



EHDEN Portal/EHDEN Academy

OHDSI Community Call
Aug. 30, 2022 • 11 am ET



Upcoming OHDSI Community Calls

Date	Topic
Sept. 6	OHDSI Studies
Sept. 13	Clinical Registry Efforts In OHDSI
Sept. 20	2022 OHDSI Symposium Preview
Sept. 27	HTA Challenge



Upcoming OHDSI Community Calls

Date	Topic
Sept. 6	OHDSI Studies
Sept. 13	Clinical Registry Efforts In OHDSI
Sept. 20	2022 OHDSI Symposium Preview
Sept. 27	HTA Challenge



Sept. 6: OHDSI Publications

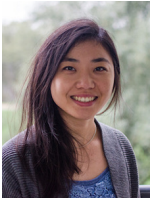
A database of pediatric drug effects to evaluate ontogenic mechanisms from child growth and development

Presenter: Nick Giangreco



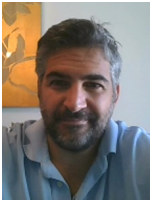
Development and external validation of prediction models for adverse health outcomes in rheumatoid arthritis: A multinational real-world cohort analysis

Presenter: Cynthia Yang



Empirical assessment of alternative methods for identifying seasonality in observational healthcare data

Presenter: Anthony Molinaro



Phenotype Algorithms for the Identification and Characterization of Vaccine-Induced Thrombotic Thrombocytopenia in Real World Data: A Multinational Network Cohort Study

Presenter: Azza Shoaibi





Three Stages of The Journey

Where Have We Been?

Where Are We Now?

Where Are We Going?





OHDSI Shoutouts!



Congratulations to the team of **Rashmie Abeysinghe, Adam Black, Denys Kaduk, Yupeng Li, Christian Reich, Alexander Davydov, Lixia Yao, and Licong Cui** on the publication of **Towards quality improvement of vaccine concept mappings in the OMOP vocabulary with a semi-automated method** in the Journal of Biomedical Informatics.



Journal of Biomedical Informatics

Available online 25 August 2022, 104162

In Press, Journal Pre-proof



Original Research

Towards quality improvement of vaccine concept mappings in the OMOP vocabulary with a semi-automated method

Rashmie Abeysinghe ^{a, 1}, Adam Black ^{b, 1}, Denys Kaduk ^{b, 1}, Yupeng Li ^{c, 1}, Christian Reich ^{d, e}, Alexander Davydov ^b, Lixia Yao ^{c, f}, Licong Cui ^{f, g}

Show more

+ Add to Mendeley Share Cite

<https://doi.org/10.1016/j.jbi.2022.104162>

Get rights and content

Under a Creative Commons license

Open access

Abstract

The Observational Medical Outcomes Partnership (OMOP) Common Data Model (CDM) provides a unified model to integrate disparate real-world data (RWD) sources. An integral part of the OMOP CDM is the Standardized Vocabularies (henceforth referred to as the OMOP vocabulary), which enables organization and standardization of medical concepts across various clinical domains of the OMOP CDM. For concepts with the same meaning from different source vocabularies, one is designated as the standard concept, while the others are specified as non-standard or source concepts and mapped to the standard one. However, due to the



OHDSI Shoutouts!



Congratulations to **Dani-Prieto Alhambra** on receiving a **Special ISPE Award for Contributions to Public Health Associated with the COVID-19 Pandemic** during ICPE2022.





OHDSI Shoutouts!



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

Have a study published? Please send to sachson@ohdsi.org so we can share during this call and on our social channels.
Let's work together to promote the collaborative work happening in OHDSI!





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	FHIR and OMOP Digital Quality Measurements Subgroup (ZOOM)
Thursday	12 pm	Patient-Level Prediction/Population-Level Estimation
Thursday	12 pm	FHIR and OMOP Oncology Subgroup
Thursday	1 pm	OMOP CDM Oncology Vocabulary/Development Subgroup
Thursday	6 pm	FHIR and OMOP Terminologies Subgroup (ZOOM)
Friday	9 am	GIS – Geographic Information System Development
Friday	10:30 am	Clinical Trials
Tuesday	10 am	Common Data Model

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



#OHDSI2022 Agenda



OHDSI 2022 Symposium
Oct. 14-16, 2022
Bethesda North Marriott Hotel &
Conference Center

Main Conference Agenda • Oct. 14

7:30 am - 8:30 am Ballroom AE Foyer	Registration and Lite Breakfast
9:00 am - 10:00 am Ballroom DE	State of the Community George Hripcsak, Columbia University • presentation of 2020, 2021 Titan Awards
10:00 am - 10:45 am Ballroom DE	Workgroup and Chapter connections • workgroup/chapter leads will be distributed across the venue and available for networking to share activities and progress and connect for future collaborations OHDSI Speed Dating
10:45 am - 12:15 pm Ballroom DE	Plenary: Objective Diagnostics: A pathway to provably reliable evidence Martijn Schuemie, Johnson & Johnson
12:15 pm - 1:00 pm Ballroom Foyer	Buffet Lunch • buffet in exhibitor space
1:00 pm - 2:00 pm Ballroom DE	Presentations: OHDSI support for regulatory authorities moderator: Jody-Ann McLeggon, Columbia University • "US FDA/CBER: Performance of vaccine safety surveillance methods" Fan Bu, UCLA • "Korea Ministry of Food and Drug Safety: Replication of clinical trials in electronic health records" Seng Chan You, Yonsei University • "European Medicines Agency: DARWIN-EU" Peter Rijnbeek, Erasmus MC
2:00 pm - 3:00 pm Ballroom ABC	Collaborator Showcase, Round 1 • Poster presentations with poster walks • Software demonstrations • Exhibitors
3:00 pm - 4:00 pm Ballroom DE	Collaborator Showcase Lightning Talks moderator: Kristin Kostka, Roux Institute at Northeastern University • "Disambiguation of ICPC codes using free-text and active learning to improve concept mappings" Tom Seinen, Erasmus MC • "OHDSI Phenotype Phebruary: lessons learned" Azza Shoaibi, Johnson & Johnson



OHDSI 2022 Symposium
Oct. 14-16, 2022
Bethesda North Marriott Hotel &
Conference Center

Main Conference Agenda • Oct. 14

3:00 pm - 4:00 pm Ballroom DE (continued)	<ul style="list-style-type: none"> • "Reduce, Reuse, & Recycle: Going Green with Atlas Reusables" Ajit Londhe, Amgen • "Best practices for prognostic model development using observational health data: a scoping review" Cynthia Yang, Erasmus MC • "Machine Learning for Predicting Patients at Risk of Prolonged Opioid Use Following Surgery" Behzad Naderalvajoud, Stanford University • "When does statistical equality meet health equity: developing analytical pipelines to compare associational and causal fairness in their application to EHR data" Linying Zhang, Columbia University • "Analyzing the Effect of Hypertension on Retinal Thickness Using Radiology Common Data Model (R-CDM)" Chul Hyoun Park, Ajou University • "Multinational Patterns of Second-line Anti-hyperglycemic Drug Initiation: A LEGEND-T2DM Study" Lovedeep Dhingra, Yale University
4:00 pm - 5:00 pm Ballroom ABC	Collaborator Showcase, Round 2 <ul style="list-style-type: none"> • Poster presentations with poster walks • Software demonstrations • Exhibitors
5:00 pm - 6:00 pm Ballroom DE	Closing Talk: Building A Healthier World Together Patrick Ryan, Johnson & Johnson, Columbia University <ul style="list-style-type: none"> • 2022 Titan Awards • Group photo at conclusion
6:00 pm - 7:00 pm Ballroom ABC	Networking Reception



Register Here:
ohdsi.org/ohdsi2022symposium/

#JoinTheJourney

bit.ly/OHDSI2022-Agenda



#OHDSI2022 Agenda



OHDSI 2022 Symposium
Oct. 14-16, 2022
Bethesda North Marriott Hotel &
Conference Center

Full-Day Tutorial • Oct. 15

An Introductory Journey From Data To Evidence

In this tutorial, we will introduce participants to steps along the journey from data to evidence using the OMOP Common Data Model, OHDSI tools and scientific best practices. In each 50-minute segment, the class will learn the conceptual framing of the problem and approach to the solution. Then, the class will have the opportunity to have hands-on exposure to design and implementation of analyses and interpretation of results. The course will be motivated by a real use case: using observational data to generate evidence about the relationship between an exposure and outcome, and will highlight how the suite of OHDSI tools and practices can enable such learning.

This class is designed for newcomers to the OHDSI community who are looking for a high-level summary across a wide range of topics covered within the OHDSI community. It's also designed for those in the OHDSI community who may be focused in one particular area of the journey who want exposure to the other areas, so they can better understand how their work contributes to be 'big picture,' and advances the mission to improve health by empowering a community to collaboratively generate the evidence that promotes better health decisions and better care

The tutorial will be held in White Oak A.

Time	Title	Faculty
7:30 am - 8:30 am	Registration/Lite Breakfast (White Oak Foyer)	
8:30 am - 9:00 am	Overview of the OHDSI Journey: where are we going?	Patrick Ryan
9:00 am - 9:50 am	OMOP Common Data Model and vocabulary	Clair Blacketer
9:50 am - 10:00 am	Energy Break	
10:00 am - 10:50 am	ETL a source database into OMOP CDM	Melanie Philofsky
10:50 am - 11:00 am	Energy Break	
11:00 am - 11:50 am	Creating Cohort Definitions	Asieh Golozar
11:50 am - 12:30 pm	Buffet Lunch	
12:30 pm - 1:20 pm	Phenotype Evaluation	Gowtham Rao
1:20 pm - 1:30 pm	Energy Break	
1:30 pm - 2:20 pm	Characterization	Kristin Kostka
2:20 pm - 2:30 pm	Energy Break	
2:30 pm - 3:20 pm	Estimation	Martijn Schuemie
3:20 pm - 3:30 pm	Energy Break	
3:30 pm - 4:20 pm	Prediction	Jenna Reps
4:20 pm - 5:00 pm	Recap of the OHDSI Journey: Where do we go from here?	George Hripcsak



OHDSI 2022 Symposium
Oct. 14-16, 2022
Bethesda North Marriott Hotel &
Conference Center

Collaborator Showcase

Poster Presentations

The 2022 OHDSI Symposium will host two sessions featuring a total of over 100 posters that highlight the breadth of global research happening within our community. Closer to the symposium weekend, we will announce all of the posters and presenters.

Software Demos

The 2022 OHDSI Symposium will feature 17 software demonstrations during the Collaborator Showcase sessions, listed below:

A demonstration of the EnsemblePatientLevelPrediction package (Jenna M. Reps, Jenna Wong, and Ross Williams)
CohortIncidence: A Software Demonstration (Christopher Knoll)
Criteria2Query 2.0: Combining Human and Machine Intelligence for Cohort Identification (Yilu Fang, Betina Idnay, Yingcheng Sun, Hao Liu, Zhehuan Chen, Karen Marder, Hua Xu, Rebecca Schnall, Chunhua Weng)
Data Network Feasibility Tool - Software Demonstration (Frank DeFalco, Clair Blacketer)
Data Quality Dashboard v2.0 (Clair Blacketer, Frank DeFalco, Anthony Molinaro, Dmitry Ilyin, Luis Alaniz, Maxim Moinat)
Einstein-ATLAS: Leveraging OHDSI/ATLAS and Open-Source Development to Support Translational Research, Data Science, and Regulatory Compliance (Parsa Mirhaji, Selvin Soby, Erin Henninger, Chandra Nelapattai, Manuel Wahle, Boudewijn Aasman, Eran Belin)
ohdsitargets - An R package for building OHDSI study pipelines using targets (Adam Black, Martin Lavallee, Asieh Golozar, Gregory Klebanov)
OmopPopEpi: An R package to compute population-level incidence and prevalence using the OMOP common data model (Marta Catala, Berta Raventas, Mike Du, Yuchen Guo, Xintong Li, Ross Williams, Talita Duarte Sales, Daniel Prieto Alhambra, Edward Burn)
PHOEBE 2.0: selecting the right concept sets for the right patients using lexical, semantic, and data-driven recommendations (Anna Ostropolets, George Hripcsak, Patrick Ryan)
Real World Assessment and Research of Drugs (REWARD): presenting an open-source package for Population-level effect estimation at the scale of all outcomes by all exposures (James Gilbert)
Simple and practical EMR to OMOP CDM ETL tool (Pieter-Jan Lammertyn, Stijn Dupulthys, Louise Berteloot, Peter De Jaeger, Kim Denturck, Nathalie Mertens)
Standardizing Knowledge of Drug Effects: An Application of PheKnowLator for Drug Safety (Tiffany J. Callahan, Patrick B. Ryan, George Hripcsak)
Strategus: Marching towards transparent, reproducible research (Anthony G. Sena, Christopher Knoll, James Gilbert, Jenna Reps, Frank DeFalco, Clair Blacketer, Anthony Molinaro, Joshua Ide, Patrick Ryan, Martijn Schuemie)
The OHDSI Community Dashboard: Tracking the Health and Impact of the Open Science Observational Health Data Sciences and Informatics Community (Star Liu, Asieh Golozar, Jody-Ann McLeggon, Adam Black, Paul Nagy)
Understanding circe-be logic through Capr for generating complex cohort definitions (Martin Lavallee, Adam Black and Asieh Golozar)
Using dbt - a free and open-source software - to transform data into OMOP CDM in the ETL process (Thanapat Pitchayarat, Gun Pinyo, Watcharaporn Tanchotsrinon, Somkid Khamsimuang, Chalita Issarasitthipap, Chaiyanun Bootnumpech, Noppon Siangchin, Kanphitcha Promma, Nattachai Bovormmongkolsak, Prapat Suriyaphol, Natthawut Adulyanukosol)
Vocabulary Versioning: Tracking Concepts over Time Software Demonstration (Tom Seinen, Peter Rijnbeek)

bit.ly/OHDSI2022-Agenda

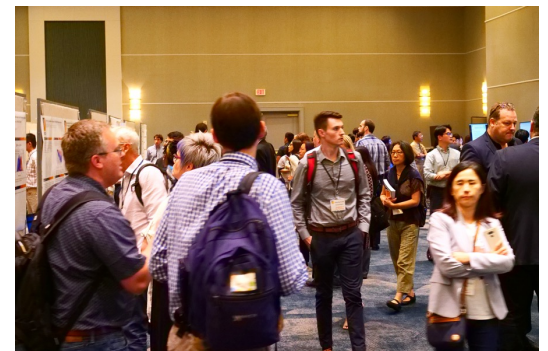


2022 OHDSI Symposium

Registration is OPEN for
#OHDSI2022!

The 2022 OHDSI Symposium
will be held Oct. 14-16 at the
Bethesda North Marriott Hotel
& Conference Center.

www.ohdsi.org/ohdsi2022symposium





2022 OHDSI Symposium

[OHDSI Community Calls](#) [Events & Past Collaborations](#) [Learn About & Join OHDSI Workgroups](#) [This Week In OHDSI](#) [EHDSN Academy](#)

[Annual Report: Our Journey](#) [Publications](#) [Support & Sponsorship](#) [OHDSI2022 Symposium](#) [Newsletters](#) [Follow OHDSI on Social](#)

2022 OHDSI Symposium

Oct. 14-16 • Bethesda North Marriott Hotel & Conference Center



We are thrilled to announce that registration for the 2022 OHDSI Symposium, which will be held Oct. 14-16 at the Bethesda North Marriott Hotel & Conference Center, is now open!

It is so exciting to bring our community back together this fall. [Our collaborator showcase will return](#); please click the link to see how you can take part in our poster presentations, software demos and lightning talks. The full agenda for our conference is still being developed, so please continue to check the OHDSI website (www.ohdsi.org) and our social platforms for updates as we plan for the 2022 Symposium.

The main conference will be held Friday, Oct. 14. A full-day tutorial will be held Saturday, Oct. 15, while other community activities will be held both Oct. 15 and Oct. 16.

Symposium Registration Details

Friday, Oct. 14 – Main Conference

Registration Fee: \$500*

** this is an open and inclusive event; if the registration fee represents a burden to you, please contact symposium@ohdsi.org.*

Should you need to make changes or cancel your registration ticket, please follow the instructions you will receive on your Eventbrite confirmation upon registration completion. Please note that tickets can be refunded up until 7 days prior to the event; Eventbrite fees are not refundable.

[Register For The Main Conference • Friday, Oct. 14](#)

Saturday, Oct. 15 – Full-Day Tutorial: An Introductory Journey From Data To Evidence

Registration Fee: \$300*

** this is an open and inclusive event; if the registration fee represents a burden to you, please contact symposium@ohdsi.org.*

Should you need to make changes or cancel your registration ticket, please follow the instructions you will receive on your Eventbrite confirmation upon registration completion. Please note that tickets can be refunded up until 7 days prior to the event; Eventbrite fees are not refundable.

[Register For The Full-Day Tutorial • Saturday, Oct. 15](#)

[What Will Be Taught At This Tutorial?](#)

Saturday, Oct. 15 and Sunday, Oct. 16 – Community Activities

A highlight of the OHDSI Symposium will be a full weekend of workgroup activities and meetings within the Bethesda North Marriott Hotel & Conference Center. You are now able to [register for any workgroup sessions as long as there is no overlap between any two sessions](#); registration is free, but please do so early as this will be first-come, first-served due to room capacity.

[See The Schedule & Agenda For Workgroup Activities • Weekend of Oct. 15-16](#)

[Register For Workgroup Activities • Weekend of Oct. 15-16](#)

Hotel Information and Sleeping Room Block

Hotel: [Bethesda North Marriott Hotel & Conference Center](#)

Address: 5701 Marinelli Road, Rockville, Maryland, 20852

Hotel Main Number: (301) 822-9200

Reservations Toll Free: (877) 212-5752

Reservations Local Phone: (301) 822-9200

This year, OHDSI is holding a sleeping room block for the nights of Oct. 13 and 14 with a special room rate of \$179 plus taxes. Please note that all sleeping rooms are on a first-come, first-served basis. To help us in the planning process, we ask that you do not cancel your hotel room ordered through the OHDSI Room Block. If you must cancel, please let us know prior to Thursday, Sept. 1, so that we can offer the room to others who may need one. Once the room block is full, or if specific nights are sold out, you may make additional room reservations [on the hotel's website](#) or by calling the hotel phone number above. Please note that OHDSI is not holding any sleeping rooms on Saturday, Oct. 15. Therefore, please call the hotel phone number or make this reservation online should you plan to stay Saturday night.

ohdsi.org/ohdsi2022symposium



OHDSI Data Partners

Who has already joined the journey and adopted the OMOP CDM? There are currently 331 databases, including 284 electronic health records and 28 administrative claims sources, that come from 34 different countries. Together, these databases represent more than 810 million unique patient records, approximately 11% of the world's population.

[illegible][illegible]



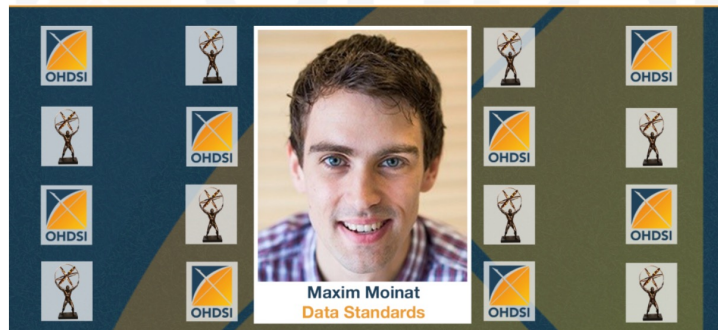
Titan Awards Nominations Close Friday!

Nominations for the 2022 Titan Awards are now OPEN!
Please use the form below to nominate an individual or institution for a top contribution to the OHDSI community this past year!

[2022 Nomination Form](#)

To recognize OHDSI collaborators (or collaborating institutions) for their contributions towards OHDSI's mission, the OHDSI Titan Awards were introduced at the 2018 Symposium and have been handed out at the U.S./Global Symposium each year since. Annually, community members are invited to nominate individuals or institutions they feel have made significant contributions towards advancing [OHDSI's mission, vision and values](#). Once nominations are submitted, the OHDSI Titan Award Committee will select the award winners. Award winners will be announced before the networking reception at the annual symposium. The award categories, as well as all previous recipients, can be found below.

2021 OHDSI Titan Awards



Titan Award for Data Standards – to recognize extraordinary contributions by an individual, organization, or team in development or evaluation in community data standards, including OMOP common data model and standardized vocabularies

- 2021 – [Maxim Moinat](#), The Hyve/[Erasmus University Medical Center](#)
- 2020 – [Clair Blacketer](#), [Janssen Research and Development](#)
- 2019 – Oncology Workgroup ([Michael Gurley](#), Northwestern Univ.; [Rimma Belenkaya](#), [Memorial Sloan Kettering Cancer Center](#); [Robert Miller](#), [Tufts CTSI](#))
- 2018 – Vocabulary team ([Christian Reich](#), [IQVIA](#); [Anna Ostropelets](#), [Columbia Univ.](#); [Dmitry Dymshyts](#), [Odysseus Data Services](#))

2021 OHDSI Titan Awards



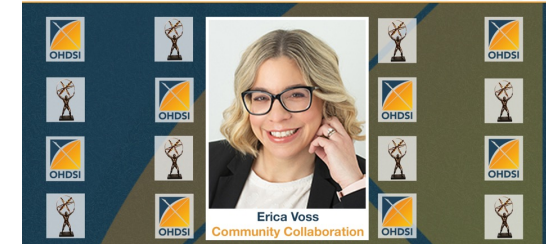
2021 OHDSI Titan Awards



2021 OHDSI Titan Awards



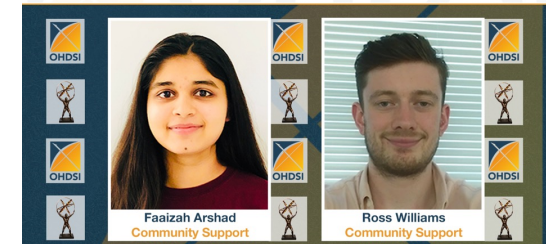
2021 OHDSI Titan Awards



2021 OHDSI Titan Awards



2021 OHDSI Titan Awards



ohdsi.org/titan-awards • DEADLINE is Sept. 2!



#OHDSISocialShowcase This Week

Characterization of Health by OHDSI Asia-Pacific chapter to identify Temporal Effect of the Pandemic for Cardiovascular Diseases (CHAPTER-CVDs)

PRESENTER: Seng Chan You

INTRO:

As routinely-collected data emerges, a federated network study could provide a fuller picture how healthcare system is resilient against the pandemic, across the systems, regions, and countries

The OHDSI Asian Pacific regional chapter has launched the Characterization of Health by OHDSI Asia-Pacific chapter to identify Temporal Effect of the Pandemic (CHAPTER) study to describe the temporal change in incidence of diseases and healthcare pattern before and after the emergence of COVID-19. Here, we describe the preliminary results for cardiovascular diseases (CVDs).

METHODS

The temporal change of CVDs including hypertension, acute myocardial infarction (AMI), and heart failure (HF) from Australia LPD and Japan claims were assessed based on **Observational Medical Outcomes Partnership (OMOP) common data model (CDM)**

The digital phenotype definitions and the incidence rate were calculated by leveraging previous Phenotype Phebruary project initiated by the OHDSI

The interrupted time series analysis was used to describe the trend of incidence of three hypertension, AMI, and HF before and after the COVID-19 pandemic occurrence

Seng Chan You^{1,2} (seng.chan.you@ohdsi.org), Subin Kim^{1,2}, Yongjae Lee², Jing Li¹, Can Yi¹, Mai Van Zandt³

¹Department of Biomedical Systems Informatics, Yonsei University College of Medicine, Seoul, South Korea
²Institute for Innovation in Digital Healthcare, Yonsei University, Seoul, South Korea
³IQVIA

Potential temporal change in the diagnosis of Cardiovascular Diseases after COVID-19 pandemic occurrence in the Asia Pacific.

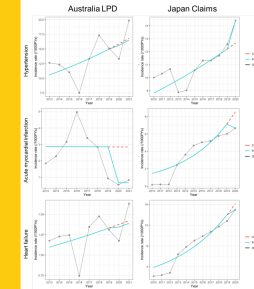


The temporal difference of CVDs will provide insights on the impact of COVID-19 and resilience in each healthcare system during the pandemic. We are recruiting the data partner to join this study.



Scan QR code link to github repository

<https://github.com/ohdsi-studies/CHAPTER>



Comparison of the periods with and without COVID-19 pandemic exposure.

The counterfactual refers the predicted values had no COVID-19 occurrence, and the fitted values are estimated based on the **Poisson regression model with adjusting time vector (years)**.

There is a sharp decline in the incidence of hypertension, AMI, and HF in the Australia LPD in 2020, whereas this trend is less evident in the Japan claims. There was rebound of incidence of cardiovascular diseases in 2021 in the Australia LPD

RESULTS

In our preliminary result, we found the potential change in the incidence of CVDs after COVID-19 pandemic occurrence. The further investigation of CHAPTER study group will provide more scientific relevant and detailed information across the OHDSI network. **The temporal difference of CVDs will provide insights on the impact of COVID-19 and resilience in each healthcare system during the pandemic. We are recruiting the data partner to join this study.**



MONDAY

Characterization of Health by OHDSI Asia-Pacific chapter to identify Temporal Effect of the Pandemic for Cardiovascular Diseases (CHAPTER-CVDs)

Lead: Seng Chan You



#OHDSISocialShowcase This Week

FinnOMOP:
The Finnish OMOP data network

PRESENTER:
Javier Gracia-Tabuenca

INTRO:

The most tedious part of converting an EHR database to OMOP-CDM is to get the medical codes mapped to standard concepts.

We joined forces to get this done and used it to include into the OHDSI network 70% of the Finnish population.

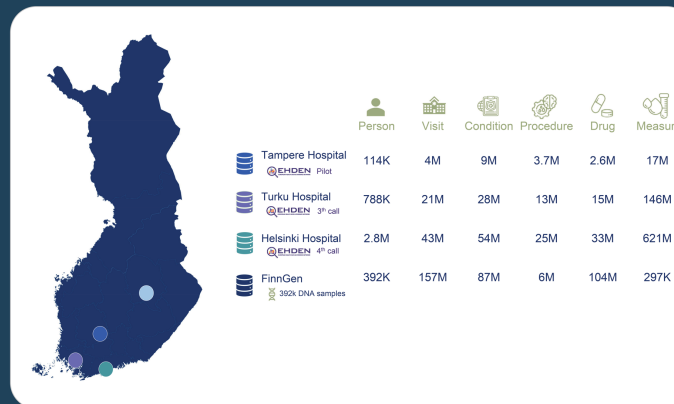
METHODS:

17 National Vocabularies	
4 University Hospitals	
1 National Health Institute	
1 Public-private project	
2 SME	
2 Years	

RESULTS:

15k Codes mapped	
4 OMOP-CDM databases	
1 Central Repository	
70% Population	

70% of the Finnish population Is in an OMOP-CDM.



Scan QR to
download the full paper.

How can this help you

We created a workflow to:

- Gather national codes in to one common repository.
- Format them into Usagi files for C&CR mapping.
- Version control vocabulary changes.
- Dashboard to visualize the progress of the mappings and coverage of the databases.



Anna Hammälä¹, Persephone Doupi², Sampo Kukkurainen³, Perttu Koskenvesa⁴, Javier Gracia-Tabuenca⁵, Oscar Brück⁴, Leena Hakkarainen¹, Annu Kaila⁴, Gustav Klingstedt⁶, Kalle Kollin⁴, Juha Koski⁷, Jan Magnusson⁸, Toni Mikkola¹, Pasi Rikala¹, Simo Ryhänen⁵, Max Salmi⁸, Ilona Sijlander⁴, Pia Tajanen¹, Juha-Matti Varjonen¹, Arto Vesterbacka⁵, Arto Vuori², Arho Virkki¹, Tarja Laitinen³, Kimmo Porkka⁴



TUESDAY

The Finnish OMOP data network (FinOMOP) Lead: Javier Gracia-Tabuenca



#OHDSISocialShowcase This Week

Impact of the COVID-19 pandemic on eating disorders among adolescents and young adults in Catalonia: a population-based cohort study

▲ PRESENTER: **Berta Raventós**

INTRO:

- The COVID-19 pandemic seems to have had a particularly detrimental effect on young people at risk of developing eating disorders (ED).

OBJECTIVE:

- To investigate how trends in the incidence of diagnoses of ED have been affected by the different periods of the COVID-19 pandemic in Catalonia, Spain.

METHODS:

- **Design:** Population-level incidence rates (Jan-2016 to June-2021).
- **Setting:** Primary care data from Catalonia (SIDIAP).
- **Participants:** Individuals aged 10 to 24 years (n=1,147, 573).
- **Follow up:** From the latest of 10th birthday, start of observation, or study start; to the earliest of 25th birthday, end of observation, study end, or occurrence of the outcome.
- **Statistical analyses:**
 - Incidence rates (IR) of EDs by month and study period.
 - Incidence rate ratios (IRR) (ref: pre-lockdown period).
 - Stratified by sex, age group (10-14, 15-19, 20-24 years) and socioeconomic deprivation index (categorised into quintiles).

RESULTS:

- **By sex and age groups:**
 - Reductions in IRs were observed for both sexes during the lockdown period.
 - Statistically significant increases in IRs were limited to females across age groups during the post-lockdown period.
- **By socioeconomic deprivation index:**
 - Reductions in IRs during the lockdown period were observed across deprivation quintiles except for the least deprived (U1).
 - Substantial increases were observed in all deprivation quintiles during the post-lockdown period.

The COVID-19 pandemic has profoundly impacted the number of eating disorders diagnoses in primary care, with adolescent girls seen to be most affected.

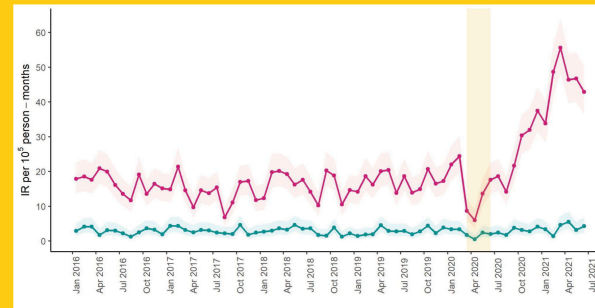


Figure 1: Monthly IR by sex (pink: females; green: males). The shaded area in yellow represents the lockdown period.

STUDY PERIODS:

Pre-lockdown
Jan-2016 to Feb-2020

Lockdown
Mar-2020 to June-2020

Post-lockdown
Jul-2020 to June-2021

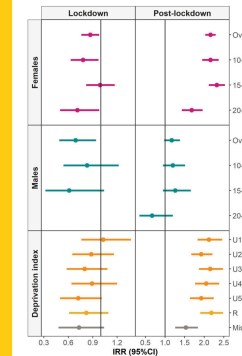


Figure 2: IRRs by sex, age group and socioeconomic deprivation index. The pre-lockdown period was defined as the reference group. For deprivation, urban areas (U) were categorized into quintiles of deprivation (U1 least deprived; U5 most deprived). Information on deprivation was not available for rural areas (R). Events with less than 5 occurrences were omitted for privacy reasons.

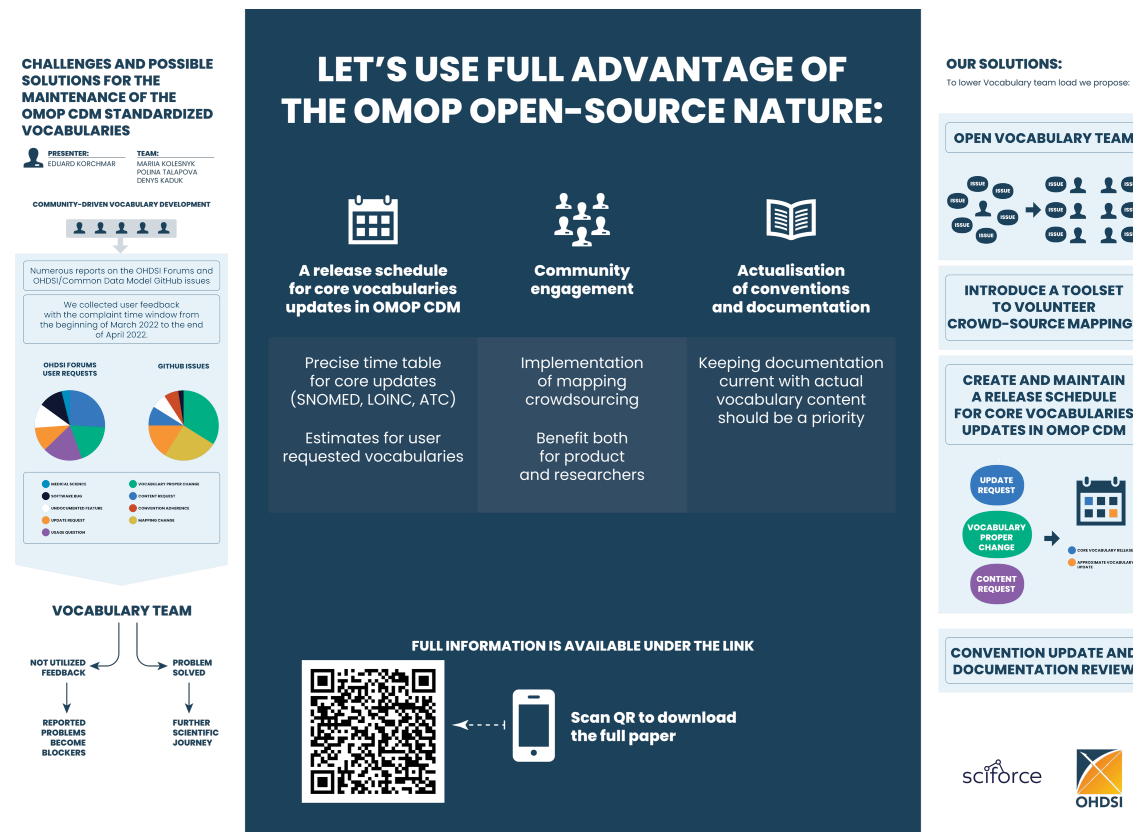
▲ Berta Raventós, Alicia Abellan, Andrea Pistillo, Carlen Reyes, Edward Burn, Talita Duarte-Salles



WEDNESDAY Impact of the COVID-19 pandemic on eating disorders among adolescents and young adults in Catalonia: a population-based cohort study
Lead: Berta Raventós



#OHDSISocialShowcase This Week



THURSDAY

Challenges and possible solutions for the maintenance of the OMOP CDM Standardized Vocabularies
Lead: Eduard Korchmar

#OHDSISocialShowcase This Week

RCTrep: An R package for the validation of methods for treatment effect estimation using real-world data

PRESENTER: **Lingjie Shen^{1*}**

INTRO:

- Who cares? – policy makers; regulators; real world evidence (RWE) evaluators.
- Why? There is an increasing attention for the leverage of large real-world data (RWD) in treatment effect estimation to drive fast and precise decision making.
- Challenge: Since we do not observe the true treatment effect for each individual- which is the fundamental problem of causal inference - validation of treatment effect estimation methods using RWD is challenging.
- Aim: In the absence of a ground truth, how can we validate different methods using RWD to select the most reasonable method for the data at hand, driving fast regulatory and clinical decision making?

METHODS:

- We identify under which conditions the estimate from randomized control trial (RCT) can be regarded as the ground truth for methods validation using RWD. We illustrate differences between RCT and RWD in Figure 1. We assume the RWD and RCT data are two random samples from a, potentially different, population, and hence allow for a fair comparison of estimates of treatment effect between two samples after population composition is controlled for.
- We consider a set of candidate treatment effect estimators $\mathcal{F} = \{f_1, \dots, f_m\}$, where $f(x): \mathcal{X} \mapsto \mathbb{R}$ is an estimator of conditional average treatment effect of population with characteristics $X = x$. We select the best one using the following evaluation metric:

$$f^* = \underset{f \in \mathcal{F}}{\operatorname{argmin}} L(f; \hat{f}) = \underset{f \in \mathcal{F}}{\operatorname{argmin}} \left(\hat{f} - \sum_{x \in \mathcal{X}} w(x) f(x) \right)^2$$

$$\text{s.t. } p(x) = q(x)w(x)$$

where \hat{f} is an unbiased estimate of average treatment effect of a population that a RCT represents, $p(x)$ and $q(x)$ are the empirical density of x in RCT data and RWD, $w(x)$ is a weight for individuals in RWD with characteristics $X = x$.

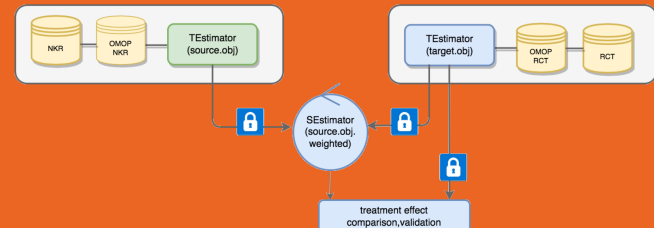


Figure 2: Diagram of RCTrep basic structure

- TEstimator:** R6 class TEstimator is responsible for estimating population- and subpopulation-level treatment effects, and diagnosing assumptions.
- SEstimator:** R6 class SEstimator is responsible for computing weights, so that the weighted covariates in source.obj and covariates in target.obj are balanced. The two objects communicate within the object of the class SEstimator, sharing either unit-level data or aggregated data for computing the weights.

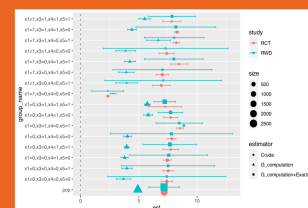


Figure 3: A working example of RCTrep. We use the **G-computation** method to adjust the treatment assignment mechanism, and use **exact matching** to adjust the sampling mechanism. Results show that **only** correcting for **both** mechanisms can allow for comparison of treatment effect estimation between RWD and RCT data.

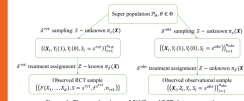


Figure 1: The mechanisms of RWD and RCT data generations



Figure 4: Estimates comparison between NKR and QUASAR trial using RCTrep. Subfigure (a)-(d) diagnoses overlap of treatment within subgroups in NKR data and survival in treatment and control groups in NKR data. Figure (e)-(f) diagnoses G-computation model fit and estimates of treatment effect in subgroups. Figure (g) diagnoses propensity score overlap between treatment and control groups and estimates of treatment effect using inverse propensity score weighting. Figure (h)-(i) diagnoses covariate balance between NKR and QUASAR trial and comparison of estimates from QUASAR and estimates from NKR with and without weighting.

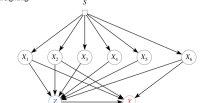


Figure 5: Illustration of adjustment sets in TEstimator and SEstimator. S is an indicator of selection into RCT and Z is an indicator of selection into treatment group.

Lingjie Shen^{1*},
Gijs Geleijnse²,
Maurits Kaptein³

¹Department of Methodology and Statistics,
Tilburg University,
²IKNL,
³Jheronimus Academy of Data Science,
*L.Shen@uvt.nl



FRIDAY

An EHDEN Data Partner Experience: Transforming the Hospital i2b2 data repository into OMOP common data model

Lead: M Teresa Garcia Morales



Where Are We Going?

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





Three Stages of The Journey

Where Have We Been?

Where Are We Now?

Where Are We Going?





Aug. 30 Community Call: EHDEN Academy/EHDEN Portal



EHDEN Academy

Nigel Hughes

Scientific Director, Observational Health Data Analytics/Epidemiology •
Janssen Research and Development



EHDEN Portal

Julia Kurps

Team Lead, Real World Data • The Hyve