GUSTO OMOP Data Catalogue lays the foundations for developing cross-study OMOP Data Catalogues expanded across APAC and global OHDSI data partners, enabling database level characterizations.

INTRO:
- Growing Up in Singapore Towards healthy Outcomes (GUSTO) aims to understand how conditions in pregnancy and early childhood influence the subsequent health and development of women and children.
- The A*STAR/GUSTO Data Vault platform have advanced data exploration capabilities for research data, biospecimens and publications asset management.
- The OMOP Data Catalogue was created in GUSTO Data Vault to showcase the GUSTO data which have been converted into OMOP CDM format.

METHODS
- Data Vault (containerized web application with Docker) was built using PostgreSQL database and Django.
- Tools used: HTML, CSS, jQuery, Ajax, Python, Plotly Dash, Dashboard engine in Dash Enterprise
- OMOP fields were mapped using Athena and customized R programming scripts.

RESULTS
- OMOP Data Catalogue makes GUSTO cohort-specific CDM fields to be discovered across the Person, Condition, Observation and Measurement tables by the global research community.
- Metadata is described with relevant attributes such as CDM Field, Concept ID, Name, Subject Type, Visit Timepoint, Description and Domain.
- Data profiling of the OMOP Concept IDs enables GUSTO data to be reused, described, discovered, and identified by researchers (FAIR data principles).
- OMOPed data from incremental OMOP conversions can be seamlessly integrated in OMOP Data Catalogue by GUSTO data curators.
- This enables database level characterizations for GUSTO study.

Our future work includes the optimization of GUSTO OMOP data conversion journey using advanced OMOP conversion tools such as the IQVIA OMOP Converter.

Snippets of OMOP Data Catalogue Landing Page

Person table

Measurement table

Observation table

Global Impact of GUSTO Data Vault