Welcome to OHDSI

OHDSI Community Call
Oct. 24, 2023 • 11 am ET
# Upcoming Community Calls

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Three Stages of The Journey

Where Have We Been?
Where Are We Now?
Where Are We Going?
Congratulations to the team of Anna Ostropolets, George Hripcsak, Syed A Husain, Lauren R Richter, Matthew Spotnitz, Ahmed Elhussein, and Patrick Ryan on the publication of Scalable and interpretable alternative to chart review for phenotype evaluation using standardized structured data from electronic health records in JAMIA.

**Research and Applications**

**Scalable and interpretable alternative to chart review for phenotype evaluation using standardized structured data from electronic health records**

Anna Ostropolets 1, MD, PhD1,∗, George Hripcsak 2, MD, MS1,3,4, Syed A Husain 2, MD, MPH4,5, Lauren R. Richter 2, MD, MS1,4, Matthew Spotnitz 3, MD, MPH4, Ahmed Elhussein, MD, MS1,4, Patrick B. Ryan, PhD3,4

1Department of Biomedical Informatics, Columbia University Irving Medical Center, New York, NY 10032, United States. 2Medical Informatics Services, New York Presbyterian Hospital, New York, NY 10032, United States. 3Division of Neurology, Department of Medicine, Virginia College of Physicians and Surgeons, Columbia University Irving Medical Center, New York, NY 10032, United States. 4Observational Health Data Analytics, Janssen Research and Development, Titusville, NJ 08520, United States.

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**Abstract**

**Objectives:** Chart review as the current gold standard for phenotype evaluation cannot support observational research on electronic health records and claims data sources at scale. We need to evaluate the ability of structured data to support efficient and interpretable phenotype evaluation as an alternative to chart review.

**Materials and Methods:** We developed Knowledge-Enhanced Electronic Profile Review (KEEPER), a phenotype evaluation tool that extracts patient’s structured data elements relevant to a phenotype and presents them in a standardized fashion following clinical reasoning principles like evaluated performance (inter-rater agreement, inter-method agreement, accuracy, and review time) compared to manual chart review for 4 conditions using a randomized 2-period, 2-sequence crossover design.

**Results:** Case ascertainment with KEEPER was twice as fast compared to manual chart review. 98.1% of the patients were classified concordantly using charts and KEEPER, but agreement varied depending on the condition. Missing data and differences in interpretation accounted for most of the discrepancies. For clinical purposes true positive and negative results of KEEPERS were compared to 100% and 98.1% of the cases respectively.

**Conclusion:** Structured data can be used for efficient and interpretable phenotype evaluation if they are limited to relevant subset and organized according to clinical reasoning principles. A system that implements these principles can achieve noninferior performance compared to chart review at a fraction of time.

**Keywords:** chart review, phenotype; observational study; case adjudication; case ascertainment.
OHDSI Shoutouts!

Congratulations to the team of Rosemarie Sadsad, Gema Ruber, Johnson Zhou, Steven Nicklin, and Guy Tsafnat on the publication of A computable biomedical knowledge object for calculating in-hospital mortality for patients admitted with acute myocardial infarction in Learning Health Systems.
OHDSI Shoutouts!

Congratulations to the team of Evgeniy Krastev, Dimitar Tcharaktchiev, and Simeon Abanos on the publication of Application of OMOP Common Data Model for Data Integration: The Bulgarian Diabetes Register in *Volume 309: Telehealth Ecosystems in Practice in Studies in Health Technology and Informatics.*
OHDSI Shoutouts!
OHDSI Shoutouts!

2023 Titan Awards

Gowtham Rao
Azza Shoaibi

Data Standards

www.ohdsi.org

#JoinTheJourney
OHDSI Shoutouts!

2023 Titan Awards

Jiayi (Jessie) Tong

Methodological Research

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2023 Titan Awards

Katy Sadowski

Open-Source Development #JoinTheJourney

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Center for Surgical Science

Clinical Applications

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2023 Titan Awards

Nicole Pratt

Community Leadership

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2023 Titan Awards

Cynthia Sung

Community Collaboration #JoinTheJourney
OHDSI Shoutouts!

2023 Titan Awards

Gyeol Song

Community Support

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#JoinTheJourney

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www.ohdsi.org
#JoinTheJourney

clapping emoji
OHDSI Shoutouts!

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

Do you have anything you want to share? Please send to sachson@ohdsi.org so we can highlight 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

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<td>Common Data Model Vocabulary Subgroup</td>
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MONDAY

Building an OMOP CDM repository from OpenEHR: implementation experience of INFOBANCO

(Miguel Pedrera-Jiménez, Antonio Díaz Holgado, David Moner-Cano, Paula Rubio-Mayo, Noelia García-Barrio, Julián Jiménez-Carramiñana, Diego Boscá-Tomás, Juan Luis Cruz-Bermúdez, Javier de la Cruz-Bertolo, José Luis Bernal-Sobrino, Pablo Serrano-Balazote)
TUESDAY

Data OMOPisation of cancer data at Cliniques universitaires Saint-Luc

(Joëlle Thonnard, Frédéric Calay, Audrey Timmermans, Cédric Van Marcke)
Performance Improvement of Post-ETL in OMOP CDM

(Wai Yi Man, Antonella Delmestri)
THURSDAY

Changes in Incidence of Screening and Diagnostic Tests, Breast, Colorectal, Lung and Prostate Cancer, Before, During and After the UK National COVID-19 Lockdowns: A Cohort Study

(Nicola L. Barclay, Annika M. Jödicke, Xihang Chen, Antonella Delmestri, Berta Raventós, Wai Yi Man, Danielle Newby, Daniel Prieto-Alhambra, Marta Pineda-Moncusí, Martí Català)

COVID-19 lockdown reduced incidence of breast, colorectal, lung and prostate cancer, resulting in potentially ~62,000 missed cancer diagnoses

Changes in Incidence of Screening and Diagnostic Tests, Breast, Colorectal, Lung and Prostate Cancer, Before, During and After the UK National COVID-19 Lockdowns: A Cohort Study

Background: Breast, colorectal, lung and prostate cancers are the most common causes of cancer death in the UK. Due to the COVID-19 pandemic, many health systems postponed cancer screening and diagnostic tests, resulting in delays in diagnosis and treatment. We aimed to understand whether cancer-related screening programmes, diagnostic tests and referrals, and incidence of four cancers, were affected by COVID-19 lockdown in the UK, and whether rates normalised to pre-pandemic levels by December 2021.

Methods: A retrospective cohort study of electronic health records from UK primary care, using data from the Clinical Practice Research Datalink (CPRD) GOLD database, mapped to the Observational and Medical Outcomes Partnership (OMOP) Common Data Model (CDM). Incidence rate ratios of first-ever diagnoses of breast, colorectal, lung and prostate cancer and their screening, diagnostic tests, and referrals were calculated (see Figure 1). Negative binomial regression models were run to forecast expected rates from March 2020 to December 2021 based two years data prior to the pandemic (see Figure 2).

Limitation: It is likely that the estimated shortfall in screening/diagnostic tests, and cancer diagnostic rates in the present study, are underestimates, given that many of these diagnoses are likely to be made in hospital settings, not captured in primary care data.
COVID-19 vaccines effectiveness against thromboembolic complications in the post-acute phase of the COVID-19 infection: a staggered cohort study using UK primary care electronic health records

Núria Mercadé-Besora, Wai Man, Antonella Delmestri, Clara Prats, Daniel Prieto-Alhambra, Annika M Jödicke, Martí Català
DataQualityDashboard

DataQualityDashboard is part of HADES.

The goal of the Data Quality Dashboard (DQD) project is to design and develop an open-source tool to expose and evaluate observational data quality.

Introduction

This package will run a series of data quality checks against an OMOP CDM instance (currently supports v5.4, v5.3 and v5.2). It systematically runs the checks, evaluates the checks against some pre-specified threshold, and then communicates what was done in a transparent and easily understandable way.

Overview

The quality checks were organized according to the Kahn Framework which uses a system of categories and contexts that represent strategies for assessing data quality. For an introduction to the Kahn framework please click here.

Using this framework, the Data Quality Dashboard takes a systematic-based approach to running data quality checks. Instead of writing thousands of individual checks, we use “data quality check types”. These “check types” are more general, parameterized data quality checks into which OMOP tables, fields, and concepts can be substituted to represent a singular data quality idea. For example, one check type might be written as
Please Fill Out The Symposium Evaluation!

2023 OHDSI Global Symposium Evaluation Form

Thank you for attending the 2023 OHDSI Global Symposium October 20-22 at the Hilton East Brunswick Hotel. We hope you enjoyed the symposium community experience this year! Kindly fill out this evaluation and let the organizing committee know what went well and what can be improved for future symposia. All responses will remain anonymous.

* Required

1. Which stakeholder group do you identify with? (check all that apply) *

- [ ] Academia
- [ ] Government
- [ ] Pharmaceutical
- [ ] Health System
- [ ] Payer
- [ ] Technology
- [ ] Patient
- [ ] Other
Openings at Boehringer Ingelheim

Director, Real World Data & Analytics - Data Domain Owner

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Real World Evidence Data Engineer

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Opening: Postdoctoral Associate/Data Analyst

Job Description:
We are seeking a talented and dedicated Postdoctoral Associate/Data Analyst to join our dynamic team. In this role, you will play a pivotal part in advancing our mission of improving health outcomes through data-driven research. You will have the opportunity to work with diverse healthcare datasets, develop innovative analytical methods, and collaborate with experts in the field.

The Postdoctoral Associate/Data Analyst should possess significant experience in R and Rstudio, with specific expertise in database management using PostgreSQL—critical requirements within the OHDSI network. Your responsibilities will include assisting the Principal Investigator (Dr. Yann Lu from Yale University) and Co-investigator (Drs. Marc Suchard from UCLA) in creating the analytic tool stack and performing related analyses.

Key Responsibilities:
- Collaborate with multidisciplinary teams to design and execute data analysis projects.
- Develop and implement statistical and machine learning models for healthcare data.
- Perform data extraction and preprocessing tasks to prepare datasets for analysis.
- Conduct exploratory data analysis and visualization to extract insights from healthcare data.
- Assist in the development and maintenance of OHDSI’s open-source tools and resources.
- Communicate findings and insights through reports, presentations, and publications.
- Stay up-to-date with the latest advancements in data science and healthcare informatics.

Email: y.lu@yale.edu
Where Are We Going?

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