Name That Result

OHDSI Community Call
April 5, 2022 • 11 am ET

Upcoming OHDSI Community Calls

Date	Topic
April 12	OHDSI Coordinating Center
April 19	Workgroup Updates
April 26	Open-Source Community
May 3	DARWIN EU
May 10	Mother's Day-Themed Breakouts
May 17	OHDSI Debates
May 24	Open Studies
May 31	Workgroup OKRs

April OHDSI Community Calls

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April 12	OHDSI Coordinating Center
April 19	Workgroup Updates
April 26	Open-Source Community
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May 10	Mother's Day-Themed Breakouts
May 17	OHDSI Debates
May 24	Open Studies
May 31	Workgroup OKRs

Three Stages of The Journey

Where Have We Been?

Where Are We Now?

Where Are We Going?

OHDSI Shoutouts!

Congratulations to the team of **Chongliang Luo, Md Nazmul Islam, Natalie Sheils, John Buresh, Jenna Reps, Martijn Schuemie, Patrick Ryan, Mackenzie Edmondson, Rui Duan, Jiayi Tong, Arielle Marks-Anglin, Jiang Bian, Zhaoyi Chen, Talita Duarte-Salles, Sergio Fernández-Bertolín, Thomas Falconer, Chungsoo Kim, Rae Woong Park, Stephen Pfohl, Nigam Shah, Andrew Williams, Hua Xu, Yujia Zhou, Ebbing Lautenbach, Jalpa Doshi, Rachel Werner, David Asch, and Yong Chen** on the publication of **"DLMM as a lossless one-shot algorithm for collaborative multi-site distributed linear mixed models"** in Nature Communications.

nature COMMUNICATIONS

ARTICLE

https://doi.org/10.1038/s41467-022-29160-4 OPEN

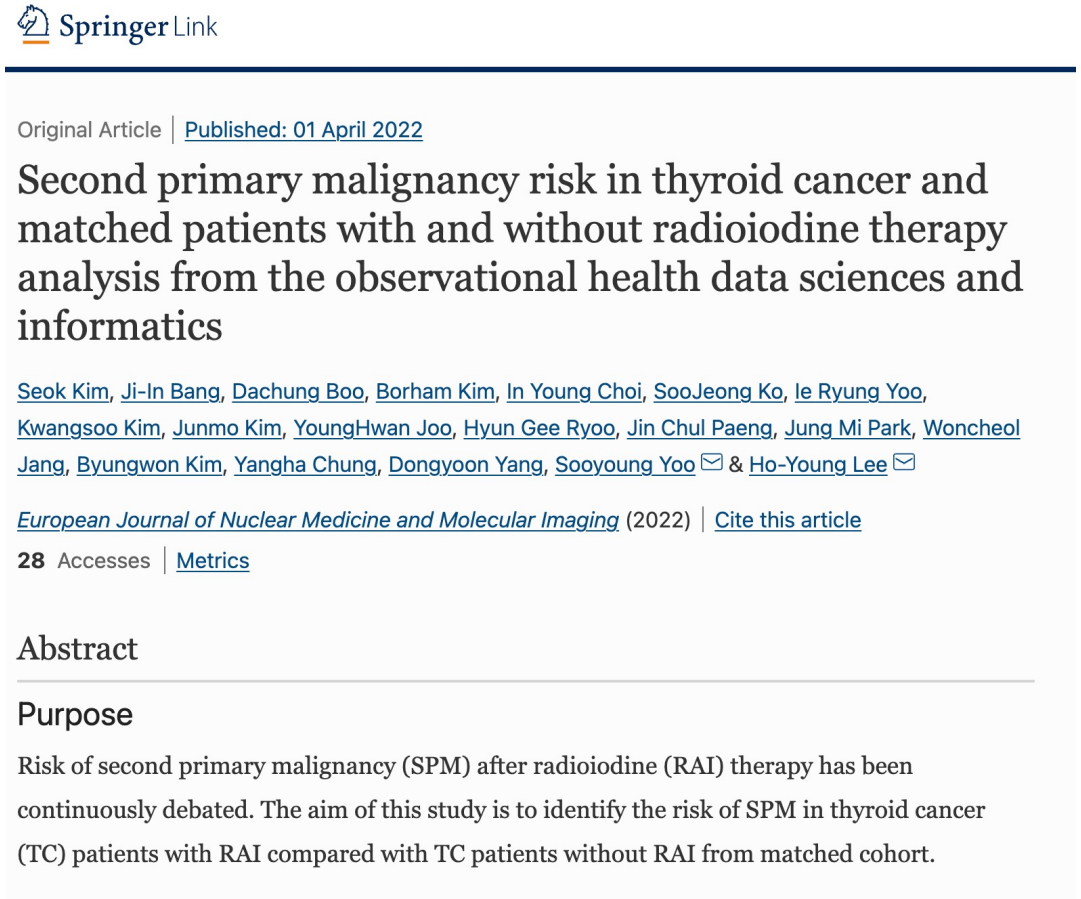
DLMM as a lossless one-shot algorithm for collaborative multi-site distributed linear mixed models

Chongliang Luo[1,2], Md. Nazmul Islam[3], Natalie E. Sheils[3], John Buresh[3], Jenna Reps[4], Martijn J. Schuemie[4], Patrick B. Ryan[4], Mackenzie Edmondson[1], Rui Duan[1,5], Jiayi Tong[1], Arielle Marks-Anglin[1], Jiang Bian[6], Zhaoyi Chen[6], Talita Duarte-Salles[7], Sergio Fernández-Bertolín[7], Thomas Falconer[8], Chungsoo Kim[9], Rae Woong Park[9,10], Stephen R. Pfohl[11], Nigam H. Shah[11], Andrew E. Williams[12], Hua Xu[13], Yujia Zhou[13], Ebbing Lautenbach[1,14,15], Jalpa A. Doshi[16,17], Rachel M. Werner[16,17,18], David A. Asch[16,17] & Yong Chen[1]✉

Linear mixed models are commonly used in healthcare-based association analyses for analyzing multi-site data with heterogeneous site-specific random effects. Due to regulations for protecting patients' privacy, sensitive individual patient data (IPD) typically cannot be shared across sites. We propose an algorithm for fitting distributed linear mixed models (DLMMs) without sharing IPD across sites. This algorithm achieves results identical to those achieved using pooled IPD from multiple sites (i.e., the same effect size and standard error estimates), hence demonstrating the lossless property. The algorithm requires each site to contribute minimal aggregated data in only one round of communication. We demonstrate the lossless property of the proposed DLMM algorithm by investigating the associations between demographic and clinical characteristics and length of hospital stay in COVID-19 patients using administrative claims from the UnitedHealth Group Clinical Discovery Database. We extend this association study by incorporating 120,609 COVID-19 patients from 11 collaborative data sources worldwide.

OHDSI Shoutouts!

Congratulations to the team of **Seok Kim, Ji-In Bang, Dachung Boo, Borham Kim, In Young Choi, SooJeong Ko, Ie Ryung Yoo, Kwangsoo Kim, Junmo Kim, YoungHwan Joo, Hyun Gee Ryoo, Jin Chul Paeng, Jung Mi Park, Woncheol Jang, Byungwon Kim, Yangha Chung, Dongyoon Yang, Sooyoung Yoo, and Ho-Young Lee** on the publication of **Second primary malignancy risk in thyroid cancer and matched patients with and without radioiodine therapy analysis from the observational health data sciences and informatics** in the European Journal of Nuclear Medicine and Molecular Imaging.



SpringerLink

Original Article | Published: 01 April 2022

Second primary malignancy risk in thyroid cancer and matched patients with and without radioiodine therapy analysis from the observational health data sciences and informatics

Seok Kim, Ji-In Bang, Dachung Boo, Borham Kim, In Young Choi, SooJeong Ko, Ie Ryung Yoo, Kwangsoo Kim, Junmo Kim, YoungHwan Joo, Hyun Gee Ryoo, Jin Chul Paeng, Jung Mi Park, Woncheol Jang, Byungwon Kim, Yangha Chung, Dongyoon Yang, Sooyoung Yoo & Ho-Young Lee

European Journal of Nuclear Medicine and Molecular Imaging (2022) | Cite this article

28 Accesses | Metrics

Abstract

Purpose

Risk of second primary malignancy (SPM) after radioiodine (RAI) therapy has been continuously debated. The aim of this study is to identify the risk of SPM in thyroid cancer (TC) patients with RAI compared with TC patients without RAI from matched cohort.

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

Date	Time (ET)	Meeting
Wednesday	9 am	ATLAS
Wednesday	11 am	Open-Source Community
Wednesday	11 am	GIS-Geographic Information System (General)
Wednesday	12 pm	Health Equity
Wednesday	12 pm	FHIR and OMOP Terminologies Subgroup (ZOOM)
Wednesday	4 pm	FHIR and OMOP Data Model Harmonization Subgroup (ZOOM)
Wednesday	7 pm	Medical Imaging
Thursday	12 pm	FHIR and OMOP Oncology Subgroup
Thursday	1 pm	OMOP CDM Oncology Vocabulary Subgroup
Friday	10 am	Phenotype Development and Evaluation
Friday	10 pm	China Chapter
Monday	8 am	Early-Stage Researchers
Monday	10 am	Healthcare Systems Interest Group
Tuesday	9 am	OMOP CDM Oncology Genomic Subgroup

www.ohdsi.org/upcoming-working-group-calls

Get Access To Different Teams/WGs/Chapters

5. Select the workgroups you want to join (you can refer to the WIKI for work group objectives www.ohdsi.org/web/wiki/doku.php?id=projects:overview)

- [ ] ATLAS
- [ ] Clinical Trials
- [ ] Common Data Model
- [ ] Data Quality Dashboard Development
- [ ] Early-stage Researchers
- [ ] Education Work Group
- [ ] FHIR and OMOP
- [ ] Geographic Information System (GIS)
- [ ] HADES Health Analytics Data-to-Evidence Suite
- [ ] Healthcare Systems Interest Group (formerly EHR)
- [ ] Health Equity
- [ ] Latin America
- [ ] Medical Devices
- [ ] Medical Imaging
- [ ] Natural Language Processing
- [ ] OHDSI APAC
- [ ] OHDSI APAC Steering Committee
- [ ] OHDSI Steering Committee
- [ ] Oncology
- [ ] Open-source Community
- [ ] Phenotype Development and Evaluation
- [ ] Population-Level Effect Estimation / Patient-Level Prediction
- [ ] Psychiatry
- [ ] Registry (formerly UK Biobank)
- [ ] Surgery and Perioperative Medicine
- [ ] Vaccine Evidence
- [ ] Vaccine Vocabulary

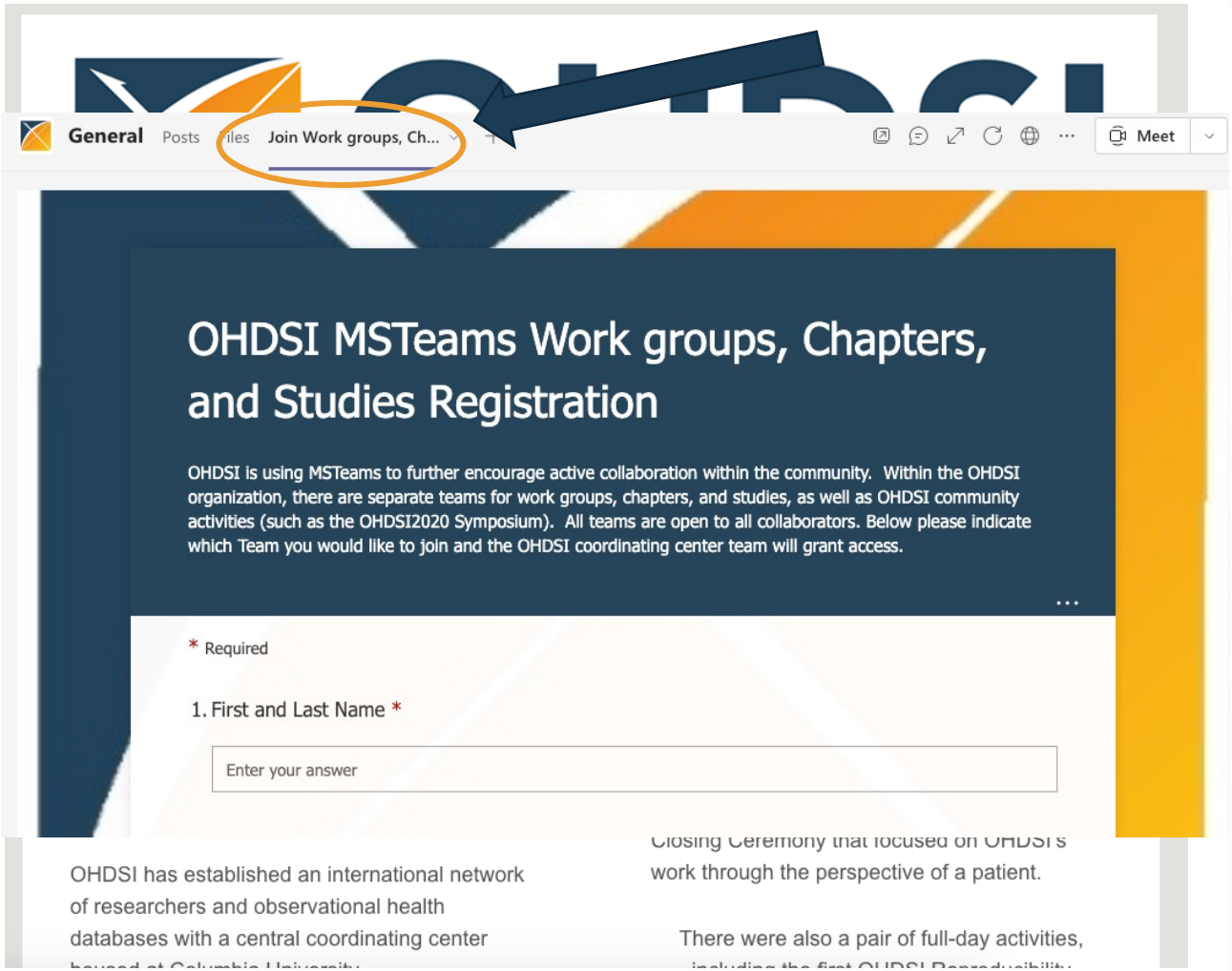
6. Select the chapter(s) you want to join

- [ ] Africa
- [ ] Australia
- [ ] China
- [ ] Europe
- [ ] Japan
- [ ] Korea
- [ ] Singapore
- [ ] Taiwan

7. Select the studies you want to join

- [ ] HERA-Health Equity Research Assessment
- [ ] PIONEER for Prostate Cancer (study-a-thon ended)
- [ ] SCYLLA (SARS-Cov-2 Large-scale Longitudinal Analyses)

Get Access To Different Teams/WGs/Chapters



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2022 OHDSI Symposium

Registration is OPEN for #OHDSI2022!

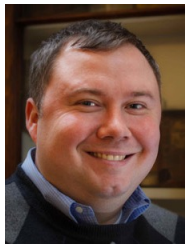
The 2022 OHDSI Symposium will be held Oct. 14-16 at the Bethesda North Marriott Hotel & Conference Center.





An Introductory Journey From Data To Evidence

OHDSI2022 Tutorial • Saturday, Oct. 15 • Bethesda, Md.

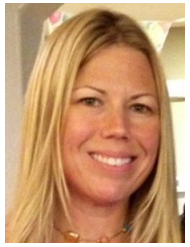


The OHDSI Journey: Where Are We Going?

Patrick Ryan

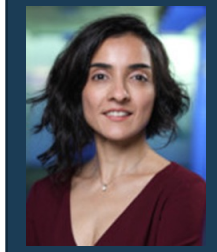
OMOP Common Data Model and Vocabulary

Clair Blacketer



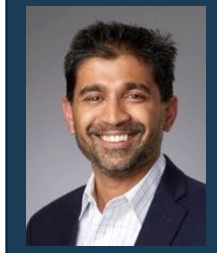
ETL – A Source Database Into OMOP CDM

Melanie Philofsky



Creating Cohort Definitions

Asieh Golozar



Phenotype Evaluations

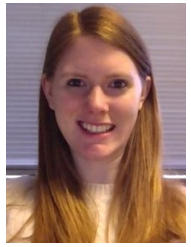
Gowtham Rao

Characterization

Kristin Kostka

Estimation

Martijn Schuemie



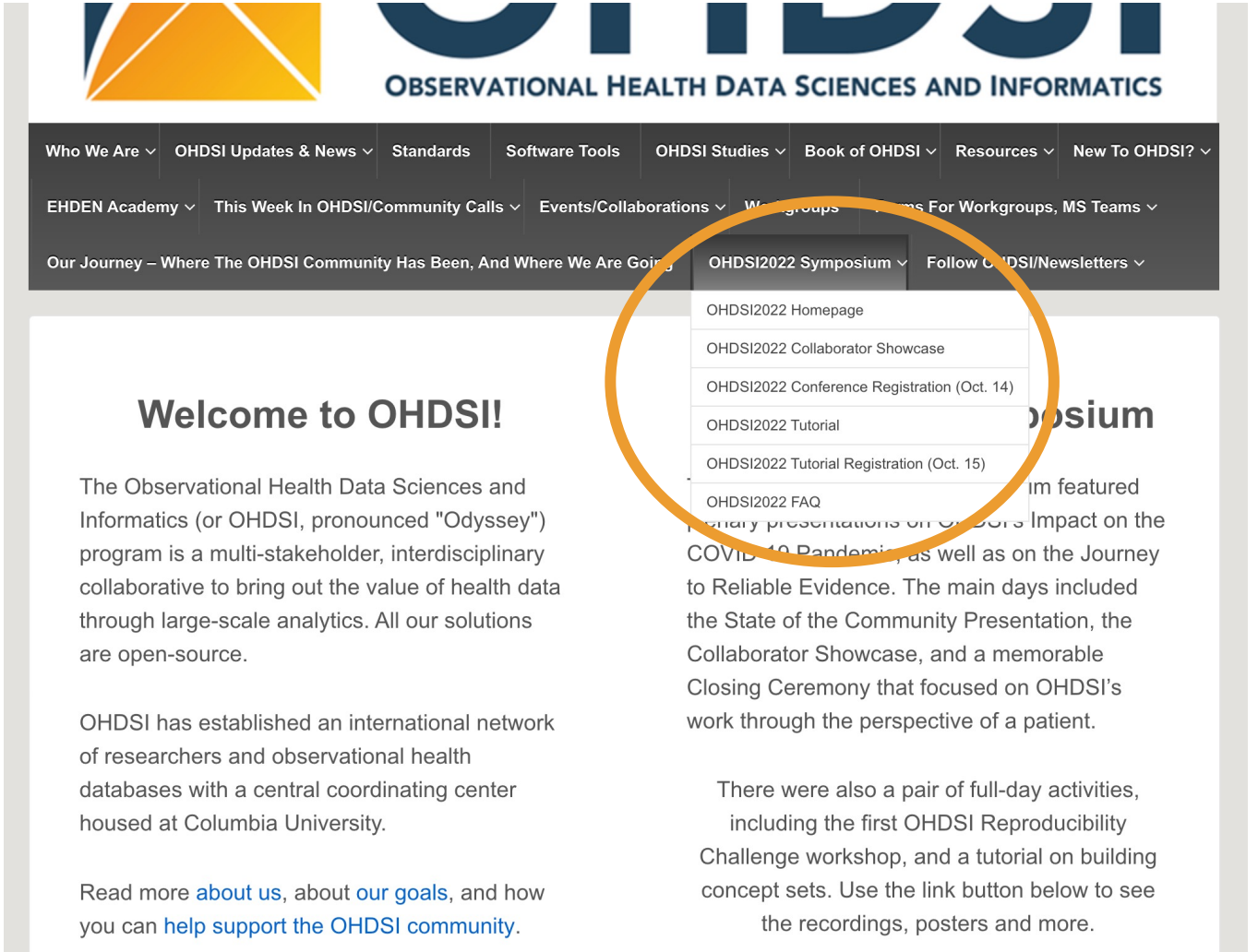
Prediction

Jenna Reps

The OHDSI Journey: Where Do We Go From Here?

George Hripcsak

2022 OHDSI Symposium



symposium@ohdsi.org

Reproducibility Presentation

The March 29 OHDSI Community Call focused on reproducibility, and three leaders in the community shared presentations on this topic.

- The 2021 OHDSI Reproducibility Challenge **(Anna Ostropolets)**
- Creating Reproducible Studies **(Martijn Schuemie)**
- The OHDSI Reproducibility Service **(Asieh Golozar)**

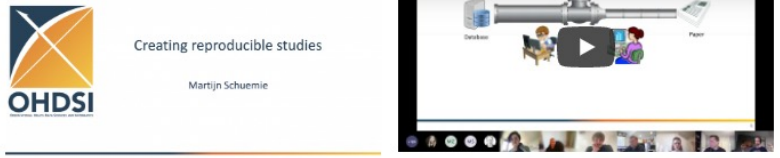
The videos and slides from each presentation are available below.

The 2021 OHDSI Reproducibility Challenge (Anna Ostropolets)

Slides | Video Presentation

Creating Reproducible Studies (Martijn Schuemie)

Slides | Video Presentation



The OHDSI Reproducibility Service (Asieh Golozar)

Slides | Video Presentation

ohdsi.org/reproducibility-29mar2022

Latest OHDSI Newsletter Is Out

Workgroup Leaders Provide CDM Workshop

Clair Blacketer and members of the Common Data Model Workgroup led the OHDSI Community on a two-session OMOP CDM Workshop during the March 2022 Community Calls. There were eight specific topics covered during the workshop, with some Q&A included midway through. The two sessions are now available in a single video tutorial for anybody looking to learn more about how OMOP can enhance their research.

Thank you to **Clair, Frank DeFalco, Kristin Kostka, Maxim Moinat, Melanie Philofsky and Anthony Molinaro** for leading this workshop! The full video is below; the tutorial homepage includes slides from both sessions, timestamps for the different sections, and the CDM chapter introduction from the Book of OHDSI.

Watch The Tutorial

CDM Tutorial Homepage

OHDSI
OBSERVATIONAL HEALTH DATA SCIENCES AND INFORMATICS

The Journey Newsletter (April 2022)

Leaders from our Common Data Model Workgroup led the community on a two-session CDM Workshop this past month, while our Open-Source Community has put together a DevCon for April. We discussed standardized vocabularies and reproducibility, and opened registration for OHDSI2022! All that and more is available in the latest edition of The Journey Newsletter. #JoinTheJourney

April Update Videocast

Patrick Ryan and Craig Sachson discuss the value and impact of the OMOP CDM Workshop held in March, as well as the presentation on standardized vocabularies and its impact on research. They look at the importance of reproducibility, including the work being done at the OHDSI Center at the Roux Institute, and they discuss the full-day tutorial upcoming at the 2022 OHDSI Symposium: An Introductory Journey From Data To Evidence.

Community Updates

Where Have We Been?

- CDM lead **Clair Blacketer** and members of the workgroup led a two-session CDM workshop during a pair of community calls. These sessions are now available in a single video presentation and are included on our workshop homepage. More on this workshop is available later in this newsletter.
- The first study to come from our Asia-Pacific (APAC) workgroup was published in JAMA Network Open. Led by **Yuan Lu**, the study Analysis of treatment pattern of anti-dementia medications in newly diagnosed Alzheimer's dementia using OMOP CDM includes collaborators from all six regional chapters of our APAC community.

Where Are We Now?

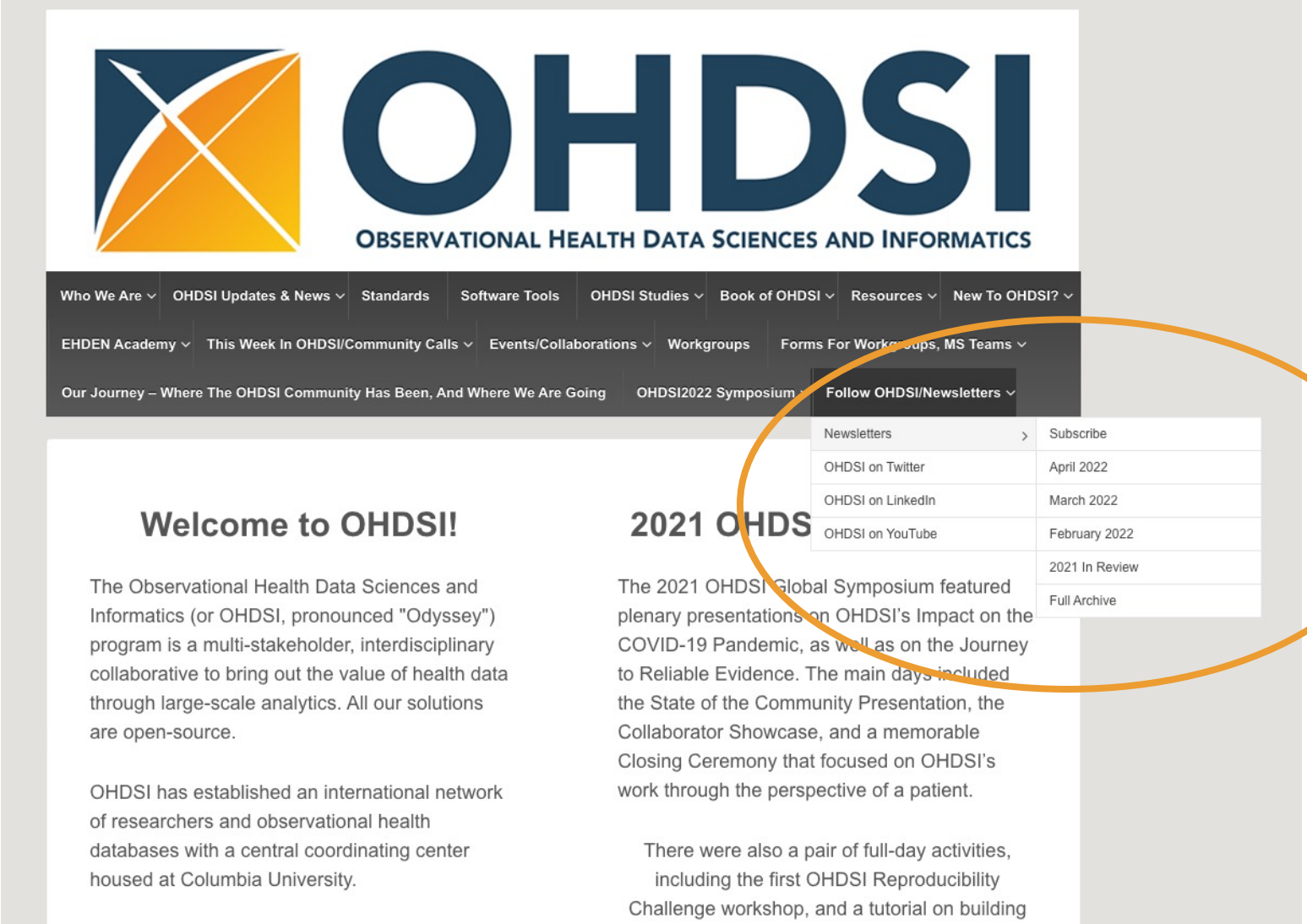
- **Adam Black** and **Paul Nagy**, on behalf of the Open-Source Community, are organizing the first OHDSI DevCon, set for Friday, April 22 (8 am - 12 pm ET). Please check out the link for an agenda and registration information.
- **Michael Kallfelz, Patrick Ryan** and **Christian Reich** provided an in-depth look at the OHDSI vocabulary, from how it is developed, to how it can be utilized, and where it should grow from here.
- **Anna Ostropolets, Martijn Schuemie** and **Asieh Golozar** discussed the concept of reproducibility in the OHDSI community. This session focused on the 2021 Reproducibility Challenge, Creating Reproducible Studies, and the OHDSI Reproducibility Service.

Where Are We Going?

- Registration for the 2022 OHDSI Symposium, which will be held Oct. 14-16 at the Bethesda North Marriott Hotel & Conference Center, is now open. The main conference will held Friday, Oct. 14, while a full-day tutorial for community newcomers entitled "An Introductory Journey From Data To Evidence" will be held Saturday, Oct. 15. Workgroup activities will be held throughout Oct. 15-16.

mailchi.mp/ohdsi/april2022newsletter

Latest OHDSI Newsletter Is Out



OHDSI Dev Con

April 22, 2022 (8 am – 12 pm)

The Open-Source Community is hosting the first **Dev Con** as a way of accepting and mentoring new contributors to our environment. We are planning multiple workshops, talks and a panel discussion to both welcome and engage both current and future developers within OHDSI.

Don't miss this opportunity! Use the link at the bottom to register!

Time	Topic
8 am	Open-Source Workshops
10 am	State of the OHDSI Community (Paul Nagy, Adam Black)
10:20 am	Keynote – Grand Vision for OHDSI Software Ecosystem (Martijn Schuemie)
11 am	Industry Panel Discussion (How Do/Should We Connect It All Together?)

bit.ly/OHDSIDev22

Are You Interested In …

- participating with an OHDSI project team?
- seeing 'under the hood' of the OHDSI engine?
- being mentored by professional developers?

Use This Link To Register Today!

DevCon Agenda

Time (ET)	Track 1	Track 2
8 am	ATLAS **(Anthony Sena)**	HADES Introduction **(Adam Black)**
8:30 am	WebAPI **(Anthony Sena)**	CohortDiagnostics **(James Gilbert)**
9 am	White Rabbit/Rabbit In A Hat **(Maxim Moinat)**	Patient-Level Prediction **(Jenna Reps)**
9:30 am	Data Quality Dashboard **(Clair Blacketer)**	Cyclops **(Marc Suchard)**
10 am	State of OHDSI Development **(Adam Black and Paul Nagy)**	
10:20 am	Keynote **(Martijn Schuemie)**	
11 am	Panel Discussion (Putting The Pieces Together) **Lee Evans** - Broadsea (OHDSI) **Cory Stevenson** - OHDSI on Azure (Microsoft) **Paul Sexson** - OHDSI In A Box (AWS) **Vivian Neilley** - OHDSI on Google Cloud	

Next CBER Best Seminar

Topic CBER BEST Seminar Series - Addressing Selection and Confounding Bias in Test-Negative Study Designs for Flu and COVID-19 Monitoring

Description: The test-negative design (TND) has become a standard approach to evaluate vaccine effectiveness against the risk of acquiring infectious diseases such as Influenza, Rotavirus, Dengue fever and more recently COVID-19 in real world settings. Despite the TND's potential to reduce unobserved differences in healthcare seeking behavior (HSB) between vaccinated and unvaccinated subjects, substantial variability in unobserved HSB may remain among study participants. As latent HSB is likely also a strong predictor of selection into the TND sample, confounding bias of the vaccine's causal effect by latent HSB may be induced by collider stratification bias resulting from the TND.

Speakers

Dr. Eric Tchetgen Tchetgen

Luddy Family President's Distinguished Professor @Wharton School of the University of Pennsylvania

Eric J. Tchetgen Tchetgen is the Luddy Family President's Distinguished Professor at the Wharton School of the University of Pennsylvania. Professor Tchetgen Tchetgen comes to the University of Pennsylvania from Harvard University, where he has served since 2008 as Professor of Biostatistics and Epidemiologic Methods with joint appointments in the departments of Biostatistics and Epidemiology at the T.H. Chan School of Public Health. He researches infectious diseases, including HIV/AIDS, and the role of genetic and social factors in the patterns, causes, and effects of public health. Professor Tchetgen Tchetgen has received grants from the National Institutes of Health and the Centers for Disease Control. He completed his Ph.D. in Biostatistics at Harvard University in 2006 under the supervision of Professor James M. Robins. He received his B.S. in Electrical Engineering from Yale University in 1999.

Wed., April 27, 11 am ET

Where Are We Going?

Any other announcements of upcoming work, events, deadlines, etc?

Three Stages of The Journey

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