OHDSI & Clinical Registries: Sanity for Health Systems

OHDSI Community Call
Aug. 22, 2023 • 11 am ET
## Upcoming Community Calls

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug. 22</td>
<td>OMOP Supporting Clinical Registries</td>
</tr>
<tr>
<td>Aug. 29</td>
<td>Vocabulary Release Update</td>
</tr>
<tr>
<td>Sept. 5</td>
<td>DARWIN EU® Progress and Roadmap</td>
</tr>
<tr>
<td>Sept. 12</td>
<td>OHDSI 2023 Global Symposium Conference &amp; Activities Preview</td>
</tr>
<tr>
<td>Sept. 19</td>
<td>Journal Club: 11th Revision of the ENCePP Guide on Methodological Standards in Pharmacoepidemiology</td>
</tr>
<tr>
<td>Sept. 26</td>
<td>Publications Presentation</td>
</tr>
<tr>
<td>Oct. 3</td>
<td>Workgroup Reports, pt 1</td>
</tr>
<tr>
<td>Oct. 10</td>
<td>Workgroup Reports, pt 2</td>
</tr>
<tr>
<td>Oct. 17</td>
<td>Symposium Week! Final Logistics</td>
</tr>
<tr>
<td>Oct. 24</td>
<td>Welcome to OHDSI</td>
</tr>
</tbody>
</table>
Three Stages of The Journey

Where Have We Been?
Where Are We Now?
Where Are We Going?
#OHDSISocialShowcase

2023 Europe Symposium Collaborator Showcase

1. The EHSEN Portal – Bringing the access to ONCIP CDM databases
   João Rafael Almeida, Nigel Hughes, Peter Joppe, José Luis Oliveira

2. Prepare meeting us a precursor to a long-term collaboration in ONCIP CDM databases
   João Rafael Almeida, José Luís Oliveira

3. The Dutch C4U Data Warehouse towards a standardized multidisciplinary electronic health record database
   Arneet Jagesar, Martin Olten, Tini Van Dam, Laureen Biernevech, Patrick Thorsd, Armand Grebe, Harm-Jan de Grooth, Paul Eibens

4. Community Contributions to the OHDSI Vocabularies: User Level AI and a New Entity Matching System S5SSEM
   Greg Zhu, Anna Ostoepalii, Nicolas Mantziou, Melissa Haetland, Alexander Danylo, Christian Reich

5. Extract, Transform, and Load of the Infectious Disease CDM for Harmonizing and Accessing Data to Real-time Infectious Disease Surveillance
   Byoung Chih, Jhunhyuk Chang, Soomok Seo, Seojeong Lee, Haew Young Park

6. Roadmap and Improvement of ONCIP Vocabularies
   Christian Reich, Alexander Danylo, Anna Ostoepalii

7. Integrating the ONCIP CDM into the AI Backend of the German Health Data Bank
   Elham Taghizadeh, Marcin Malinat

8. Implementing rules of a coupled evidence matrix and validation criteria using the adoption algorithm
   Janae Houghtaling, Pedemir Jazzy, Arthur Whelchel, Marco Pomeroy, Gusman, Frank Lous, Laura Marwell, Tom Fosselit, Friza Dequiers

9. Capture and consolidation of more specific concepts into a comprehensive ONCIP dataset
   Janae Houghtaling, Jesus Antepa Raul Garcia, Olga Maria de Leon Correa, Luis Valencias, Tho Nesser, Lara Pihlstrom

10. Creation of a reusable ONCIP transformation workflow for harmonizing electronic health record systems
    Janae Houghtaling, Luis Hernández, Luiza Venderbruccka, Konrad Bernard, Breeck Dekker, Friza Dequiers

    Janae Houghtaling, Peter Pirema, Mladen van Boven, Channa Afrazalis, Lois Hanslows

12. Availability of the AI CCM extensions to capture modalities and features extracted from ephabits from MRI and CT data
    Jada Prad, Janae Houghtaling, Pedemir Jazzy, Marie De Burder, Jarosz Przadek and Dinh Senal

13. NARR-Oh, a national narrative research database for rapid trends analysis: narrative becomes data and data becomes narrative
    Julia Laronz, Kajal O'Gorman, Neasa Moles, Sam Greenbury

14. ONCIP-COM Data conversion for the Panamericana General Innovation Cluster
    Antonio Orsini, Mario Scalpi, Pastella Notter

15. Development of a SASHI Viewer for structured Clinical Data Document using the ONCIP-COM
    Albert Labarga, Sergio Aguiló

16. Quality Management Studies of the OHDSI Standardized Vocabularies
    Vlad Hincu, Amir Gosquieda, Christian Reich, Alexander Danylo

Open-source analytics development

46. CMDConverter: Cross-platform ONCIP CDM database queries using eli7ar
    Adam Blade, Edward Sum, Armin Gorbachev, Marti Costad

47. Development of an ONCIP Ontology Application – PROSA - for creation and maintenance of highly optimized source concepts within the ONCIP vocabulary structure
    Janae Houghtaling, Emmene Gosquieda, and Lara Pihlstrom

48. A method to facilitate real stand up of ONCIP research tools from validated libraries for RNAseq research
    Jack Brewster

49. Generating Synthetic Data From ONCIP-CDM Databases for Health Evaluations
    Alberto Labarga, Sergio Aguiló

50. Performance Improvement of Post-ETL in ONCIP CDM
    Antonella Dalmazzii

Clinical applications

51. On utilization of surrogate-cohort’s medical products in women of child-bearing age: a network study part of DARWIN EUR
    Albert Preto-Urba, Marti Costad, Kada M Vehrman, Maria de Ritter, Karl Drye, Tallia Quarte-Gallick, Peter Joppe, Edward Sum, Daniel Pinto-Assunção, Annika M Jollicie
Measuring multimorbidity in IPCI: An analysis of more than 1.8 million patients

(Solomon Ioannou, Egill Fridgeirsson, Marcel de Wilde, Jan Kors, Peter Rijnbeek, Katia Verhamme)
A Simple Standard for Sharing Ontological Mappings (SSSOM) Workshop for OHDSI Europe

(Nicolas Matentzoglu, Melissa Haendel)

**TUESDAY**

**Synergizing Simple Standard for Sharing Ontological Mappings (SSSOM) and the Observational Health Data Sciences and Informatics (OHDSI)**

**Presenter:**

Polina Talapova

**Intro:**

The OHDSI community is always interested in improving the quality of mappings across vocabularies because this significantly influences the reliability of evidence derived using them. SSSOM is a metadata standard for sharing semantic entity mappings. Entity mappings are essential for data harmonization, and the SSSOM standard is an initiative that defines and describes relationships between entities in vocabularies, describing semantics and strategies. Many entity mappings currently produced are in various ways on example: OHOP-M441396 (Chloroplasts) synonym with single lineage description is mapped to OHOPS-000169 (Chloroplasts various) in the ONT Vocabulary. When this mapping is applied, clinically relevant content (“with single lineage description”) is lost.

The implementation of SSSOM's derived mapping metadata into the operational model of the ONT Standardized Vocabulary has recently begun to explicitly address the lack of semantic mapping predicates and provenance for the original "maps to" relations in OHOP. As more and more vocabularies are mapped to ONT, the time has come for the broader OHDSI community to get familiar with SSSOM and semantic entity mappings to improve their overall quality.

**Method:**

1. Established goals, focusing on mapping standardization and dissemination within the community.
2. Expanding use cases to identify the potential benefits for OHDSI, assessing the value provided for SSSOM.
3. Expert discussions between SSSOM and OHDSI took place to back up the objectives.
4. SSSOM integration with Tufts CTSI to create mappings to the ONT Standardized Vocabulary from diverse sources (Clinical Fire Start ERH Phenotypes and Terminologies, HLRN, EC, KSMCC, and the Cancer Genome Comprehensive Rare-Related Features).
5. Detailed accuracy of the mappings to the ONT Standardized Vocabulary and using the SSSOM guidelines.
6. Mapping OWL using SQL, harmonizing tools for implementation with an UPI pipeline.
7. Through dissemination of the entire process.

**Conclusion:**

- The collaborative efforts have yielded a significant return on investment by advancing mapping creativity, dissemination, and coordination within the OHDSI community.
- Future plans include continued engagement with the OHDSI community, refining mapping processes, and exploring use cases.
- Ongoing validation of SSSOM/SSSOM mappings through SSSOM will be pursued.
- Integration of Variant Phenotype Ontology (VPO) and VPO-OWL will be explored using the ONT Vocabulary and PROV ontologies.
- Understanding of SSSOM/SSSOM mappings for machine-readable representation is another objective.
- Allowing for the inclusion of a mapping metadata tool in the Theme Working Group at the level of OHDSI LOINC will be pursued.

**SSSOM Community**

Moving forward, SSSOM will be available for free at https://open-ontologies.github.io/sssom.
Transforming EBMT Registry to the OMOP Common Data Model

(Maria Paula Busto, Marina Atlija, Freija Descamps, Ben Burke)
A new route of administration hierarchy derived from dose forms supporting standardised drug dose calculations

(Theresa Burkard, Artem Gorbachev, Kim Lopez-Güell, Daniel Prieto-Alhambra, Martí Català, Christian Reich)

This new route of administration hierarchy, derived from and linked to dose forms of drugs will enable the use of route information in standardised analytics.
Pattern of long COVID symptoms and conditions: clustering analysis based on large multinational cohorts as part of an EHDEN Study-A-Thon


Abstract
We aimed to categorize and validate clusters of long COVID symptoms as defined by WHO’s ‘post-COVID-19 condition’ through a broad international study. Results revealed a spectrum of single symptom clusters. However, when mapping patients with multiple concurrent symptoms, we identified repeatable clusters (poly-symptomatic co-clusters). A pan-European database was one of several different databases and healthcare settings.
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

<table>
<thead>
<tr>
<th>Date</th>
<th>Time (ET)</th>
<th>Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday</td>
<td>12 pm</td>
<td>Latin America</td>
</tr>
<tr>
<td>Wednesday</td>
<td>7 pm</td>
<td>Medical Imaging</td>
</tr>
<tr>
<td>Thursday</td>
<td>9:30 am</td>
<td>Data Network Quality</td>
</tr>
<tr>
<td>Thursday</td>
<td>7 pm</td>
<td>Dentistry</td>
</tr>
<tr>
<td>Friday</td>
<td>9 am</td>
<td>GIS – Geographic Information Systems General</td>
</tr>
<tr>
<td>Friday</td>
<td>9 am</td>
<td>Phenotype Development and Evaluation</td>
</tr>
<tr>
<td>Friday</td>
<td>11 am</td>
<td>Clinical Trials</td>
</tr>
<tr>
<td>Monday</td>
<td>10 am</td>
<td>Healthcare Systems Interest Group</td>
</tr>
<tr>
<td>Monday</td>
<td>4 pm</td>
<td>Eyecare &amp; Vision Research</td>
</tr>
<tr>
<td>Monday</td>
<td>6 pm</td>
<td>OMOP &amp; FHIR</td>
</tr>
</tbody>
</table>
Sept. 15: HowOften Phenotype Library Contribution Deadline

HowOften: Community contributions wanted

Patrick_Ryan

Friends:

As we discussed on the 20June2023 and 15August2023 community calls, @hripcs and I would like to encourage our community to think big and collaborate together in an effort toward large-scale incidence characterization. HowOften is be a community-wide study to define a broad set of target cohorts T that'll serve as denominators, and another broad set of outcome cohorts O that'll serve as numerators. And for a defined list of time-at-risk windows (e.g. 30d, 1yr, all-time), stratified by age/sex/index year, we will compute the incidence of O in T for all T-O combinations within each database in our participating network, and then meta-analyze the results to produce composite summaries.

As with all OHDSI network studies, we will use GitHub to share study materials, including protocol and source code, which should be based where possible off of existing HADES packages. And we intend to make the full resultset publicly available through an interactive website, likely initially taking advantage of the RShiny modules built by the HADES team as part of the Strategus workflow. As we’ve seen with prior OHDSI work, background incidence rates can be used for a wide range of clinical applications, including providing disease natural history, providing context for pharmacovigilance by quantifying the magnitude of risk for known effects, and reporting digital quality measures (see @bnhamlin 's talk here).
Titan Award Nominations Are Open!

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 Global Symposium each year since.

bit.ly/2023TitanNominations
Global Symposium

Oct. 20-22 • East Brunswick, NJ, USA
Hilton East Brunswick Hotel & Executive Meeting Center

ohdsi.org/OHDSI2023
# Global Symposium Weekend Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Friday, Oct. 20</th>
<th>Saturday, Oct. 21</th>
<th>Sunday, Oct. 22</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 am</td>
<td>Registration/Lite Breakfast</td>
<td>Lite Breakfast</td>
<td>Lite Breakfast</td>
</tr>
<tr>
<td>8:00 am</td>
<td>Welcome to OHDSI2023!</td>
<td>Intro to OHDSI Tutorial &amp; OHDSI Workgroup Activities</td>
<td>OHDSI collaborative workshop: HowOften (part 2)</td>
</tr>
<tr>
<td>9:00 am</td>
<td>State of the Community</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00 am</td>
<td>Community Networking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00 am</td>
<td>Plenary Session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00 pm</td>
<td>Buffet Lunch</td>
<td>Buffet Lunch + Collaborator Showcase: Posters &amp; Demos</td>
<td>Buffet Lunch + Collaborator Showcase: Posters &amp; Demos</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>Panel: Network Studies</td>
<td>OHDSI collaborative workshop: HowOften (part 1)</td>
<td>OHDSI workgroup activities</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>Collaborator Showcase: Lightning Talks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:45 pm</td>
<td>Collaborator Showcase: Posters &amp; Demos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:30 pm</td>
<td>Collaborator Showcase: Lightning Talks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:15 pm</td>
<td>Collaborator Showcase: Posters &amp; Demos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:00 pm</td>
<td>Closing Talk &amp; Titan Awards</td>
<td>Free time</td>
<td>We’ll see you again in 2024!</td>
</tr>
<tr>
<td>6:00 pm</td>
<td>Networking Reception</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:00 pm</td>
<td>OHDSI Got Talent!</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*This agenda is tentative and subject to change*
OHDSI Got Talent!

Please join us for the first **OHDSI Got Talent!** competition at our 2023 Global Symposium.

We are looking for anybody with a special talent – singing, dancing, playing an instrument, comedy, magic, etc. – to join us for this fun event in October. Please use the link below to share your interest in participation!

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. 22 — OHDSI and Clinical Registries: Sanity for Health Systems

Paul Nagy
Program Director for Graduate Training in Biomedical Informatics and Data Science, Deputy Director of the Johns Hopkins Medicine Technology Innovation Center

Lee Evans
Founder, LTS Computing LLC

DuWayne Willett
Chief Medical Informatics Officer, University of Texas Southwestern Health System

Jeff Weaver
Director of Data Solutions for Emory University