

Enhancements to Sentinel's Routine Querying System

2014 – 2023 Enhancements

Year	Enhancement	Description
2014	Query Request Package (QRP) 1.0	<ul style="list-style-type: none"> First release of the QRP, which included the ability to calculate background rates and define episodes of new use of a medical product of interest and evaluates the occurrence of health outcomes of interest
2015	QRP 2.0	<ul style="list-style-type: none"> Added ability to conduct a study using a self-controlled risk interval design
2016	QRP 2.2	<ul style="list-style-type: none"> Added the medical product use during pregnancy cohort identification strategy
	QRP 3.0	<ul style="list-style-type: none"> Enhanced Propensity Score (PS) Analysis capabilities to 1) add the ability to define covariates to include in propensity score estimation models and 2) produce PS model diagnostics
2017	QRP 4.0	<ul style="list-style-type: none"> Redesigned the underlying code base to maximize the consistency across available cohort identification strategies
	QRP 5.0	<ul style="list-style-type: none"> Added the medical product utilization cohort identification strategy Added the ability to describe the most frequent claims in a cohort of interest
2018	QRP 6.0	<ul style="list-style-type: none"> Added manufacturer-level product utilization and switching patterns cohort identification strategy Added ability to 1) evaluate events in a pre-defined observation window in relation to an episode, 2) describe the overlap between two different episodes, and 3) evaluate events during the concomitant use of two different treatment episodes
	QRP 7.0	<ul style="list-style-type: none"> Added ability to query the Mother Infant Linkage Sentinel Common Data Model (SCDM) table and to perform a PS analysis to evaluate maternal and/or infant outcomes following a maternal exposure
2019	QRP 8.0	<ul style="list-style-type: none"> Added ability to perform signal identification using PS based TreeScan™ and Self-Controlled TreeScan
	QRP 9.0	<ul style="list-style-type: none"> Added ability to perform an Interrupted Time Series analysis
2020	QRP 10.0	<ul style="list-style-type: none"> Enhanced PS analysis capabilities to 1) add ability to perform Inverse Probability of Treatment Weighted analysis and PS Stratum Weighting analysis following an Exposures and Follow-up Time analysis, 2) refine how PS stratification is performed, 3) produce weighted baseline characteristics

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		<p>tables, 4) add ability to perform fixed ratio matching in a PS matching analysis, and 5) add additional user options when computing a high dimensional PS</p> <ul style="list-style-type: none"> Redesigned the underlying code base and modified user options in order to reduce query execution time
2021	QRP 10.4	<ul style="list-style-type: none"> Added cohort attrition tables for all cohort identification strategies
	QRP 11.0	<ul style="list-style-type: none"> Added ability to analyze cumulative, average daily dose, and current filled daily dose in Medical Product Utilization analyses Enhanced cohort selection capabilities to restrict cohort based on cumulative and average filled daily dose Incorporated QRP Reporting Tool into QRP to produce an automated summary report in distributed queries
	QRP Reporting Tool 1.0	<ul style="list-style-type: none"> First release of a reporting tool with the capability to 1) produce a Characteristics table, 2) produce descriptive summary tables, 3) produce an attrition table, 4) produce figures for inferential and descriptive analyses, and 4) produce the appendices that accompany reports
2022	QRP 12.0	<ul style="list-style-type: none"> Enhanced PS analysis capabilities to 1) produce Kaplan Meier curves for PS Stratum Weighting and Inverse Probability of Treatment Weighting analyses, 2) re-compute PS when conducting subgroup analyses, 3) perform Firth Logistic Corrected Method when computing a PS, and 4) test the Cox proportional hazard assumption Added ability to query the SCDM laboratory table when defining baseline covariates
	QRP Reporting Tool 2.0	<ul style="list-style-type: none"> Expanded PS analysis reporting to include 1) Kaplan Meier curves and 95% confidence intervals for all analyses and 2) additional reporting tables for subgroup analyses
2023	QRP 12.2	<ul style="list-style-type: none"> Added ability to compute a disease risk score composed of medical codes (diagnosis, procedure, and dispensing) and demographic information
	QRP 13.0	<ul style="list-style-type: none"> Enhanced the pregnancy identification and gestational age estimation algorithm and expanded available pregnancy outcomes to include non-live births

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		<ul style="list-style-type: none">• Enhanced inclusion/exclusion and covariate assessment in pregnancy analyses to define cohort characteristics throughout the entire gestational period• Added the ability to perform Inverse Probability of Treatment Weighted analysis and PS Stratum Weighting analysis in pregnancy analyses