

Deliverable D4.4 Central OHDSI software deployed as data exploration and analysis platform for real world data and central OMOP v5 dictionaries set up – publishable summary

To optimally benefit from real-world population health data from multiple sources, a common data model (CDM) is required. Observational databases differ in both purpose and design. Electronic Medical Records (EMR) are aimed at supporting clinical practice at the point of care, while administrative claims data are built for the insurance reimbursement processes. Each has been collected for a different purpose, resulting in different logical organizations and physical formats, and the terminologies used to describe the medicinal products and clinical conditions vary from source to source. The CDM can accommodate both administrative claims and EHR, allowing users to generate evidence from a wide variety of sources. It also supports collaborative research across data sources and across countries, in addition to being manageable for data owners and useful for data users.

In the PIONEER project we decided to use the Observational Medical Outcomes Partnership (OMOP) CDM which allows us to collaborate with the Observational Health Data Sciences and Informatics (OHDSI) program. OHDSI is a multi-stakeholder, interdisciplinary collaborative to bring out the value of health data through large-scale analytics. OHDSI has established a fast-growing international network of researchers and observational health databases and is developing open source data analytics tools.

One of the strengths of the OMOP-OHDSI platform is that it supports federated data analysis. In this case an analysis script can be run on multiple local OMOP databases, generating stronger scientific evidence than would be possible on a single OMOP database.

In the PIONEER project federated installations of OHDSI-OMOP will be realised for data that may not leave the data providers premises while central installation of OHDSI-OMOP is realised for data that may leave the sources server or repository.