Collaborator Showcase Presentations

OHDSI Community Call
Nov. 8, 2022 • 11 am ET
# Upcoming OHDSI Community Calls

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<tr>
<td>Nov. 15</td>
<td>Open Network Studies</td>
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Three Stages of The Journey

Where Have We Been?
Where Are We Now?
Where Are We Going?
OHDSI Shoutouts!

Congratulations to the team of Wallis C.Y. Lau, Carmen Olga Torre, Kenneth K.C. Man, Henry Morgan Stewart, Sarah Seager, Mui Van Zandt, Christian Reich, Jing Li, Jack Brewster, Gregory Y.H. Lip, Aroon D. Hingorani, Li Wei, and Ian C.K. Wong on the publication of **Comparative Effectiveness and Safety Between Apixaban, Dabigatran, Edoxaban, and Rivaroxaban Among Patients With Atrial Fibrillation** in *Annals of Internal Medicine*. 

**Background:**

Current guidelines recommend using direct oral anticoagulants (DOACs) over warfarin in patients with atrial fibrillation (AF), but head-to-head trial data do not exist to guide the choice of DOAC.
Congratulations to the team of Xiao Wang, Wenwang Rao, Xueyan Chen, Xinqiao Zhang, Zeng Wang, Xianglin Ma, Qinge Zhan on the publication of The sociodemographic characteristics and clinical features of the late-life depression patients: results from the Beijing Anding Hospital mental health big data platform in BMC Psychiatry.
Congratulations to the team of Tianchu Lyu, Chen Liang, Jihong Liu, Berry Campbell, Peiyin Hung, Yi-Wen Shih, Nadia Ghumman, Xiaoming Li, and members of the National COVID Cohort Collaborative Consortium on the publication of Temporal Events Detector for Pregnancy Care (TED-PC): A rule-based algorithm to infer gestational age and delivery date from electronic health records of pregnant women with and without COVID-19 in PLOS ONE.
OHDSI Shoutouts!
OHDSI Shoutouts!

Dr. Thamir Alshammari @T_M_Alashammari
Well we’ll deserved George, it is always great to work and learn from you.
@OHDSI @ColumbiaDBMI

Columbia DBMI @ColumbiaDBMI
Today is the day that George Hripcsak will receive 2022 Morris F. Collen Award of Excellence, the highest honor in the field of informatics. The session takes place at 1:30 during #AMIA2022!

Kristin Kostka @kricketchirps 15h
The most humble leader I know! So awesome to see our fearless @OHDSI leader recognized. I know I wouldn’t be where I am today without George’s mentorship! He’s a true star in the observational health data science and informatics field.

Columbia DBMI @ColumbiaDBMI
Congrats to DBMI chair George Hripcsak on receiving the 2022 Morris F. Collen Award of Excellence yesterday! #AMIA2022 @Columbia @ColumbiaPS @DataSciColumbia @AMIAinformatics
Dr. Thamir Alshammari @T_M_Alashammari

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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

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<th>Date</th>
<th>Time (ET)</th>
<th>Meeting</th>
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<tr>
<td>Tuesday</td>
<td>12 pm</td>
<td>Common Data Model Vocabulary Subgroup</td>
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<td>Tuesday</td>
<td>6 pm</td>
<td>Eyecare &amp; Vision Research</td>
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<td>Wednesday</td>
<td>9 am</td>
<td>Patient-Level Prediction</td>
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<td>Wednesday</td>
<td>10 am</td>
<td>FHIR and OMOP Digital Quality Measurements Subgroup (ZOOM)</td>
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<td>Wednesday</td>
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<td>Open-Source Community</td>
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<td>Wednesday</td>
<td>2 pm</td>
<td>Natural Language Processing</td>
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<td>Thursday</td>
<td>12 pm</td>
<td>FHIR and OMOP Oncology Subgroup</td>
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<td>Thursday</td>
<td>7 pm</td>
<td>Dentistry</td>
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<td>Friday</td>
<td>9 am</td>
<td>GIS – Geographic Information System Development</td>
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<td>Friday</td>
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<td>Phenotype Development &amp; Evaluation</td>
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<td>Friday</td>
<td>10:15 am</td>
<td>Clinical Trials</td>
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<td>Friday</td>
<td>10 pm</td>
<td>China Chapter</td>
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<td>Monday</td>
<td>10 am</td>
<td>Africa Chapter</td>
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<tr>
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<td>Early-Stage Researchers</td>
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[ohdsi.org/upcoming-working-group-calls/](https://ohdsi.org/upcoming-working-group-calls/)
Early-Stage Researchers Career Speaker Series

August: Asieh Golozar
September: Jenna Reps
October: Jenny Lane
November: Rupa Makadi (Nov. 14, 11 am ET)
December: Kristin Kostka (Dec. 12, 11 am ET)

bit.ly/OHDSILeaders
Open-Source Community WG Meeting

Please join the next Open-Source Community WG meeting, which will include a presentation from Laurie Arp around supporting open-source sustainability planning.

Laurie Arp's professional interests focus on the intersection of collections, technology, and people. As the Director of DuraSpace Community Supported Software, Laurie directs community supported open-source programs housed at LYRASIS including ArchivesSpace, CollectionSpace, DSpace, Fedora, and VIVO.

Wednesday, 11 am ET
2022 OHDSI APAC Symposium

Day 1 (Nov. 12) — Tutorial Workshop
8:30 – 9:00 • Registration
9:00 – 9:30 • Overview of the OHDSI Journey: where are we going
9:30 – 10:20 • OMOP Common Data Model and vocabulary
10:20 – 10:30 • Break
10:30 – 11:20 • ETL a source database into OMOP CDM
11:20 – 11:30 • Break
11:30 – 12:20 • Creating cohort definitions
12:20 – 13:30 • Lunch
13:30 – 14:20 • Phenotype evaluation
14:20 – 14:30 • Break
14:30 – 15:20 • Characterization
15:20 – 15:30 • Break
15:30 – 16:20 • Estimation
16:20 – 16:30 • Break
16:30 – 17:20 • Prediction
17:20 – 17:30 • Recap of the OHDSI Journey, where do we go from here

Register for Day 1 Here

Day 1 Registration Fees (In-Person)
International Student/Trainee: $30
International Academia/Government: $70
International Industry/Corporate: $170
Local Registrants: Free

Day 2 (Nov. 13) — Main Conference
08:00 – 08:30 • Registration & Light Breakfast
09:00 – 09:20 • Welcome Session
09:20 – 09:40 • Group Photo

Session 1: Envisioning of OHDSI Global & OHDSI APAC
09:40 – 10:00 • Keynote – OHDSI Global Presentation
10:00 – 10:20 • OHDSI APAC Introduction
10:20 – 10:30 • Break

Session 2: The Implication Experiences in OHDSI Region
10:30 – 11:30 • Researches in OHDSI APAC
11:30 – 11:45 • Researches using Taiwan National Data
11:45 – 12:00 • Researches using TMUORD Data
12:00 – 13:00 • Lunch & Poster Presentation

Session 3: The Challenges of Research in OHDSI APAC
13:00 – 14:00 • Panel – Standardization & Common Data Models
14:00 – 15:00 • Panel – APAC Regional Adaption to Standardization
15:00 – 15:15 • Break
15:15 – 16:15 • Poster & Networking Session
16:15 – 17:00 • Closing Remarks

Register for Day 2 Here

Day 2 Registration Fees (In-Person)
International Student/Trainee: $50
International Academia/Government: $100
International Industry/Corporate: $200
Local Registrants: Free

Day 2 Registration Fees (Virtual)
International Student/Trainee: $25
International Academia/Government: $50
International Industry/Corporate: $100
Local Registrants: Free

ohdsi.org/2022apacsymposium

#JoinTheJourney
2022 OHDSI APAC Symposium

Open call
Open call for data partners (October 12 – November 11)

Evaluation
Evaluation of all applications by our committee of both internal and external experts.

Agreement
Grant awarding and signing of grant agreement.

Harmonisation
Initiation of the data harmonisation.

SME linking
Identification and linking up with the SME of choice.

Ehden.eu
PHAROS, Platform for Harmonizing and Accessing Data in Real-time on Infectious Disease Surveillance Based on OMOP-CDM in Korea (Chungsoo Kim, Jimyung Park, Byungjin Choi, Seongwon Lee, Rae Woong Park)
Understanding Circe-be Logic Through Capr for Generating Complex Cohort Definitions

1 Introduction

1.1 ATLAS

Typically, we define cohort definitions for OHDSI studies using ATLAS. ATLAS has several benefits, in particular having a nice user interface to visualize the cohort definition we are trying to create. However, there are times when ATLAS can be a bit tedious particularly when we must create several cohort definitions with a similar structure (template). We can deal with this situations by copying and pasting, however this can lead to errors in cohort logic and can also be quite time consuming.
#Characterization of first-line treatment for Breast Cancer and Multiple Myeloma using Electronic Health Record and Claims Databases

**Maura Beaton, Matthew Spotnitz, Thomas Falconer, Melissa Accordino, Divaya Bhutani, Alison Callahan, Nigam Shah, Jake Gillberg, Andrew Williams, Karthik Natarajan**

**Columbia University Irving Medical Center, Department of Biomedical Informatics; Columbia University Irving Medical Center, Department of Medicine; Washington University, Department of Biomedical Data Science; Tufts University, Department of Biomedical Informatics.**

**Background**

A significant number of patients with breast cancer and multiple myeloma require initial treatment to control the disease. In recent years, electronic health records (EHRs) and claims databases have been utilized to identify and evaluate treatment patterns. However, the use of these databases to characterize first-line treatment for these conditions has been limited. This study aimed to use these resources to generate insights into initial treatment for breast cancer and multiple myeloma.

**Methods**

The study included a cohort of adult patients who received a breast cancer or multiple myeloma diagnosis between January 2010 and December 2015 at participating hospitals.

**Results**

Figure 1. Breast Cancer

- **Results: Breast Cancer**
  - **Methods:**
    - **Population:** Patients diagnosed with breast cancer between January 2010 and December 2015.
    - **Interventions:** First-line treatments for breast cancer.
    - **Outcomes:** Treatment patterns and outcomes.
  - **Background:**
    - The study uses EHR and claims data to characterize initial treatment for breast cancer.
    - **Results:**
      - **Methods:**
        - **Population:** Patients diagnosed with breast cancer between January 2010 and December 2015.
        - **Interventions:** First-line treatments for breast cancer.
        - **Outcomes:** Treatment patterns and outcomes.

**Conclusions**

The study provides insights into the initial treatment for breast cancer and multiple myeloma. The use of EHR and claims data allows for a comprehensive understanding of treatment patterns and outcomes. Further research is needed to validate these findings and explore the impact of these treatments on patient outcomes.

**References**


**Contact:** mbeaton@columbia.edu
### Quantitative Seasonality

**How do you know:***

- If one time series is more or less seasonal than another?
- If a time series is becoming more or less seasonal?
- What the most seasonal event in a given database are?
- If a time series is truly seasonal when methods disagree?

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**Algorithm:**

Let $u = 1/12$ be a strictly non-seasonal proportion.

Let $w = \left(1 \times (1/12) + (1 - 1/12)\right)$ be the normalizing value.

Let $M = M_{12,12}$ be the time series.

Let $1_{12}$ be a summing vector.

Let $1_{12}$ be a summing vector.

Let $y = \sum_{t} M_{t}$ be the monthly sum over all years.

Let $p = \sum_{t} 1_{12} M_{t}$ be the grand sum.

Let $d = d_{12}$ be the total deviation from strict non-seasonality.

Let $s = d/w$ be the seasonality score.

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**Results:**

- A quantitative seasonality score was established to be a complement to existing qualitative methods.
- The seasonality score provides a distribution-free metric that facilitates quantitative characterization and comparison.
- The seasonality score is a numeric value between 0 and 1 (inclusive), that is currently designed to quantify monthly seasonality.
- The seasonality score for all event table domains was computed for fifteen databases converted to the OMOP CDM.

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**The Seasonality Score: A Quantitative Complement to Qualitative Seasonality Assessment**

*Anthony Molinaro, Frank DeFalco*
Development of Lung Cancer Survival Prediction Models Based on Real-world Data and Machine Learning

(Jason C. Hsu, Phung-Anh Nguyen, Phan Thanh Phuc, Tsai-Chih Lo, Min-Huei Hsu, Chi-Tsun Cheng, Tzu-Hao Chang, Cheng-Yu Chen)
Openings

FDA/CDER’s Division of Hepatology and Nutrition is seeking a clinician with bioinformatics or biostatistics training to work with the Drug-Induced Liver Injury (DILI) Team to evaluate large datasets of liver-related data, collaborate on the Team’s review of drugs with hepatotoxicity signals, and help develop informatics-based processes in DILI evaluation across the Agency.

Contact Judy Racoosin at judith.racoosin@fda.hhs.gov for information about the application process (that will be through USAJOBS).
Andrew Williams recently announced two exciting new openings at Tufts Medicine.

1) Senior Project Manager for a multisite multiyear grant standardizing critical care EHR and waveform data. (CHoRUS Bridge2AI)

2) Lead software developer and research data warehouse manager for Tufts Medicine’s OMOP instance and related services.

Remote work is possible for both positions.

1. Link for Senior Project Manager position: [https://smrtr.io/bBVzh](https://smrtr.io/bBVzh)

2. Link for Lead Software Developer and Research Data Warehouse Manager position: [https://jobs.smartrecruiters.com/TuftsMedicalCenter1/743999857980631-software-development-lead-res-g-c-ctsi](https://jobs.smartrecruiters.com/TuftsMedicalCenter1/743999857980631-software-development-lead-res-g-c-ctsi)

Andrew’s email: awilliams15@tuftsmedicalcenter.org
Openings

Research Associate (Data Scientist/Statistical Engineer), Johns Hopkins inHealth and Biostatistics Center

• Execute OHDSI studies (e.g. for cohort characterizations and comparative effectiveness) on Johns Hopkins’s EHR data to support clinicians;

• Collaborate with statisticians and clinicians to continuously integrate state-of-the-art statistical tools to the inHealth/OHDSI tool stack for deployment;

• Mentor trainees on data science and software development skills;

• Co-teach courses on observational health data analytics and data science skills at School of Medicine and Public Health;

• Facilitate adoption of the inHealth tools among the broader OHDSI community by contributing to OHDSI’s Health Analytics Data-to-Evidence Suite.

• https://apply.interfolio.com/114436
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?
Assessing Racial Fairness of Dialysis Allocation in End-Stage Renal Disease (Linying Zhang, Lauren R. Richter, David M. Blei, Yixin Wang, Anna Ostropolets, Noemie Elhadad, George Hripcsak)
Best Community Contribution Awards

Multi-institutional collaborative research using ophthalmic medical image data standardized by Radiology Common Data Model (R-CDM)

Analyzing the Effect of Hypertension on Retinal Thickness Using Radiology Common Data Model (R-CDM) (Chul Hyoung Park, Rae Woong Park, Sang Jun Park, Da Yun Lee, Seng Chan You, Ki Hwang Lee)
Background
OHDSI Atlas has long been an effective tool for developing rule-based cohort definitions in observational data. In the public version of Atlas, thousands of cohort definitions have been created. While patient record data does not include the detailed rules used for cohort definition validation, it is not without difficulties, meaning our tool is not limited to the need for clinical experts to access data, a tool to review all in cohort patients, a method to gather review data, and a system of notification to determine if cohort cases/no-case participation or not.

Until now, there has not been an Atlas-based system for clinical expert review. For this effort, we introduce the Atlas Cohort Definition Validation tool (ACDV). This tool aims to solve some of the primary concerns around cohort definition validation, while having the added benefit of being cohesively integrated into the OHDSI Atlas stack. Additionally, the tool allows for creation of more complex validation question sets, beyond the standard case/no-case assessments.

Methods
We designed and developed two modules around cohort definition validation. The first (1) allows for validation study creation and management, and the second (2) allows for validation of study questions for clinical reviewers in the Atlas Patient Profile tool.

The ACDV tool introduces a “validation” section to Atlas cohort definition creation, which allows for cohort managers to complete a cohort definition validation workflow. This workflow begins by the creation of question set. Question sets in the ACDV tool, shown in Figure 5, allow for common types of questions (including text, radio, checkbox, numbers, and dates). Multiple questions in a question set can be created and a case/no-case distinction can be selected at the question level. After a question set has been created, it can be linked to a cohort definition sample, this creates the validation study.

After a validation study is created, cohort managers can assign patients for review in the Atlas Patient Profile tool to clinical reviewers. Study questions are displayed to clinical reviewers at the patient level in a collapsible sidebar (see Figure 5). The study question set at the patient profile level can be accessed via the Atlas Cohort Definition tool, the Patient Profile tool, or via a customized link. Once reviewers have viewed patient profiles and answered study questions, study results can be viewed by cohort managers in Atlas or exported to CSV (Figure 4).

Results
Primary development efforts of the ACDV tool are complete, and final modifications and integrations to the tool are being prepared for inclusion in an upcoming OHDSI release. We have validated the tool internally with a clinician/informaticist.

Conclusions
The Atlas Cohort Definition Validation tool will provide an integrated way for clinical chart reviewers to validate cohorts well beyond the question of cohort inclusion or not. This tool will support research in the OHDSI community by being tightly within the active OHDSI Atlas ecosystem of tools. Additionally, it will expand on the OHDSI legacy of open and community-driven tools to advance research in observational health data.

Bibliography
A Pilot Characterization Study Assessing Health Equity in Mental Healthcare Delivery within the State of Georgia (Jacob Zelko, Malina Hy, Varshini Chinta, Emily Liau, Morgan Knowlton, Jon Duke)