Course Title: Introduction to OHDSI OMOP-CDM Data Model

Course Duration: 8 hours

Course Description: The course aims to provide an in-depth understanding of the OHDSI OMOP-CDM data model, its vocabularies, and how to use Atlas web application for creating cohorts and extracting data for observational studies. The course will cover the core concepts and principles of the OMOP-CDM data model, including its structure, key tables, and vocabularies. Additionally, the course will cover the practical aspects of working with Atlas, including how to create and execute cohort queries.

Course instructor: Alberto Labarga Gutiérrez

Learning Objectives: By the end of this course, participants will be able to:

- Understand the core concepts and principles of the OMOP-CDM data model
- Explain the structure and key tables of the OMOP-CDM data model
- Identify and use the key vocabularies in the OMOP-CDM data model
- Create and execute queries to extract clinical and population-related insights
- Create and execute cohort queries using Atlas web application
- Extract data from OMOP-CDM data model for observational studies

Course Outline:

Module 1: Introduction to OMOP-CDM data model (1 hour)

- Overview of OMOP-CDM data model
- Key concepts and principles of OMOP-CDM data model
- Understanding the structure and key tables of the OMOP-CDM data model
- Introduction to OMOP-CDM vocabularies
- Learning outcomes: Participants will understand the basics of OMOP-CDM data model, its structure, and vocabularies.

Module 2: OMOP-CDM vocabularies (1 hour)

- Introduction to OMOP-CDM vocabularies
- Understanding the different types of vocabularies
- Use of vocabularies in the OMOP-CDM data model
- Learning outcomes: Participants will understand the different types of OMOP-CDM vocabularies and their use in the data model.

Module 3: Common queries of clinical interest (2 hours)

- Overview of common queries of clinical interest
- Example queries and their use cases
- Introduction to SQL
- Basic SQL commands for querying OMOP-CDM data model
- Learning outcomes: Participants will learn how to write basic SQL commands and execute common queries of clinical interest.

Module 4: Introduction to OHDSI web tools (Achilles, Ares,Atlas,etc) (2 hours)

- Exploring an OMOP instance data visually
- Introduction to Atlas web application
- Creating and managing cohorts in Atlas
- Understanding cohort definitions
- Execution of cohort queries in Atlas
- Learning outcomes: Participants will learn how to create and execute cohort queries using Atlas web application.

Module 5: Cohort extraction (1 hour)

- Introduction to OHDSI studies and cohort extraction tools
- Extracting data from OMOP-CDM data model for observational studies
- Methods for data extraction
- Preparing data for analysis
- Learning outcomes: Participants will learn how to extract data from OMOP-CDM data model for observational studies.

Conclusion: Recap of key concepts covered in the course, final Q&A session. (1 hour)

Note: The course outline and duration can be adjusted as per the specific needs and requirements of the participants.

Course resources:
- Course site: https://github.com/alabarga/omop-cdm-course
- Slides (PDF)
- The Book of OHDSI (PDF)
- Sample database (sqlite)
- Sample queries (SQL)
- Atlas environment (docker)

Course requirements: Students should have their own computers and have downloaded the materials and install the required software as described at the course site