APAC Community Call
Chapter Mid-year Updates & EU Symposium Recap

June 30, 2022
Agenda

• OHDSI News
  – Early-Stage Researcher Workgroup Promotion by Faaizah Arshad
  – AI and Big Data Research for Health Improvement Symposium Promotion by Celine Chui

• Chapter Mid-year Updates
  – Japan by Tatsuo Hiramatsu
  – Korea by Seng Chan You
  – China by Liu Lei

• EU Symposium Recap by Seng Chan You and Chungsoo Kim
EARLY STAGE RESEARCHERS WORKING GROUP

Co-Leads: Faaizah Arshad, Ross Williams
KEY OBJECTIVES

- Provide career development opportunities
- "Speaker Series" - Invite OHDSI speakers to give insight into their professional growth and advice on navigating different careers
- "Networking Engine" - Help you expand your network of professional connections to support you in your current and future roles.
JOIN US

When
TBD (currently: second Monday (8am EST)) each month

Where
Microsoft Teams

faaizaha23@g.ucla.edu
r.williams@erasmusmc.nl
AI and Big Data Research for Health Improvement Symposium

Date: 30th Aug (Tue) - 31st Aug (Wed), 2022
Speakers List

Prominent speakers, both local and overseas including:

- Prof Curtis Langlotz (Stanford University): Radiology, Medical imaging and biomedical informatics research
- Prof Andrew Morris (Health Data Research UK) UK’s perspective in big data research and the development of Health Data Research UK
- Dr Patrick Ryan (The Observational Health Data Sciences and Informatics): Latest development of International big data collaboration
- Prof Pak Sham (The University of Hong Kong): Latest development of genetic bioinformatics in Hong Kong
- Prof Ian Wong (The University of Hong Kong): Application of big data in COVID-19 vaccines safety monitoring

The speakers will share their expertise in state-of-art AI technology and interdisciplinary collaborative projects in using big data to improve public health.
**Schedule**

**Session 1 - 30 Aug (Tue)**

*Time: 10:00 AM - 10:45 AM*

*Topic: Keynote on Radiology, Medical imaging, and biomedical Informatics research*

*Speaker: Prof Curtis Langlotz*

**Session 2 - 30 Aug (Tue)**

*Time: 1:30 PM - 2:15 PM*

*Topic: Keynote on Latest development of genetic bioinformatics in Hong Kong*

*Speaker: Prof Pak Sham*

**Session 3 - 30 Aug (Tue)**

*Time: 3:30 PM - 4:15 PM*

*Topic: Keynote on UK’s perspective in big data research and the development of Health Data Research UK*

*Speaker: Prof Andrew Morris*

**Session 4 - 31 Aug (Wed)**

*Time: 9:30 AM - 10:15 AM*

*Topic: Keynote on Latest development of International big data collaboration*

*Speaker: Dr Patrick Ryan*
The HKU Musketeers Foundation Institute of Data Science (IDS) and the Department of Pharmacology and Pharmacy will hold its first symposium jointly with the Hong Kong Association of the Pharmaceutical Industry (HKAPI).

This symposium, aims to demonstrate the capacity of the HKU-IDS and its potential in using AI and healthcare big data to promote public health, informed policy and strategic planning; and to advance research of new therapies and clinical utilities.

Registration Detail

If you are interested, please feel free to register via the link below:

https://prppl.zoom.us/webinar/register/WN_2v-hresiS-6vOaePVzICRg

Please contact Ms Nicole Fung (nicfung@hku.hk) for further inquiry.

- Mark your calendar! We look forward to seeing you virtually! -
#1 Participation in the APAC Study
   CHAPTER, Multiple Sclerosis, APAC DQ
#2 Tentative 2B Concept ID Expression Scheme for Japan's Claims Code.
   For mapping development.
#3 Monthly meetings
   Introduction of OHDSI papers
   Introduction of Global OHDSI topics
   Explanation of OHDSI environment (DB, WebAPI, ATLAS...)
   etc..

Other activities
   Articles for OHDSI/OMOP (in print)
   - An introductory article for pharmacoepidemiology journal.
   - Textbook "Introduction to Health Data Science"
     The data standards chapter (FHIR/OMOP/CDISC)
   OHDSI lectures at educational institutions
   - Chiba University 6/25
   Organization building activities to enlarge OMOP utilization (on going)
   - Not only OHDSI. Needed as base resource for OHDSI activities.
OHDSI Korea Chapter
Mid-year Update 2022

www.ohdsi-korea.org
Available CDM sources from hospitals across Korea

- As of March 2022, 53 hospitals (34 tertiary, 18 secondary) have CDM data sources
- 72M patients with duplication (Korea population: 51M)
Research Border Free Zone (RFZ)

- As of March 2022, 18 Korean hospitals have joined RFZ

Impact of pitavastatin on new-onset diabetes mellitus compared to atorvastatin and rosvastatin: a distributed network analysis of 10 real-world databases

From the recent publication of OHDSI Korea using 10 hospitals data, RFZ was noted, which eliminates overlapping effort for IRB approval.
Analyses using FEEDER-NET

• FEEDER-NET is data platform for OMOP-CDM in Korea
• Until now, more than 10,000 analyses were conducted in the FEEDER-NET. From June 2020, 500 analyses have been conducted daily

Figure 2. Cumulative number of analyses using FeederNet
The HIRA announced that nationwide claim data (from 2018 to April 2022) for randomly sampled 20% Korean population will be available for COVID-19 research from July 2022.
Mid-year Updates: OHDSI China Chapter
WG Lead: Lei Liu, Hui Lv, Yi Zhou, Hua Xu

• Objective 1 - China specific resource development (Dr. Liu)
  – ICD-10 CN to SNOMED mapping (6 digits)

• Objective 2 - Clinical studies (Dr. Lv)
  – APAC hypertension study
  – HKU COVID 2022 study
  – Another study in China

• Objective 3 - Training (Dr. Zhou)
  – Regular training meetings
  – OHDSI Book and QA collection
Vocabularies Mapping Tool Development

- From: **ICD-10-CN** 34491
  Chinese terms

- To: **SNOMED CT** 1035027
  English terms

<table>
<thead>
<tr>
<th>ICD-10-CN</th>
<th>Number of terms</th>
<th>Examples</th>
</tr>
</thead>
</table>
| 4-digit code       | 22928           | D73.2 慢性充血性脾大
                    | (OHDSI mapped)                 | Chronic congestive splenomegaly      |
| Grouping code      | 1615            | J60-J70 外部物质引起的肺部疾病
                    | (No equivalent maps)           | Lung disease caused by external
                    |                                | substances                           |
| 6-digit code       | 12511           | G00.903 耳源性脑膜炎
                    | (On going)                     | Otogenic meningitis                  |

6-digit ICD10CN code (12511 Chinese local extension code) are currently do not have mapping relations with the concepts in SNOMED CT. To find semantically equivalent concepts, SNOMED CT post-coordination is used. Annotation is ongoing and machine learning based algorithm is under development.
Analysis of Dual Combination Therapies Used in Treatment of Hypertension in a Multinational Cohort

Yuan Lu, ScD; Mui Van Zandt, BS; Yun Liu, PhD; Jing Li, MS; Xiaolin Wang, MS; Yong Chen, PhD; Zhengfeng Chen, MBBS, MMed; Jaehyeong Cho, PhD; Sreemanee Raj Dorajoo, PhD; Mengling Feng, PhD; Min-Huei Hsu, MD, PhD; Jason C. Hsu, PhD; Usman Iqbal, PharmD, MBA, PhD; Jitendra Jonnagaddala, PhD; Yu-Chuan Li, MD, PhD; Saw-fung Law, MBBS, PhD; Hong-Seok Lim, MD, PhD; Kee Yuan Ngiam, MBBS, MMed; Phung-Anh Nguyen, PhD; Rae Woong Park, MD, PhD; Nicole Pratt, PhD; Christian Reich, MD, PhD; Sang Youl Rhee, MD; Selva Muthu Kumaran Sathappan, MSc; Seo Jeong Shin, PhD; Hui Xing Tan, M Tech; Seng Chan You, MD, PhD; Xin Zhang, MS; Harlan M. Krumholz, MD, SM; Marc A. Suchard, MD, PhD; Hua Xu, PhD

Abstract

IMPORTANCE More than 1 billion adults have hypertension globally, of whom 70% cannot achieve their hypertension control goal with monotherapy alone. Data are lacking on clinical use patterns of dual combination therapies prescribed to patients who escalate from monotherapy.

OBJECTIVE To investigate the most common dual combinations prescribed for treatment escalation in different countries and how treatment use varies by age, sex, and history of cardiovascular disease.

Key Points

Question What are the most common antihypertensive dual combinations prescribed to patients who escalate from monotherapy in clinical practice, and how do the combinations differ by country and patient demographic subgroup?
Regular Training Meetings

February 12, 2022
Host: Hui Lv  
Theme: Content from OHDSI Book

March 12, 2022
Host: Lei Liu  
Guest: Lin Zhang  
Theme: Introduction to Wanda Data

April 9, 2022
Host: Zhou Yi  
Guest: Huiying Liang  
Theme: Clinical Research Mode Exploration Based on Real-world Data

May 14, 2022
Host: Hua Xu  
Guest: Yuan Lu  
Theme: Experience in APAC Hypertension Study

June 11, 2022
Host: Hui Lv  
Guest: Degui Zhi  
Theme: Med-BERT and CovRNN: A Large Model of Real-world Medical Data
European OHDSI Symposium 2022
Recap

Seng Chan You
European OHDSI Symposium 2022

EUROPEAN OHDSI SYMPOSIUM
Symposium: June 24th
Workshops: 25-26th

“All aboard!”
New Date!!

We’ll meet again for one journey ahead

Organised by:
Erasmus MC
Health Data Science
Symposium at the Steam Ship (SS) Rotterdam
Morning Session

A Cruise around the OHDSI Europe Community
Moderator: Nigel Hughes, Janssen Research and Development

1. Estonia. Conversion of Estonian health data into the OMOP CDM
   Speaker: Marek Oja, Institute of Computer Science, University of Tartu

2. Finland. The Finnish OMOP data network (FinOMOP)
   Speaker: Javier Gracia-Tabuenca, FinnGen

3. Denmark. Transforming Danish Registries to the OMOP Common Data Model: use case on the Danish Colorectal Cancer Group (DCCG) Database
   Speaker: Andi Tsouchni, Center for Surgical Science, Zealand University Hospital

   Speaker: Emir Hurley, University of Oslo

5. Germany. OHDSI Germany: A recap after one year
   Speaker: Michele Zoch, Technische Universität Dresden

6. Italy. The Italian national node of OHDSI Europe
   Speaker: Lucio Sacchi, University of Pavia

7. Greece. An update from the Greek National Node
   Speaker: Pantelis Natsiavas, Centre for Research & Technology Hellas

8. Ukraine. Integration prospects of the Ukrainian healthcare system with OMOP CDM
   Speaker: Mariia Kolesnyk, SciForce

9. Israel. The journey from isolated EHR’s to unified CDM network
   Speaker: Guy Livne, Israel Ministry of Health

10. France. The Health Data Hub, the French national gateway for an easy, unified, transparent and secure access to health data
    Speaker: Lorien Benda, Health Data Hub

# Morning Session

## A Cruise around the OHDSI Europe Community

Moderator: Nigel Hughes, Janssen Research and Development

<table>
<thead>
<tr>
<th>Time</th>
<th>Description</th>
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<tr>
<td>8:00 – 9:00</td>
<td>Registration and Coffee</td>
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### 9:00 – 9:10

**Welcome to the European OHDSI Journey**

**Speaker:** Peter Rijnbeek, PhD, Chair, Department of Medical Informatics, Erasmus MC

### 9:10 – 9:40

**Journey of OHDSI: Where have we been?**

**Speaker:** George Hippsal MD, MS, ViviAnn Beaumont Allen Professor and Chair, Biomedical Informatics, Columbia University Medical Center

### 9:40 – 11:00

**A Cruise around the OHDSI Europe Community**

Moderator: Nigel Hughes, Janssen Research and Development

1. **Estonia.** Conversion of Estonian health data into the OMOP CDM  
   **Speaker:** Marek Oja, Institute of Computer Science, University of Tartu

2. **Finland.** The Finnish OMOP data network (FinOMOP)  
   **Speaker:** Javier Gracia-Tabuenca, FinnGen

3. **Denmark.** Transforming Danish Registries to the OMOP Common Data Model: use case on the Danish Colorectal Cancer Group (DCCG) Database  
   **Speaker:** Andi Tsouchnika, Center for Surgical Science, Zealand University Hospital

4. **Norway.** Norwegian registries onto OMOP Common Data Model: mapping challenges and opportunities for pregnancy studies  
   **Speaker:** Emir Hurley, University of Oslo

5. **Germany.** OHDSI Germany: A recap after one year  
   **Speaker:** Michele Zoch, Technische Universität Dresden

6. **Italy.** The Italian national node of OHDSI Europe  
   **Speaker:** Lucia Sacchi, University of Pavia

7. **Greece.** An update from the Greek National Node  
   **Speaker:** Pantelis Natsiavas, Centre for Research & Technology Hellas

8. **Ukraine.** Integration prospects of the Ukrainian healthcare system with OMOP CDM  
   **Speaker:** Maria Kolesnyk, SciForce

9. **Israel.** The journey from isolated EHR’s to unified CDM network  
   **Speaker:** Guy Livne, Israel Ministry of Health

10. **France.** The Health Data Hub, the French national gateway for an easy, unified, transparent and secure access to health data  
    **Speaker:** Lorien Benda, Health Data Hub

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Integration prospects of the Ukrainian healthcare system with OMOP CDM

Mariia Kolesnyk
SciForce
**UKRAINE IN 2022 REALITY**

**OMOP CDM**

Data standardization in context of Russia’s armed aggression:

- optimisation of medical care to military personnel and civilians;
- collecting, processing, and summarizing data on the nature of injuries, provided medical help, number of victims.

The Observational Medical Outcomes Partnership (OMOP) Common Data Model (CDM) covers 330 databases, including more than 800 million unique patient records from 34 countries.

This model also is widely used by the European Health Data Evidence Network (EHDEN).
Closing of the symposium
# 2nd day

## Workshop Agenda June 25th, 2022

**Collegezaal 1, Educational Center, Erasmus MC**

<table>
<thead>
<tr>
<th>Time</th>
<th>Workshop</th>
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<tr>
<td>8.30 – 9.00</td>
<td>Coffee</td>
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<tr>
<td>9:00 – 10.45</td>
<td>Workshop &quot;Designing and implementing a network characterization study&quot;</td>
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<td>Lead</td>
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<td>Patrick Ryan, Janssen Research and Development.</td>
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<td><strong>Description</strong></td>
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<td>In this full day workshop we will go through the full journey to design and implement a network characterization study. This will require active participation in breakout sessions.</td>
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<td><strong>Audience</strong></td>
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<td>All stakeholders are invited, including programmers, regulators, study leads, data partners, etc.</td>
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<tr>
<td>10.45 – 11.15</td>
<td>Coffee</td>
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<tr>
<td>11.15 – 13.00</td>
<td>Continuation of the workshop</td>
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<tr>
<td>13.00 – 14.00</td>
<td>Lunch</td>
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<tr>
<td>14.00 – 16.00</td>
<td>Final part of the workshop</td>
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# The third day: Workgroup meetings

## Workgroup Meetings Agenda June 26\textsuperscript{th}, 2022

Educational Center, Erasmus MC

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<tr>
<th>Time</th>
<th>Description</th>
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<tr>
<td>09:30 – 10:00</td>
<td>Coffee</td>
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| 10:00 – 12:30  | During this day several meetings will be organized by OHDSI Working Groups and opportunities to meet experts.  
Morning sessions:  
- Educational WG (Nigel Hughes) - Location: OWR 23  
- HADES WG (Martijn Schuemie) - Location: OWR 35  
- Oncology WG (Asieh Golozar) - Location: OWR 36  
- Vocabulary WG (Michael Kallfelz) - Location: OWR 31 |
| 12:30 – 13:30  | Lunch                                                                      |
| 13:30 – 16:00  | Afternoon sessions:  
- Patient Level Prediction WG (Ross Williams, Jenna Raps) - Location: OWR 35  
- OMOP-FHIR WG (Christian Reich) - Location: OWR 31  
- ETL/CDM WG (Erica Voss, Maxim Meinat) - Location: OWR 23 |
| 16:00 – 17:30  | Closure Drink                                                              |
Summary

• OHDSI in Europe
  – Rapid Expansion
  – Union
  – Discussion with Stakeholders
  – Spectacular closing

• WG meetings
  – Need specified agenda
  – Need to consider broad range of participants
22’ European OHDSI sympo recap

**Chungsoo Kim**, Pharm D, PhD Candidate, Dept of Biomedical Informatics, Ajou University
European OHDSI symposium
Journey of OHDSI: Where have we been?
George Hripcsak, MD, MS, Columbia University Medical Center

Reactional panel with key stakeholders
(Regulatory agency, Pharma, Academia)
**Rapid fire presentations of collaborators**

**Moderator:** Katri Verhamme, MD, Associate Professor of Use and Analysis of Observational Data, Department of Medical Informatics, Erasmus MC, Rotterdam.

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<tr>
<th>Time</th>
<th>Presentation</th>
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<tr>
<td>11:30 – 12:45</td>
<td><strong>1. FeederNet (Federated E-Health Big Data for Evidence Renewal Network)</strong> platform in Korea</td>
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<td>Speaker: Chungoo Kim, Ajou University</td>
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<td><strong>2. OMOP Genomic mapping capacities in conversion of comprehensive genomic profiling results</strong></td>
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<td>Speaker: Mari Koppulaha, Odysseus</td>
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<td><strong>3. OMOP Mapping of Real-World Data from Brazil &amp; Pakistan Towards Management of COVID-19 in the Global South</strong></td>
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<td>Speaker: Sara Khalid, University of Oxford</td>
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<td><strong>4. Impact of random oversampling and random undersampling on the development and validation of prediction models using observational health data</strong></td>
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<td>Speaker: Cynthia Yang, Erasmus MC</td>
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<td><strong>5. Real-world evidence is in demand: a summary of ‘live’ requests for RWE studies published by a European health technology assessment (HTA) agency</strong></td>
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<td>Speaker: Jamie Elridge, National Institute for Health and Care Excellence (NICE)</td>
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<td><strong>6. Why predicting risk can’t identify ‘risk factors’: empirical assessment of model stability in machine learning across observational health databases</strong></td>
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<td>Speaker: Aniek Markus, Erasmus MC</td>
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<td><strong>7. TrajectoryViz: Interactive visualization of treatment trajectories</strong></td>
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<td>Speaker: Miurja Pajusalu, Institute of Computer Science, University of Tuttu</td>
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<td><strong>8. Assessing treatment effect heterogeneity using the RiskStratifiedEstimation R-package</strong></td>
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<td>Speaker: Alexandros Rekkes, Erasmus MC</td>
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<td><strong>9. Defining the valid analytic space for quantitative bias analysis in pharmacoepidemiology</strong></td>
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<td>Speaker: James Weaver, Janssen R&amp;D</td>
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<td><strong>10. A pilot study to evaluate the feasibility of using Observational Health Data Sciences and Informatics analytics tools for supporting the validation of safety signals</strong></td>
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<td>Speaker: Ceyda Pekmez Kristiansen, Novo Nordisk</td>
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**Theatre**

**Rapid fire presentation of collaborators**
Infectious disease can be screened and detected through natural language processing after de-identifying patient health information.

The growing adoption of OMOP-CDM in Asia-Pacific requires continuous data quality management.

CDM data-network of 53 hospitals and 72M patients' medical data was established in South Korea. Currently, joint research using it has been actively conducted. 97 papers since 2017 and 55 papers in only 2021 were published by Korean first authors.

PHAROS platform will support a prompt response during pandemics and peacetime by integrating clinical information to OMOP-CDM.

The European OHDSI 2022, SS Rotterdam, June 24th
European OHDSI 2022, SS Rotterdam, June 24th

Networking session
OHDSI APAC and Hong Kong team
Designing and implementing a network characterization study
Patrick Ryan, Janssen Research and Development

Meeting on special interests
DeepPatientLevelPrediction team

Working Group meeting – Patient Level Prediction WG
Jenna Reps & Ross Williams

26th floor
Peter’s lab
Take Home Messages

• European community is growing and diversifying
• Similar challenges between APAC and Europe like vocab mapping or validity for future research (a small number of patients)
• Many potentials of collaboration between Europe
• Friendship with junior researchers (PhD students)

Wonderful OHDSI
Cheese Knives!