Workgroup Updates

OHDSI Community Call
Nov. 29, 2022 • 11 am ET
## Upcoming OHDSI Community Calls

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec. 6</td>
<td>Fall Publications</td>
</tr>
<tr>
<td>Dec. 13</td>
<td>How Did OHDSI Do In 2022?</td>
</tr>
<tr>
<td>Dec. 20</td>
<td>Holiday-Themed Final Call of 2022</td>
</tr>
</tbody>
</table>
Dec. 6: Recent OHDSI Publications

Comparative risk of thrombosis with thrombocytopenia syndrome or thromboembolic events associated with different covid-19 vaccines: international network cohort study from five European countries and the US
Xintong Li PhD student, University of Oxford

Transforming and evaluating the UK Biobank to the OMOP Common Data Model for COVID-19 research and beyond
Václav Papež Research Associate, UCL Institute of Health Informatics

Adjusting for indirectly measured confounding using large-scale propensity score
Linying Zhang PhD student, Columbia University

PheValuator 2.0: Methodological improvements for the PheValuator approach to semi-automated phenotype algorithm evaluation
Joel Swerdel Associate Director of Epidemiology Analytics, Janssen Research and Development

Integrating real-world data from Brazil and Pakistan into the OMOP common data model and standardized health analytics framework to characterize COVID-19 in the Global South
Sara Khalid Research Associate, UCL Institute of Health Informatics
Three Stages of The Journey

Where Have We Been?
Where Are We Now?
Where Are We Going?
Congratulations to the team of Nigel Hughes, Peter Rijnbeek, Kees van Bochove, Talita Duarte-Salles, Carl Steinbeisser, David Vizcaya, Dani Prieto-Alhambra, and Patrick Ryan on the publication of Evaluating a novel approach to stimulate open science collaborations: a case series of “study-a-thon” events within the OHDSI and European IMI communities in JAMIA.

Research and Applications

Evaluating a novel approach to stimulate open science collaborations: a case series of “study-a-thon” events within the OHDSI and European IMI communities

N. Hughes®, P.R. Rijnbeek®, K. van Bochove®, T. Duarte-Salles®, C. Steinbeisser®, D. Vizcaya®, D. Prieto-Alhambra®, and P. Ryan®

©2022 American Medical Informatics Association

ABSTRACT

Objective: We introduce and review the concept of a study-a-thon as a catalyst for open science in medicine, utilizing harmonized real-world, observational health data, tools, skills, and methods to conduct network studies, generating insights for those wishing to use study-a-thons for future research.

Materials and Methods: A series of historical study-a-thons since 2017 to present were reviewed for thematic insights as to the opportunity to accelerate the research method to conduct studies across therapeutic areas. Review of publications and experience of the authors generated insights to illustrate the conduct of study-a-thons, key learning, and direction for those wishing to conduct future such study-a-thons.

Results: A review of six study-a-thons have provided insights into their scientific impact, and 13 areas of insights for those wishing to conduct future study-a-thons. Defining aspects of the study-a-thon method for rapid, collaborative research through network studies, reinforce the need to create scientific communities, tools, skills, and methods being collaboratively to conduct a focused study. Well-characterized preparatory, execution and postevent phases, coalescing skills, experiences, data, clinical input (ensuring representative clinical context to the research query), and well-defined, logical steps in conducting research via the study-a-thon method are critical.

Conclusions: A study-a-thon is a focused multi-day research event generating reliable evidence on a specific medical topic across different countries and health systems. In a study-a-thon, a multidisciplinary team collaborate to create an accelerated contribution to scientific evidence and clinical practice. It critically accelerates the research process, without inhibiting the quality of the research output and evidence generation, through a reproducible process.
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

<table>
<thead>
<tr>
<th>Date</th>
<th>Time (ET)</th>
<th>Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday</td>
<td>7 am</td>
<td>Medical Imaging</td>
</tr>
<tr>
<td>Wednesday</td>
<td>12 pm</td>
<td>FHIR and OMOP Terminologies Subgroup (ZOOM)</td>
</tr>
<tr>
<td>Thursday</td>
<td>10 am</td>
<td>Data Quality Dashboard</td>
</tr>
<tr>
<td>Thursday</td>
<td>12 pm</td>
<td>Population-Level Estimation</td>
</tr>
<tr>
<td>Thursday</td>
<td>1 pm</td>
<td>OMOP CDM Oncology Vocabulary/Development Subgroup</td>
</tr>
<tr>
<td>Thursday</td>
<td>7 pm</td>
<td>Dentistry</td>
</tr>
<tr>
<td>Friday</td>
<td>9 am</td>
<td>Education</td>
</tr>
<tr>
<td>Friday</td>
<td>9 am</td>
<td>GIS – Geographic Information System</td>
</tr>
<tr>
<td>Monday</td>
<td>10 am</td>
<td>Healthcare Systems Interest Group</td>
</tr>
<tr>
<td>Tuesday</td>
<td>10 am</td>
<td>Common Data Model</td>
</tr>
</tbody>
</table>
DARWIN EU® Welcomes First Data Partners

The EMA has selected the first 10 data partners to collaborate with DARWIN EU®, the Data Analysis and Real-World Interrogation Network. The data available to these partners will be used for studies to generate real-world evidence that will support scientific evaluations and regulatory decision making, and all have already been mapped to the OMOP CDM.

EMI has selected the first set of data partners to collaborate with DARWIN EU®, the Data Analysis and Real-World Interrogation Network. The data available to these partners will be used for studies to generate real-world evidence that will support scientific evaluations and regulatory decision making. Real-world evidence refers to information derived from analysis of real-world data, which is routinely collected data about a patient’s health status or delivery of healthcare from a variety of sources other than traditional clinical trials.

The selected partners include both public and private institutions. The common feature is that they all have access to real-world healthcare data from one or more sources such as hospitals, primary care, health insurance, biobanks, or disease-specific patient registries. The data partners will provide the DARWIN EU® Coordination Centre with results of analyses of these data.
Next APAC Community Call

The next Asia-Pacific (APAC) community call will be Dec. 1 (Nov. 30 in the Western Hemisphere) and will provide a recap of the APAC Symposium.

The link to join these bi-weekly calls is on the APAC Community Calls page on OHDSI.org.
MEDINFO Deadline is Dec. 1

Call for speakers ends Thursday 1 December @ 11:59pm AEDT

Not long to go until our call for speakers for #MEDINFO23 closes on 1 December 2022 at 11:59pm AEDT!

If you have a new project, experience or innovation in digital health that you would like to share with a global community, then make sure you submit a paper for MedInfo 2023 by then.

The 19th edition of MedInfo is in the Land Down Under in Sydney, Australia, from 8-12 July 2023. Hosted by AIDH and IMIA, the conference brings together thousands of digital health leaders and practitioners at the forefront of healthcare.

Don’t delay and make a submission today!

MORE INFO & APPLY
Join Anna Ostropolets’ Dissertation Defense

OHDSI veteran and 2018 Titan Award winner Anna Ostropolets will defend her Columbia University dissertation Wed., Nov. 30, on Generating Reliable and Responsive Observational Evidence: Reducing Pre-analysis Bias. The open session will be at 10 am ET on Zoom.

Wednesday, Nov. 30, 10 am ET
Patrick Ryan shared a recent forum post called “Introducing the OMOP CDM ER Diagram Challenge” and is calling for community submissions by Tuesday, Dec. 13.

The winner will be announced at the Dec. 20 community call!
Machine Learning to Predict the Ischemic Stroke among Type 2 Diabetes Mellitus Patients using Taipei Medical University Clinical Research Database

(Phan Thanh Phuc, Phung Anh Nguyen, Jason C. Hsu)

MONDAY

#OHDSISocialShowcase This Week
Examining Differences in Baseline Characteristics of Broad and Narrow Phenotype Algorithms

**Jill Hardin, Pranav Bhimani, Raechel Davis, Joel Swerdel**

**Background**

- The outcomes and evaluations regarding broad and narrow phenotype algorithms (Phens) vary.
- Some algorithms contain too many elements, resulting in a greater number of outliers, while others may not be as stringent.
- Traditional methods require a large amount of data to be included.

**Method**

- A method called D-SIM (DiffSim) was developed, which includes both algorithms and is more practical for use with real-world databases.

**Results**

- Comparing baseline covariates between broad and narrow phenotype algorithms provides a more complete understanding of algorithm differences.

**Conclusions**

- Comparisons of baseline characteristics in 1-code and 2-code Phens in most of the 6 outcomes showed minimal variability.
- For outcomes in specific therapeutic areas such as immunology, greater variability in baseline covariates may be present when using 2-code algorithms.
- Comparison of the similarity of baseline covariates between phenotype algorithms provides a more complex understanding of algorithm differences.

**References**


**Figure 2.** Baseline covariates across all databases (Broad and Narrow Phenotype Algorithms) as a function of COX-2 activity.
#OHDSISocialShowcase This Week

**OMOP and FHIR Data Comparison**

Spencer SooHoo, Andrey Soares, Rohith Mohan, Renier Estiandan, Ryan Hoffman, Shao Chi Huang, Brian Tep, David Kreda, Dan Gottlieb, Aaron Boussina, Paul Kingsbury, Lisa Schilling

**Methods**

- **OMOP:** OMOP and FHIR datasets for 1000 patients were used to compare demographics, clinical characteristics, and medication usage. The datasets were linked using unique patient identifiers.

- **FHIR:** FHIR datasets were used to compare the same patient information using FHIR resources.

**Results**

- **Comparison of demographics:** The datasets showed similarities in patient demographics, such as age and gender.

- **Clinical characteristics:** Comparison of clinical characteristics, such as medication usage, revealed slight differences.

- **Medication usage:** Medication usage was compared across datasets, showing some discrepancies.

**Discussion & Conclusion**

- **Comparison of demographics:** OMOP and FHIR data showed comparable results.

- **Clinical characteristics:** Further research is needed to refine the methodologies used in OMOP and FHIR datasets.

- **Medication usage:** Continued work is needed to standardize medication usage across datasets.

**University of Colorado Anschutz Medical Campus**

- **OMOP & FHIR Comparison:** Comparison of OMOP and FHIR datasets for 1000 patients revealed similarities and differences.

- **Clinical Characteristics:** Further research is needed to refine methodologies.

**Wednesday, Oct 5th**

- **Format:** Online presentation with interactive Q&A sessions.

- **Contact:** For more information, contact OHDSI support.

**OHDSI Social Media**

- **Twitter:** @OHDSI

- **Website:** www.ohdsi.org

- **Hashtag:** #JoinTheJourney
Analyzing the Use of Beers Criteria Guidelines for Older Adults through ATLAS Operationalization

**Background**
- The use of Beers criteria guidelines is crucial in managing medication-related issues, particularly in the elderly population.
- The ATLAS operationalization aims to enhance the practical application of these guidelines by creating a comprehensive framework.

**Objective**
- Develop an ATLAS operationalization of the Beers criteria guidelines that can be used in real-world settings.

**Methods**
- The study utilized a cohort of older adults from various healthcare settings to test the operationalization.
- Data was collected over a period of 3 years to ensure comprehensive coverage.

**Results**
- The operationalization demonstrated a significant improvement in identifying inappropriate medication use.
- The ATLAS framework was effective in reducing the number of inappropriate medications prescribed.

**Conclusion**
- The ATLAS operationalization provides a robust tool for healthcare providers to improve medication safety and efficacy in older adults.

---

**Analyzing the Use of Beers Criteria Guidelines through ATLAS Operationalization**

**THURSDAY**

**Analyzing the Use of Beers Criteria Guidelines for Older Adults through ATLAS Operationalization**

**Richard Boyce**, **Steven Albert**, **Jacob Lombardi**, **Krishi Akenapalli**, **Rohit Marwah**

**School of Pharmacy, University of Pittsburgh; Department of Biomedical Informatics, University of Pittsburgh; School of Medicine, University of Pittsburgh; Department of Behavioral and Community Health Sciences, Graduate School of Public Health, University of Pittsburgh**

---

**OHDSISocialShowcase This Week**

**Thursday**

**Analyzing the Use of Beers Criteria Guidelines through ATLAS Operationalization**

**Richard Boyce, Steven Albert, Jacob Lombardi, Krishi Akenapalli, Rohit Marwah**

---

**www.ohdsi.org**

**#JoinTheJourney**

---

**OHDSI**

---

**OHDSI**
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 verification is a common method of cohort definition validation, it is not without limitations. To address this, we introduce a novel method for clinical experts to review all in-context patient activity, a method to gather review data, and a system of evaluation to determine in-context (case/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 allows clinical experts to review all cohort definitions on a case-by-case basis, while leveraging the benefits of being cohesively integrated into the OHDSI atlas stack.

Additionally, this tool allows for creation of dynamic, complex validation question sets, beyond the standard case/no-case assessment.

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.

1. Cohort Definition Validation Tool: The ACDV tool introduces a "validation" tab to the Atlas cohort definition creation interface, allowing for the creation of a template for each question set. The tool supports an every-case review, while leveraging the common template of question sets (including text, data, clinical, numbers, and data).

2. Primary development of the ACDV tool to support the creation of a question set. This tool allows for the creation of a question set, the assignment of questions to the participants, and the evaluation of the question set.

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. The tool was validated internally with a clinician-informatician.

Conclusions

The Atlas Cohort Definition Validation tool will provide an integrated way for clinical chart reviewers to validate cohorts and further the question of cohort inclusion or not.

This tool will support research in the OHDSI community by helping to verify the validity of the Atlas OHDSI Atlas version of rules. Additionally, this tool will enable the OHDSI community to engage with the common cohort definitions of open and community-driven tools in order to support research in observational health data.

Bibliography

Northeastern University invites applications for multiple tenured/tenure-track faculty positions in support of an Impact Engine centered on large-scale observational health data science and informatics to start in the fall of 2023. These faculty will be core members of our Real-World Healthcare Navigator (RWHN) Impact Engine which aims to change how research is translated into clinical practice by establishing a sustainable service that leads the way in fully reproducing health studies.
The OHDSI Center at the Roux Institute seeks a postdoctoral fellow to join their team focused on developing statistical methods and applying them to observational data from large-scale federated datasets (e.g. electronic health records and administrative claims data), with specific applications to the safety of biologics. This research will directly improve our ability to use real world data to characterize patient populations, construct population level estimates relating exposures to health outcomes, and to enhance clinical decision making through improved patient-level predictions.
Opening: FDA/CDER

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).
Opening: Tufts Medicine

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

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

Andrew’s email: awilliams15@tuftsmedicalcenter.org
Openings: Johns Hopkins University

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?
Nov. 29: Workgroup Updates

**Medical Devices**
Asiyah Lin  
Data and technology advancement Scholar, NIH

**Patient-Level Prediction**
Jenna Reps  
Director, Janssen R&D

**Clinical Trials**
Tom Walpole  
Chief Technology Officer, Trials.ai

**Psychiatry**
Dmitry Dymshyt  
Associate Director, Janssen R&D