Building Capacity for OHDSI within your Organization

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“You’ll never walk alone on your OHDSI Journey.”
– Peter Rijnbeek (probably)
### Walking the road of OHDSI

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<tbody>
<tr>
<td>PubMed Manuscripts using OHDSI</td>
<td>367</td>
<td>(1500+ authors)</td>
</tr>
<tr>
<td>Videos of YouTube</td>
<td>603</td>
<td>(200k+ hours watched)</td>
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<tr>
<td>Courses on Ehden</td>
<td>18</td>
<td>(2200+ course completions)</td>
</tr>
<tr>
<td>Working Groups</td>
<td>28</td>
<td>(3000+ members)</td>
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### OHDSI Career Speaker Event

**Organized by Early Stage Researchers WG**

**Asieh Golozar**

*Vice President, Global Head of Data Science at Odysseus Services*

**Monday, August 8, 2022**

**Time**

11 AM - 12 PM EST

**Join:** MS Teams


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- Professor & director of clinical research at OHDSI Center in Northeastern university.
- 20+ years of experience in life science research and medicine.
- Medical degree from Tehran University of Medical Sciences, PhD in epidemiology and a MHS in biostatistics from Johns Hopkins University, supported by a postdoctoral research fellowship award with the NCI’s Division of Cancer Epidemiology and Genetics.
- Interested in cancer, diabetes epidemiology, and evidence-based findings.
- Former leader and expert at Regeneron Pharmaceuticals, AstraZeneca and Bayer.
- Leader of OHDSI Oncology Working Group since 2018, extending the OMOP CDM to support oncology use cases and advance large-scale observational research.

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Are there others in your organization interested in OHDSI?

• Is it worth forming an interest group?
  – Journal club?

• What are ways you can effect change in your organization to leverage OHDSI?

• What ways do you address the potential barriers of culture, history, structures, incentives, resource allocation, politics and inertia in your organization?
Organizations using OHDSI

Healthcare Systems
Healthcare Coverage Organizations
Government Agencies
Pharmaceutical and Device Manufacturers
Clinical Research Organizations
Policy Research Organizations
Data and Technology Engineering R&D
Benefit to health systems adopting OMOP

1. An increase in productivity among staff, providers, and researchers when utilizing the CDM for data storage, data analysis, and collaborative and internal research studies.

2. Increased ease of recruitment and retention of staff, providers, and researchers.

3. Control of the cost and risk associated with extensible technology and data platforms, and the ability to access external expertise.

4. Increased control over data privacy since standardization happens within the health system and the need to share patient-level data is reduced.
The Clinician Researcher

• Seeing patients
• Ordering tests.
• Observing results to medications and procedures.
• Looking for patterns.
• Forming questions.
All patients with the same diagnosis are not the same
Subgroups need distinct approaches to management
Clinical Researcher barriers to working with EMR Data

• The Data is not curated and requires a lot of data cleaning and preparation.
• 90% are not interested and don’t have 100s of hours to learn SQL, R, Python.
• They need applications they can ask **clinical questions** in a **statistical valid way** and scale across health systems.
• Data Science as a Service
“Under normal conditions the research scientist is not an innovator but a solver of puzzles, and the puzzles upon which he concentrates are just those which he believes can be both stated and solved within the existing scientific tradition.”

— Thomas S. Kuhn
IF YOU BUILD IT,
THEY WILL COME.
Patterson Influence Model

Organizational Ability

Team Ability

Individual Ability

Organizational Motivation

Team Motivation

Individual Motivation
Organizational Ability

- **Data.** Create up-to-date CDM of OMOP from local EMR data
- **Tools.** Provide Secure R/Python/SQL environment
- **Tools.** Stand up OHDSI tools (Atlas, DQD)
- **Process-** Train research data service team in OMOP to support IRB requests
Organizational Ability

• **Create** up-to-date CDM of OMOP from local EMR
• **How to request** - Train research data service team in OMOP to support IRB requests
• **How to Access.** Provide secure analytic environment
• **How to Access.** Stand up OHDSI tools (Atlas, DQD)
• **Awareness** - Institutional Website
• **What’s available.** Pre-IRB Cohort Discovery De-ID Atlas Dataset
OMOP on PMAP

Frequently Asked Questions

How can I learn about the OMOP Common Data Model (CDM) and what data is available?

What is the cost of OMOP?

With approved eformS, there is no additional cost for access to this data. There are labor costs from the Core for Clinical Research Data Acquisition (CCDA) for the data set. For creation of a prospective registry, Precision Medicine pricing applies and can be found here: https://pm.jh.edu/pricing/.

How can I get access to the OMOP data?
De-identified OMOP dataset for cohort discovery

- Shift and Truncate (SANT) method (Columbia)
- Removal of rare concepts (n<10)
- Patients over 90 are shifted to 90
- Removal of clinical site, provider, and GIS location information
- 3 digital ZIP code truncation
- Atlas user interface

SANT Method SQL Code
https://github.com/OHDSI/CureIdRegistry

Preserving temporal relations in clinical data while maintaining privacy

George Hripcsak, Parsa Mirhaji, Alexander FH Low, Bradley A Malin

Published: 24 March 2016 Article history ▼
Organizational Motivation

- Demonstrate leadership support for OHDSI
- Letters of Support from informatics, analytics, and statistical resources
- Work with IRB to make the process easier and faster for review
Team Ability

- Build MS Teams environment for project listings and people interested in OHDSI at JH
- Attract interdisciplinary group of researchers working with OHDSI. Increase the cross section of interaction.

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<th>Analytics</th>
<th>Informatics</th>
<th>Statistical Methods</th>
<th>Clinical Domains</th>
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<tr>
<td>Data Mgmt</td>
<td>Biomedical Informatics</td>
<td>Biostatistics</td>
<td>22 Clinical Depts</td>
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<td>JH Enterprise IT</td>
<td>and Data Science</td>
<td>School of Public Health</td>
<td>School of Medicine</td>
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<tr>
<td>Johns Hopkins Medicine</td>
<td>School of Medicine</td>
<td>Johns Hopkins University</td>
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JH OHDSI Research Community

- 80 researchers
  - 20+ MD’s
  - 10+ PhD’s
  - 25+ projects
- Started 3/2021 (1.5 years old)
- How to create a clinical registry at JH
- How to lead a study with the OHDSI Research Network
- Grant templates (K,R,F)
- IRB Templates
JH OHDSI Research Community

Weekly calls
• Updates on People, Projects, & Grants
• Updates on Infrastructure
• Updates from OHDSI WG’s
• Invited Guests
• Paper Review
• Abstracts & Publications

OMOP resources
• Grant & IRB templates
• Data acquisition and storage
• Data protections and management
• Patient safety and waivers of consent
Team Ability

- Sub-setting process for clinical registries.
Team Motivation

• Peer support from JHU OHDSI weekly meeting to facilitate collaboration.
• Mentoring network for teams trying to launch a clinical registry
• Data Science graduate student projects partnering with clinical researchers. Internships and independent study electives.
Individual Ability

- Highlight EHDEN training and Book of OHDSI
- Graduate training course in OHDSI/OMOP for faculty, staff, and students.
Observational Research Methods with Medical Records Data

- Understand the OMOP common data model
- Work with de-identified medical records in OMOP on cohort definitions and data characteristics
- Reproducible research methods with clinical terminologies

Q3. January - March
Live on MS Teams | Tuesdays 5-6:30 PM EST
- Faculty & staff may qualify for tuition remission
- Contact JHInformatics@jhu.edu with questions

http://dhsi.med.jhmi.edu/content/health-informatics-courses
Individual Motivation

- Get your data faster. Streamline data provision through OMOP sub-setting.
- Access to multi-institution data through network studies.
- Facilitate grants with language library on Data Management. More competitive grants with reproducible transparent methods.
Individual Motivation

• More citations. More competitive publications through computability and reproducibility.
• Building international professional network through OHDSI workgroup participation
• Invited OHDSI Speakers to Grand rounds to raise awareness and interest
• Testimonials of successful local researchers using OHDSI to get grants
Thanks to the JH OHDSI Community

- Mary Grace Bowring
- Michael Cook
- Khyzer Aziz, MD
- Aki Nishamura, PhD
- Alan Coltri
- Kerry Smith
- Star Liu
- Zachary Wang
- Antony Rosen, MD, PhD
- Tanner Zhang, MD
- Chris Mecoli, MD
- Joe Murray, MD
- Jen Park
- Will Kelly
- Robert Koski, DDS
- Cindy Cai, MD
- Adam Sapirstein, MD
- David Hager, MD
- Stephanie Hong
- Davera Gabriel
- Siggie Gold
- Ben Saeks
- Matthew Robinson, MD
- Jay Vaidya, PhD
- Jules Bergmann, MD, PhD
- Harold Lehmann, MD, PhD
- Chris Chute, MD, PhD
- Ariel Leong
The OHDSI community has your back.
Aug. 2 Community Call: Building Organizational Support Within Your Community

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