



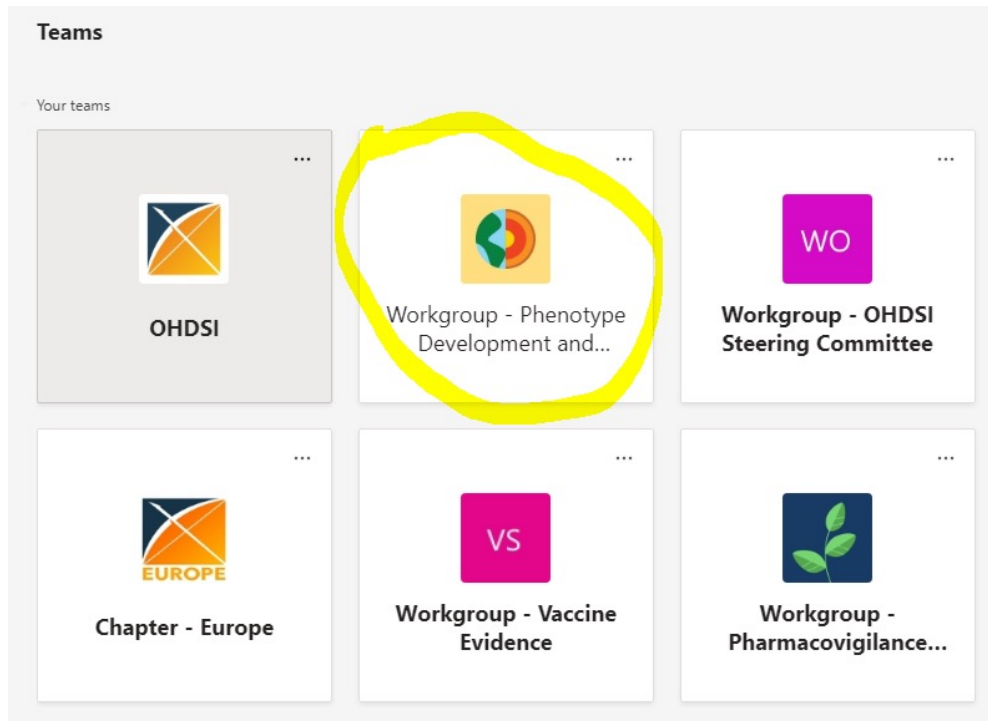
Phenotype Development and Evaluation Workgroup

OHDSI Community Call Update
October 5th 2021



Who are we? What are we? Why are we?

“Cohort Definitions”



We meet twice a month

- Second Friday
- Fourth Friday
- @1pm EST



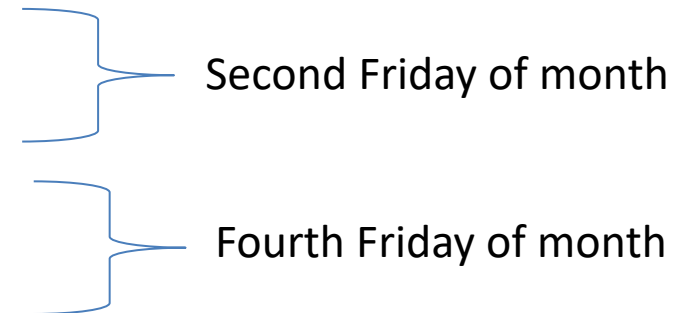


Workgroup scope

Mission: We improve the quality and reliability of the evidence generated from observational data, by advancing the science of phenotype development and evaluation.

Areas of focus:

1. Content development and dissemination
2. Best practice development and evaluation
3. Science of phenotyping
4. Tool design and innovation





Content development and dissemination

Second Friday

"We build better cohort definitions and make it available for everyone."

Develop, evaluate and make available cohort definitions for broader (re)use for evidence generation process.

Develop phenotypes

- Define the clinical idea
- Rule based and probabilistic cohort definitions

Evaluate performance characteristics

- Generalizability
- Impact on measurement bias
- Misclassification error of persons, index date etc.
- Agreement vs disagreement between alternatives

Make available

- Repository of definition
- Catalogued, easily retrievable
- Used/reused in OHDSI studies



Best practice development and evaluation

Second Friday

“We enable a community to build better cohort definitions”

To develop, document and use best practices for improving the reproducibility and quality of cohort definitions – and disseminate these best practices through teaching, education and training.

Develop best practice

- Process mapping
- What went right
- What went wrong
- Gotcha, mistakes

Document

- Document the process
- Use the process
- Reproducible and efficient

Disseminate

- Teaching
- Training - workshop
- Education



Science of phenotyping

“We evaluate if we are building better cohort definitions and innovate on methods to improve this science.”

Conduct methods research on performance of cohort definitions, develop measurement systems that provide absolute and comparative performance of a cohort definition.

Sensitivity
Specificity
Positive predictive value

Measurement bias
Misclassification bias

Computational feasibility – complex logic on very large dataset may not be possible
Portability of definitions that apply to rich datasets vs not so granular datasets (including missing data).
Applicability and acceptance of variations (and resultant errors) based on the nature of source data (open vs closed, EHR vs claim)



Tool design and innovation

“We facilitate systematic use of best practices by adapting, innovating and promoting the use of OHDSI standard tools.”

Enable the community to adopt best practices facilitated by OHDSI developed tools such as CirceR, CAPR, Aphrodite, Phevaluator, Cohort Diagnostics, Phenotype Library.

Not tool developers → HADES

We are designers to help adopt best practices



How is work done

- Co-ordinate using two formal monthly meetings
 - We report out to other OHDSI workgroups that are leading studies
- We plan synchronously
 - We use theme of the month approach
 - Get it done - 'Get it to completion'
- We execute asynchronously
 - Asynchronous communication
 - Asynchronous projects or efforts (sub-group/leads)



Theme of the Month – get it done

How confident are we that persons with a diagnosis code for Covid-19 actually have Covid disease?

Attendance

Gowtham Rao
Williams, Andrew E
Suliman, Lina
Roggenkamp, Tracie
Weaver, James [JANUS]
Evan Patrick Minty
Makadia, Rupa [JRDUS]
Shoaibi, Azza [JRDUS]
Kenny, Ryan
Bruce Bray
Chip Shaw
Patrick Ryan
Vojtech Huser
Wilkins, Kenneth (NIH/NIDDK) [E]
Natarajan, Karthik
OHDSI Phenotype development and evaluation workgroup - Fourth Friday meeting - 1pm to 2pm est

Introduction: The 2019 novel coronavirus disease (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), is a condition that is diagnosed at both inpatient and outpatient settings. In the United States, the 'ICD-10-CM Official Guidelines for Coding and Reporting' (ICD-10-CM Official Guidelines for Coding and Reporting FY 2021 – UPDATED January 1, 2021 (October 1, 2020 - September 30, 2021)) provides a set of official rules, conventions and instructions for coding diseases – and adherence is required under the United States Health Insurance Portability and Accountability Act (HIPAA).

Researchers performing analysis on observational data, assume that coders and health care providers have adhered and applied the guidelines while identifying the diagnosis being reported. Per guidelines, a confirmed COVID-19 diagnosis should be assigned an ICD-10-CM code of U07.1, with a few exceptions for uncertain diagnosis at the time of discharge (section II, H). Disease confirmation may be with a positive test result for COVID-19 or a provider's documentation that the individual has COVID-19. In the absence of positive test, provider documentation of uncertain diagnosis (e.g. suspected, possible etc.) are not considered appropriate for use of U07.1.

What is unknown is the adherence to such guidelines i.e. the potential for and quantification of misclassification bias? We also do not know if over the course of the pandemic, has this classification/misclassification changed over time. What is the correlation between positive test result

General Posts Files +			
+ New ▾ ↑ Upload ▾ ↺ Sync 🔗 Copy link ⬇ Download 🔗 Open in SharePoint			
Documents > General > 20210924FourthFriday			
📁	Name ▾	Modified ▾	Modified By ▾
📁	Problem 1 - Clinician coding	September 26	Gowtham Rao
📁	Problem 2 - Covid sequela vs incident covid	September 26	Gowtham Rao
📁	Problem 3 - covid capture pattern	September 26	Gowtham Rao
📄	Notes.docx	September 26	Gowtham Rao
📄	OHDSI Phenotype development and evalua...	September 24	Gowtham Rao



Universal deliverables (upcoming)

- OHDSI Phenotype Library

← → ↻ atlas-phenotype.ohdsi.org/#/cohortdefinitions

English | [rao@ohdsi.org](#)

ATLAS

- Home
- Data Sources
- Search
- Concept Sets
- Cohort Definitions**
- Characterizations
- Cohort Pathways
- Incidence Rates
- Profiles
- Estimation
- Prediction
- Jobs
- Configuration
- Feedback

Cohort Definitions

[New Cohort](#)

Show columns Copy CSV Show 50 entries

Filter: Search...

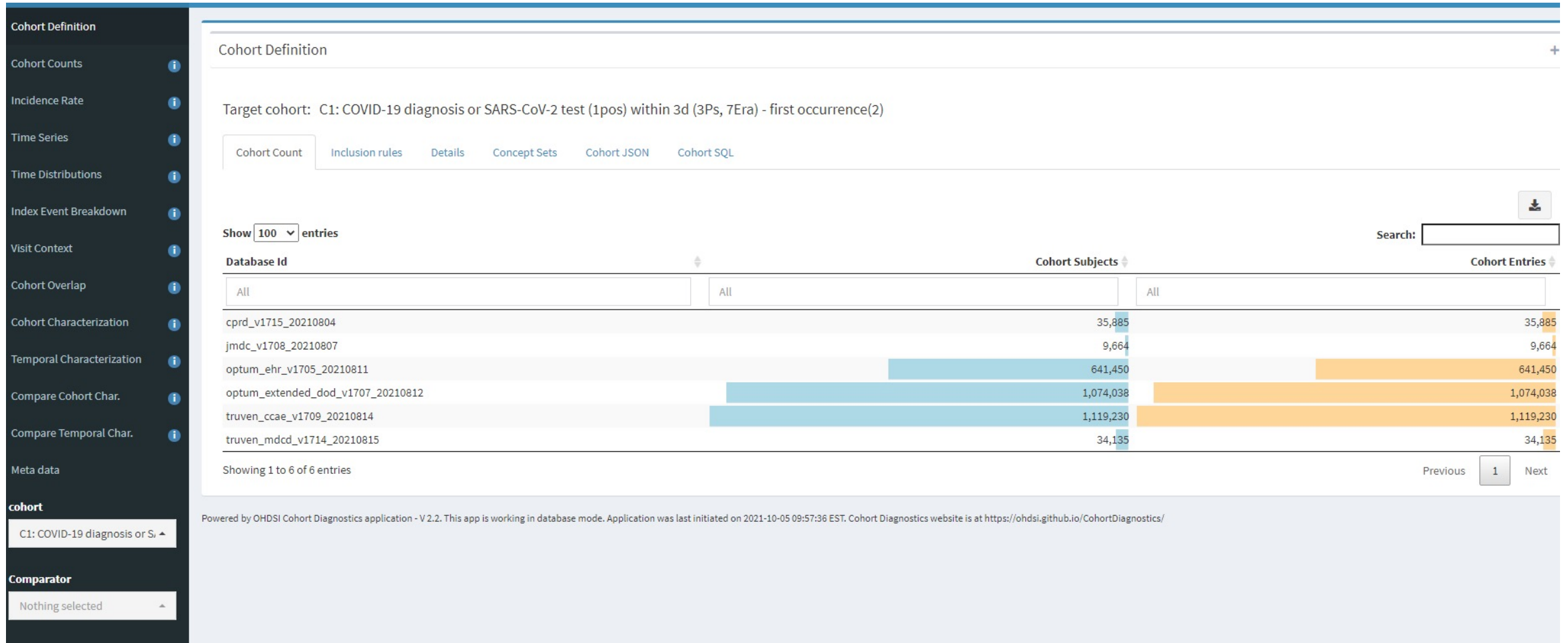
Showing 1 to 50 of 57 entries

	Id	Name	Created	Updated	Author
▼ Created					
Last Week (54)	2	COVID-19 diagnosis or SARS-CoV-2 test (1pos) (3Ps_7Era) - first occurrence	09/22/2021 4:05 PM	10/04/2021 10:55 PM	rao@ohdsi.org
This Week (2)	3	Cough Episodes (3dPe_30dEra)	09/22/2021 4:45 PM	09/23/2021 2:38 PM	rao@ohdsi.org
Within 24 Hours (1)	4	Diarrhea Episodes (7dPe_30dEra)	09/23/2021 12:10 PM	09/23/2021 2:38 PM	rao@ohdsi.org
▼ Updated					
Last Week (48)	5	Dyspnea Episodes (14dPe_30dEra)	09/23/2021 12:12 PM	09/23/2021 3:14 PM	rao@ohdsi.org
This Week (7)	6	Fever Episodes (3dPe_30dEra)	09/23/2021 12:13 PM	09/23/2021 2:38 PM	rao@ohdsi.org
Within 24 Hours (2)	7	Headache, Migraine, Neurologic pain Episodes (7dPe_30dEra)	09/23/2021 12:21 PM	09/23/2021 2:38 PM	rao@ohdsi.org
▼ Author					
rao@ohdsi.org (57)	8	Anosmia OR Hyposmia OR Dysgeusia Episodes (3dPe_30dEra)	09/23/2021 12:23 PM	09/23/2021 2:38 PM	rao@ohdsi.org
▼ Designs					
My designs (57)	9	Sore throat Episodes (7dPe_30dEra)	09/23/2021 1:04 PM	09/23/2021 2:37 PM	rao@ohdsi.org
	10	Nausea or Vomiting Episodes (3dPe_30dEra)	09/23/2021 2:32 PM	09/23/2021 2:36 PM	rao@ohdsi.org
	11	Malaise or fatigue episodes (3dPe_30dEra)	09/23/2021 2:39 PM	09/23/2021 2:42 PM	rao@ohdsi.org
	12	Rhinitis Episodes (7dPe_30dEra)	09/23/2021 2:43 PM	09/23/2021 2:45 PM	rao@ohdsi.org
	13	Myalgia (not including secondary causes) Episodes (3dPe_30dEra)	09/23/2021 2:49 PM	09/23/2021 2:51 PM	rao@ohdsi.org
	14	Myalgia Episodes (3dPe_30dEra)	09/23/2021 2:51 PM	09/23/2021 2:51 PM	rao@ohdsi.org
	15	Exposure to Viral Disease Episodes (7dPe_30dEra)	09/23/2021 2:58 PM	09/23/2021 3:00 PM	rao@ohdsi.org
	16	Exposure to SARS-Cov 2 and coronavirus Episodes (7dPe_30dEra)	09/23/2021 2:59 PM	09/23/2021 3:01 PM	rao@ohdsi.org
	17	Exposure to SARS-Cov 2 Episodes (7dPe_30dEra)	09/23/2021 3:00 PM	09/23/2021 3:00 PM	rao@ohdsi.org
	18	Multiple Inflammatory Syndrome Episodes (30dPe_30dEra)	09/23/2021 3:01 PM	09/23/2021 3:16 PM	rao@ohdsi.org
	19	Pneumonia Episodes (14dPe_30dEra)	09/23/2021 3:09 PM	09/23/2021 3:10 PM	rao@ohdsi.org
	20	Bronchitis Episodes (14dPe_30dEra)	09/23/2021 3:18 PM	09/23/2021 3:20 PM	rao@ohdsi.org
	21	Acute respiratory distress syndrome (ARDS) or Acute Respiratory Failure Episodes (3dPe_30dEra)	09/23/2021 3:21 PM	09/23/2021 3:21 PM	rao@ohdsi.org
	22	SARS-CoV-2 testing Events	09/23/2021 3:25 PM	09/23/2021 3:16 PM	rao@ohdsi.org



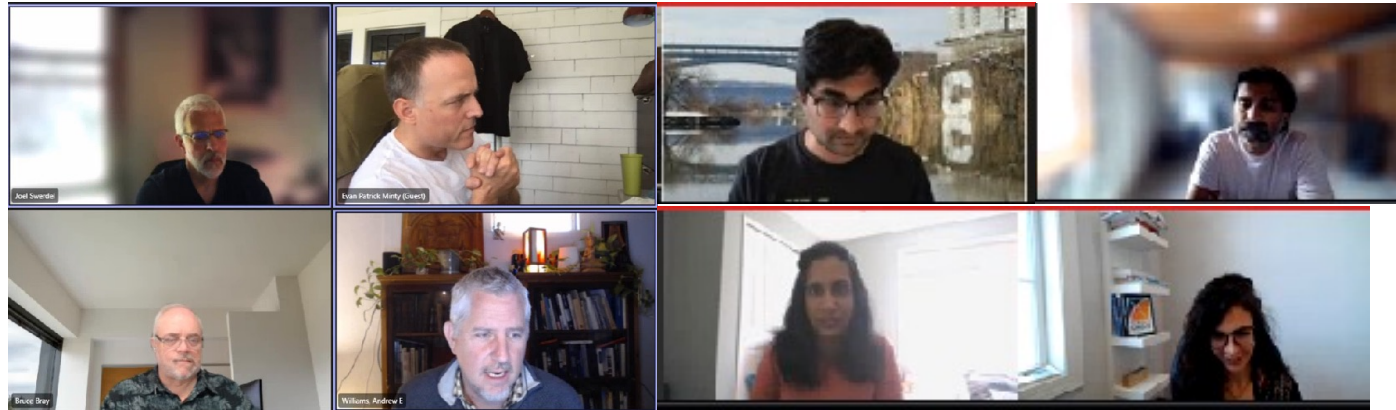
Universal deliverables (upcoming)

- Phenotype library study





Phenotype Development and Evaluation Workgroup



Come join us

If you workgroup/study needs cohort definitions – come talk to us