APAC Community Call
Regional Chapter Mid-Year Updates

June 15, 2023
Agenda

• OHDSI News
  – Collaborator Spotlight: Mengling 'Mornin' Feng
  – OHDSI India Webinar
  – Global Symposium Collaborator Showcase

• Regional Chapter Mid-Year Updates
  – Taiwan by Jason Hsu
  – China by Lei Liu
  – Australia by Nicole Pratt
  – Japan by Tatsuo Hiramatsu
  – Singapore by Mengling Feng
  – Korea by Rae Woong Park
Mengling ‘Mornin’ Feng is an Assistant Professor at the National University of Singapore and the Assistant Director of Research (Healthcare) at the Institute of Data Science. He has several research interests, including artificial intelligence solutions for healthcare challenges, causal inference for evidence-based medicine, and deep learning models for medical image analysis.

Mornin has been an OHDSI leader in helping to spread the community to the Asia-Pacific region. He is a co-chair of the Singapore Chapter, and recently helped develop a collaboration with the Singapore Ministry of Health that has led the Ministry to use the OMOP CDM as the main platform for research.
OHDSI India Webinar

• OHDSI India hosted its first webinar – “Redefine Indian healthcare with real-world data and rea-world evidence”

• Recordings will be made available soon so if you missed the live event, keep an eye out on https://www.ohdsi-india.org/home!
Global Symposium Collaborator Showcase

- Submissions are due Saturday, June 17, 9 a.m. Korea time
- Instructions available at [https://www.ohdsi.org/2023-collaborator-showcase/](https://www.ohdsi.org/2023-collaborator-showcase/)

**Collaborator Showcase Information**

OHDSI’s achievements over the last decade would not be possible if not for the hard work of our community members around the world. Our annual Collaborator Showcase provides our collaborators the opportunity to share their tremendous work. Last year, we had a record number of both submissions and presentations for the Collaborator Showcase, and we are hoping to exceed those totals in 2023.

If you are interested in participating in the 2023 Collaborator Showcase, please click here to learn more about the event. To look at the research shared in the past, check out our recent showcases: 2022 | 2021 | 2020 | 2019

The 2023 brief report submission form is below. In order to access the form, you must have a Google account. Please see this link to create your Google account and then return to the form [Create a Google Account – Google Account Help](https://accounts.google.com/).

**IMPORTANT DATES:**

- All submissions are due no later than 8pm (EST) on Friday, June 16
- All submissions will be peer-reviewed by the OHDSI Scientific Review Committee between June 23-August 3
- If you have been selected to present your work for the 2023 Symposium Collaborators Showcase, you will be notified via email by Tuesday, August 15

[2023 Brief Report Submission Form](#)  [2023 Collaborator Showcase Details](#)
Members in OHDSI Taiwan Society Office
### OHDSI Taiwan Society

<table>
<thead>
<tr>
<th>What we have done?</th>
<th>What we will do?</th>
</tr>
</thead>
<tbody>
<tr>
<td>◼ The 3rd board meeting will be held at Chiayi Christian Hospital on June 18th, in conjunction with the health big data seminar held there, to promote OHDSI.</td>
<td>◼ The 4th board meeting will be held in conjunction with other large-scale seminars at Tung's Metroharbor Hospital in Taichung City in November this year to promote OHDSI.</td>
</tr>
<tr>
<td>◼ We have promoted the OHDSI network in the industry (Taiwan AZ, Oracle), hospitals (Wanfang Hospital, Taiwan Adventist Hospital, Chang Gung Hospital), and other institutions (Taiwan National Institute of Health).</td>
<td>◼ In the future, we will continue to promote the OHDSI network to other pharmaceutical companies, CRO companies, government agencies, local medical centers, financial and insurance institutions, etc.</td>
</tr>
<tr>
<td>◼ Jason Hsu invited Nicole Pratt and Mengling Feng to give a lecture on the experience of OHDSI international collaborative research virtually.</td>
<td>◼ We have planned to support the development of OHDSI in Vietnam and Indonesia through the relationship in Vietnam and Indonesia.</td>
</tr>
</tbody>
</table>
## OHDSI Studies

<table>
<thead>
<tr>
<th>What we have done?</th>
<th>What we will do?</th>
</tr>
</thead>
</table>
| **Joined SOS Challenge:**  
“Fluoroquinolone and Aortic aneurysm” lead by Nicole Pratt | **Present 4 abstracts for 2023 OHDSI APAC Symposium:** |
| **Joined 2022 OHDSI APAC Studies:**  
- “Characterization of non-communicable disease across the pre- and post- COVID-19 era” lead by Chan  
- “Real world safety of treatments for multiple sclerosis” lead by Nicole Pratt  
- “Quality assessment of CDM databases across the OHDSI-AP network” lead by Chungsoo Kim | - T2DM_pathway  
- Dementia prediction  
- Female cancer onco-cardiology  
- Predicting Hepatic Malignancy from Colorectal Cancer Patient |
| **Based on the abstracts for 2023 OHDSI APAC Symposium, we will call for international collaborators to work together and complete the international joint study** | **Developed 2 abstracts for 2023 OHDSI Global Symposium** |
Thanks for your listening!
OHDSI China Chapter
WG Leader: Lei Liu, Hui Lv, Yi Zhou, Hua Xu

• Objective 1: Promote OHDSI strategy and methodology in China

• Objective 2: Create collaboration activities that encourage collaborative research among healthcare institutions in China
Monthly Lectures

• 2/18  Mengling Feng, NUS, When Healthcare Meets AI and Data Standardization

• 3/11  Hua Xu, Yale, Representing and Utilizing Clinical Textual Data for RWS: An OHDSI Approach

• 4/15  Biyun Qian, Shanghai Hospital Development Center, Construction and Practice of Shanghai Digitalized Platform for Clinical Research

• 5/20  Shan Nan, University of Hunan, Rapid Construction of a Clinical Decision Support System based on OpenEHR

• 6/24  Yonghui Wu, University of Florida, Large GPT Models in Medicine
1. Construct Private Computing Platform in Each Hospital
   • Data collection and cleaning of specific diseases

2. Form Data Network and Data Sharing
   • Policy for authorized data sharing

3. Form Clinical Research Network for Specific Diseases
   • Liver cancer clinical research network
   • Cardiovascular clinical research network
   • …
OHDSI Australia Chapter
2023 Q2 Report

www.ohdsi-australia.org
Host Country - 2023 OHDSI APAC Symposium

• Two-day in-person event
  ➢ 13th-14th July 2023
  ➢ University of New South Wales, Kensington Campus, Sydney, AUSTRALIA

• Symposium Day 1: Main Conference
  ➢ 12 presentations including 7 lightning talks
  ➢ 2 panel discussions
  ➢ 35 poster presentations

• Symposium Day 2: Tutorials + Oncology Workgroup discussions
2023 OHDSI APAC Symposium – Day 1

• Session 1: OHDSI, an artisanal approach to crafting real-world evidence
  – Key note: Engineering an open science system that builds trust, confidence and addresses the needs of decision makers, clinicians and consumers (Patrick Ryan)
  – Transforming health: what do regulators, clinicians and consumers really want to know about healthcare and how can OHDSI help (mission collaborative better health care) (Asieh Golozar)

• Session 2: A step-by-step recipe for RWE - the OHDSI Save-Our-Sisyphus Challenge
  – Research Study presentation - Fluroquinolones antibiotics and the risk of aortic aneurysm and dissection - A study of 12 million patients (Jack Janetzki, Uni SA)
  – Panel discussion regulators, clinicians, consumers (response from stakeholders)
2023 OHDSI APAC Symposium – Day 1

• Session 3: Too many cooks is never enough: collaborative data harmonisation to improve patient care
  – OMOP/FHIR - challenges of each model and how the collaboration can resolve those challenges (Grahame Grieve)
  – OMOP Oncology: Paving the Way for Patient-Centric Cancer Care (Kim Carter, Georgina Kennedy)

• Session 4
  – Lightning talks: 7 presentations from across the Asia-Pacific region
  – Panel discussion: APAC Regional Chapter Leaders
2023 OHDSI APAC Symposium – Day 2 Tutorials

• Session 1
  – ETL & mapping session using PBS data from scratch (Mui & others)

• Session 2
  – Using OHDSI Tools to generate evidence (the Fluroquinolone SOS Challenge study) (Patrick Ryan & Seng Chan You)

• Session 3
  – Research study in depth (design and execution) (Martijn Schuemie & Jing Li)

• Session 4
  – Research study in depth (interpretation) (Nicole Pratt, Marc Suchard & Jack Janetzki)
Oncology Workgroup Breakout Discussion

- Current state & progress in OMOP Oncology for cancer research
- Challenges & initiatives in undertaking oncology research
- Developing a roadmap to shape the future of OMOP Oncology
2023 OHDSI APAC Symposium

• Register at:
  – https://www.ohdsi.org/2023apacsymposium/

• Registrations close:
  – Thursday 6th July 2023
Korean-Australian Collaboration in OHDSI SOS Network Study Challenge

OHDSI SOS Challenge 2023

Is fluoroquinolone use associated with the development of aortic aneurysms and aortic dissections? An international network study

Chief investigators:

Seng Chan You, Seonji Kim, Jung Ho Kim, Jung Ah Lee - Yonsei University

Jack Janetzki, Nicole Pratt - University of South Australia

More information: https://www.ohdsi.org/sos-challenge/
Korean-Australian Collaboration in OHDSI SOS Network Study Challenge

Primary research questions

- What is the rate of aortic aneurysm or dissection after initiation of FQ for UTI?
- Does exposure to FQ increase the risk of experiencing aortic aneurysm or dissection within 1 year after exposure start?
- For a patient with UTI, what is the probability that they will go on to have an aortic aneurysm or dissection following initiation of a fluoroquinolone?

Characterizing, estimating and predicting risk of aortic aneurysm or dissection following use of fluoroquinolones

• Data contributors to date:
  • 9 data partners
    • 12 million patients so far with UTI
    • 4.3 million with FQ and UTI
    • 858,000 “AA or AD” outcomes
  • Another ~ 11 data partners to contribute
Presentation to OHDSI APAC India Chapter

Invitation to Webinar on
Redefine Indian Healthcare with
Real World Data and Real World Evidence

14th June, 2023, 3 pm – 4 pm, IST

Organized by

About OHDSI India chapter:
The Observational Health Data Sciences and Informatics (OHDSI) is an open source, open science, multi-stakeholder and interdisciplinary collaboration to bring out the value of health data through large-scale analytics. OHDSI India Chapter aims to work collaboratively with hospitals, medical universities, researchers and healthcare professionals to promote the value of structured real-world data and evidence-based treatment regime by conducting observational studies.

Key Takeaways
- Become a part of the Global Research Community
- Benefits of Structured Healthcare data
- Data Standardization and Anonymization as per International Standards
- Access to GB Patient Data to Perform Network Studies
- Improving public health using health data analytics

Agenda and Topic
- Introduction by Lakshmi K
- Potential of Health Data in Research and Treatment by Dr. Utkarsh Patil
- The OHDSI Journey from Data to reliable Evidence by Professor Nicole Pratt
- OHDSI India Chapter in RWD/RWE Journey by Mr. Parthiban Sulur
- Q&A
2023
The 4th Conference on
Big Data Research in Healthcare

6/18 08:30 - 17:00
Ditmanson Medical Foundation Chia-Yi Christian Hospital,
Ditmanson International Convention Center

Registration

08:50 - 09:00  Welcome and Opening Remarks

The New Vision of Healthcare by Connecting Big Data

09:00 - 09:40  Special Lecture:
The New Era of Big Data Development with
Transnational Data and Cross-Disciplinary Collaboration
  Darren Toh

Session 1. Connecting Big Data for Healthcare Monitoring

09:50 - 10:30  A Common Data Model Across Multiple Institutions:
  Introduction to OHDSI

10:30 - 11:10  How to Build a Top-Performing Big Data Research Team
  Nicole Pratt
  Yao-Hsu Yang
www.ohdsi-australia.org
APAC community call

Mid-year Update
Japan Region

The new association
as a practical body
that expands OMOP network
in Japan
Background: OMOP/OHDSI in Japan also needs a practical body
Objective of the Association

To promote the use of medical data more widely and contribute to a society that aims to improve health by examining the use of medical data, especially the mechanisms that contribute to various studies and practices conducted by federated data from multiple sites, and by standardizing the mechanisms through international common standards for medical data.
Members of the association
- Companies: sponsoring the association and carrying out their business using our OMOP-based common infrastructure.
- Academic directors.

Activities of the association
(1) Investigation of federated analysis methods and structures based on OMOP CDM.

(2) Designing our OMOP-based common infrastructure to deploy in hospitals.
   - Establishment of the specification.
   - Deployment of infrastructure with association member companies.
   - Supporting OMOP implementation conducted by the association member companies.
   - Maintain vocabulary mapping.

(3) Promote activities for academic purposes using OMOP CDM
   - Support for OHDSI Japan.
   - Collaboration with research organizations.
   - Small research grant programs for researchers in Japan.

(4) Information exchange among members.
   - E.g. holding symposiums, etc.

(5) Human resource development related to federated analysis.
   - E.g. holding seminars.

(6) Consideration of ecological systems associated with federated analysis.
   - E.g. joint venture.
Image of federation by the association

Federation Network

Grp1 network (Company A)

Grp2 network (Company B)

Grp3 network (Research Group)

External Research Group
Detailed in a Hospital

Scope of the common specification platform (Installation will be done by each participating company individually or jointly)

Standardization by OMOP

EMR

Data Storage Systems (e.g. DWH)

Data Storage Systems (e.g. DWH)

Data Storage Systems (e.g. DWH)

other

misc.

ETL

ETL

ETL

Mid Form

comm

ETL

ETL

pseudonymized

anonymized

named

Federated Analysis System Type-A

OHDSI: Academia

Commercial use

Federated Analysis System Type-B

JV

Federated Analysis System Type-C

Gather

e.g. Next Generation Entities

Individual Consent

Federated Analysis System Type-D

PHR

multiple-choice

outside of a hospital

Aggregated

Aggregated

outside of a hospital
OHDSI Singapore

Co-Chairs:

Dr. Mengling ‘Mornin’ Feng
Senior Assistant Director, National University Health System
Assistant Professor, National University of Singapore
ephfm@nus.edu.sg

Dr. Kee Yuan Ngiam
Group Chief Technology Officer
National University Health System
Growing of Younger Talents

Potential temporal change in the diagnosis of Type 2 Diabetes Mellitus after COVID-19 pandemic occurrence in the Asia Pacific.

The temporal effect of the pandemic may reveal the pattern of identification and treatment given to patients with diabetes during the pandemic.

Dong Yizhi
National University of Singapore

Ruan Yucheng
National University of Singapore
OMOP-CDM in Asia-Pacific regions and Lessons for Data Quality Assessment

Sujin Gan, RN1, Chungsoo Kim, PharmD1, Seongwon Lee, PhD2, Jing Li3, Jiawei Qian3, Gyeol Song3, Clair Blacketer4, Anthony Molinaro4, Dinuja Willigoda Liyanage5, Zhang jingyi6, Li Chao6, Roger Ward7, Mengling Feng8, PhD, Mui Van Zandt3, Rae Woong Park, MD, PhD1,2

1Department of Biomedical Sciences, Ajou University Graduate School of Medicine, Suwon, Korea; 2Department of Biomedical Informatics, Ajou University School of Medicine, Suwon, Korea; 3IQVIA, NC, United States; 4Janssen Research and Development, NJ, United States; 5University of South Australia, Australia; 6Wonders Information Co.Ltd, Shanghai, China; 7The University of Melbourne, Australia; 8Saw Swee Hock School of Public Health, National University of Singapore, Singapore

Introduction

The Observational Medical Outcome Partnership-Common Data Model (OMOP-CDM), an open community data standard, is being implemented globally, but data quality control for CDM adoption is challenging. The data quality assessment tools including the Achilles Heel1 and Data Quality Dashboard2 have been performed only individually at each institution. Therefore, European Health Data and Evidence Network (EHDEN) has developed the CDM Inspection report, which writes a report on data statistics, mapping, and quality checks, to provide insight into the completeness, transparency, and quality of the data.
Dr Mukkesh Kumar is the Head of Data Management Platform at A*STAR, leading the Clinical Data Management, Clinical Data Curation & Data Stewardship, Clinical Data Analytics & Reporting, CDMS/EDC Administration and Healthcare Software Development teams. Dr Mukkesh Kumar is a PhD alumnus of the NUS Saw Swee Hock School of Public Health, he has developed a predictive care framework for diabetes & maternal health, combining coalitional game theory concepts with machine learning. Working in close partnership with Singapore’s Ministry of Health (MOH), Dr Mukkesh Kumar is developing the core OMOP data curation team at A*STAR to support MOH-TRUST Strategic Research Data Contributors.

Ms Cindy Ho is a Statistician at A*STAR, leading the data curation and data stewardship of population health studies. Ms Cindy Ho’s abstract on ‘GUSTO Data Vault: Working Towards OMOP Data Standardization’ was showcased at OHDSI APAC Symposium 2022 in Taiwan. She has pioneered the OMOP data curation efforts for Growing Up in Singapore Towards healthy Outcomes (GUSTO) cohort study and is developing the OMOP Data Catalogue module to be integrated within GUSTO Data Vault platform for OMOP-based research. Ms Cindy Ho graduated with a major in Statistics from the NUS Department of Statistics, with domain expertise in cardiometabolic diseases.
A*STAR DATA VAULT: A RESEARCH PLATFORM FOR THE SINGAPORE ECOSYSTEM AND BEYOND

Mukkesh Kumar, Cindy Ho
Singapore
18th May 2023
GUSTO Data Vault: Laying the foundations for an open science system with OMOP Data Catalogue

Cindy Ho$^{1,2}$, Li Ting Ang$^{1,2}$, Maisie Ng$^{1,2}$, Hang Png$^{1,2}$, Shuen Lin Tan$^{1,2}$, Estella Ye$^{1,2}$, Sunil Kumar Raja$^1$, Mengling Feng$^{3,4}$, Johan G Eriksson$^{1,5,6,7}$, Mukkesh Kumar$^{1,2,3}$

Institution(s) of origin:

1. Singapore Institute for Clinical Sciences, Agency for Science Technology and Research, Singapore
2. Bioinformatics Institute, Agency for Science Technology and Research, Singapore
3. Saw Swee Hock School of Public Health, National University of Singapore, National University Health System, Singapore
4. Institute of Data Science, National University of Singapore, Singapore
5. Department of Obstetrics and Gynaecology and Human Potential Translational Research Programme, Yong Loo Lin School of Medicine, National University of Singapore, Singapore
6. Department of General Practice and Primary Health Care, University of Helsinki, Helsinki, Finland
7. Folkhälsan Research Center, Helsinki, Finland
Mapping Updates

• All-of-Singapore mapping efforts underway since 2021
• Deep mapping of demographics, diagnosis, medications almost completed
• Simultaneous harmonization within tables underway
• Complete mapping due Q2 2024
• Mapping script to be made available in TRUST platform to enable whole of country data harmonisation
Singapore’s Healthcare System

Primary Care

The foundation of our healthcare system and the first line of care in the community is provided through a network of outpatient polyclinics and clinics run by private general practitioners (GPs) island-wide.

Polyclinics

Provide subsidised primary care which includes medical treatment, preventive healthcare and health education.

GPs

Provide preventive, acute and chronic care.

Family Medicine Clinics

Provide medical care with support services for chronic disease management.

Community Health Centres

Work with GPs to support patients with chronic illnesses within the community.

Hospital Care

Singapore has eleven public hospitals comprising nine general hospitals, a women’s and children’s hospital, and a mental health hospital as well as nine specialty centres.

General Hospitals

Provide multi-disciplinary inpatient and specialist outpatient services, with 24-hour accident and emergency departments.

Specialised Hospitals

Provide specialised care for maternal and child health (KK Women’s and Children’s Hospital) and mental health (Institute of Mental Health).

Specialty Centres

Provide treatment for cancer, cardiac, eye, skin, neuroscience and dental issues.

Community Hospitals

Provide care for patients who require a period of recuperation, usually after discharge from a general hospital.
Mapping Updates

• All-of-Singapore mapping efforts underway since 2021
• Deep mapping of demographics, diagnosis, medications almost completed
• Simultaneous harmonization among tables/institutes underway
• Complete mapping due Q2 2024
• Mapping script to be made available in TRUST platform to enable whole of country data harmonisation
Mapping Updates

• Multiple large research groups undertaking mapping efforts of their research datasets
  – Precise - SG100K
  – ATTracT
  – Singcloud
  – Projects to be on-boarded to TRUST

• OMOP Genomics workgroup
  – Collation of local genomic data definitions and fields
  – Alignment of data definitions to international vocabularies
  – Definitions to be finalized this 2024
OMOP Mapping Curriculum
APAC Symposium 2024
Hopes for Next Year

• Hope to see you all at APAC Symposiums in 2024 in Singapore!
• The major ETL processes will be completed
• Singapore institutes to participate in more and more APAC and global studies.
Contents

• FeederNet in Korea
• Research boarder-Free Zone
• Realtime CDM updates
• PHAROS: Application of CDM on Infectious Disease Surveillance
• Deidentification of Clinical notes
• Federated learning system on FeederNet
병원의료기관외부
기업, 정부기관의
개발자, 연구자, 일반인

OMOP CDM표준

변환완료, 서비스 중

주요 테이블 건수 (2015.4월)

환자 기본정보 테이블 261만 4569건
외래 내역 테이블 2079만 829건
입원 내역 테이블 220만 8852건
환자 진단 내역 테이블 2471만 8757건
검사 결과 내역 테이블 2억 8660만 2345건
약 처방 테이블 1억 3484만 3408건

Only 2 hospitals had CDMs
Korean national projects for CDM network from 2018~2022

CDM Projects in Korea

1st Project (`18~`20)

- **Purpose**
  - Establishment of Nation-wide CDM data network
  - Development of Distributed medical data analysis platform (FeederNet)
- **Budget** : 8.92million
- **Period** : 2018~2020 (3 years)
- **Participating institutions** : 30 institutions (23 hospitals / 7 companies)

2nd Project (`19~`22)

- **Purpose**
  - Expansion of CDM data network
  - Sophistication of CDM analytic process and platform
- **Budget** : 3.12million
- **Period** : 2019~2022 (4 years)
- **Participating institutions** : 15 institutions (13 hospitals / 2 companies)
CDM Data Network in Korea

Data Network of 62 Hospitals (76M patients), 3 National Claims

> 73% of Tertiary Teaching Hospitals
## CDM Data Network in Korea

### Data Network of 62 Hospitals (76M patients), 3 National Claims

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of Data Partner (Eng)</th>
<th>Type of Data</th>
<th># Unique Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gachon University Gil Medical Center</td>
<td>EHR</td>
<td>1,709,983</td>
</tr>
<tr>
<td>2</td>
<td>The Catholic University of Korea, Seoul ST. Mary’s Hospital</td>
<td>EHR</td>
<td>3,212,915</td>
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<td>3</td>
<td>The Catholic University of Korea, Yeouido ST. Mary’s Hospital</td>
<td>EHR</td>
<td>2,279,292</td>
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<tr>
<td>4</td>
<td>The Catholic University of Korea, Uijeongbu ST. Mary’s Hospital</td>
<td>EHR</td>
<td>961,049</td>
</tr>
<tr>
<td>5</td>
<td>The Catholic University of Korea, ST. Vincent’s Hospital</td>
<td>EHR</td>
<td>1,102,630</td>
</tr>
<tr>
<td>6</td>
<td>Gangnam Severance Hospital</td>
<td>EHR</td>
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<td>7</td>
<td>Kyung Hee University Hospital At Gangdong</td>
<td>EHR</td>
<td>810,031</td>
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<tr>
<td>8</td>
<td>Kangdong Sacred Heart Hospital</td>
<td>EHR</td>
<td>1,194,685</td>
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<td>9</td>
<td>Kangbuk Samsung Hospital</td>
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<td>10</td>
<td>Gangneung Asan Hospital</td>
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<td>Kangwon National University Hospital</td>
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<td>Korea University Anam Hospital</td>
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<td>1,891,753</td>
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<td>20</td>
<td>National Cancer Center</td>
<td>EHR</td>
<td>103,573</td>
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<tr>
<td>21</td>
<td>National Health Insurance Service Ilsan Hospital</td>
<td>EHR</td>
<td>1,427,424</td>
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<td>22</td>
<td>Catholic Kwandong University International ST. Mary's Hospital</td>
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<td>403,989</td>
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<tr>
<td>23</td>
<td>Dankook University Hospital</td>
<td>EHR</td>
<td>1,153,345</td>
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<td>24</td>
<td>Daegu Catholic University Medical Center</td>
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<td>906,587</td>
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<td>25</td>
<td>Dongguk University Medical Center</td>
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<td>695,280</td>
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<td>Myongji Hospital</td>
<td>EHR</td>
<td>882,646</td>
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<td>Myongji Hospital (Jecheon)</td>
<td>EHR</td>
<td>219,574</td>
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<td>28</td>
<td>Pusan National University Hospital</td>
<td>EHR</td>
<td>791,935</td>
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<td>Bucheon Sejong Hospital</td>
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<td>Seoul National University Bundang Hospital</td>
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<td>31</td>
<td>Cha University Bundang Medical Center</td>
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<td>2,363,386</td>
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• A total of **21 OHDSI Korea Leadership Meetings** have been held since 2017

• At this meeting, Issues, policies, and governance were discussed to establish CDM network and promote collaborative research
Research border-Free Zone (RFZ)

**Purpose**

Mutual Cooperation Agreement for Multi-center Collaborative Research using OMOP-CDM

**Contents of Agreement**

1. Reciprocal unlimited access to CDM of RFZ hospitals
2. Single IRB
## Research border-Free Zone (RFZ)

### 30 Hospitals are participating in RFZ

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### Real-time CDM Updates

**29 Hospitals** are converting CDM daily/weekly/monthly/quarterly

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PHAROS: Application of CDM on Infectious Disease Surveillance

PHAROS - Integrated infectious disease clinical information management system
Platform for Harmonizing and Accessing data in Real-time On infectious disease Surveillance

Infectious disease management using real-time clinical data

- "No requirement of individual data input and curation"
- "Sufficient patient information for practical use"
- "Support fast decision-making with reliable data"

Analytic apps for infectious disease
- NLP module
- GIS module
- Bayesian statistical modeling
- Clinical information dashboard
- Prediction modeling

Utilizing the current DRN platforms
Collaboration with other CDM platform for infectious disease surveillance and research

Promotion Strategy
- Expert advisory group
- Steering committee
- Expanding of institutions

Establishment of CDM specialized for infectious diseases

OMOP-CDM

Data standardization (vocabulary mapping / data modeling)

Organizer
Data Partner
Data Partner
Data Partner

Infectious disease syndromic surveillance using OMOP-CDM
- Change in infection symptoms
- Legal communicable diseases
- Precision monitoring using NLP
Deidentification of Clinical Notes

**Objective**

This research aims to develop a tool for de-identifying PHI (protected health information) elements in CDM

**Methodology**

Data source

Ajou Univ. Hospital CDM (1994~2021)

**PHI Entities**

1. Name (clinician, patient),
2. Contact number
3. Residence (sub address of town/city and state)

Manual review and annotation

Ajou Univ. Hospital CDM  Extracted 3,000 randomly samples notes (from 10 types of notes)

Identified PHI entities and annotated sampled notes

Diagram showing the framework and workflow for de-identification of PHI elements.
Deidentification of Clinical Notes

- **Results**

1. Annotated PHI entities

   - Name: 2,877
   - Contact number: 581
   - Residence: 1,036

2. Conducted dictionaries

   - Name: 3,112,431
   - Residence: 19,523

3. Evaluation results of the fine-tuned model

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Table 1. Evaluation results of the fine-tuned model
Federated learning system on FeederNet

- Overview
Q&A

Contacts
Rae Woong Park

- E-mail: veritas@ajou.ac.kr
- Tel: +82-31-219-4471
Thank you!