### The Book of OHDSI Korea

Seng Chan You 2019-05-26

### Contents

1	Introduction	5			
<b>2</b>	The OHDSI Community				
	2.1	7			
	2.2	8			
	2.3	8			
	2.4 , ,	8			
3	The OMOP-CDM	11			
	3.1 Design Principles	11			
	3.2 Data Model Conventions	11			
	3.3 OMOP-CDM Standardized Tables	11			
4	The OMOP Vocabulary				
	4.1 Design Principles	13			
	4.2 Data Model Conventions	13			
	4.3 OMOP-CDM Standardized Tables	13			
5	Extract Transform Load	15			
	5.1 Pre-processing	15			
6	SQL and R				
	6.1 Database Connector	17			
	6.2 SQL Render	17			
7	Cohort	19			
	7.1 Using SQL	19			
	7.2 ATLAS	19			
	7.3 Phenotype Library	19			

4	4 CONTE	ENT	25

8	Characterization		
	8.1	FeatureExtraction	21
	8.2	ATLAS	21
9	Pop	pulation-Level Estimation	23
10	Pati	ient-Level Prediction	<b>25</b>
11	Exte	ension of CDM	<b>27</b>
	11.1	Genomic CDM	27
	11.2	Radiology CDM	27
	11.3	AEGIS	27

### Introduction

# The OHDSI Community

2.1	
2.1.1 (Distributed Research Network)	
, , , , ,	
, / ( , , , , ) , ( 1).	
2.1.2 (Common Data Model)	
,	
. $ETL(Extract, Transform, Load)$ .	
(Observational Health Data and Informatics, OHDSI) Sentinel CDM), (The National Patient-Centered Clinical Outcome PCORnet)	FDA (es Research Network,
OHDSI . OHDSI 2008 Observational Medical Outcomes . , , ,	Partnership(OMOP)
OMOP 2013 , OMOP CDM OHDSI . OMOP	, OHDSI
CDM Sentinel Initiative (Food and Drug Administration, FDA) Sentinel . FDA FDA .	
Sentinel . Sentinel CDM . Sentinel CDM . Distributed Database(SDD) .	. Sentinel
CDM PCORnet The Patient-Centered Outcomes Research Institute(PCO (Electronic health records, EHR) (Comparative effectiveness research, C.	

Openness:

11 PPRNs)	(Clinical data research networks, CDRNs) 18 (Patient-powers) . PCORnet (patient-centered approach)	red research networks .
2.2		
OMOP (C	(The Observational Health Data Sciences and Informatics, OHDSI network) (Observational Medical Outcomes Partnership) . (CECh Network) , OHDSI . OHDSI ,	$(\mathrm{DM})$ (Distributed OMOP-CDM ,
2.3		
2.4	, ,	
2.4.1		
	o improve health by empowering a community to collaboratively generate the romotes better health decisions and better care.	ne evidence that
2.4.2		
	world in which observational research produces a comprehensive understandiisease.	ng of health and
2.4.3		
• In	Innovation:	
	Observational research is a field which will benefit greatly from disruptive think eek and encourage fresh methodological approaches in our work.	ing. We actively
• R	Reproducibility: , , .	
Accı	ccurate, reproducible, and well-calibrated evidence is necessary for health imp	rovement.
•	Community:	
	veryone is welcome to actively participate in OHDSI, whether you are a professional, a researcher, or someone who simply believes in our cause.	atient, a health

2.4.		g
<i></i>	, ,	U

We strive to make all our community's proceeds open and publicly accessible, including the methods, tools and the evidence that we generate.

• Collaboration: , . .

We work collectively to prioritize and address the real world needs of our community's participants.

• Beneficence:

We seek to protect the rights of individuals and organizations within our community at all times.

# The OMOP-CDM

- 3.1 Design Principles
- 3.2 Data Model Conventions
- 3.3 OMOP-CDM Standardized Tables

# The OMOP Vocabulary

- 4.1 Design Principles
- 4.2 Data Model Conventions
- 4.3 OMOP-CDM Standardized Tables

### **Extract Transform Load**

- 5.1 Pre-processing
- 5.1.1 WhiteRabbit and Rabbit-in-a-Hat
- 5.1.2

# SQL and R

- 6.1 Database Connector
- 6.2 SQL Render

# Cohort

- 7.1 Using SQL
- **7.2** ATLAS
- 7.3 Phenotype Library

### Characterization

- 8.1 FeatureExtraction
- **8.2** ATLAS
- 8.2.1 Baseline characteristics
- 8.2.2 Incidence rate calculation

# Population-Level Estimation

### Patient-Level Prediction

### Extension of CDM

- 11.1 Genomic CDM
- 11.2 Radiology CDM
- 11.3 **AEGIS**