Phenotype Aphril Week 1: Live Build of Cohorts

OHDSI
Observational Health Data Sciences and Informatics

OHDSI Community Call
April 7, 2026 • 11 am ET

Upcoming Community Calls

Date	Topic
Apr. 7	Phenotype Aphril, Week 1: Live Build of Cohorts
Apr. 14	Phenotype Aphril, Week 2: KEEPER Evaluation Session
Apr. 21	NO MEETING / EUROPE SYMPOSIUM
Apr. 28	Phenotype Aphril, Week 4: Final Evaluation and Learnings
May 5	Europe Symposium Review/Phenotype Aphril Finale

Three Stages of The Journey

Where Have We Been?

Where Are We Now?

Where Are We Going?

OHDSI Shoutouts!

Congratulations to the team of **Seokyoung Song, Hyungseok Seo, Il Seok Kim, Minsoo Kim, Lim Youn Hee, Jung Eun Kim, Soo Il Choi, Dong Hyuck Kim, Young Hun Lee, Moonki Park, Jong Bum Choi, Cheolhyeong Lee, Seung Hee Yoo, Ho Kyung Yu, Chan Noh, Seong Young Choi, and Sang Gyu Kwak** on the recent publication of **A Multicenter Propensity Score-Matched Cohort Study of Preoperative Antiplatelet Therapy and Postoperative Outcomes in Elderly Surgical Patients** in *medicina*.

medicina MDPI

Article

A Multicenter Propensity Score-Matched Cohort Study of Preoperative Antiplatelet Therapy and Postoperative Outcomes in Elderly Surgical Patients

Seokyoung Song [1], Hyungseok Seo [2], Il Seok Kim [3], Minsoo Kim [4], Lim Youn Hee [5], Jung Eun Kim [6], Soo Il Choi [7], Dong Hyuck Kim [1], Young Hun Lee [1], Moonki Park [8], Jong Bum Choi [9], Cheolhyeong Lee [10], Seung Hee Yoo [11], Ho Kyung Yu [12], Chan Noh [13], Seong Young Choi [14] and Sang Gyu Kwak [15,*]

1 Department of Anesthesiology and Pain Medicine, Daegu Catholic University School of Medicine, Daegu 42472, Republic of Korea; anessy73@gmail.com (S.S.); eastokim@gmail.com (D.H.K.); hyo04076@gmail.com (Y.H.L.)
2 Department of Anesthesiology and Pain Medicine, Kyung Hee University Hospital at Gangdong, Seoul 05278, Republic of Korea; seohyungseok@gmail.com
3 Department of Anesthesiology and Pain Medicine, Kangdong Sacred Heart Hospital, Hallym University College of Medicine, Seoul 05355, Republic of Korea; gns70@kdh.or.kr
4 Department of Anesthesiology and Pain Medicine, Kangwon National University Hospital, College of Medicine, Kangwon National University, Chuncheon 24289, Republic of Korea; kmsanp@kangwon.ac.kr
5 Department of Anesthesiology and Pain Medicine, Gyeongsang National University Hospital, Jinju 52727, Republic of Korea; im6194@naver.com
6 Department of Anesthesiology and Pain Medicine, Kyung Hee University Hospital, Kyung Hee University College of Medicine, Seoul 02447, Republic of Korea; geri200@gmail.com
7 Department of Anesthesiology and Pain Medicine, International St. Mary's Hospital, Incheon 22711, Republic of Korea; swiri31@naver.com
8 Department of Anesthesiology and Pain Medicine, Myongji Hospital, Goyang 10474, Republic of Korea; psbuster@naver.com
9 Department of Anesthesiology and Pain Medicine, Ajou University Medical Center, Suwon 16477, Republic of Korea; romeojb@naver.com
10 Department of Anesthesiology and Pain Medicine, Wonkwang University School of Medicine, Iksan 54538, Republic of Korea; leecheolhyeong@gmail.com
11 Department of Anesthesiology and Pain Medicine, Ewha Womans University Mokdong Hospital, Seoul 07985, Republic of Korea; yoosh0710@naver.com
12 Department of Anesthesiology and Pain Medicine, Gyeongsang National University Changwon Hospital, Changwon 51472, Republic of Korea; sciatic@naver.com
13 Department of Anesthesiology and Pain Medicine, College of Medicine, Chungnam National University, Daejeon 35015, Republic of Korea; jyfchrh@naver.com
14 EvidNet, Gangnam-gu, Seoul 06164, Republic of Korea; tjddud2830@evidnet.com
15 Department of Medical Statistics, School of Medicine, Daegu Catholic University, Duryugongwon-Ro 17-Gil 33, Nam-Gu, Daegu 42472, Republic of Korea
* Correspondence: sgkwak@cu.ac.kr; Tel.: +82-53-650-4724; Fax: +82-53-621-4106

Academic Editor: Lucía Valencia

Received: 12 February 2026
Revised: 7 March 2026
Accepted: 9 March 2026
Published: 11 March 2026

Abstract

Background and Objectives: Elderly patients frequently receive antiplatelet therapy, creating a clinical dilemma between bleeding risk and cardiovascular protection during surgery. We evaluated the association between preoperative antiplatelet therapy and postoperative bleeding and cardiovascular events using multicenter observational data. *Materials and Methods*: We conducted a retrospective cohort study using standardized OMOP-CDM databases from 10 tertiary hospitals. Patients aged ≥65 years undergoing surgery were classified by preoperative aspirin or clopidogrel exposure. Propensity score matching was performed within each site. Hazard ratios (HRs) were estimated using Cox regression and pooled using meta-analytic techniques. *Results*: A total of 1464 exposed patients and 7038 matched comparators were analyzed. Across sites, hazard ratios varied without a statistically significant pooled association. The pooled HR for postoperative events was 1.01

OHDSI Shoutouts!

Congratulations to the team of **Jong-Ho Kim, Youngho Seo, Seung Yong Shin, Eung Ju Kim, Kap Su Han, and Hyung Joon Joo** on the recent publication of **Temporal Trends and Clinical Implications of Cardiac Troponin Testing in Emergency Departments: A Multicenter Retrospective Study** in the *Journal of Clinical Medicine*.

Journal of *Clinical Medicine*

MDPI

Article

Temporal Trends and Clinical Implications of Cardiac Troponin Testing in Emergency Departments: A Multicenter Retrospective Study

Jong-Ho Kim [1], Youngho Seo [1], Seung Yong Shin [2], Eung Ju Kim [3], Kap Su Han [4,*,†] and Hyung Joon Joo [5,*,†]

[1] Korea University Research Institute for Medical Bigdata Science, Korea University, Seoul 02842, Republic of Korea
[2] Department of Cardiology, Korea University Ansan Hospital, Ansan 15355, Republic of Korea
[3] Department of Cardiology, Korea University Guro Hospital, Seoul 08308, Republic of Korea
[4] Department of Emergency Medicine, Korea University Anam Hospital, Seoul 02841, Republic of Korea
[5] Department of Cardiology, Korea University Anam Hospital, Seoul 02841, Republic of Korea
* Correspondence: hanks96@hanmail.net (K.S.H.); drjoohj@korea.ac.kr (H.J.J.)
† These authors contributed equally to this work.

Abstract

Background: Cardiac troponin testing is central to evaluating suspected acute coronary syndromes, yet its expanding use may increase resource utilization in low-risk emergency department populations. **Methods:** We conducted a multicenter retrospective cohort study across three tertiary hospitals in South Korea (2017–2023) using harmonized electronic health record data integrated with the Observational Medical Outcomes Partnership Common Data Model (OMOP-CDM) and the National Emergency Department Information System (NEDIS). Visits were stratified into low, intermediate, and high risk by age and chest pain presentation, and cardiac troponin T was categorized as normal (<0.014 ng/mL), borderline (0.014–0.052 ng/mL), or elevated (>0.052 ng/mL). Outcomes included emergency department length of stay, hospital admission, 30-day revisit, 30-day coronary revascularization, and 30-day mortality. **Results:** Among 727,772 visits, troponin testing increased from 29.8% in 2017 to 45.5% in 2023. High-risk patients were consistently tested, whereas testing rose substantially in intermediate- and low-risk groups. In high-risk patients, normal troponin values were associated with lower 30-day revascularization and mortality, without prolonging length of stay or increasing admissions. In contrast, in lower-risk groups, testing was associated with longer stays and higher admissions without clear short-term clinical benefit. **Conclusions:** These findings support more targeted troponin testing protocols to optimize emergency department resource use while preserving diagnostic performance in higher-risk presentations.

OHDSI Shoutouts!

Congratulations to the team of **Mike Du, Albert Prats-Uribe, Núria Mercadé-Besora, Kim Lopez-Guell, Yuchen Guo, Marta Alcalde-Herraiz, Xihang Chen, Antonella Delmestri, Wai Yi Man, Talita Duarte-Salles, Anna Palomar, Agustina Giuliodori, Emanuel Brađašević, Antea Jezidžić, Elvira Bräuner, Susanne Bruun, Katia Verhamme, Mees Mosseveld, James T Brash, Dina Vojinovic, Isabella Kaczmarczyk, Akram Mendez, Peter Rijnbeek, Daniel Prieto-Alhambra, Edward Burn, and Martí Català** on the recent publication of **CohortCharacteristics: an R package for population characterisation in observational studies using the OMOP common data model** in the *European Journal of Epidemiology*.

European Journal of Epidemiology
https://doi.org/10.1007/s10654-025-01352-4

R PACKAGE

CohortCharacteristics: an R package for population characterisation in observational studies using the OMOP common data model

Mike Du[1] · Albert Prats-Uribe[1] · Núria Mercadé-Besora[1] · Kim Lopez-Guell[1] · Yuchen Guo[1] · Marta Alcalde-Herraiz[1] · Xihang Chen[1] · Antonella Delmestri[1] · Wai Yi Man[1] · Talita Duarte-Salles[2,4] · Anna Palomar[4] · Agustina Giuliodori[4] · Emanuel Brađašević[5] · Antea Jezidžić[5] · Elvira Bräuner[3] · Susanne Bruun[3] · Katia Verhamme[2] · Mees Mosseveld[2] · James T. Brash[6] · Dina Vojinovic[7] · Isabella Kaczmarczyk[6] · Akram Mendez[6] · Peter Rijnbeek[2] · Daniel Prieto-Alhambra[1,2] · Edward Burn[1] · Martí Català[1]

Received: 11 September 2025 / Accepted: 16 December 2025

Abstract
Describing cohort characterisation ensures comparability and reproducibility in multi-database observational studies. To address this need, we developed CohortCharacteristics, an open-source R package that facilitates standardised cohort characterisation in datasets mapped to the Observational Medical Outcomes Partnership (OMOP) Common Data Model (CDM). This study aims to explain the development of the package and demonstrate its core functionality. We developed CohortCharacteristics, an open-source R package that can perform cohort characterisation for various types of databases. To demonstrate its functionality, we then used CohortCharacteristics to generate descriptive statistics on demographics, comorbidities, medication exposures, cohort overlap, and timing of cohort entries. The study included data from CPRD GOLD (UK), DK-DHR (Denmark), IPCI (Netherlands), IQVIA Longitudinal Patient Database Belgium (IQVIA LPD Belgium), IQVIA DA Germany, NAJS (Croatia), and SIDIAP (Spain), all mapped to the OMOP CDM. The CohortCharacteristics R package is freely available on CRAN with detailed vignettes and documentation on its functionality. Cohort characteristics were generally consistent across databases, with similar age distributions and female representation. CPRD GOLD, NAJS, and SIDIAP exhibited higher prescribing rates for respiratory, cardiovascular, and nervous system medications, while IQVIA databases and DK-DHR reported lower rates. Timing analysis showed that dementia diagnoses typically followed insomnia diagnoses in several databases, supporting existing literature. Antipsychotic prescriptions often occurred after dementia diagnosis, reflecting prescribing practices aligned with clinical guidelines. CohortCharacteristics enables consistent cohort characterisation across a network of data mapped to the OMOP CDM, thereby improving transparency in multi-database research. The package's functionality, demonstrated in this study, illustrates its applicability in observational studies with OMOP CDM data.

Keywords Characterisation · Observational studies · Common data model · Epidemiology · R · OMOP CDM

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	Patient-Level Prediction
Wednesday	10 am	Common Data Model
Wednesday	2 pm	Natural Language Processing
Wednesday	7 pm	Eyecare and Vision Research
Thursday	7 am	Europe Community Call
Thursday	10 am	Rare Diseases
Thursday	10 am	Africa Chapter (ZOOM)
Thursday	10 am	GIS – Geographic Information System
Thursday	10:30 am	Evidence Network
Thursday	12 pm	Medical Devices
Friday	11 am	Clinical Trials
Friday	11:30 am	Steering Group
Friday	11 pm	China Chapter
Monday	9 am	Vaccine Vocabulary
Tuesday	9 am	Oncology Genomic Subgroup
Tuesday	10 am	CDM Survey

OHDSI2026 Registration Opens

Registration and the **call for participation** are now open for the **2026 OHDSI Global Symposium**, held Oct. 20-22 at the Hyatt Regency in New Brunswick, N.J.

ohdsi.org/OHDSI2026

April Newsletter Is Available

OHDSI

On The Journey: April 2026

The April newsletter is packed with essential updates, including a significant vocabulary refresh, the debut of our new community dashboard, and important updates from our CDM and HADES teams. We are also thrilled to announce that registration is officially open for the OHDSI Global Symposium, featuring an expanded lineup of 12 hands-on tutorials for 2026. Finally, the momentum continues globally as we prepare for the Europe Symposium later this month and look forward to our first-ever Latin America Symposium this July.
#JoinTheJourney

Podcast: Vocab Refresh, CDM/HADES Maturity

In the April 2026 On The Journey podcast, Patrick Ryan and Craig Sachson reflect on the latest standardized vocabularies refresh and its importance to the community. They look at the maturity within both the CDM and HADES workgroups, and they highlight new opportunities for global education, including the revamped community dashboard and new tutorial offerings at the global symposium. *(If video does not appear, please click 'view this email in your browser.)*

Community Updates

Where Have We Been?

- **Vocabulary Refresh:** The Winter 2026 Vocabulary Release is officially live. Members of the leadership team detailed the most critical updates during the March 3 community call; you can catch up on the full presentation and technical breakdown online now.
- **EHDS Operations:** During the most recent Europe Community Call, Peter Rijnbeek presented on "Operationalizing the European Health Data Space (EHDS)," emphasizing how OMOP and OHDSI serve as the backbone for the secondary use of health data across the continent.
- **Community Dashboard:** The OHDSI community has now surpassed 950 peer-reviewed publications utilizing the OMOP CDM or OHDSI tools. You can explore this research legacy through our newly improved Community Dashboard—a massive thank you to Robert Barrett and our Johns Hopkins collaborators for leading this vital initiative.

Where Are We Now?

- **Europe Symposium:** The Europe Symposium arrives April 18–20 in Rotterdam, Netherlands. Following two days of tutorials and workshops, the main conference will take place on the historic SS Rotterdam. With a record-breaking number of collaborator showcase submissions, this is set to be our most vibrant European gathering yet.
- **Global Registration:** Registration and the call for participation are now open for the 2026 OHDSI Global Symposium, held Oct. 20–22 at the Hyatt Regency in New Brunswick, N.J. Check the Global Symposium section of this newsletter to learn more about our 12 new tutorial offerings.
- **Phenotype April:** "Phenotype Phebruary" has evolved into Phenotype April this year. You can get involved by joining our weekly April community calls or by participating in the Phenotype Development and Evaluation workgroup meetings throughout the month.
- **Maternal Health Fellowship:** The second OHDSI Maternal Health Fellowship is designed to train clinical investigators for improved maternal and neonatal care. This fellowship offers three key components: Career Development, Practice, and Networking. Supported by both the OHDSI community and the NIH IMPROVE initiative, the program focuses on training clinical investigators in observational research methods to enable them to conduct reproducible research and generate real-world evidence. Learn more and register here.

My Journey: Evan Minty

In the latest installment of our "My Journey" series, Evan Minty (General Internist and Adjunct Professor at Johns Hopkins) discusses how the "open science revolution" drew him into the OHDSI community. Evan shares his passion for breaking down the traditional silos of epidemiology to create reliable, computational evidence that can be used directly at the point of care for patient health. *(If video does not appear, please click 'view this email in your browser.)*

OHDSI2026 Registration, Call for Participation Opens; Tutorial Day Offers 12 Options

Registration is now officially open for the **2026 OHDSI Global Symposium**, which will return to the Hyatt Regency in New Brunswick, N.J., from Oct. 20-22. This flagship event remains the premier gathering for our community to share innovative research, engage in strategic planning, and gain invaluable insights from one another through the collaborator showcase. We invite all collaborators —from seasoned veterans to those just beginning their journey—to secure their

March Publications

Hallaj S, Boland MV, Halfpenny W, Myers JS, Weinreb RN, Zangwill LM, Baxter SL. PyOPV: An Open-Source Python Package for Ophthalmic Visual Field Data Management. J Glaucoma. 2026 Mar 1;35(3):150-156. doi: 10.1097/IJG.0000000000002654. Epub 2026 Feb 17. PMID: 41746848.

Tamana S, Yiangou K, Orphanou K, Chatzimatthaiou S, Kountouris P, Cremonesi F. FAIR data gaps and collaboration willingness among hemoglobinopathy research centers. Sci Data. 2026 Mar 3. doi: 10.1038/s41597-026-06950-9. Epub ahead of print. PMID: 41775724.

Hunt NB, Souverein P, Bazelier M, Barclay N, Delmestri A, Sturkenboom M, Prieto-Alhambra D, Gardarsdottir H, Klungel O. Implementation of OMOP and ConcePTION Common Data Models in CPRD GOLD: Risk of Bleeding and Cardiovascular Outcomes From Anticoagulant Use. Clin Pharmacol Ther. 2026 Mar 7. doi: 10.1002/cpt.70242. Epub ahead of print. PMID: 41793101.

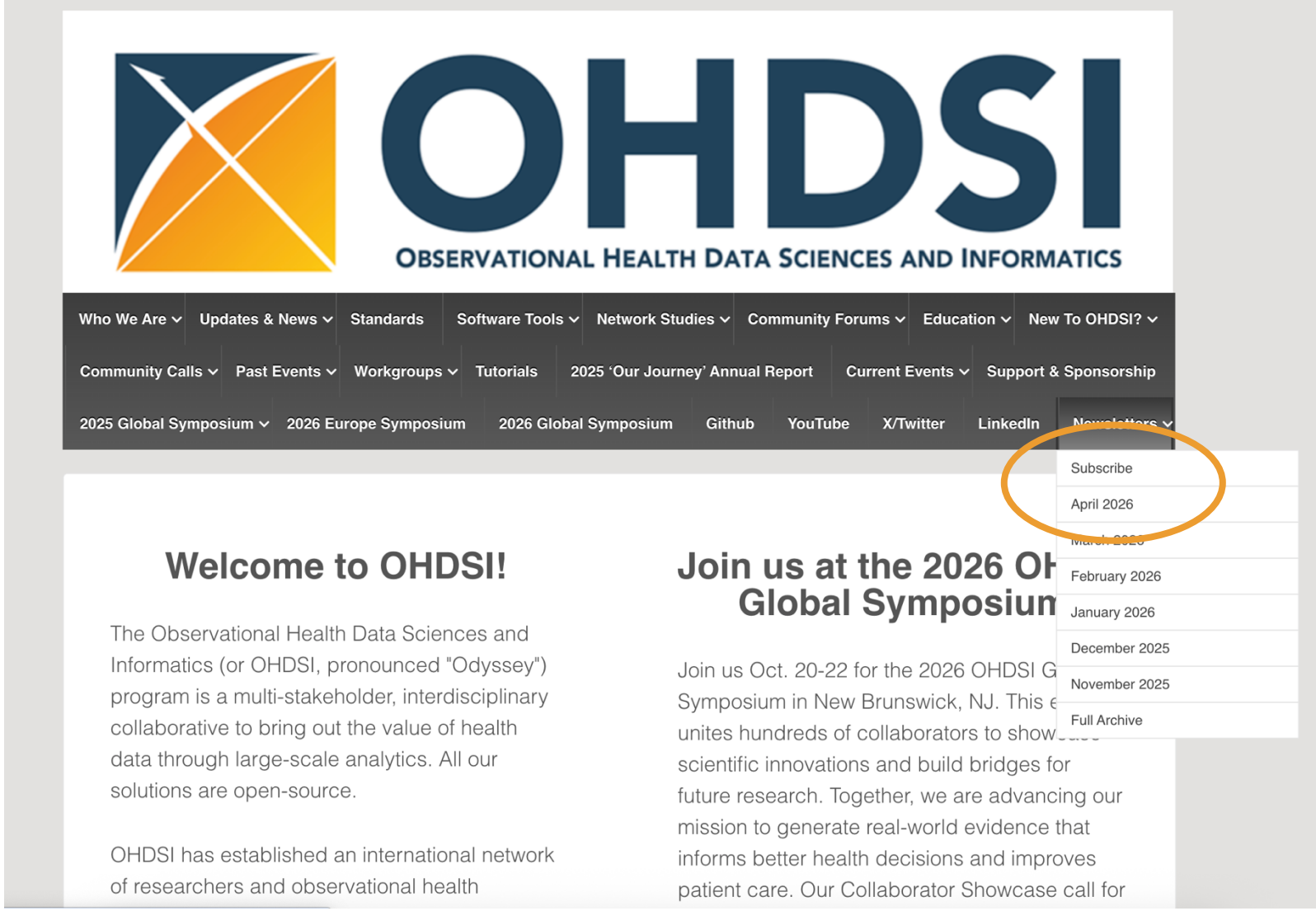
Spotnitz M, Giannini J, Clark E, Ostchega Y, Litwin TR, Berman L. Assessing data quality of rheumatoid and psoriatic arthritis patients in the *All of Us* Research Program. JAMIA Open. 2026 Mar 7;9(2):ooag028. doi: 10.1093/jamiaopen/ooag028. PMID: 41822200; PMCID: PMC12978248.

Bhattacharjee T, Mugotitsa B, Ochola M, Momanyi R, Andeso P, Amadi D, Mailosi D, Najjemba L, Greenfield J, Mabe K, Slaymaker E, Todd J, Kiragga A; INSPIRE Network. Migrating longitudinal African mental health data from staging to the OMOP common data model within the INSPIRE network datahub. Front Psychiatry. 2026 Mar 9;17:1751529. doi: 10.3389/fpsyt.2026.1751529. PMID: 41877886; PMCID: PMC13006644.

Kim J, Lee N, Kim J, Kim K. MedRep: medical concept representations for general electronic health record foundation models. J Am Med Inform Assoc. 2026 Mar 10:ocag032. doi: 10.1093/jamia/ocag032. Epub ahead of print. PMID: 41806382.

Vanderkerken M, Van Eygen K, Galle V, Verbiest A, Janssens A, Masuy I, Theys K, Cuppens T, Muylle K, De Becker A. Leveraging Digital Technology and Artificial Intelligence to Describe the Real-World Belgian Chronic Lymphocytic Leukemia Patient Population: The BE-CLLEAR Study. JCO Clin Cancer Inform. 2026 Mar;10:e2500159. doi: 10.1200/CCI-25-00159. Epub 2026 Mar 18. PMID: 41849725; PMCID: PMC13003938.

April Newsletter Is Available



2026 Europe Symposium

The 2026 OHDSI Europe Symposium returns to Rotterdam next year and will be held **April 18-20.**

Registration is open on the **OHDSI & OHDSI Europe** web sites.

Time	Symposium Agenda - Monday April 20, 2026	Location
8:00	***Registration and Coffee***	Queen's Lounge
9:00	**Welcome to OHDSI Europe** Dr. Renske Los, Department of Medical Informatics, *Erasmus MC* Dr. Aniek Markus, Department of Medical Informatics, *Erasmus MC*	Theatre
9:05	**Journey of OHDSI** Prof. Peter Rijnbeek, Chair Department of Medical Informatics, *Erasmus MC*	Theatre
9:30	**Collaborator Showcase - part 1** Moderated by Dr. Egill Fridgeirsson, Department of Medical Informatics, *Erasmus MC*	Theatre
10:00	**Speed networking**	Theatre
10:15	***Coffee Break & posters National Nodes***	Queen's Lounge
11:15	**Collaborator Showcase - part 2** Moderated by Dr. Egill Fridgeirsson, Department of Medical Informatics, *Erasmus MC*	Theatre
11:45	**Dreaming about the OHDSI journey ahead** Dr. Patrick Ryan, Vice President, Observational Health Data Analytics, *Johnson & Johnson* Dr. Renske Los, Department of Medical Informatics, *Erasmus MC*	Theatre
12:15	***Lunch break & networking & posters/demo's*** *(Early investigator meeting - 13:00-13:45 Queen's Lounge)*	La Fontaine & Odyssee Room
13:45	**From dreams to reality** OHDSI Titan Award winners	Theatre
14:30	**Propositions for collaboration from the National Nodes** National Node leads	Theatre
14:45	***Coffee break & posters/demo's***	La Fontaine & Odyssee Room
16:15	**The OH Factor** To be announced	Theatre
17:00	**Closing**	Theatre
17:15	***Networking reception***	Queen's Lounge

Maternal Fellowship Opens

The second **OHDSI Maternal Health Fellowship** is designed to train clinical investigators for improved maternal and neonatal care. This fellowship offers three key components: **Career Development, Practice, and Networking**.

Supported by both the OHDSI community and the NIH IMPROVE initiative, the program focuses on training clinical investigators in observational research methods to enable them to conduct reproducible research and generate real-world evidence.

OMOP School in Stockholm, Sweden

passion2improve edence Health

The OMOP School

3+1-day OMOP CDM Bootcamp

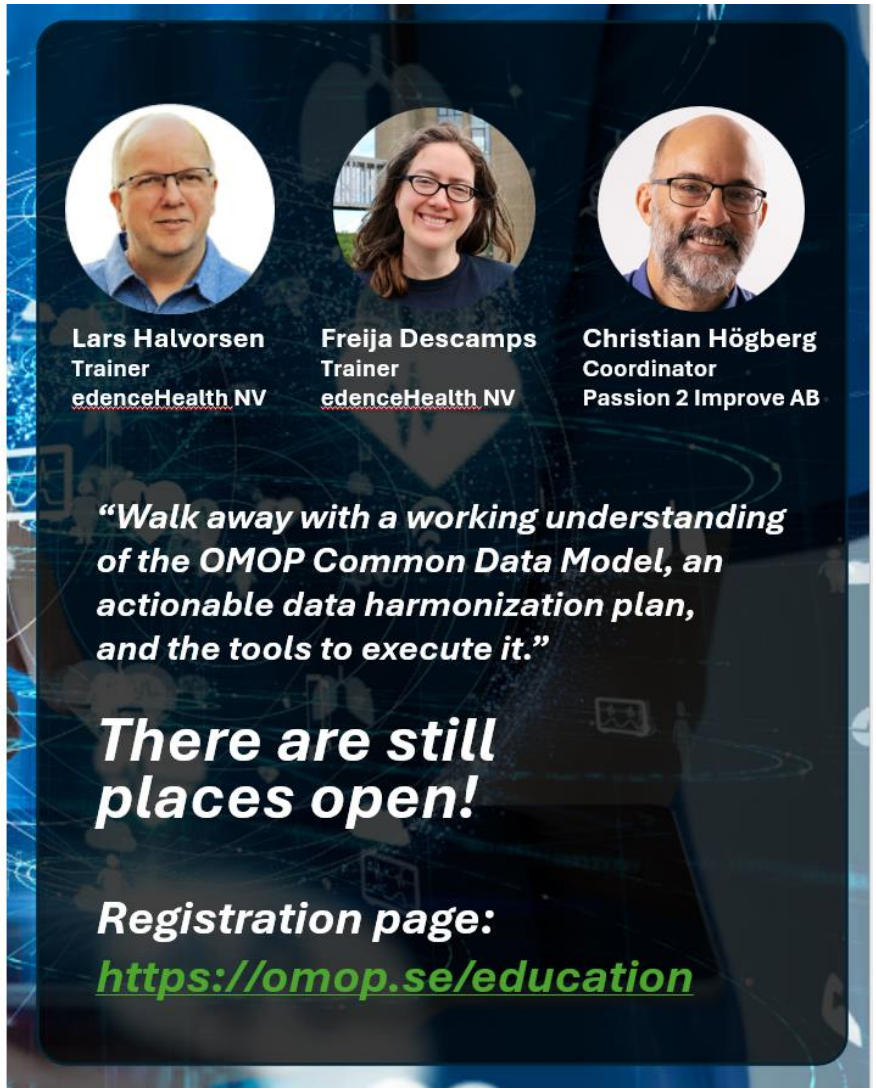
A hands-on training and workshop that turns your data harmonization vision into reality.

May 26th – 28th
+ May 29th (optional extra day for Use Cases Deep Dive)
09:00-17:00 Tue-Thu, 09:00-16:00 Fri
Stockholm, Sweden (venue TBD)

Learning objectives:
- Explain the role of standardization in federated research
- Understand the OMOP Common Data Model and how it can be applied
- Perform semantic mapping using OMOP vocabularies
- Design and implement an OMOP ETL process
- Evaluate and improve data quality
- Conduct standardized observational analyses
- Execute an end-to-end mini-harmonization project
- Use selective OHDSI methods and tools

Who to attend?
- Health Data Owners/Data Custodians
- Data Scientists, Clinical Researchers & Epidemiologists
- IT/Data Architects/ETL Developers/Health Informatics Specialists
- Digital Transformation Leads, Registry Directors, Healthcare Strategists
- Healthcare Policy Stakeholders

OMOP4SWEDEN!
EVIDENCE GENERATION FOR BETTER HEALTHCARE



First Latin America Symposium – July 30-31

Columbia DBMI Summer School

The 2026 Summer School in Observational Health Data Science & Informatics, AI, and Real World Evidence

COLUMBIA | COLUMBIA UNIVERSITY DEPARTMENT OF BIOMEDICAL INFORMATICS

OHDSI
OBSERVATIONAL HEALTH DATA SCIENCES AND INFORMATICS

June 22–26, 2026, Columbia Biomedical Informatics

The Columbia OHDSI Summer School provides health professionals, researchers, and industry practitioners with an immersive, hands-on training to working with real-world health data and generating real-world evidence (RWE). Participants will explore the types of healthcare data captured during routine clinical care—such as electronic health records and administrative claims—and learn how to standardize these data using the OMOP Common Data Model to support collaborative, distributed research as part of a data network.

Over the course of the week, participants will engage with three real-world analytic use cases:

- **Clinical characterization** – using descriptive epidemiology to study disease natural history and treatment patterns
- **Population-level estimation** – applying causal inference to assess drug safety and comparative effectiveness
- **Patient-level prediction** – leveraging machine learning for early disease detection and precision medicine

Participants will be guided through the full RWE study lifecycle: from designing observational studies tailored to each use case, to applying open-source tools form the OHDSI community, and executing analyses across real-world data sources.

The curriculum combines foundational lectures on analytical methods with hands-on, interactive, faculty-led group exercises. In addition, participants will have dedicated time to develop and advance their own study concepts with personalized feedback and mentoring.

UK Symposium Call for Abstracts Opens

HDR UK Event

OHDSI UK 2026

We're delighted to announce that OHDSI UK 2026 will be held on the 18th of September at the University of Nottingham. For the first time, there will also be an OMOP training day on the 17th of September.

Share this page

OHDSI (Observational Health Data Sciences and Informatics, pronounced "Odyssey") is an international community of stakeholders dedicated to unlocking the value of health data through large-scale analytics. OHDSI promotes open science and collaboration in health data research with a key focus on adoption of the OMOP Common Data Model, a global standard for harmonising data and facilitating federated analytics across institutions. **Find out more about OHDSI.**

Call for Abstracts

We invite you to submit an abstract for consideration at OHDSI UK 2026. Whether you wish to present a poster, software demo, or lightning talk, we welcome contributions from across the community. Abstract submission is available via this form, and the deadline is 1st May 2026. Please use this template to prepare your abstract and save it as a PDF, and start your file name with the surname (family name) of the presenting author.

Key dates:

Registration Opens: 20th April 2026

Registration Closes: 4th September 2026

Abstract Submission Opens: 20th March 2026

Abstract Submission Deadline: 1st May 2026

Training day: 17th September 2026

Symposium: 18th September 2026

#OHDSISocialShowcase This Week

Monday

Building a perfect special-purpose healthcare data model: learning from and assessing OMOP

(Vojtech Huser)

Building a perfect special-purpose healthcare data model: learning from and assessing OMOP

Vojtech Huser, Sebastiaan van Sandijk
EPAM

INTRODUCTION

Observational Medical Outcomes Partnership (OMOP) Common Data Model (CDM) is a leading Real World Data (RWD) representation format. We collaborated on development of an oncology-specific and purpose-specific data model [1] and during this development, we assessed how OMOP model captures specific data elements.
Consistently adhering to a naming convention for any model may increase the model adoption and facilitate easier model because model users may rely on consistent application of conventions when using many of the model data elements (or table names and column names). In this context, we assessed OMOP model's naming consistency and modelling consistency.

METHODS

In the initial step, we obtained a list of all tables and columns in OMOP model. We used a tag to group certain related columns to each other. We next defined a higher level constructs (above the column name level) and used a tag identical to the title of the construct to group related columns. For example, for construct of ethnicity, we created a tag 'ethnicity' and tagged with it columns of ethnicity_concept_id , ethnicity_source_concept_id, and ethnicity_source_value. For some contructs, the tag also included the table name and dot separator (e.g., drug_exposure.drug)

In building the purpose specific model, we found it helpful to also classify data elements into element categories. We wanted the model to be consistent in using and naming these categories across model entities (e.g., medication, observation, patient, order). Because of this need during our model design and trying to learn from OMOP as much as possible, we considered OMOP data elements and classified table columns into categories. We defined the following categories (with example(s) listed in parentheses): standardized identifier (person_id), source value (ethnicity_source_value), standardized concept (ethnicity_concept_id), source concept (ethnicity_source_concept_id). We next analyzed the tags and classified constructs (e.g., ethnicity) into several categories based on how many columns were tagged to the construct.

Finally, we found the OMOP concept of 'type' column in most OMOP tables very useful. The type concept idea is used throughout OMOP and provides unique analytical abilities. In our model, we use the term entity where OMOP would use a table. E.g., patient entity would be counterpart of OMOP person table. We looked at naming consistency in OMOP for the type column paradigm. In our model, we eventually chose the data element of typeOrigin for OMOP type columns/paradigm.

RESULTS

The tags and categorizations are available at our project repository at github.com/informaticsrepo/omop-analysis.

The following construct types were identified:

- A *triple construct* is a construct that in the model has a triple representation and the count of tagged columns is 3. One column is of category standardized concept column category (x_concept_id) and two columns for source value (x_source_concept_id and x_source_value). For example, ethnicity is an example of a triple construct.
- A *double construct* is a construct that in the model has a double representation and the count of tagged columns is 2. For example, care_site table construct of place_of_service has two tagged columns of place_of_service_concept_id, place_of_service_source_value.

Another way of looking at the triple and double constructs is how many "sibling columns" any given column may have. By siblings columns we mean columns that are somewhat related or linked to the column at hand.

Double constructs further separate into several subtypes. One such subtype is concept-value double constructs. Such constructs have columns for standardized concept (x_concept_id) and source value (x_source_value columns). For example, care.site.place_of_service is a concept-value double construct.
Concept-source

OMOP model uses triple constructs approach for some data where external terminology may exist and complex modelling is needed (e.g., person.gender, measurement.measurement). For other constructs, a simpler, double construct approach is implemented (e.g., site.place_of_service). Note that for processing data falling under the double construct approach (e.g., place of service), mapping from source value to standardized concept has less model setup infrastructure (no terminology layer for source concept) compared with triple constructs. That is because, triple constructs have the same two columns as double construts but have an additional column for source concept (x_source_concept_id).

Another subtype of double constructs are identifier-identifier double constructs. E.g., person table construct of person_identifier with has two tagged columns of person_id and person_source_value and both are of category person-identifier.

In terms of naming consistently we identified few of them. One principle may be to name columns with double constructs using a consistent naming pattern. E.g., same prefix used for related columns. OMOP violates this principle for the note table construct of note_class where two identically tagged columns are named note_class_concept_id and note_source_value while the naming convention/principle would expect the column names of: note_class_concept_id and note_class_source_value (or rename the construct and drop the class fragment and use names of note_concept_id and note_source_value). The note table also shows a clash in type paradigm and informatics construct of note type (as in LOINC Document Ontology). The name chosen in our purpose-specific model (name typeOrigin instead of type) attempts to avoid this naming clash.

DISCUSSION

In model constructions, it may be beneficial to clearly describe which constructs are of what type or subtype. This need is somewhat implicit in OMOP specification by mere presence of columns that follow a naming convention. Although the accompanying guidance clearly defines most of the model building conventions.

CONCLUSION

We formalized and named several OMOP implicit conventions that were used during OMOP model constructions. OMOP model contains powerful features that may inspire other healthcare standardization efforts. Our work attempts to advance the art of perfect model building [2] by identifying useful modelling paradigms.

REFERENCES

1. Huser V, van Saandijk S, Korsik V. OMOP model evaluation for representing GENIE oncology research project data. OHDSI Europe Symposium, 2025
2. Abellan A, Burn E, Trinh NTH, Burkard T, Callahan A, Fernández-Bertolín S, Hurley E, Rodriguez C, Segundo E, Morales DR, M E Nordeng H, Duarte-Salles T. Expanding the OMOP Common Data Model to Support Perinatal Research in Network Studies. Pharmacoepidemiol Drug Saf. 2025 Feb;34(2):e70106. doi: 10.1002/pds.70106.

person	**11**
ethnicity	**3**
ethnicity_concept_id	1
ethnicity_source_concept_id	1
ethnicity_source_value	1
gender	**3**
gender_concept_id	1
gender_source_concept_id	1
gender_source_value	1
person_identifier	**2**
person_id	1
person_source_value	1
race	**3**
race_concept_id	1
race_source_concept_id	1
race_source_value	1
(blank)	

Table 1: Double and triple constructs of OMOP person table. Tag is the group row and OMOP columns are indented rows under it.

<epam> | ODYSSEUS DATA SERVICES

#OHDSISocialShowcase This Week

Tuesday

Mapping Survey Data to OMOP: The Current State and Available Resources

(Nicole M. Gerlanc, Common Data Model Survey Sub-group)

Mapping Survey Data to OMOP: The Current State and Available Resources

Nicole M. Gerlanc, CDM Survey Subgroup

OHDSI

INTRODUCTION:

- The **Observational Medical Outcomes Partnership (OMOP) Common Data Model (CDM)** was created to standardize observational health data, primarily from clinical sources like electronic health records (EHRs) and claims.
- Unlike clinical data, **survey data** are collected directly from patients and have a complex, subjective structure often lacking standardized vocabularies. As a result, surveys are infrequently mapped to OMOP and lack the established tools and standards found in other clinical data sources.
- In response, the **CDM Survey Subgroup** was formed in 2024 to explore how to integrate survey data into the OHDSI framework and address the challenges of mapping it to OMOP.

METHODS

- **Survey Content:**
  - **General Information**: Asked for the names of the surveys, along with links to the instruments, GitHub repositories, and other relevant resources.
  - **Survey Development**: Focused on practical details like the mode of administration (e.g., online, in-person), the software used for online surveys, and data availability.
  - **Data Analysis**: Explored how data variables were assigned (e.g., numerical, descriptive), the type of database used, data format, and the analytic software employed, including OHDSI tools.
  - **Challenges & Benefits**: This final section was qualitative, asking responders to describe the difficulties and advantages they experienced when mapping survey data to OMOP.
- **Timeline**: The assessment was initially released in late 2024 and was open for an 8-week period. It was then relaunched in August to collect additional responses.

RESULTS

- The assessment received **14 responses**, representing **11 studies** and **3 clinical care instances**.
- Responders mapped a total of **59 surveys**, most of which were **custom-made or repurposed**. **Four** responders used validated **clinical surveys**.
- Surveys were primarily in English and Spanish.
- **All six responders** who **successfully mapped** their data to OMOP **needed custom concept IDs**.
- Reported **challenges included** a **lack of standard OMOP concepts** for survey items (especially for social and behavioral data), survey to OMOP **differences in granularity**, and high costs in **time and resources**.
- **Benefits** of mapping to OMOP included **improved data harmonization, easier collaboration, and the ability to use survey data alongside other real-world data like EHRs.**

Mapping survey data to the OMOP CDM is challenging due to the lack of standardized concepts and the unique structure of survey data, but the effort is considered valuable for enabling large-scale, collaborative research.

Take the Survey Data and the OMOP CDM: Landscape Assessment

Read the Brief

#OHDSISocialShowcase This Week

Wednesday

Use of CohortDiagnostics for evaluating a phenotype of acute-on-chronic hepatic failure

(Alexandra Buergler, Evanette Burrows, Serge Titaevski, Joel Swerdel)

Use of CohortDiagnostics for evaluating a phenotype of acute-on-chronic hepatic failure

PRESENTER: **Evanette** Burrows

INTRODUCTION

- Acute-on-chronic hepatic failure (ACHF) is a sudden, life-threatening deterioration of liver function and therefore an important safety event of interest in pharmacovigilance.[1]
- We aimed to create a phenotype for drug-related ACHF (ACHF phenotype) that contrasts an existing phenotype of acute hepatic failure in a population *without* prior chronic liver disease (AHF phenotype, minimally adapted from Shoaibi, Rao[2]).

METHODS

1. Clinical description of ACHF using generative AI followed by medical review
2. Literature review of previously developed ACHF phenotypes to include relevant concepts
3. Development of ACHF phenotype with SNOMED terminology by adapting the pre-existing AHF phenotype using open-source OHDSI tools ATLAS and PHOEBE
4. Review of phenotype with the global medical safety team
5. Evaluation of AHF and ACHF phenotypes using CohortDiagnostics (version 3.2.5)[3] in seven OMOP-formatted claims and EHR databases (US, Japan)
   a) Assessment of AHT and ACHF key clinical characteristics capture
   b) Overlap analysis: do the ACHF and AHF phenotypes capture distinctive patient populations?

RESULTS

Phenotype definition: AHF phenotype and ACHF phenotype
Index event: condition of acute hepatic failure
Inclusion criteria:
1) no chronic liver disease any time prior / chronic liver disease
2) no liver transplant any time prior
3) no viral hepatitis or sequelae, no alcoholic hepatitis or sequelae
+/-7 days around index
4) No hepatorenal syndrome on index date
End date + cohort collapse strategy kept the same in both phenotypes.

Overlap analysis

- We found a patient overlap of 67.8% to 75.7% between the ACHF and AHF cohort across the 7 databases (see Figure 1)
- All patients in the AHF cohort were also included in the ACHF cohort, accounting for 67.8% to 75.7% of all captured patients. The remaining 24.3% to 32.2% of patients were only part of the ACHF cohort.

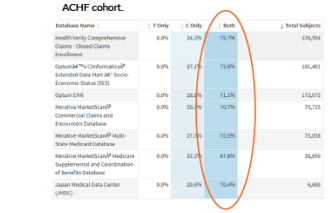


Figure 1. Original cohort overlap between cohorts T (AHF phenotype) and C (ACHF phenotype).

- What caused the overlap? Overlapping concepts used in inclusion criterion "prior chronic liver disease" and the index event "acute hepatic failure" combined with the chosen time window for "prior chronic liver disease".

Using **cohort overlap** in CohortDiagnostics to evaluate whether phenotypes **with/without prior disease** capture **distinct** patients, catches cohort definition errors early.

Patient overlap in ACHF and AHF cohort

Patients only in ACHF cohort

Take a picture to download the full paper

- How did we reduce the overlap? Adjustment of the time window of prior chronic liver disease to "anytime prior and 1 day before index date" reduced the overlap to 7.9-14.7% (see Figure 2).

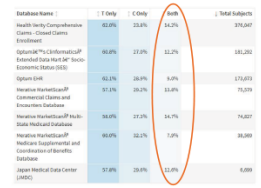


Figure 2. Reduced cohort overlap between cohorts T (AHF phenotype) and C (ACHF phenotype).

- The remaining overlap of 7.9–14.7% between the AHF and ACHF cohorts reflects differences in their concepts set pertaining to chronic liver disease, with ACHF using a broader concept set than AHF.

Person count

After reduction of the overlap:

- Person count in ACHF cohort 378,554 → 142,885 (Health Verity Comprehensive Claims database)
  6,699 → 2,827 in the Japan Medical Data Center (JMDC) database
- Comparing the ACHF and AHF cohort, the case count ranged from 2,837 to 142,885 (ACHF) and from 6,699 to 378,554 (AHF).

Clinical characteristics

- Across all databases, and consistent for both phenotypes, the incidence was higher in males and increased with age.
- Typical symptoms before index presented more frequently in the ACHF cohort than in the AHF cohort (e.g., 82% versus 40% with pain and indication for inflammation in abdominal area).

CONCLUSIONS

- CohortDiagnostics is an important tool for understanding possible errors of cohort definitions.
- When creating distinct phenotypes with overlapping concept sets, special attention should be paid to selecting the appropriate time windows and carefully observing the cohort overlap in CohortDiagnostics to detect potential misclassification.

ACKNOWLEDGEMENTS

We thank Nathan Hall[2,3] for his valuable contribution to this work, and Gayle Murray (Johnson & Johnson) for her work on the literature review.

REFERENCES

1. Sarin SK, Choudhury A. Acute-on-chronic liver failure: terminology, mechanisms and management. Nature reviews Gastroenterology & Hepatology 2016; 13(3): 131-49. https://doi.org/10.1038/nrgastro.2015.219.
2. Shoaibi A, Rao G, Swerdel JN, et al. Development and evaluation of phenotype algorithms for the European Medicines Agency designated medical events in a network of real-world data. In Abstracts of ICPE 2023, the 39th International Conference on Pharmacoepidemiology and Therapeutic Risk Management (ICPE), Halifax, Canada, 25–27 August 2023. Pharmacoepidemiology and Drug Safety 2023; 32(S1): 3-612. https://doi.org/10.1002/pds.5687.
3. Rao GA, Shoaibi A, Makadia R, et al. CohortDiagnostics: Phenotype evaluation across a network of observational data sources using population-level characterization. PLoS One 2025; 20(1): e0310634. https://doi.org/10.1371/journal.pone.0310634.

Bürgler, Alexandra[1]; Burrows, Evanette[2,3]; Titaevski, Serge[4]; Swerdel, Joel[2,3]

1. Global Epidemiology, Johnson & Johnson Innovative Medicine, Gewerbestrasse 16, CH-4123, Allschwil, Switzerland
2. Observational Health Data Analytics, Global Epidemiology, Johnson & Johnson Innovative Medicine, Titusville, NJ, USA
3. Observational Health Data Sciences and Informatics (OHDSI), New York, NY, USA
4. Global Medical Organization, Johnson & Johnson Innovative Medicine, Hegenheimermattweg 167C, CH-4123, Allschwil, Switzerland

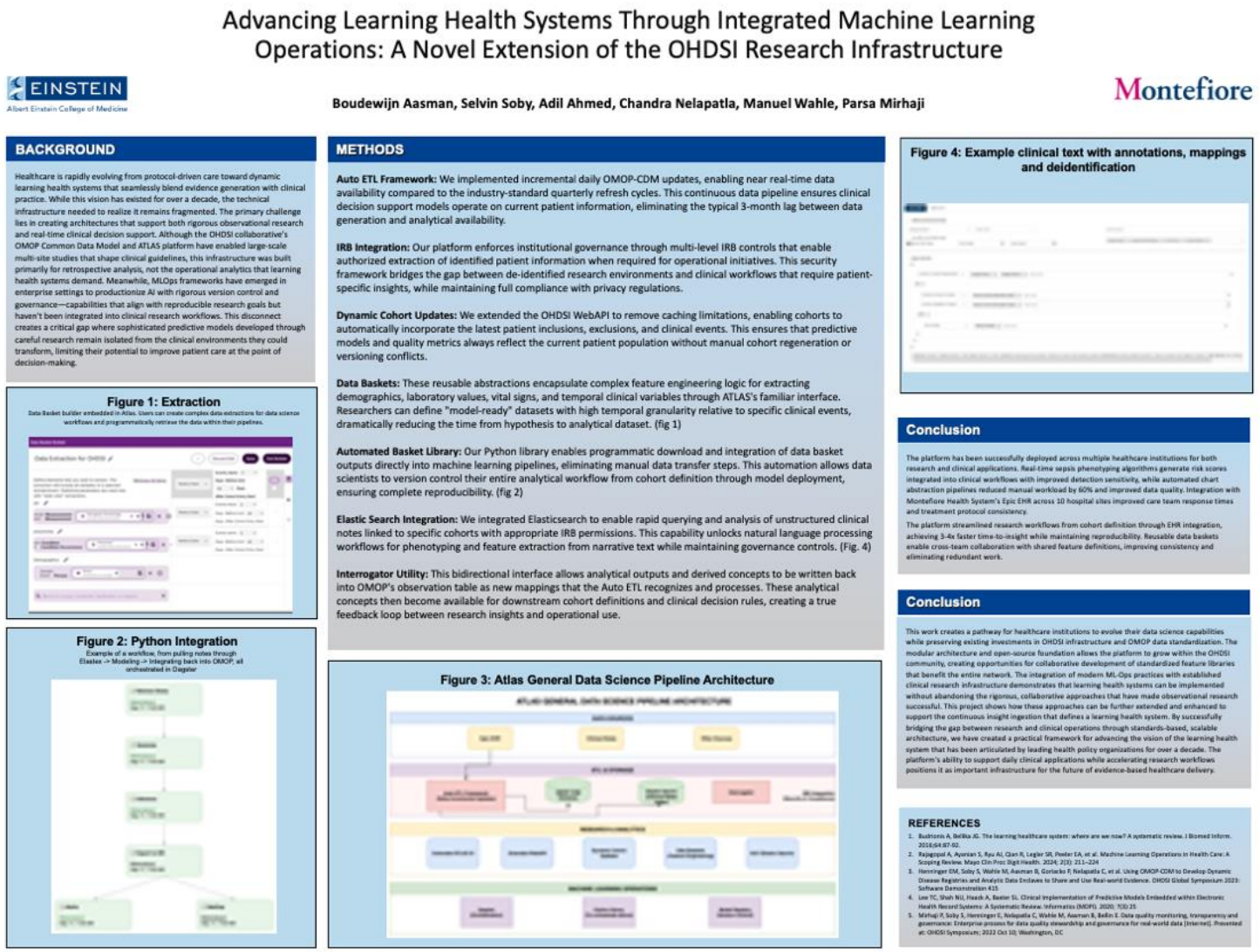
Johnson&Johnson
Global Epidemiology Organization

#OHDSISocialShowcase This Week

Thursday

Advancing Learning Health Systems Through Integrated Machine Learning Operations: A Novel Extension of the OHDSI Research Infrastructure

(Boudewijn Aasman, Selvin Soby, Adil Ahmed, Chandra Nelapatla, Manuel Wahle, Parsa Mirhaji)

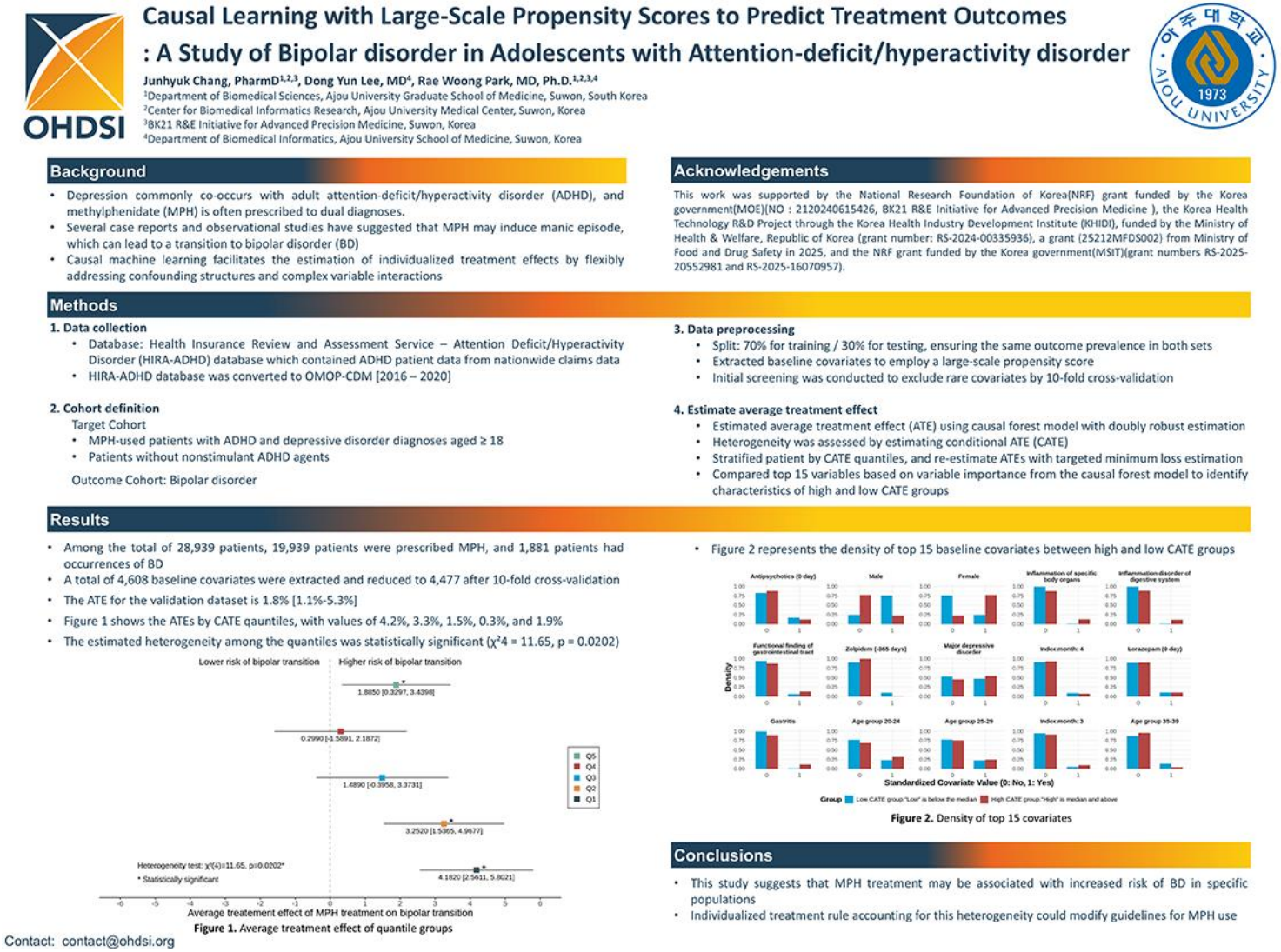


#OHDSISocialShowcase This Week

Friday

Causal Learning with Large-Scale Propensity Scores to Predict Treatment Outcomes: A Study of Bipolar disorder in Adults with Attention-deficit/hyperactivity disorder

(Junhyuk Chang, Dong Yun Lee, Rae Woong Park)



Causal Learning with Large-Scale Propensity Scores to Predict Treatment Outcomes
: A Study of Bipolar disorder in Adolescents with Attention-deficit/hyperactivity disorder

Junhyuk Chang, PharmD[1,2,3], Dong Yun Lee, MD[4], Rae Woong Park, MD, Ph.D.[1,2,3,4]
[1]Department of Biomedical Sciences, Ajou University Graduate School of Medicine, Suwon, South Korea
[2]Center for Biomedical Informatics Research, Ajou University Medical Center, Suwon, Korea
[3]BK21 R&E Initiative for Advanced Precision Medicine, Suwon, Korea
[4]Department of Biomedical Informatics, Ajou University School of Medicine, Suwon, Korea

Background

- Depression commonly co-occurs with adult attention-deficit/hyperactivity disorder (ADHD), and methylphenidate (MPH) is often prescribed to dual diagnoses.
- Several case reports and observational studies have suggested that MPH may induce manic episode, which can lead to a transition to bipolar disorder (BD)
- Causal machine learning facilitates the estimation of individualized treatment effects by flexibly addressing confounding structures and complex variable interactions

Methods

1. Data collection
   - Database: Health Insurance Review and Assessment Service – Attention Deficit/Hyperactivity Disorder (HIRA-ADHD) database which contained ADHD patient data from nationwide claims data
   - HIRA-ADHD database was converted to OMOP-CDM [2016 – 2020]
2. Cohort definition
   Target Cohort
   - MPH-used patients with ADHD and depressive disorder diagnoses aged ≥ 18
   - Patients without nonstimulant ADHD agents

   Outcome Cohort: Bipolar disorder
3. Data preprocessing
   - Split: 70% for training / 30% for testing, ensuring the same outcome prevalence in both sets
   - Extracted baseline covariates to employ a large-scale propensity score
   - Initial screening was conducted to exclude rare covariates by 10-fold cross-validation
4. Estimate average treatment effect
   - Estimated average treatment effect (ATE) using causal forest model with doubly robust estimation
   - Heterogeneity was assessed by estimating conditional ATE (CATE)
   - Stratified patient by CATE quantiles, and re-estimate ATEs with targeted minimum loss estimation
   - Compared top 15 variables based on variable importance from the causal forest model to identify characteristics of high and low CATE groups

Results

- Among the total of 28,939 patients, 19,939 patients were prescribed MPH, and 1,881 patients had occurrences of BD
- A total of 4,608 baseline covariates were extracted and reduced to 4,477 after 10-fold cross-validation
- The ATE for the validation dataset is 1.8% [1.1%-5.3%]
- Figure 1 shows the ATEs by CATE qauntiles, with values of 4.2%, 3.3%, 1.5%, 0.3%, and 1.9%
- The estimated heterogeneity among the quantiles was statistically significant ($\chi^2 4 = 11.65$, $p = 0.0202$)

Figure 1. Average treatment effect of quantile groups

- Figure 2 represents the density of top 15 baseline covariates between high and low CATE groups

Figure 2. Density of top 15 covariates

Conclusions

- This study suggests that MPH treatment may be associated with increased risk of BD in specific populations
- Individualized treatment rule accounting for this heterogeneity could modify guidelines for MPH use

Contact: contact@ohdsi.org

Acknowledgements
This work was supported by the National Research Foundation of Korea(NRF) grant funded by the Korea government(MOE)(NO : 2120240615426, BK21 R&E Initiative for Advanced Precision Medicine), the Korea Health Technology R&D Project through the Korea Health Industry Development Institute (KHIDI), funded by the Ministry of Health & Welfare, Republic of Korea (grant number: RS-2024-00335936), a grant (25212MFDS002) from Ministry of Food and Drug Safety in 2025, and the NRF grant funded by the Korea government(MSIT)(grant numbers RS-2025-20552981 and RS-2025-16070957).

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?

The weekly OHDSI community call is held every Tuesday at 11 am ET.

Everybody is invited!

Links are sent out weekly and available at:

ohdsi.org/community-calls-2026

Find your workgroup.

Fuel our mission.

ohdsi.org/workgroups