Data Visualization Challenge

OHDSI Community Call
March 30, 2021 • 11 am ET
# March/April OHDSI Community Calls

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OHDSI Network Studies

Cancer Risk Between H2 Blockers
Seng Chan You

Calculating the background rates of adverse events of special interest (AESI) for the COVID vaccines
Xintong Li

MSKAI- Musculoskeletal adverse events following hormonal treatment for breast cancer: Cohort Diagnostics to establish feasibility
Jenny Lane

Covid-19 pandEmic impacts on mental health Related conditions Via multi-database nEtwork: a LongitutinaL Observational study (CERVELLO)
Carmen Olga-Torre

Alpha-1 blocker for Palliating Inflammatory injury Severity (APIS) study
Aki Nishimura

Evaluating Use of Methods for Adverse Event Under Surveillance (EUMAEUS)
Martijn Schuemie
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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 Xintong Li, Anna Ostropolets, Rupa Makadia, Azza Shaoibi, Gowtham Rao, Anthony Sena, Eugenia Martinez-Hernandez, Antonella Delmestri, Katia Verhamme, Peter Rijnbeek, Talita Duarte-Salles, Marc Suchard, Patrick Ryan, George Hripcsak, and Daniel Prieto-Alhambra for the first preprint coming out of our work on vaccine surveillance: **Characterizing the incidence of adverse events of special interest for COVID-19 vaccines across eight countries: a multinational network cohort study.** This preprint has been posted to MedRxiv, and community feedback is both welcomed and encouraged.
Congratulations to the team of Seng Chan You, Harlan Krumholz, Marc Suchard, Martijn Schuemie, George Hripcsak, RuiJun Chen, Steven Shea, Jon Duke, Nicole Pratt, Christian Reich, David Madigan, Patrick Ryan, Rae Woong Park, and Sungha Park for this study published in Hypertension: **Comprehensive Comparative Effectiveness and Safety of First-Line β-Blocker Monotherapy in Hypertensive Patients.**
OHDSI Shoutouts!

Congratulations to the team of Sara Khalid, Cynthia Yang, Clair Blacketer, Talita Duarte-Salles, Sergio Fernandez-Bertolin, Chungsoo Kim, Rae Woong Park, Jimyung Park, Martijn Schuemie, Anthony Sena, Marc Suchard, Seng Chan You, Peter Rijnbeek, and Jenna Reps for this preprint recently posted on MedRxiv: **A standardized analytics pipeline for reliable and rapid development and validation of prediction models using observational health data.**

Abstract

Background and Objective: As a response to the ongoing COVID-19 pandemic, several prediction models have been rapidly developed, with the aim of providing evidence-based guidance. However, no COVID-19 prediction model in the existing literature has been found to be reliable. Models are commonly assessed to have a risk of bias, often due to incomplete reporting, use of non-representative data, and lack of large-scale external validation. In this paper, we present the Observational Health Data Sciences and Informatics (OHDSI) pipeline for patient-level prediction as a standardized approach for rapid and reliable development and validation of prediction models. We demonstrate how our analytics pipeline...
OHDSI Shoutouts!

Congratulations to the team of Akihiko Nishimura, Junqing Xie, Kristin Kostka, Talita Duarte-Salles, Sergio Fernández Bertolín, María Aragón, Clair Blacketer, Azza Shoaibi, Scott DuVall, Kristine Lynch, Michael Matheny, Thomas Falconer, Daniel Morales, Mitchell Conover, Seng Chan You, Nicole Pratt, James Weaver, Anthony Sena, Martijn Schuemie, Jenna Reps, Christian Reich, Peter Rijnbeek, Patrick Ryan, George Hripcsak, Daniel Prieto-Alhambra, and Marc Suchard for this preprint recently posted on MedRxiv: **Alpha-1 blockers and susceptibility to COVID-19 in benign prostate hyperplasia patients: an international cohort study**.
OHDSI Shoutouts!

Thank you to the collaborators on our Scientific Review Committee for the 2021 OHDSI Symposium:

Fatemah Alnofal
Nsikak Akpakpan
Juan Banda
Maytal Bivas-Benita
Adrien Coulet
Jon Duke
Leanne Goldstein

Jill Hardin
Kristin Kostka
Christophe Lambert
Rupa Makadá
Melanie Philofsky
Jose Posada
Hanieh Razzaghi

Patrick Ryan
Sarah Seager
Rohit Vashisht
Mui Van Zandt
Andrew Williams
Chen Yanover
Seng Chan You
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>
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<tbody>
<tr>
<td>Tuesday</td>
<td>1 pm</td>
<td>2-Hour Brainstorm on Proposed CDM Changes</td>
</tr>
<tr>
<td>Wednesday</td>
<td>10 am</td>
<td>OMOP CDM Oncology – Development Subgroup</td>
</tr>
<tr>
<td>Wednesday</td>
<td>2 pm</td>
<td>GIS-Geographic Information System</td>
</tr>
<tr>
<td>Thursday</td>
<td>9 am</td>
<td>Psychiatry</td>
</tr>
<tr>
<td>Thursday</td>
<td>1 pm</td>
<td>Patient-Level Prediction/Population-Level Estimation (Western)</td>
</tr>
<tr>
<td>Thursday</td>
<td>1 pm</td>
<td>OMOP CDM Oncology – CDM/Vocabulary Subgroup</td>
</tr>
<tr>
<td>Tuesday</td>
<td>9 am</td>
<td>OMOP CDM Oncology – Genomic Subgroup</td>
</tr>
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[www.ohdsi.org/upcoming-working-group-calls](http://www.ohdsi.org/upcoming-working-group-calls)
The CDM workgroup has scheduled a special two-hour planning session for CDM 5.4 today at 1 pm in the CDM Teams environment. Clair Blacketer has shared a proposed list of changes. Please join for some or all of the meeting if you are interested in helping shape the next update of the OMOP CDM.

**Easy Additions**

- **PROCEDURE_OCCURRENCE**
  - **PROCEDURE_STATUS_CONCEPT_ID**
    - Similar to CONDITION_STATUS_CONCEPT_ID 376 - maybe
- **LOCATION_CONCEPT_ID**
  - Make the location table international 355
  - Do we also need REGION_CONCEPT_ID and COUNTRY_CONCEPT_ID or is that subsumed by LOCATION_CONCEPT_ID?
- **UDI field in DEVICE_EXPOSURE**
  - Make 250 characters to allow all permutations of UDI - technically just a DDL change
- **UNIT_CONCEPT_ID in DEVICE_EXPOSURE 256**
- **UNIT_SOURCE_CONCEPT_ID in MEASUREMENT 329**
- **Representation of infusion rates - is this solved with DOSE_UNIT_SOURCE_VALUE 324**
- Add METADATA_ID and VALUE_AS_NUMBER to METADATA 302
- Add VALUE_SOURCE_VALUE to OBSERVATION 333
- Change CDM_VERSION in CDM_SOURCE to numeric and use a concept_id 330
  - Also "technically" breaking but really a DDL change
- Add DEATH_DATE alongside the DEATH table?
  - **ADD DEATH_TYPE_CONCEPT_ID to PERSON**
- **EPISODE and EPISODE_EVENT**

**Potentials**

- Rename VISIT_DETAIL_PARENT_ID to PARENT_VISIT_DETAIL_ID 328
  - This is "technically" breaking but I don't believe any standard processes currently reference it.
- **GENDER_CONCEPT_ID**
  - Changing this to SEX_CONCEPT_ID would be a breaking change. Should we add it instead and keep both fields?
- **PROCEDURE_END_DATE_DATETIME 326**
  - Agree, conversion that if no end_datetime then set to start_datetime
  - This would necessitate the addition of procedure_start_datetime or renaming of procedure_date
  - Instead, add length of procedure to get around the breaking change

MBLAKET@ITS.JHU.EDU
2021 OHDSI Symposium

Save The Dates

The 2021 OHDSI Symposium will be held Sept. 12-15.

More details will be announced when available, but please save those dates for the highlight event of the OHDSI year! #JoinTheJourney
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?
March 30 Community Call Topic

Community Data Visualization Discussion
Faaizah Arshad

<table>
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<tr>
<th>Conditions</th>
<th>Medication use</th>
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<tbody>
<tr>
<td>CUIMC (n: 1759)</td>
<td></td>
</tr>
<tr>
<td>HIRA (n: 7341)</td>
<td></td>
</tr>
<tr>
<td>HM (n: 2078)</td>
<td></td>
</tr>
<tr>
<td>PHD (n: 5257)</td>
<td></td>
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<tr>
<td>SIDIAP (n: 16,347)</td>
<td></td>
</tr>
<tr>
<td>UC HDC (n: 769)</td>
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<tr>
<td>VA (n: 577)</td>
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- Blood disease
- Cardiovascular disease
- Congenital disease
- Digestive disease
- Endocrine or metabolic disease
- ENT disease
- Eye disease
- Genitourinary disease
- Inherited condition
- Infection
- Injury and poisoning
- Mental disease
- Neoplasm
- Nerve disease and pain
- Respiratory disease
- Skin disease
- Soft tissue or bone disease
- Uncategorised
- Alimentary tract and metabolism
- Antineoplastic therapy
- Antineoplastic products
- Insecticides and repellents
- Blood and blood forming organs
- Cardiovascular system
- Dermatologic
- Genito urinary system and sex hormones
- Musculoskeletal system
- Nervous system
- Respiratory system
- Sensory organs
- Systemic hormonal preparations except sex hormones and insulins
- Uncategorised
- Various
Hydroxychloroquine use (% of hospitalized patients with COVID-19) by month

February 2020

March 2020
09 March Yao, X. et al. - Hydroxychloroquine shows superior in vitro activity to CQ
19 March President Trump promotes HCQ in press conference
20 March Gautret, P. et al. - Open-label non-randomized clinical trial shows effectiveness
23 March US Food and Drug Administration issued an emergency use authorization
31 March Chen, Z. et al. - Preprint of an RCT suggests that HCQ reduces time to clinical recovery

April 2020
10 April Lane, J CE et al. - Observational data shows AZT + HCQ may increase cardiovascular mortality
24 April FDA and EMA caution against the use of HCQ due to potential hearth rythm problems

May 2020
07 May Geleris, J. et al - Lack of effectiveness of hydroxychloroquine on observational data
28 May WHO halts SOLIDARITY HCQ trial arm

June 2020
08 June RECOVERY trial press note shows that HCQ has no effect on COVID-19
15 June FDA revokes emergency use ruling for hydroxychloroquine

South Korea
- IFNA (n = 7,946)
- KBM-Hospital (n = 2,544)
- KMAR (n = 2,669)
- IDIA Hospital CDM (n = 77,853)

Spain
- CLUMC (n = 7,955)
- OPTIMUM-EIR (n = 36,717)
- Premier (n = 196,187)

USA
- STEMIR-CMOI (n = 744)
- NM-Common (n = 10,951)
Greg Klebanov

Diagnostic Mammography (CPT 77065) - Truven MarketScan

Screening mammography (CPT 77067) - Truven MarketScan

Diagnostic Mammography (CPT 77065) - IQVIA Open Claims

Screening mammography (CPT 77067) - IQVIA Open claims
On April 6th, 966,695 people had at least one visit.

https://fdefalco.github.io/ohdsi-challenge/