APAC Community Call

January 18, 2024
Agenda

• APAC 2024 Kickoff
• Training Session #7 by Japan
• Eye Care and Vision Research WG Intro
APAC 2024 Kickoff

Mui Van Zandt
2024 OHDSI APAC Goals

**Research**
Build research expertise and collaboration amongst the different chapters through publication

- Conduct APAC SOS Challenge studies
- Replicate Cindy Kai’s SOS Challenge study

**Training**
Create an APAC training program to expand reach to the general community

- Host at least 2 in-person trainings in APAC
- Train community through APAC SOS Challenge studies

**Communication**
Create collaboration activities that encourage collaborative generation and dissemination of evidence that promotes better health decisions and better care

- Host APAC symposium
- Distribute quarterly newsletters
- Host monthly community calls and scientific forums
Collaborator Spotlight: Chungsoo Kim

Chungsoo Kim is a PhD candidate in the Department of Biomedical Informatics at Ajou University College of Medicine. He earned his Doctor of Pharmacy degree from the College of Pharmacy of the same university in 2019. His research interests include reliable real-world evidence for medication and prediction of individual drug effects/adverse events based on the OMOP common data models. He is also interested in data/analytics infrastructure for conducting data-driven research.

Since joining OHDSI in 2019, he has participated in and led several research projects at OHDSI. He currently participates in OHDSI working groups, including PatientLevelPrediction and the APAC group. He also served as a tutorial instructor for the 2019 OHDSI Korea International Symposium.

Chungsoo discusses his research focuses, his involvement in the OHDSI community, the growth of OHDSI around the Asia-Pacific region, and plenty more in the latest Collaborator Spotlight.

Read the full interview at https://www.ohdsi.org/spotlight-chungsoo-kim/!
RWD research efforts and internationalization in Japan.

2024-01-18 OHDSI APAC community call
National Cancer Center Hospital East
Yoshihiro Aoyagi
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• Rinchu-Net and the Internationalization Task Force
• Milestone of TF
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What is “Rinchu-net”?

Rinchu-Net:
- Build a system to collect medical information extracted from the clinical data of each hospital using quality-controlled methods, enabling integrated analysis.
- Establish a platform for analyzing the collected medical information.
- Foster the development of necessary human resources and establish an organizational system.

*Ministry of Health, Labor and Welfare’s project to promote electronic medical information exchange*
Core Hospitals for Clinical Research in Japan (臨床研究中核病院)

Developing innovative medicines and medical technologies originating from Japan. These hospitals play a central role in international-level clinical study and investigator-initiated clinical trials.

Hokkaido Univ.  Tohoku Univ.  Tokyo Univ.  National Cancer Center Hospital  National Cancer Center Hospital East  Keio Univ.  Juntendo Univ.


Nagasaki Univ.
Vision & Mission of Rinchu-Net

Vision
Contribution of the realization of optimal medical care by building a sustainable clinical study platform that can answer a wide range of issues including clinical questions as real world evidence.

Mission
• Data management to ensure high quality
• System design with future expansion
• Consideration and development of an independent ecosystem that maintains the foundation
• Implementation of human resource development to support

Create a platform(foundation) to enable Data-Driven Clinical Study
Overview of Rinchu-Net

Medical Information Infrastructure

- Standard Code Management
- Medical Information Infrastructure
  - EMR
  - SS-MIX2/DWH
  - Extraction System /DB

Research Environment/Utilization

- Future Issues
  - Exit strategies
  - Compliance with the Next Generation Medical Infrastructure Act
- Data searching
- Research Data set
  - Focus!
  - International Research
    - OHDSI
    - Focus!

Human Resource Development

- SWG 1
- SWG 2
- SWG 3
- SWG 4
- SWG 5
- SWG 6

International Research Focus!
Activity of the Internationalization TF

Team Building
- Planning of the purpose and milestone of the TF.

2021

A survey of the overview of OHDSI and tools
- Preparing reports on OHDSI overviews and researching tools to be used in OHDSI research.

2022

Common data model Vocabulary mapping
- Research on the Common data model more deeply, collaboration with Rinchu-Net deliverables, and vocabulary mapping.

2023

The challenge of OHDSI research
- Integrate existing works and try to OHDSI research.

2024 -
Activity of the Internationalization TF

• Medical data from different sources needs to be standardized to be analyzed together.
• One way to do this is to use the OMOP CDM, an open standard that is used for observational research around the world.
• However, OMOP CDM is not yet widely used in Japan.
• To help promote the use of OMOP CDM in Rinchu-Net and Japan, Japanese documents are created that provide step-by-step instructions on installing and using the necessary environment.
Deliverables for 2022-2023

• Overview of OHDSI for beginners (delivered)
• OHDSI Tools document for Installation and Functional description (delivered)
• Briefing document on the Common Data Model (under development)
• Research document on vocabulary mapping considering the Japanese situation (under development)
Overview of OHDSI for beginners

- OHDSI activities
- Standardized data models, vocabularies
- Examples of OHDSI research and their Scale
- Regional chapters
- Communities, Forums
<table>
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<th><strong>OHDSI Tools document for Installation and Functional description</strong></th>
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<tr>
<td><strong>ATLAS</strong></td>
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<td><strong>WHITE RABBIT</strong></td>
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Includes Eunomia as practice data
ツールのセットアップ手順、操作手順などのドキュメントに従い、OHDSIの環境を構築できるようドキュメントを作成した。
OHDSI Tools Document in detail

Setup Instructions

• It describes the setup procedure for each tool. Used to understand the internals of the tool. Created for online as well as offline use.

Operating Procedure

• It describes how to use these tools.
• It gives basic overview and brief usage, since ATLAS and HADES have many features, it gives a basic overview.
• ATLAS additionally provides specific instructions for Cohort Pathways, Characterizations, and Incidence Rates.
• HADES also provides detailed commands on how to connect to the server, extract data, and some analyses.
You can find the link in OHDSI Japan site

OHDSI Tool Documents

Usagi
WhiteRabbit & Rabbit-in-a-Hat
Atlas
HADES

https://www.ohdsi-japan.org/
In the future
Acknowledgement

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THANK YOU

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Eye Care and Vision Research Workgroup: First Year Update

Michelle R. Hribar, PhD
Kerry E. Goetz, PhDc
Sally L. Baxter, MD, MSc
Eye Care and Vision Research Workgroup
Getting Started

- OHDSI Eye Care and Vision Research Workgroup was started in spring 2022
  - Members of American Academy of Ophthalmology (AAO) Data Standards Workgroup identified need for updating ophthalmic concepts in standardized terminologies
  - Ophthalmic data elements were not in the OMOP common data model and large datasets (All of Us)

- Goals
  - Create access to large diverse datasets of ophthalmic and systemic data
  - Enable research in vision and systemic health
Challenges for Ophthalmic Data

• EHR Data
  • Data is named and stored differently in different EHRs/institutions
  • Ophthalmic data is not completely represented in standardized terminologies or OMOP
  • Free text field needs processing to extract values
  • Data may only be entered in notes, which requires natural language processing to extract

• Imaging
  • Most ophthalmic imaging is not standardized/fully compliant with the DICOM standard
  • Volumetric scans are large and difficult to share
  • Tools are needed to use this data in a distributed network
Optical Coherence Topography (OCT) Breakthrough Technology

• James Fujimoto, David Huang, Eric Swanson
• Lasker Award
• National Medal of Technology and Innovation
Eye as the window to the body

- American Possibilities: White House Demo Day
- Non-invasive OCT, CFP device to capture high-quality retina imaging at the push of a button in under a minute
- Predict neurodegenerative, cognitive, cardiac, and circulatory diseases
Milestones

- **Membership**
  - 122 total, ~40 active
  - Ophthalmologists, optometrists, informaticists, vision scientists
  - Formed 6 subgroups to focus on subspecialties and tasks

- **Meetings**
  - 17 Teams workgroup meetings, 3 in person
  - Many more subgroup meetings, ad hoc meetings
Milestones

- Data Concepts
  - >3700 ophthalmic data elements analyzed & mapped
  - 11 retina condition codes submitted to SNOMED International
  - 224 visual acuity concepts submitted to LOINC
  - Glaucoma concepts currently in discussion with SNOMED International
Epic EHR Concept Matches

Milestones

- SOS Challenge 2023
  - Led by Cindy X. Cai MD MS from Johns Hopkins University
  - Comparison of 3 anti-VEGF agents for risk of kidney injury when injected intravitreally
  - Results: no increased risk for kidney injury in any pairwise comparisons
  - Manuscript is in process
Milestones: Phenotypes

- Developed multiple phenotypes
  - 3 visual impairment
  - 6 uveitis*
  - 3 new anti-VEGF users*
  - 1 blinding disease*
  - 5 diabetic retinopathy

*Submitted to HowOften
Milestones: Dissemination & Support

- Publications
  - 9 papers, 4 EyeWiki pages
  - 5 more in progress

- Presentations
  - 18 talks, 5 posters

- Support
  - 1 NEI/NIH Data Scholar
  - 2 Grant submissions
Milestones: Including Ophthalmic Data in NIH Large Dataset Generation Projects

Bridge2AI: AI-READI

• Collect triple balanced prospective dataset of 4000 diabetic patients
• Working with OHDSI workgroup on adding elements to OMOP
• https://aireadi.org/

All of Us Dataset

• NEI-NIBIB All of Us Workshop 2023 was initial step towards integrating ocular data & imaging into All of Us
• Proposing a pilot study at 4 sites
Goal: Build OHDSI Ophthalmic Data Network

- Distributed data
- Data coordinating center

- Data stays at home institution
  - Avoids legal & privacy challenges of sharing data
  - Data is accessed through tools & federated learning
- Multimodal: Systemic & Ocular EHR data + Ocular imaging
Potential Use Cases of Standardized Ophthalmic Data

• Extension of clinical trials
• Validation of AI models
• Real world outcomes of treatments
• Systemic risk factors for eye disease and its progression
• Oculomics
• Rare disease studies
• Prevalence of eye disease
• Health care access/equity
Next Steps

- Pilot at test sites
  - Working on ETL of intraocular pressure and visual acuity
- Integrate imaging
  - Working with Medical Imaging workgroup to pilot ophthalmic imaging
- Expand workgroup
  - Include more diversity (geographic, practice, government)
- More network studies
- More funding support
US-Asia Pacific Panel Workshop on Standardization of Methodology in Ophthalmology hosted in Hong Kong on December 10th

Presentations by:
Mui Van Zandt; Kerry Goetz; Michelle Hribar
Summary

- Eye Care and Vision Research Workgroup had a productive year
- Working towards goal of including ophthalmic data and imaging in the OMOP common data model
- Collaborating with APAC partners
- Still much more work to do—come join us!
Thank you!