



OHDSI Data Network in Action

Kristin Kostka

IQVIA



United Nations of OMOP (Our Global Network)

- 37 databases participating
 - Insurance claims, EHRs, Administrative data, Registries
 - 10 countries on 3 continents
- 8 databases with COVID+ patients (and growing)
- Everyone adopted OMOP CDMv5+





Executing 9 OHDSI network studies concurrently...



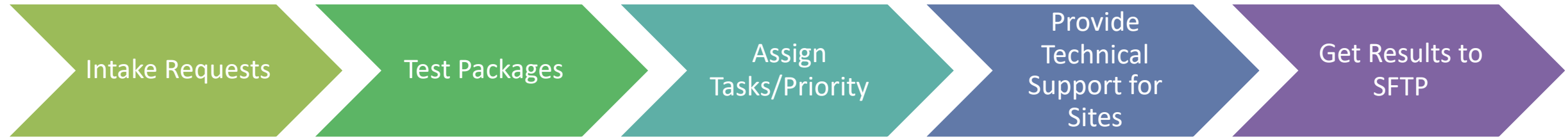
Expectation



Reality



Process for managing 9 OHDSI network studies concurrently





Mobilizing our action plan

Activity	Shiny App	Data Owners																														
		HIRA	FEEDER-NET COVID Cases (2)	Tufts CLAF	CUM	Daegu Catholic University Medical Center--	STARR-OMC	Maine Medical Center	AUSOM	KNUP	WKUH	Seoul National CDM	CCAIE (Janssen)	CCAIE (UNM)	MDCR (Janssen)	MDCR (UNM)	IPCI	IQVIA UK IMRD	IQVIA DA France	IQVIA DA Belgium	IQVIA DA Germany	IQVIA Hospital CDM	IQVIA US Open Claims	CPRD	JMDC	Optum DOD	Optum PANTHER	SIDIAP	Vanderbilt Synthetic Derivative	MDCD (Janssen)		
Pre Work: File Protocol with Local IRB / Go		[Green bar]																														
Pre Work: Phenotype Evaluation		[Green bar]																														
Cohort Diagnostics of Exposures: Covid19CohortEvalu	https://data.hi.hi.org/Covid19CohortEvaluationExposures/	[Green bar]																														
Characterization Res	TBC	[Green bar]																														
COVID-19 positive patients	TBC	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]
Run Package		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Share Results		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
COVID-19 +ve subgroup	TBC	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Run Package		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Share Results		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Influenza, symptoms and complications	TBC	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Run Package		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Share Results		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Invasive treatments for respiratory distress	TBC	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Run Package		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Share Results		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
COVID-19 testing	TBC	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Run Package		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Share Results		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Prediction Studies	-	[Green bar]																														
Hospitalization In Sent Home Patients (Internal Validati	-	[Green bar]																														
Hospitalization In Sent Home Patients (External Validat	-	[Green bar]																														
Installing library into Rstudio		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Check Cohort Counts		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Run Package		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Share Results in OHDSI SFTP		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Results Published in Shiny App		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Hospitalization In Symptomatic Patients (External Valid	-	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Installing library into Rstudio		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Check Cohort Counts		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Run Package		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Share Results in OHDSI SFTP		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Results Published in Shiny App		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Severe In Hospitalized Patients (Internal Validation)	-	[Green bar]																														
Severe In Hospitalized Patients (External Validation)	-	[Green bar]																														
Installing library into Rstudio		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Check Cohort Counts		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	
Run Package		[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	[Green]	

Thank you HIRA, AUSOM, Tufts, CUMC, Stanford, UC Denver, Vanderbilt, SIDIAP and Veteran's Affairs/VINCI!



A snapshot of our journey...

Teams | OH | Competency-Study exec... | Posts | Files | Planner

Your teams: OH | OHDSI-COVID-19

General
Collaborator Introductions
Competency-Literature review ...
Competency-Phenotype dev...
Competency-Study executio...
Competency-Study package de...
Study-Estimation-ACE Inhibi...
Study-Estimation-HepC prot...
Study-Estimation-Hydroxych...
Study-Prediction
Support-Analytics
Support-Data

Pre-work
+ Add task
Yellow
Covid19CohortEvaluation
5/6

Characterization study
+ Add task
Red
Package that needs to be executed
0/1
Yellow
CohortDiagnostics: OHDSI-COVID-19-HospitalisationsCharacterisation
New CohortDiagnostic COVID19 Hospitalisations package available for testing (see instructions from Ed below): <https://github.com/edward-burns/OHDSI-COVID19-HospitalisationsCharacterisation>
03/29 4/5

Prediction study
+ Add task
Red
Q1: HospitalizationInSymptomatic
The objective of this study is to inf...
03/29 4/5
Red
Q2: Predicting which patients...
03/29 4/5

Announcement #2: Prediction validation packages for Q2 and Q3 ready
Hi again TEAM,
We are very excited to announce that the packages for prediction validation of questions 2 and 3 are ready and available for you to run here:
Q2: HospitalizationInSentHomePatientsValidation
Q3: SevereInHospitalizedPatientsValidation
If you think you can run it in your data, please assign yourself to this following task in the planner:
Q2: Predicting which patients sent home after being seen at outpatient for flu or flu-like symptoms end up in hospital 2-30 days later en Planner
Q3: Predicting which patients admitted to hospital for pneumonia will be more severe (e.g. require ventilator or ICU) en Planner
If you need help running this in your data, please let us know!
Please remember to share the results using the OHDSI SFTP. See instructions here: OHDSI SFTP Guide
Results for Question 2 should go in this folder: **Prediction/ValidationQ2**
And results for question 3 here: **Prediction/ValidationQ3**
Can't wait to see your results!

Search: CCAE

Entries	Subjects
983	983
7,222	7,222
26,509	26,509
26,509	26,509
97,814	97,814
97,814	97,814
69,881	69,881
69,881	69,881
186	186
186	186
9,828	9,828
9,828	9,828
12,145	12,145
12,145	12,145

```
library(Covid19EstimationI16JAKInhibitors)

# Optional: specify where the temporary files (used by the ff package)
dir.create(file.path(getwd(), "/tmp"), showWarnings = FALSE)
options(fftempdir = str_c(getwd(), "/tmp"))

# Maximum number of cores to be used:
maxCores <- parallel::detectCores()

# The folder where the study intermediate and result files will be
outputFolder <- paste0(getwd(), "/Results/OpenClaims")

# Details for connecting to the server:
connectionDetails <- createConnectionDetails(dbms = "redshift",
server = "rwes-e360-ana

10
11
12
13
14
15
16
19:49 (Top Level)

Console Terminal
~/COVID19-Estimation/COVID19EstimationI16JAKInhibitors-master/
Executing SQL took 49.8 secs
Creating negative control outcome cohorts
-----| 100%
Executing SQL took 9.72 secs
Counting cohorts
Running CohortMethod analyses
*** Creating cohortMethodData objects ***
-----| 100%
*** Creating study populations ***
-----| 100%
*** Fitting shared propensity score models ***
-----| 78%
```

ATLAS: Concept Sets

-0.7718
0.7147
0.6315
-0.5689
0.4117
0.4067

Series: Procedure Occurrence Short Term
Covariate: procedure_occurrence during day -30 through 0 days relative to index:
Chemotherapy administration, intravenous infusion technique up to 1 hour, single or
initial substance/drug
X: 1.46%
Y: 39.30% 5927