Workgroup Updates

Medical Devices, Oncology, Psychiatry, NLP

OHDSI Community Call
March 9, 2021 • 11 am ET

March/April OHDSI Community Calls

Date	Topic
March 9	Working Groups Updates (Medical Devices, Oncology, Psychology, NLP)
March 16	Community Presentations (Theme: Advances in Patient-Level Prediction)
March 23	Focus Topic: OHDSI Work with FDA Best program
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April 6	Open Network Studies
April 13	10-Minute Tutorials
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April 27	OHDSI Networking Session

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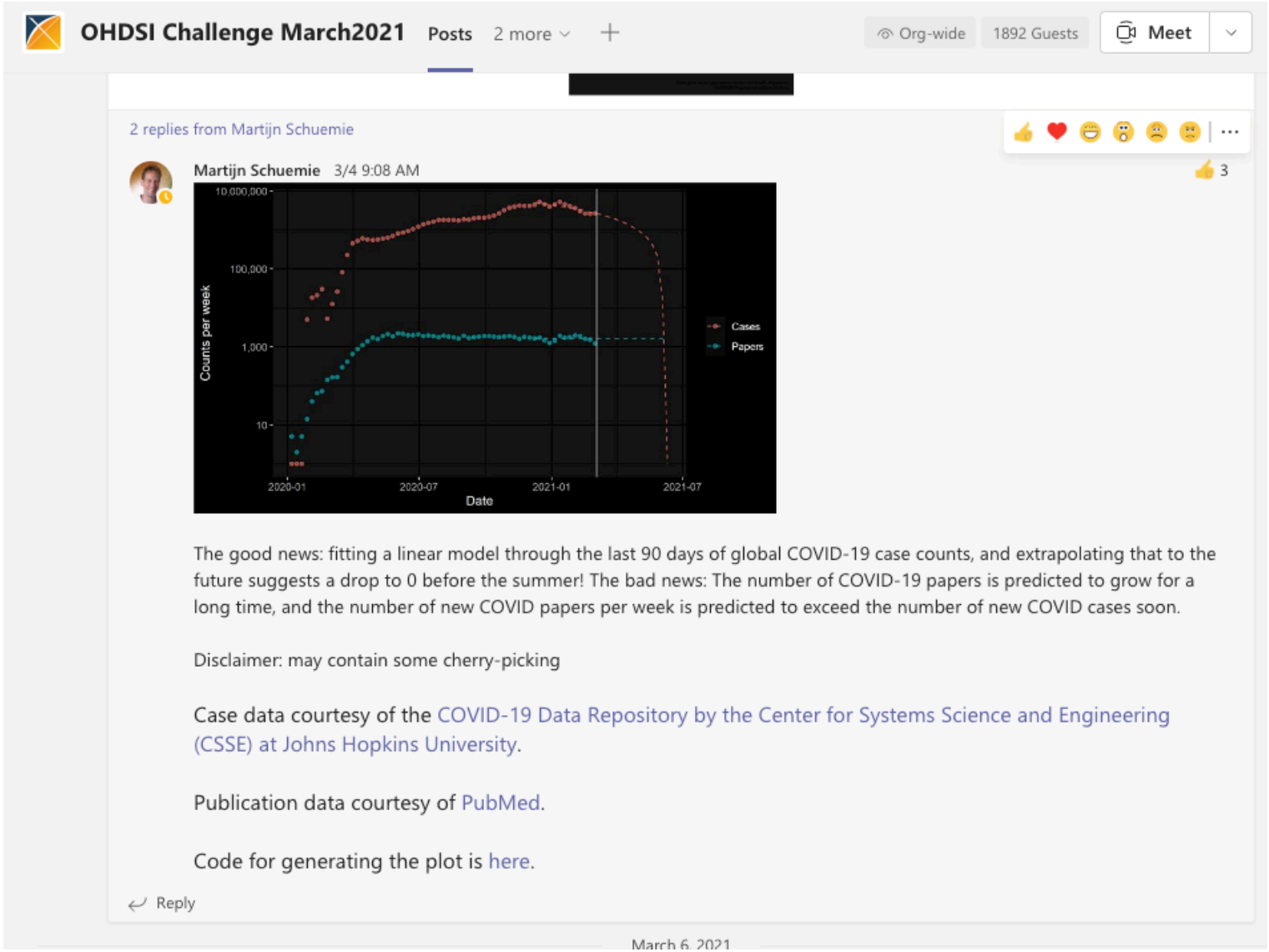
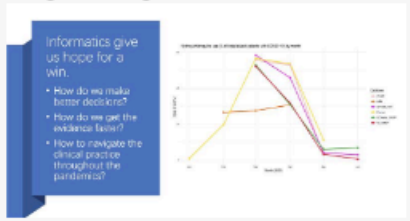
OHDSI Challenge



OHDSI Challenge

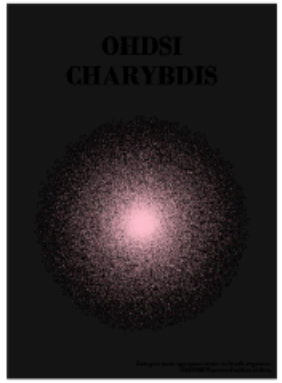
MG **Mengchun Gong (Guest)** 3/3 5:10 AM



Reply

March 4, 2021

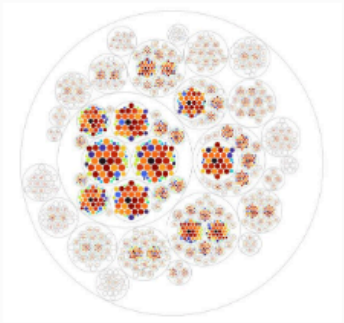
EB **Edward Burn (Guest)** 3/3 3:29 PM Edited



Patrick Ryan 3/6 9:28 AM 1 4

Highlighting the breadth and depth of CHARYBDIS exploration opportunities

Motivated by Edward Burn 's 'imaginary' summary of CHARYBDIS, I thought it could interesting to summarize the true scope of depth and breadth that is contained within CHARYBDIS. Here's what I came up with (also full-res jpg attached):

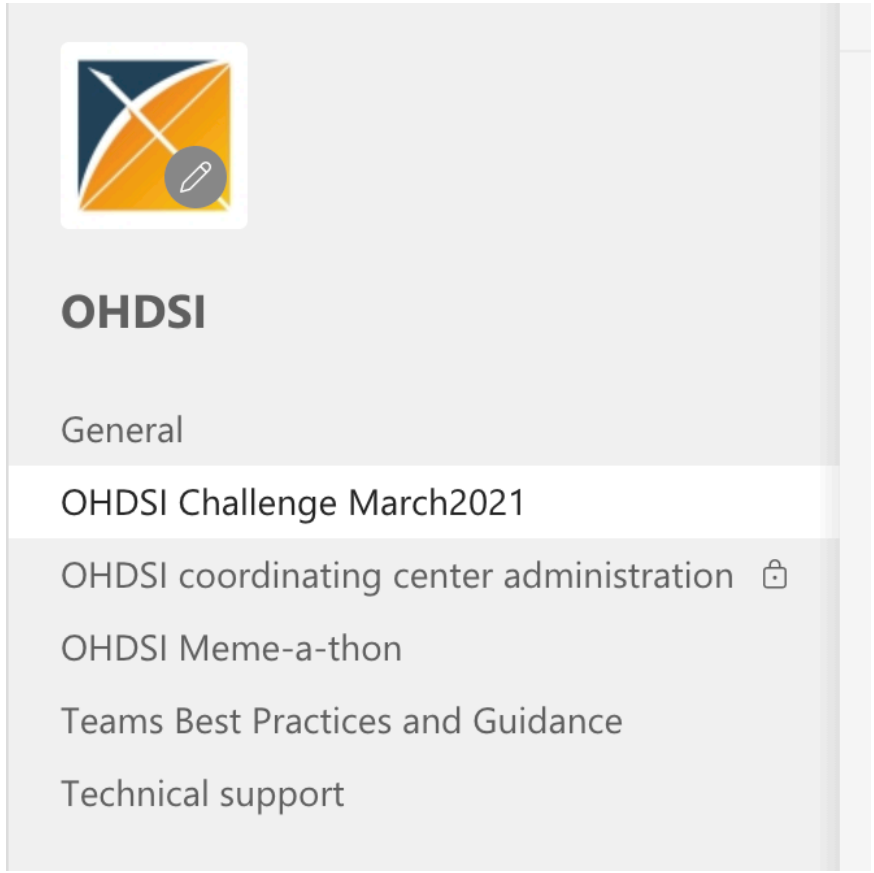


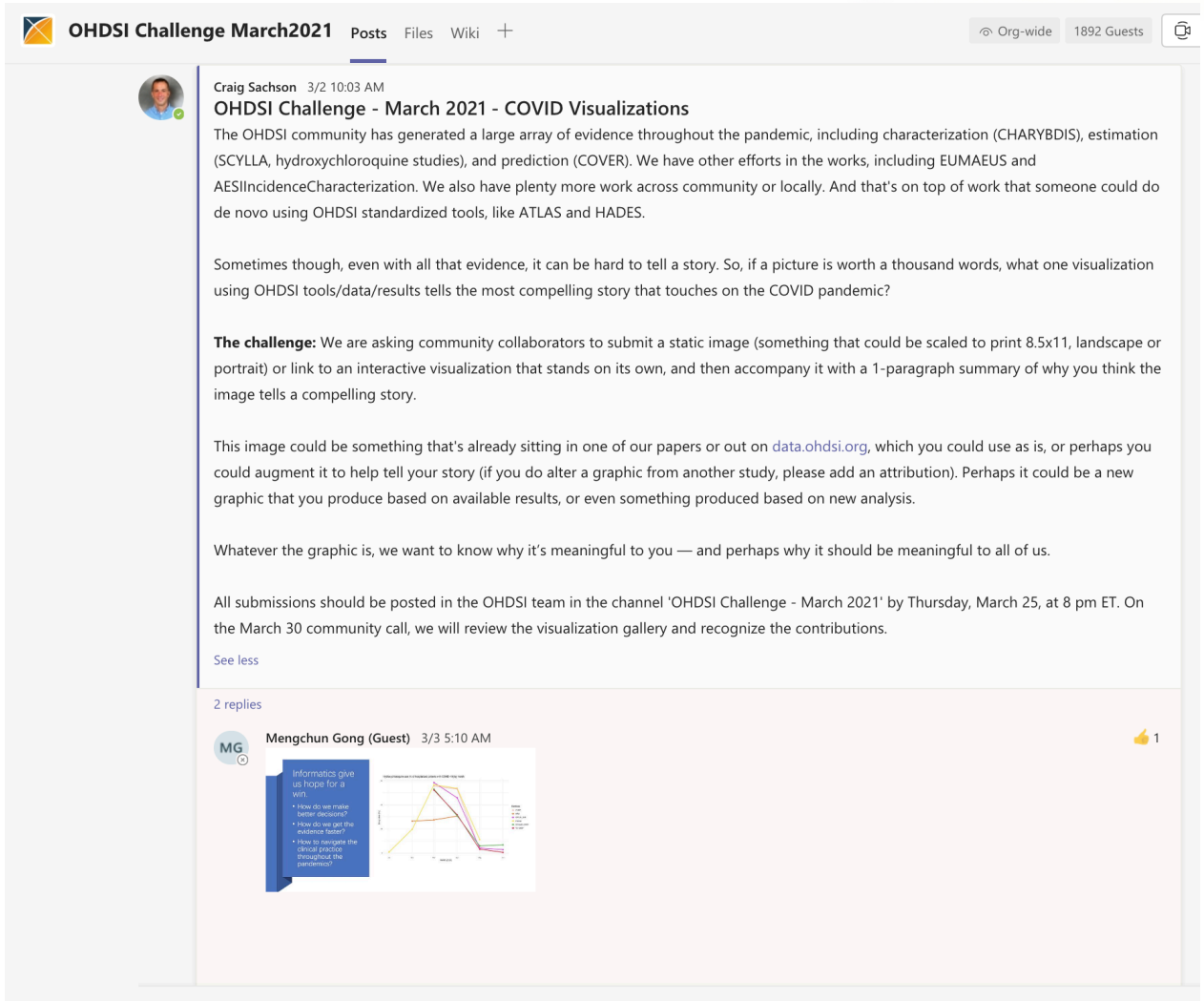
How'd I make it? I downloaded the 'cohort counts' results from https://data.ohdsi.org/Covid19CharacterizationCharybdis/ ...Go to Cohort Counts, click 'download'/ 'download flat data'. I then pasted these results into RawGraphs2.0, selected the 'Circle Packing' visualization. Set my hierarchy as 'databaseId', 'targetName', 'strataName'. Set my size as 'cohortSubjects sum', and set my color as 'strataName CSV(unique)'. Under customize, I changed the color scheme to 'Turbo discrete'. Total time to make this: 12 minutes.

Why I think this plot is interesting: CHARYBDIS was OHDSI's attempt to systematically define populations of interest throughout the disease lifecycle of SARS-COV-2 and COVID-19, from testing to diagnosis to hospitalization and intensive services. We wanted to explore these health states overall, and also examine heterogeneity within patient subpopulations (young/old, male/female, Black/White, with/without cancer, with/without obesity, etc.) and across databases in US, Europe, and Asia-Pacific regions. This plot represents the total number of unique subpopulations that are now available for exploration in the CHARYBDIS1.0 resultset. Each dot is a population that can be explored further with its characteristics, sized by the total number of persons within that population (ex: one dot=population would be something like: "In the SIDIAP database, cohort = 'Persons with a COVID-19 diagnosis or a SARS-CoV-2 positive test with at least 365d prior observation', strata = 'sex=Female', where there are 70,653 persons summarized. They dots are organized hierarchically by database as the outer grouping, and target cohort as the inner grouping, and the color represents the strata. You can see how we had an amazing community effort with so many different data partners participating, and you can also see that each database has a rich story to tell within it. In total, we have 17,299 cohorts summarized in CHARYBDIS. While I'm incredibly proud of all the work the CHARYBDIS team has already led (shout out to Anthony Sena Kristin Kostka Albert Prats Uribe Talita Duarte Salles) and the dozens of manuscripts that have been prepared based on this evidence, I think this visualization emphasizes how we really have only scratched the surface of what's possible to learn about the disease natural history of COVID-19, and hopefully motivates others to explore the resultset further. Heck, maybe CHARYBDIS will eventually become the self-fulfilling prophecy that Martijn Schuemie cautioned us about: while the number of cases of this virus impacting patients should hopefully decrease, the advancement of knowledge from scientists via publications can continue to persist...

See less

OHDSI Challenge





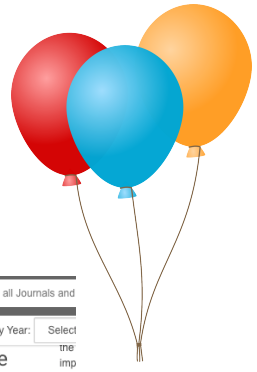
Three Stages of The Journey

Where Have We Been?

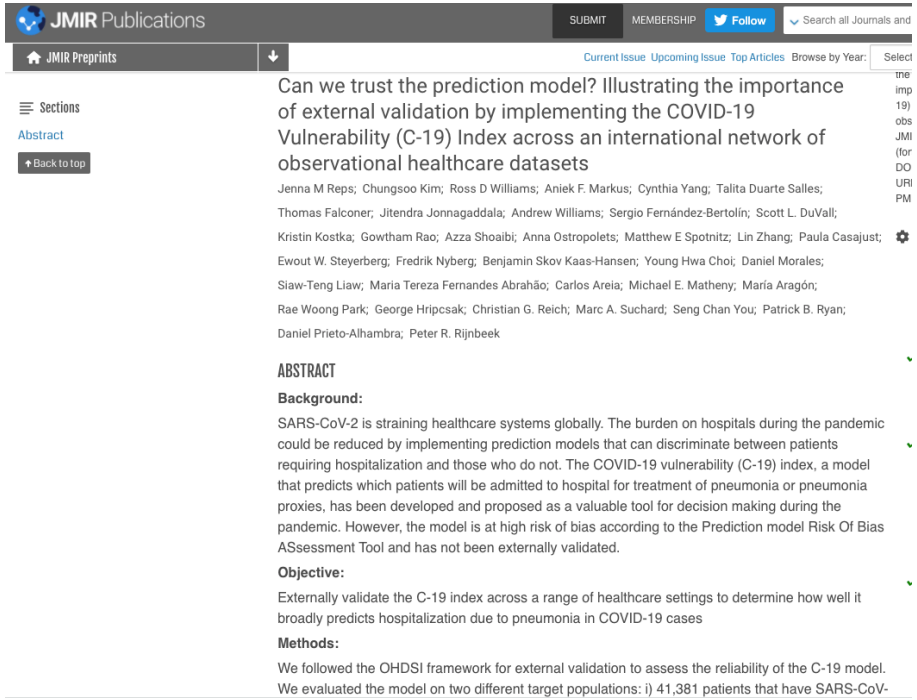
Where Are We Now?

Where Are We Going?

OHDSI Shoutouts!



Congratulations to **Jenna Reps, Chungsoo Kim, Ross Williams, Aniek Markus, Cynthia Yang, Talita Duarte-Salles, Thomas Falconer, Jitendra Jonnagaddala, Andrew Williams, Sergio Fernández-Bertolín, Scott DuVall, Kristin Kostka, Gowtham Rao, Azza Shoaibi, Anna Ostropolets, Matthew Spotnitz, Lin Zhang, Paula Casajust, Ewout Steyerberg, Fredrik Nyberg, Benjamin Skov Kaas-Hansen, Young Hwa Choi, Daniel Morales, Siaw-Teng Liaw, Maria Tereza Fernandes Abrahão, Carlos Areia, Michael E Matheny, María Aragón, Rae Woong Park, George Hripcsak, Christian Reich, Marc Suchard, Seng Chan You, Patrick Ryan, Daniel Prieto-Alhambra, and Peter Rijnbeek** on this paper published by JBIR Medical Informatics: **Can we trust the prediction model? Illustrating the importance of external validation by implementing the COVID-19 Vulnerability (C-19) Index across an international network of observational healthcare datasets**.



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Abstract

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Can we trust the prediction model? Illustrating the importance of external validation by implementing the COVID-19 Vulnerability (C-19) Index across an international network of observational healthcare datasets

Jenna M Reps; Chungsoo Kim; Ross D Williams; Aniek F. Markus; Cynthia Yang; Talita Duarte Salles; Thomas Falconer; Jitendra Jonnagaddala; Andrew Williams; Sergio Fernández-Bertolín; Scott L. DuVall; Kristin Kostka; Gowtham Rao; Azza Shoaibi; Anna Ostropolets; Matthew E Spotnitz; Lin Zhang; Paula Casajust; Ewout W. Steyerberg; Fredrik Nyberg; Benjamin Skov Kaas-Hansen; Young Hwa Choi; Daniel Morales; Siaw-Teng Liaw; Maria Tereza Fernandes Abrahão; Carlos Areia; Michael E. Matheny; María Aragón; Rae Woong Park; George Hripcsak; Christian G. Reich; Marc A. Suchard; Seng Chan You; Patrick B. Ryan; Daniel Prieto-Alhambra; Peter R. Rijnbeek

ABSTRACT

Background:

SARS-CoV-2 is straining healthcare systems globally. The burden on hospitals during the pandemic could be reduced by implementing prediction models that can discriminate between patients requiring hospitalization and those who do not. The COVID-19 vulnerability (C-19) index, a model that predicts which patients will be admitted to hospital for treatment of pneumonia or pneumonia proxies, has been developed and proposed as a valuable tool for decision making during the pandemic. However, the model is at high risk of bias according to the Prediction model Risk Of Bias ASsessment Tool and has not been externally validated.

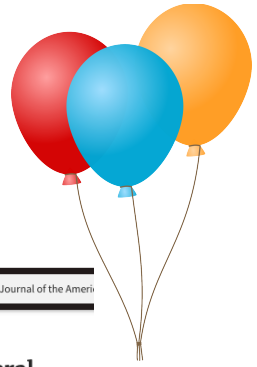
Objective:

Externally validate the C-19 index across a range of healthcare settings to determine how well it broadly predicts hospitalization due to pneumonia in COVID-19 cases

Methods:

We followed the OHDSI framework for external validation to assess the reliability of the C-19 model. We evaluated the model on two different target populations: i) 41,381 patients that have SARS-CoV-

OHDSI Shoutouts!



Congratulations to **Jingqi Wang, Noor Abu-el-Rub, Josh Gray, Huy Anh Pham, Yujia Zhou, Frank Manion, Mei Liu, Xing Song, Hua Xu, Masoud Rouhizadeh, and Yaoyun Zhang** on this recent JAMIA study:

COVID-19 SignSym: a fast adaptation of a general clinical NLP tool to identify and normalize COVID-19 signs and symptoms to OMOP common data model

JAMIA
A SCHOLARLY JOURNAL OF INFORMATICS IN HEALTH AND BIOMEDICINE

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- CONFLICT OF INTEREST STATEMENT
- References
- Author notes
- Supplementary data

COVID-19 SignSym: a fast adaptation of a general clinical NLP tool to identify and normalize COVID-19 signs and symptoms to OMOP common data model

Jingqi Wang, Noor Abu-el-Rub, Josh Gray, Huy Anh Pham, Yujia Zhou, Frank J Manion, Mei Liu, Xing Song, Hua Xu, Masoud Rouhizadeh ... Show more
Author Notes

Journal of the American Medical Informatics Association, ocab015,
https://doi.org/10.1093/jamia/ocab015
Published: 01 March 2021 **Article history**

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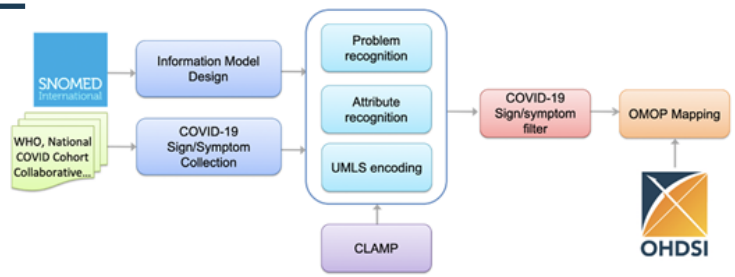
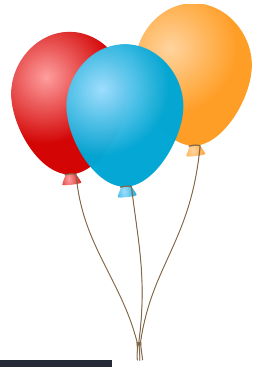
Abstract

The COVID-19 pandemic swept across the world rapidly, infecting millions of people. An efficient tool that can accurately recognize important clinical concepts of COVID-19 from free text in electronic health records (EHRs) will be valuable to accelerate COVID-19 clinical research. To this end, this study aims at adapting the existing CLAMP natural language processing tool to quickly build COVID-19 SignSym, which can extract COVID-19 signs/symptoms and their 8 attributes (body location, severity, temporal expression, subject, condition,



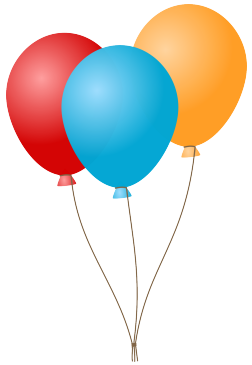
OHDSI Shoutouts!



The Prostate Cancer Study-A-Thon started yesterday with more than 200 registered participants. This is a collaborative effort between PIONEER, EHDEN and the OHDSI community.

Kees van Bochove shared this word doodle from Day 1 in the OHDSI Visualization Challenge!

OHDSI Shoutouts!



Any shoutouts from the community? Please share and help promote and celebrate OHDSI work!

Three Stages of The Journey

Where Have We Been?

Where Are We Now?

Where Are We Going?

Upcoming Workgroup Calls

Date	Time (ET)	Meeting
Wednesday	10 am	Natural Language Processing
Thursday	1 pm	OMOP CDM Oncology – CDM/Vocabulary Subgroup
Friday	10 am	China Chapter
Friday	1 pm	Phenotype Development and Evaluation
Tuesday	9 am	OMOP CDM Oncology – Genomic Subgroup

www.ohdsi.org/upcoming-working-group-calls/

Upcoming Working Group Calls

OHDSI

OBSERVATIONAL HEALTH DATA SCIENCES AND INFORMATICS

Who We Are | OHDSI Updates & News | Standards | Software Tools | OHDSI Studies | Book of OHDSI | Resources | New To OHDSI?

EHDEN Academy | This Week In OHDSI | Events & Collaborations | Collaborate with OHDSI in MSTeams | Social Media/Newsletter

- OHDSI Community Calls
- Upcoming Working Group Calls

Welcome to OHDSI!

The Observational Health Data Sciences and Informatics (or OHDSI, pronounced "Odyssey") program is a multi-stakeholder, interdisciplinary collaborative to bring out the value of health data through large-scale analytics. All our solutions are open-source.

OHDSI has established an international network of researchers and observational health databases with a central coordinating center housed at Columbia University.

Read more about us, about our goals, and how

2020 OHDSI Symposium

Our 2020 OHDSI Global Symposium brought together a global research community for 18 hours of open science, international collaboration and community fun. The day included research presentations from community members, panels that brought together leaders from major healthcare organizations, as well as network sessions, the annual collaborator showcase, and plenty more. Check it all out at the link below.

2020 OHDSI Global Symposium

Community Calls Page

OHDSI
OBSERVATIONAL HEALTH DATA SCIENCES AND INFORMATICS

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OHDSI Community Calls

Everybody is invited to the weekly OHDSI community call, which takes place each Tuesday at 11 am ET. These calls are meant to inform and engage our community through a variety of call formats, including community presentations, working group updates, breakout sessions, focus topics, newcomer-focused sessions, and more. The upcoming schedule is available to the right.

Use this link to get to the weekly meeting.

Videos and slides from previous calls will be posted below. Both videos and slides from community calls prior to 2021 remain available.

March/April OHDSI Community Calls

Date	Topic
March 2	Network Breakouts (ATLAS, HADES, ETL)
March 9	Working Groups Updates (Oncology, Psychology, NLP, Medical Devices)
March 16	Community Presentations (Theme: Advances in Patient-Level Prediction)
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@OHDSI www.ohdsi.org #JoinTheJourney linkedin.com/company/ohdsi

— Mar. 2, 2021 - Breakout Sessions (ATLAS, ETL, HADES)

The March 2 OHDSI Community Call featured breakout sessions on some important tools/processes for collaborative research: ETL, ATLAS and HADES.

OHDSI Shoutouts and Updates

OHDSI and HL7 recently announced a collaboration to address the sharing and tracking of data in the healthcare and research industries by creating a single common data model. The organizations will integrate HL7 Fast Healthcare Interoperability Resources (FHIR®) and OHDSI's OMOP common data model to achieve this goal. Read more about this here.

Congratulations to **Ed Burn, Anthony Sena, Kristin Kostka, Talita Duarte-Salles, Dani Prieto-Alhambra** and the full team (42 authors!) on this February MedRxiv preprint coming from our #OHDSICOVID19 work in CHARYBDIS: Use of dialysis, tracheostomy, and extracorporeal membrane oxygenation among 842,928 patients hospitalized with COVID-19 in the United States. Community feedback is appreciated for these preprints.

Congratulations to **Kristin Kostka, Talita Duarte-Salles, Albert Prats-Uribe**, **Anthony Sena**, and the entire team for submitting the manuscript about the overall CHARYBDIS study for peer review. The study is now available as a preprint via Research Square.

The upcoming PIONEER/EHDEN/OHDSI study-a-thon to study the natural history of prostate cancer starts in less than one week. You can register for the event, scheduled for March 8-12, by clicking here.

Save The Dates

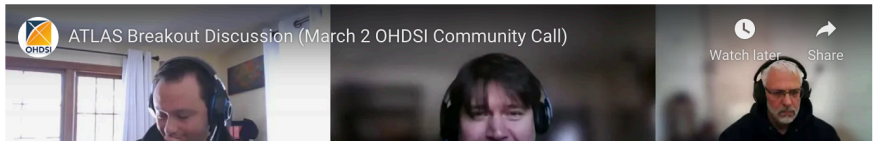
The 2021 OHDSI Symposium will be Sept. 12-15, with the main symposium taking place Monday, Sept. 13. We don't know if this will be in-person, hybrid or completely virtual, so there are more details to come, but please save these dates.

Presentation Slides

Introduction

Recordings

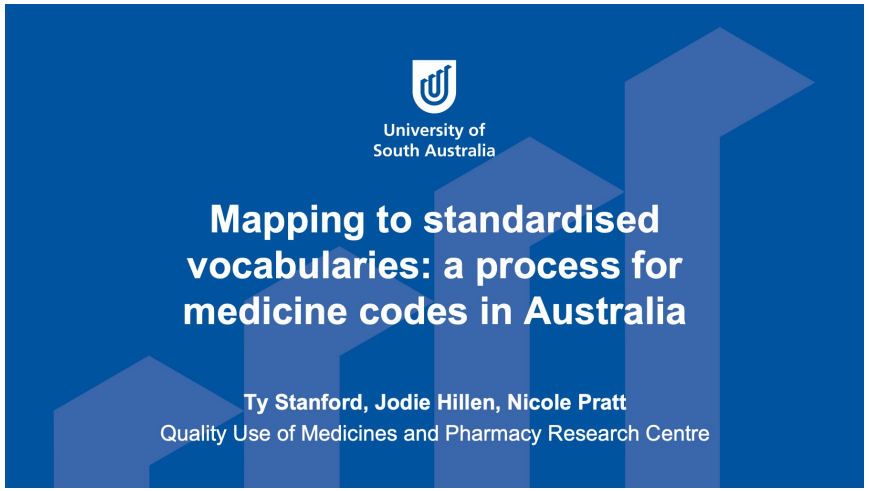
ATLAS Breakout (Facilitators: Greg Klebanov and Anthony Sena)



Next APAC Community Call

The next APAC Community Call will be held tomorrow, March 9, at 10 pm ET. This will feature presentations of work from the 2020 APAC Collaborator Showcase.

The meetings are now in the OHDSI APAC Teams environment. Please check your calendar, or find the link on the OHDSI APAC Teams page.



Get Access To Different Teams/WGs/Chapters

OHDSI

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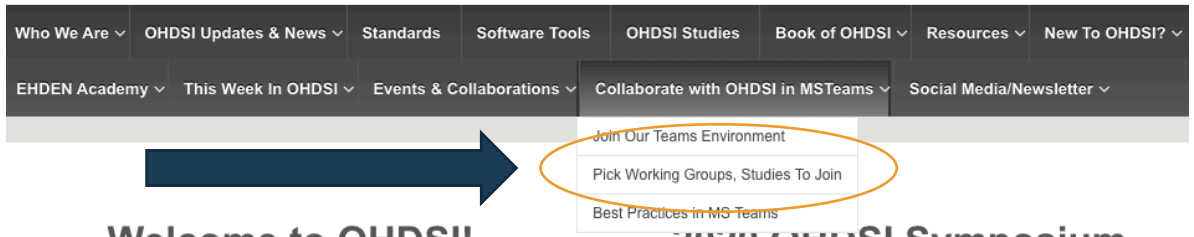

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3. Select the workgroups you want to join (you can refer to the WIKI for work group objectives www.ohdsi.org/web/wiki/doku.php?id=projects:overview)

- [ ] ATLAS
- [ ] Clinical Trials
- [ ] Common data model
- [ ] Data Quality Dashboard Development
- [ ] Electronic Health Record (EHR) ETL
- [ ] Geographic Information System (GIS)
- [ ] HADES Health Analytics Data-to-Evidence Suite
- [ ] Latin America
- [ ] Medical Devices
- [ ] Natural Language Processing
- [ ] OHDSI APAC
- [ ] OHDSI APAC Steering Committee
- [ ] OHDSI Steering Committee
- [ ] Oncology
- [ ] Patient-Generated Health Data
- [ ] Pharmacovigiliance Evidence Investigation
- [ ] Phenotype Development and Evaluation
- [ ] Population-Level Effect Estimation / Patient-Level Prediction
- [ ] Psychiatry
- [ ] Surgery and Perioperative Medicine
- [ ] UK Biobank
- [ ] Women of OHDSI

4. Select the chapter(s) you want to join

- [ ] Australia
- [ ] China
- [ ] Europe
- [ ] Japan
- [ ] Korea
- [ ] Singapore
- [ ] Taiwan

5. Select the studies you want to join

- [ ] CHARYBDIS (Characterizing Health Associated Risks and Your Baseline Disease in SARS-Cov-2)
- [ ] HERA-Health Equity Research Assessment
- [ ] PIONEER for Prostate Cancer
- [ ] SCYLLA (SARS-Cov-2 Large-scale Longitudinal Analyses)

Where Are We Going?

Any other announcements of upcoming work, events, deadlines, etc?

Three Stages of The Journey

Where Have We Been?

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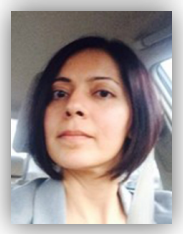
March 9 Community Call Topic

Update

Workgroup Updates

Medical Devices

Asiyah Lin, Data and Technology Advancement Scholar, NIH



Oncology

Shilpa Ratwani, Associate Director, IQVIA

Psychiatry

Dmitry Dymshyts, Vocabulary Team Lead, Odysseus Data Services, Inc.

Natural Language Processing

Hua Xu, Professor and Director of Center for Computational Biomedicine, UTHealth