, 90) or 1st trimester	(0, 90) or 1st trimester
Codedays	1	1	1	1	1	1
DateOnly	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval
Population to which inclusion/exclusion applies	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)
Index date to define inclusion/exclusion criteria	Pregnancy start date (default)	Pregnancy start date (default)	Pregnancy start date (default)	Pregnancy start date (default)	Pregnancy start date (default)	Pregnancy start date (default)
Event/Outcome	1. Non-Cardiac Malformations (definition in "Outcome algorithm" tab)		1. Non-Cardiac Malformations (definition in "Outcome algorithm" tab)		1. Non-Cardiac Malformations (definition in "Outcome algorithm" tab)	
Event/outcome	1. Non-Cardiac Malformations (definition in "Outcome algorithm" tab)		1. Non-Cardiac Malformations (definition in "Outcome algorithm" tab)		1. Non-Cardiac Malformations (definition in "Outcome algorithm" tab)	
Index date to anchor for outcome assessment	Pregnancy Delivery Date		Pregnancy Delivery Date		Pregnancy Delivery Date	
Evaluation window	Infant claims: 90 days after estimated pregnancy start to 30 or 90 days after delivery Mom claims: 90 days after estimated pregnancy start to 30 days after delivery (see Outcome Algorithm tab for exclusion window)		Infant claims: 90 days after estimated pregnancy start to 30 or 90 days after delivery Mom claims: 90 days after estimated pregnancy start to 30 days after delivery (see Outcome Algorithm tab for exclusion window)		Infant claims: 90 days after estimated pregnancy start to 30 or 90 days after delivery Mom claims: 90 days after estimated pregnancy start to 30 days after delivery (see Outcome Algorithm tab for exclusion window)	
Care setting/PDX	Any		Any		Any	
Claims to evaluate outcome	Mother and infant claims		Mother and infant claims		Mother and infant claims	
Outcome FROM anchor date	Estimated pregnancy start		Estimated pregnancy start		Estimated pregnancy start	
Outcome TO anchor date	Delivery date		Delivery date		Delivery date	
Propensity Score Matching	See Baseline Characteristics tab		See Baseline Characteristics tab		See Baseline Characteristics tab	
Covariates	See Baseline Characteristics tab		See Baseline Characteristics tab		See Baseline Characteristics tab	
Covariate evaluation window	See Baseline Characteristics tab		See Baseline Characteristics tab		See Baseline Characteristics tab	
Index date for covariates and PS risk set	Pregnancy start date		Pregnancy start date		Pregnancy start date	
Matching ratio	1:1		1:1		1:1	
Matching caliper settings	0.05		0.05		0.05	
Effect estimation	Risk-set Level		Risk-set Level		Risk-set Level	
Subgroup Analysis	Maternal Age		Maternal Age, Number of Dispensings		Maternal Age, Number of Dispensings	
Stratifying variable	Maternal Age		Maternal Age, Number of Dispensings		Maternal Age, Number of Dispensings	
Re-matching	Rematch within subgroup		Rematch within subgroup		Rematch within subgroup	

Appendix I. Specifications Defining Parameters for this Request

	2. Urinary Malformations					
	Unexposed Comparison		Methylphenidate Comparison		Amphetamines Comparison	
Pregnancy Episode Creation						
Delivery washout*	180	180	180	180	180	180
Pre/post term evaluation window	7	7	7	7	7	7
Pregnancy duration in absence of specific duration	273	273	273	273	273	273
Mother-infant linkage requirement	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)
Allowed # of days b-n infant BD and delivery date	3 days	3 days	3 days	3 days	3 days	3 days
Allowed gap between infant delivery and enrollment	Any	Any	Any	Any	Any	Any
Drug/Exposure						
Prevalent exposure/comparator	Modafinil or Armodafinil	Unexposed	Modafinil or Armodafinil	Methylphenidate	Modafinil or Armodafinil	Amphetamines
Incident w/ respect to:	N/A	N/A	N/A	N/A	N/A	N/A
Washout (days)	0	0	0	0	0	0
Exposure episode length (ITT)	None	None	None	None	None	None
Cohort definition	Cohort includes all valid medical product exposure episodes during a pregnancy episode	Cohort includes all valid medical product exposure episodes during a pregnancy episode	Cohort includes all valid medical product exposure episodes during a pregnancy episode	Cohort includes all valid medical product exposure episodes during a pregnancy episode	Cohort includes all valid medical product exposure episodes during a pregnancy episode	Cohort includes all valid medical product exposure episodes during a pregnancy episode
Exposure unit	Trimester	Trimester	Trimester	Trimester	Trimester	Trimester
Evaluation window	(1,1)	(1,1)	(1,1)	(1,1)	(1,1)	(1,1)
Episode gap	0	0	0	0	0	0
Episode extension period	0	0	0	0	0	0
Blackout period relative to pregnancy start date	0	0	0	0	0	0
Minimum days supplied	1	1	1	1	1	1
Stockpiling option	default	default	default	default	default	default
Exclude days supply?	No	No	No	No	No	No
Inclusion/Exclusion						
Pre-Existing Condition	Chromosomal abnormality	Chromosomal abnormality	Chromosomal abnormality	Chromosomal abnormality	Chromosomal abnormality	Chromosomal abnormality
Include/exclude	Exclusion	Exclusion	Exclusion	Exclusion	Exclusion	Exclusion
Evaluation period	(-301, 30)	(-301, 30)	(-301, 30)	(-301, 30)	(-301, 30)	(-301, 30)
Codedays	1	1	1	1	1	1
Population to which inclusion/exclusion applies	Mom and infant claims (applied to each MIL group)	Mom and infant claims (applied to each MIL group)	Mom and infant claims (applied to each MIL group)	Mom and infant claims (applied to each MIL group)	Mom and infant claims (applied to each MIL group)	Mom and infant claims (applied to each MIL group)
Index date to define inclusion/exclusion criteria	Delivery date	Delivery date	Delivery date	Delivery date	Delivery date	Delivery date
Medications						
Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)
Include/exclude	Exclusion	Exclusion	Exclusion	Exclusion	Exclusion	Exclusion
Evaluation period	(0, 301)	(0, 301)	(0, 301)	(0, 301)	(0, 301)	(0, 301)
Codedays	1	1	1	1	1	1
CodeSupply	5x half-life of teratogen	5x half-life of teratogen	5x half-life of teratogen	5x half-life of teratogen	5x half-life of teratogen	5x half-life of teratogen
DateOnly	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval
Population to which inclusion/exclusion applies	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)
Index date to define inclusion/exclusion criteria	Pregnancy start date (default)	Pregnancy start date (default)	Pregnancy start date (default)	Pregnancy start date (default)	Pregnancy start date (default)	Pregnancy start date (default)

Appendix I. Specifications Defining Parameters for this Request

Other Exposures/Comparators Include/exclude Evaluation Period Codedays DateOnly Population to which inclusion/exclusion applies Index date to define inclusion/exclusion criteria	Methylphenidate, Amphetamines Exclusion (0, 90) or 1st trimester 1 Lookback period should search for evidence of a date or an interval Mom claims (default - applied to all pregnancies) Pregnancy start date (default)	Modafinil, Armodafinil, Methylphenidate, Amphetamines Exclusion (0, 90) or 1st trimester 1 Lookback period should search for evidence of a date or an interval Mom claims (default - applied to all pregnancies) Pregnancy start date (default)	Methylphenidate, Amphetamines Exclusion (0, 90) or 1st trimester 1 Lookback period should search for evidence of a date or an interval Mom claims (default - applied to all pregnancies) Pregnancy start date (default)	Modafinil, Armodafinil, Amphetamines Exclusion (0, 90) or 1st trimester 1 Lookback period should search for evidence of a date or an interval Mom claims (default - applied to all pregnancies) Pregnancy start date (default)	Methylphenidate, Amphetamines Exclusion (0, 90) or 1st trimester 1 Lookback period should search for evidence of a date or an interval Mom claims (default - applied to all pregnancies) Pregnancy start date (default)	Modafinil, Armodafinil, Methylphenidate Exclusion (0, 90) or 1st trimester 1 Lookback period should search for evidence of a date or an interval Mom claims (default - applied to all pregnancies) Pregnancy start date (default)
Event/Outcome Event/outcome Index date to anchor for outcome assessment Evaluation window Care setting/PDX Claims to evaluate outcome Outcome FROM anchor date Outcome TO anchor date	2. Urinary Malformations (definition in "Outcome algorithm" tab) Pregnancy Delivery Date Infant claims: 90 days after estimated pregnancy start to 30 or 90 days after delivery Mom claims: 90 days after estimated pregnancy start to 30 days after delivery (see Outcome Algorithm tab for exclusion window) Any Mother and infant claims Estimated pregnancy start Delivery date	2. Urinary Malformations (definition in "Outcome algorithm" tab) Pregnancy Delivery Date Infant claims: 90 days after estimated pregnancy start to 30 or 90 days after delivery Mom claims: 90 days after estimated pregnancy start to 30 days after delivery (see Outcome Algorithm tab for exclusion window) Any Mother and infant claims Estimated pregnancy start Delivery date	2. Urinary Malformations (definition in "Outcome algorithm" tab) Pregnancy Delivery Date Infant claims: 90 days after estimated pregnancy start to 30 or 90 days after delivery Mom claims: 90 days after estimated pregnancy start to 30 days after delivery (see Outcome Algorithm tab for exclusion window) Any Mother and infant claims Estimated pregnancy start Delivery date			
Propensity Score Matching Covariates Covariate evaluation window Index date for covariates and PS risk set Matching ratio Matching caliper settings Effect estimation Subgroup Analysis Stratifying variable Re-matching	See Baseline Characteristics tab See Baseline Characteristics tab Pregnancy start date 1:1 0.05 Risk-set Level Maternal Age Rematch within subgroup	See Baseline Characteristics tab See Baseline Characteristics tab Pregnancy start date 1:1 0.05 Risk-set Level Maternal Age, Number of Dispensings Rematch within subgroup	See Baseline Characteristics tab See Baseline Characteristics tab Pregnancy start date 1:1 0.05 Risk-set Level Maternal Age, Number of Dispensings Rematch within subgroup			

Appendix I. Specifications Defining Parameters for this Request

	3. Musculoskeletal Malformations					
	Unexposed Comparison		Methylphenidate Comparison		Amphetamines Comparison	
Pregnancy Episode Creation						
Delivery washout*	180	180	180	180	180	180
Pre/post term evaluation window	7	7	7	7	7	7
Pregnancy duration in absence of specific duration	273	273	273	273	273	273
Mother-infant linkage requirement	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)	BC, RE, SI, LA, OT (Refer to pregnancy algorithm tab)
Allowed # of days b-n infant BD and delivery date	3 days	3 days	3 days	3 days	3 days	3 days
Allowed gap between infant delivery and enrollment	Any	Any	Any	Any	Any	Any
Drug/Exposure						
Prevalent exposure/comparator	Modafinil or Armodafinil	Unexposed	Modafinil or Armodafinil	Methylphenidate	Modafinil or Armodafinil	Amphetamines
Incident w/ respect to:	N/A	N/A	N/A	N/A	N/A	N/A
Washout (days)	0	0	0	0	0	0
Exposure episode length (ITT)	None	None	None	None	None	None
Cohort definition	Cohort includes all valid medical product exposure episodes during a pregnancy episode	Cohort includes all valid medical product exposure episodes during a pregnancy episode	Cohort includes all valid medical product exposure episodes during a pregnancy episode	Cohort includes all valid medical product exposure episodes during a pregnancy episode	Cohort includes all valid medical product exposure episodes during a pregnancy episode	Cohort includes all valid medical product exposure episodes during a pregnancy episode
Exposure unit	Trimester	Trimester	Trimester	Trimester	Trimester	Trimester
Evaluation window	(1,1)	(1,1)	(1,1)	(1,1)	(1,1)	(1,1)
Episode gap	0	0	0	0	0	0
Episode extension period	0	0	0	0	0	0
Blackout period relative to pregnancy start date	0	0	0	0	0	0
Minimum days supplied	1	1	1	1	1	1
Stockpiling option	default	default	default	default	default	default
Exclude days supply?	No	No	No	No	No	No
Inclusion/Exclusion						
Pre-Existing Condition	Chromosomal abnormality	Chromosomal abnormality	Chromosomal abnormality	Chromosomal abnormality	Chromosomal abnormality	Chromosomal abnormality
Include/exclude	Exclusion	Exclusion	Exclusion	Exclusion	Exclusion	Exclusion
Evaluation period	(-301, 30)	(-301, 30)	(-301, 30)	(-301, 30)	(-301, 30)	(-301, 30)
Codedays	1	1	1	1	1	1
Population to which inclusion/exclusion applies	Mom and infant claims (applied to each MIL group)	Mom and infant claims (applied to each MIL group)	Mom and infant claims (applied to each MIL group)	Mom and infant claims (applied to each MIL group)	Mom and infant claims (applied to each MIL group)	Mom and infant claims (applied to each MIL group)
Index date to define inclusion/exclusion criteria	Delivery date	Delivery date	Delivery date	Delivery date	Delivery date	Delivery date
Medications						
Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)	Teratogens (see Teratogen Half-Life tab)
Include/exclude	Exclusion	Exclusion	Exclusion	Exclusion	Exclusion	Exclusion
Evaluation period	(0, 301)	(0, 301)	(0, 301)	(0, 301)	(0, 301)	(0, 301)
Codedays	1	1	1	1	1	1
CodeSupply	5x half-life of teratogen	5x half-life of teratogen	5x half-life of teratogen	5x half-life of teratogen	5x half-life of teratogen	5x half-life of teratogen
DateOnly	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval	Lookback period should search for evidence of a date or an interval
Population to which inclusion/exclusion applies	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)	Mom claims (default - applied to all pregnancies)
Index date to define inclusion/exclusion criteria	Pregnancy start date (default)	Pregnancy start date (default)	Pregnancy start date (default)	Pregnancy start date (default)	Pregnancy start date (default)	Pregnancy start date (default)

Appendix I. Specifications Defining Parameters for this Request

Other Exposures/Comparators Include/exclude Evaluation Period Codedays DateOnly Population to which inclusion/exclusion applies Index date to define inclusion/exclusion criteria	Methylphenidate, Amphetamines Exclusion (0, 90) or 1st trimester 1 Lookback period should search for evidence of a date or an interval Mom claims (default - applied to all pregnancies) Pregnancy start date (default)	Modafinil, Armodafinil, Methylphenidate, Amphetamines Exclusion (0, 90) or 1st trimester 1 Lookback period should search for evidence of a date or an interval Mom claims (default - applied to all pregnancies) Pregnancy start date (default)	Methylphenidate, Amphetamines Exclusion (0, 90) or 1st trimester 1 Lookback period should search for evidence of a date or an interval Mom claims (default - applied to all pregnancies) Pregnancy start date (default)	Modafinil, Armodafinil, Amphetamines Exclusion (0, 90) or 1st trimester 1 Lookback period should search for evidence of a date or an interval Mom claims (default - applied to all pregnancies) Pregnancy start date (default)	Methylphenidate, Amphetamines Exclusion (0, 90) or 1st trimester 1 Lookback period should search for evidence of a date or an interval Mom claims (default - applied to all pregnancies) Pregnancy start date (default)	Modafinil, Armodafinil, Methylphenidate Exclusion (0, 90) or 1st trimester 1 Lookback period should search for evidence of a date or an interval Mom claims (default - applied to all pregnancies) Pregnancy start date (default)
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Propensity Score Matching Covariates Covariate evaluation window Index date for covariates and PS risk set Matching ratio Matching caliper settings Effect estimation Subgroup Analysis Stratifying variable Re-matching	See Baseline Characteristics tab See Baseline Characteristics tab Pregnancy start date 1:1 0.05 Risk-set Level Maternal Age Rematch within subgroup		See Baseline Characteristics tab See Baseline Characteristics tab Pregnancy start date 1:1 0.05 Risk-set Level Maternal Age, Number of Dispensings Rematch within subgroup		See Baseline Characteristics tab See Baseline Characteristics tab Pregnancy start date 1:1 0.05 Risk-set Level Maternal Age, Number of Dispensings Rematch within subgroup	

ICD-9-CM, ICD-10-CM, HCPCS, and CPT codes are provided by Optum360. ICD-10-CM codes were mapped from ICD-9-CM codes using the Centers for Medicare and Medicaid Services General Equivalence Mappings.

NDC codes are checked against First Data Bank's "National Drug Data File (NDDF®) Plus."

*Delivery Washout and Live birth delivery exclusion together exclude pregnancies with evidence of live birth delivery during the entire pregnancy period.

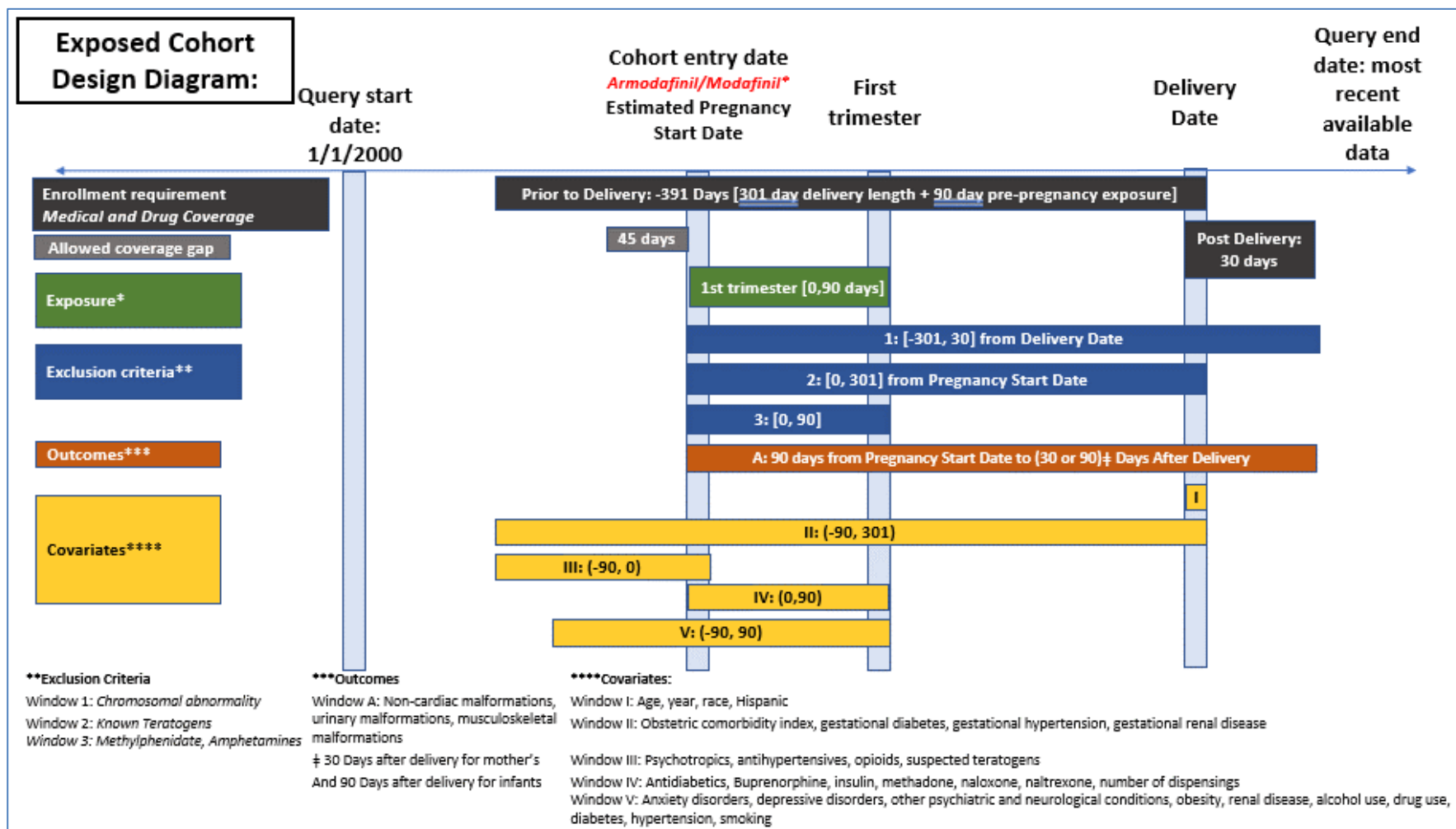
Appendix J. Specifications Defining Baseline Characteristics for this Request

Baseline Characteristics									
Characteristic	Propensity Score Model	Care Setting	Principal Diagnosis Position	Evaluation Date	Evaluation Period Start	Evaluation Period End	Exclude Evidence of Inclusion/Exclusion Period	Days Supply if Includes Dispensings	Number of Instances the Covariate Should Be Found in Evaluation Period
Maternal age	Include	N/A	N/A	Delivery Date	N/A	N/A		N/A	N/A
Year	Include	N/A	N/A	Delivery Date	N/A	N/A		N/A	N/A
Race	Include	N/A	N/A	Delivery Date	N/A	N/A		N/A	N/A
Other Baseline Characteristics									
Obstetric comorbidity index	Include	N/A	N/A	Pregnancy Start	-90	301		N/A	N/A
Anxiety disorders	Include	Any	Any	Pregnancy Start	-90	90		N/A	1
Depressive disorders	Include	Any	Any	Pregnancy Start	-90	90		N/A	1
All other psychiatric and neurological conditions	Include	Any	Any	Pregnancy Start	-90	90		N/A	1
Psychotropic medications	Include	Any	Any	Pregnancy Start	0	90	Evaluation period should search for evidence of days supply		N/A
Obesity	Include	Any	Any	Pregnancy Start	-90	90		N/A	1
Renal disease	Include	Any	Any	Pregnancy Start	-90	90		N/A	1
Antihypertensive medications	Include	N/A	N/A	Pregnancy Start	0	90	Evaluation period should search for evidence of days supply		N/A
Opioids	Include	N/A	N/A	Pregnancy Start	0	90	Evaluation period should search for evidence of days supply		N/A
Suspected teratogens	Include	N/A	N/A	Pregnancy Start	0	90	Evaluation period should search for evidence of days supply		N/A
Alcohol use, abuse or dependence	Include	Any	Any	Pregnancy Start	-90	90		N/A	1
Diabetes	Include	Any	Any	Pregnancy Start	-90	90		N/A	1
Drug abuse or dependence	Include	Any	Any	Pregnancy Start	-90	90		N/A	1
Gestational diabetes	Include	Any	Any	Pregnancy Start	-90	301		N/A	1
Gestational hypertension	Include	Any	Any	Pregnancy Start	-90	301		N/A	1
Gestational renal disease	Include	Any	Any	Pregnancy Start	-90	301		N/A	1
Hypertension	Include	Any	Any	Pregnancy Start	-90	90		N/A	1
Smoking	Include	Any	Any	Pregnancy Start	-90	90		N/A	1
Antidiabetic medications	Include	N/A	N/A	Pregnancy Start	0	90	Evaluation period should search for evidence of days supply		N/A
Buprenorphine	Include	N/A	N/A	Pregnancy Start	0	90	Evaluation period should search for evidence of days supply		N/A
Insulin	Include	N/A	N/A	Pregnancy Start	0	90	Evaluation period should search for evidence of days supply		N/A
Methadone	Include	N/A	N/A	Pregnancy Start	0	90	Evaluation period should search for evidence of days supply		N/A

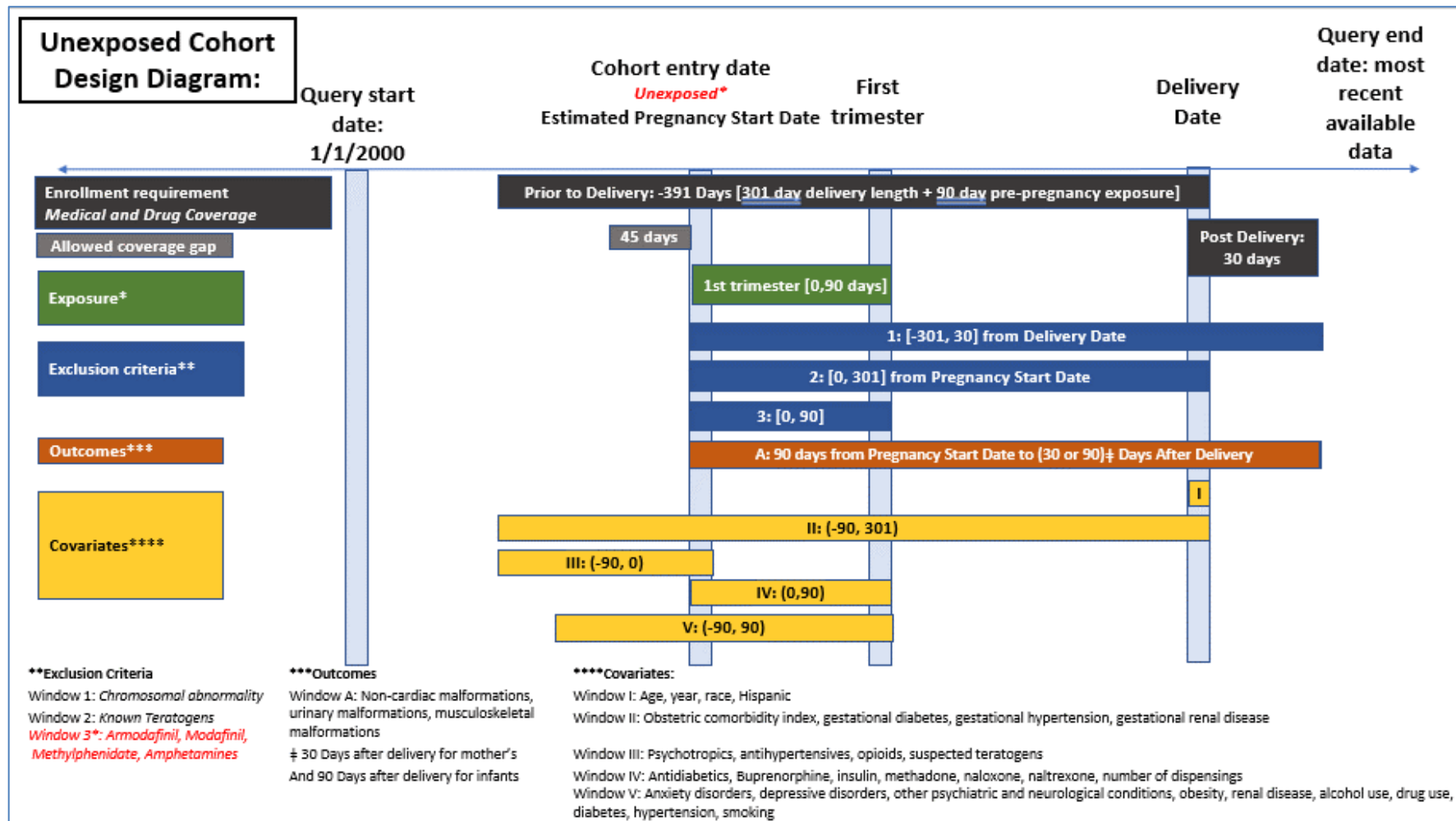
Appendix J. Specifications Defining Baseline Characteristics for this Request

Baseline Characteristics								
Characteristic	Propensity Score Model	Care Setting	Principal Diagnosis Position	Evaluation Date	Evaluation Period Start	Evaluation Period End	Exclude Evidence of Days Supply if Inclusion/Exclusion Period Includes Dispensings	Number of Instances the Covariate Should Be Found in Evaluation Period
Naloxone	Include	N/A	N/A	Pregnancy Start	0	90	Evaluation period should search for evidence of days supply	N/A
Naltrexone	Include	N/A	N/A	Pregnancy Start	0	90	Evaluation period should search for evidence of days supply	N/A
Number of dispensings								
1	Include	N/A	N/A	Pregnancy Start	0	90	Evaluation period should search for evidence of dispensing	1
2+	Include	N/A	N/A	Pregnancy Start	0	90	Evaluation period should search for evidence of dispensing	2 or more
Utilization Metrics								
Number of generic prescriptions	Baseline table only	N/A	N/A	Pregnancy Start	-90	0	N/A	N/A
Number of unique dispensings	Baseline table only	N/A	N/A	Pregnancy Start	-90	0	N/A	N/A
Number of inpatient visits (IP)	Baseline table only	IP	N/A	Pregnancy Start	-90	0	N/A	N/A
Number of emergency department (ED) visits	Baseline table only	ED	N/A	Pregnancy Start	-90	0	N/A	N/A
Number of ambulatory encounters (AV)	Baseline table only	AV	N/A	Pregnancy Start	-90	0	N/A	N/A
Number of non-acute institutional encounters (IS)	Baseline table only	IS	N/A	Pregnancy Start	-90	0	N/A	N/A
Number other ambulatory encounters (OA)	Baseline table only	OA	N/A	Pregnancy Start	-90	0	N/A	N/A

Appendix K. Design Diagrams for this Request



Appendix K. Design Diagrams for this Request



Appendix K. Design Diagrams for this Request

