



APAC Community Call

December 19, 2024



Agenda

- 2024 OHDSI APAC Symposium Recap
 - Evelyn Goh, Keiko Asao, Krittaphas Chaisutyakorn
- APAC 2024 Closing



OHDSI SINGAPORE 2024

Updates

Evelyn Goh | National University of Singapore
19 Dec 2024, OHDSI Community Call



We've had an eventful year





Achievements

- Hosted OHDSI APAC 2024 with over 100 attendees!
- Started ETL conversion projects for one of our datasets
 - In negotiations for a few more
- Completed (almost) execution of a network study
 - In conjunction with Singapore's regulatory body, HSA
- Signed MOU with HL7 + set up CAIEH!





PASAR ETL Project

- SingHealth Perioperative and Anesthesia Subject Area Registry (PASAR)
 - Containing pre-operative, intra-operative, post-operative data
- ETL Project converted 2% of the dataset to OMOP CDM
 - Led by individuals from across SeA and APAC
 - Completed Nov 2024
- Next:
 - Converting the remainder of the dataset



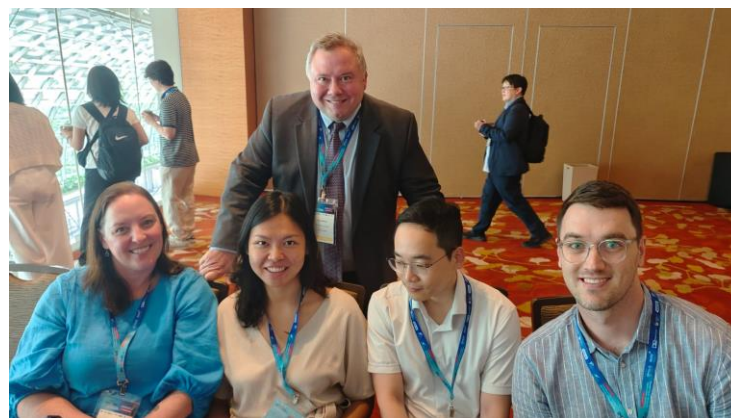
GLP1_ALI Project

- Background:
 - Risk of acute liver injury in users of GLP1 receptor agonists in patients with T2DM
- Established most of the primary protocol + diagnostics
 - Executed R package across 14 cohorts – 9 cohorts included, primarily from US and Japan
- Found reassuring results
 - No evidence of acute liver injury in those taking GLP1 (compared to DPP4i)



GLP1_ALI Project

- Next steps/ongoing
 - Adjust R package for secondary exposure/outcomes + additional comparators
 - Complete study and aim to submit manuscript in Q1 next year





A certified OHDSI course at NUS

- Learned/experienced from our partners in US, Europe, globally to set up a certified OHDSI course in NUS
- Health informatics
 - Yong Loo Lin School of Medicine
 - Saw Swee Hock School of Public Health



Supporting local adoption

- Support local efforts from various clusters
- OMOP CDM ETL Projects
 - Introducing ETL concepts and projects
 - Encouraging conversion
 - Collaborating with international partners for adoption
- Conducting network studies
 - Network study done for GLP1 (with planned data from Khoo Teck Phuat hospital)
 - Planned studies for PASAR and other data registries



Supporting regional adoption

- Collaborating in network studies across region
- Offering our help in ETL projects with other countries
- Conducting network studies alongside APAC/SeA countries
- Promote, demonstrate the need for Asia-specific datasets
 - For better comparisons
 - For better localization
 - For better regional collaboration





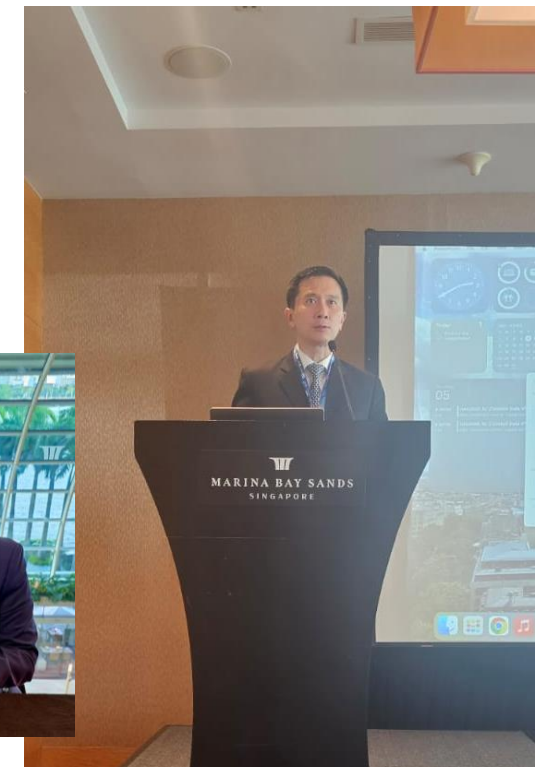
Efforts to formalize OMOP CDM standard

- Led by Dr. Mukkesh Kumar
 - Encouraging national city-state standardization of data along the OMOP CDM standard
 - Real-world data collection + evidence generation
 - Across multiple public institutions and all six of our healthcare clusters
 - Involves both industry and ministry stakeholders who encourage adoption for national advancement



OHDSI APAC 2024

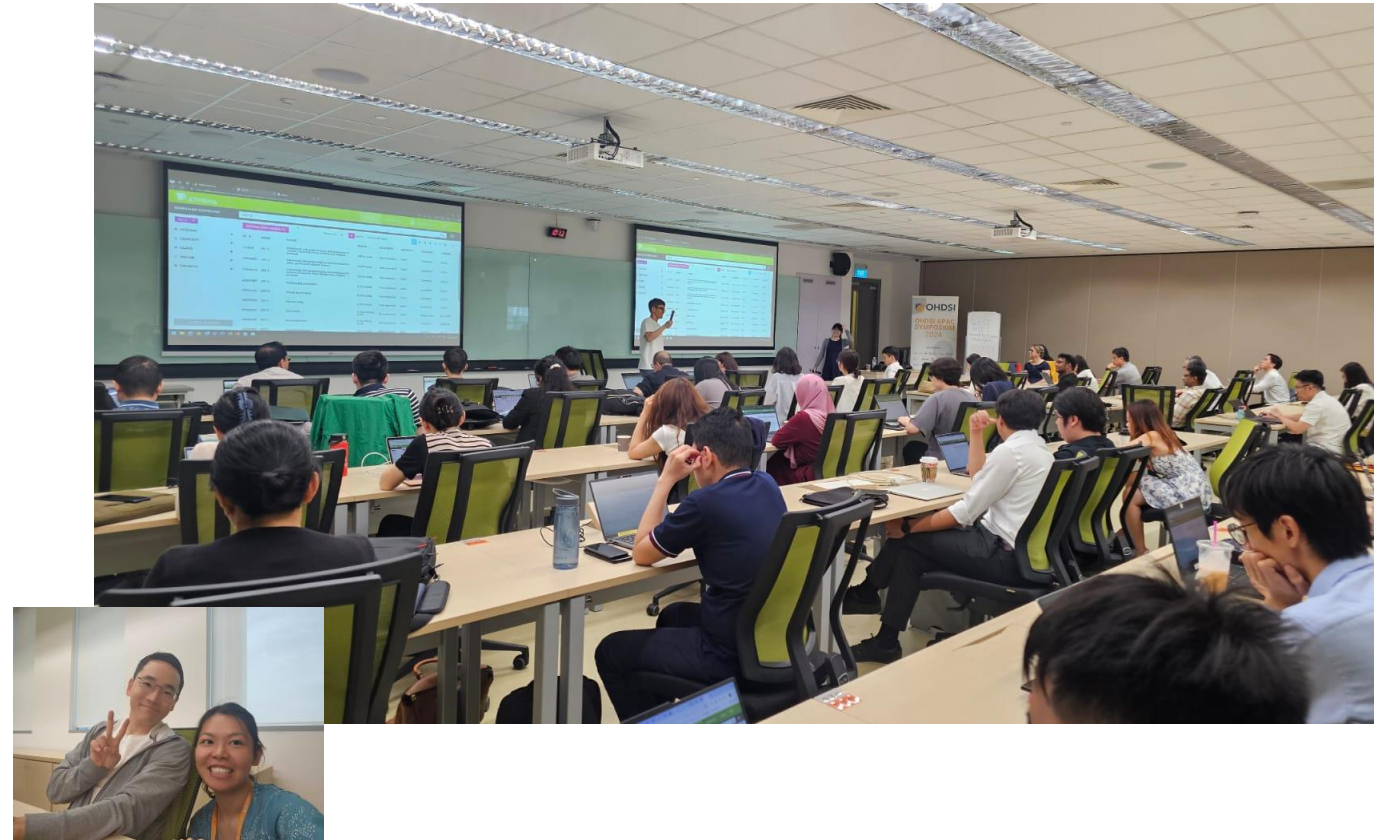
- Part of IMAGINE AI 2024
- 2 days of sharing, knowledge exchange, workshops
- Hosted speakers from OHDSI globally – U.S., U.K., Australia, Japan, Korea, India, Thailand, Indonesia, Taiwan, China, Malaysia, Vietnam





OHDSI APAC 2024 Tutorials

- Tutorials
 - OHDSI OMOP
 - CDM and Vocabulary
 - Conversion Process
 - ETL Exercises
 - OHDSI Analyses – TCO
 - OHDSI Analyses – Cohorts
 - OHDSI Analyses – Results





OHDSI APAC 2024





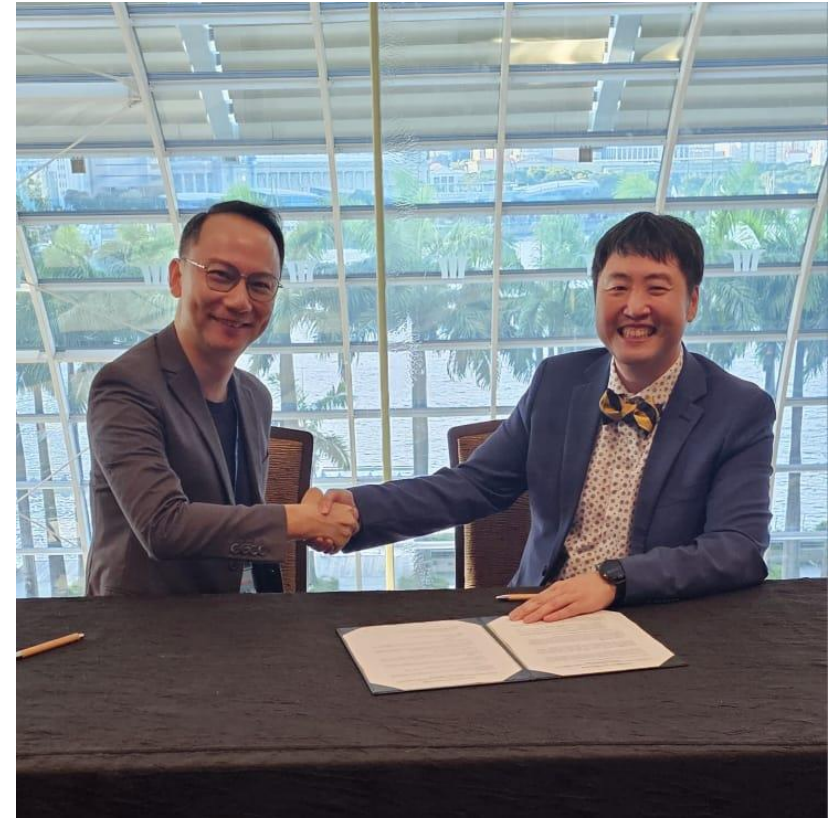
Dance break





Collaboration between HL7 and OHDSI

- Commitment to work together to promote adoption of common standards, data methods, and models
- Setup of CAIEH – Centre for AI-Enabled Health
 - Transforming healthcare through AI, standards, collaboration





Thank you very much!

Evelyn Goh | National University of Singapore
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Reflections of OHDSI APAC Symposium 2024

OHDSI APAC Community Call

Dec. 19, 2024

Keiko Asao



APAC Symposium: Tutorial (Day 1)



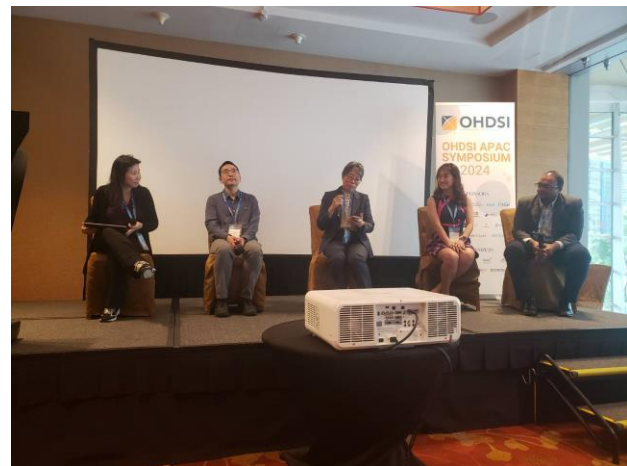
- OHDSI-OMOP intro / CDM / vocabularies / conversion / cohort building / advanced analytics
 - I finally got something about understanding OMOP after many tutorials.
 - OMOP conversion is Step 0; we need to train ourselves on how to use the converted data.
 - Somehow, I gained confidence in teaching the basic level of tutorials.



APAC Symposium: Main Conference (Days 2-3)



- OHDSI for RWE
 - Along with the standardization of the dataset, many analyses are conducted for standardized RQ. (I got it!)
- Progress report of each chapter
- APAC ETL projects
 - Leadership and collaboration: learning by doing.
- APAC Study: GLP-1 and drug-induced liver dysfunction
 - I tried to learn how the OHDSI network study works; I finally understood the study on the symposium day...
 - Need more data!
- Evidence Network
 - Need more data!





Datathon (Days 4-5)



- Fifteen teams competed their analytics and story telling from the data on their topics of choice.
 - I was in Team 8: Optimal glucose targets in ICU, using the data from PhysioNet.
 - A lot of well-thought presentations after 2 days.



Summary

- Being a part of community activities before the symposium helps to enhance learning experiences.
 - The OHDSI community welcomes newcomers, and newcomers today will be mentors tomorrow.
 - The OHDSI APAC community grows rapidly with passion. Collaboration across and beyond the region will further speed up the better use of data for public health.
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Mahidol University
Faculty of Medicine
Siriraj Hospital

Siriraj Informatics and
Data Innovation Center



OHDSI APAC 2024

Siriraj Hospital, Mahidol
University, Thailand



Our OHDSI Journey

- Siriraj Hospital is a University Hospital in Bangkok, Thailand
- **Siriraj Informatics and Data Innovation Center**
- Siriraj Hospital has been working on ETL the EHR data to OMOP CDM since 2020, led by Natthawut **'Max'** Adulyanukosol



Our office



Our current state



- 20+ years of Thai EHR data transformed to OMOP CDM format
- 2.5M patients
- Codes were mapped to SNOMED, RxNORM, LOINC,...
- We want to move forward in generating research & network study



Our team joining OHDSI APAC 2024



Mahidol University
Faculty of Medicine
Siriraj Hospital

Siriraj Informatics and
Data Innovation Center



- 2 Physicians
- 1 Data engineer
- 1 Data analyst



OHDSI Chapter Update



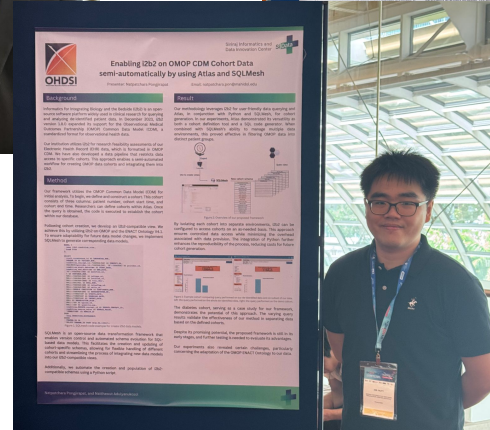
Our works



- 3 presentations on ETL
 - From dbt to SQLMesh: Enhancing OMOP CDM Data Conversion Efficiency
 - Enabling i2b2 on OMOP CDM Cohort Data semi-automatically by using Atlas and SQLMesh
 - Atlas on Cloud Utilizing modern cloud infrastructure for hosting OMOP tools
- 1 presentation on Vocabulary Mapping
 - Mapping Thai Medicine Terminology to RxNorm: Lessons Learned in Standard Vocabulary Integration
- 1 presentation on Data Quality
 - Evaluating the Conversion of EHR data into OMOP CDM for Type 2 Diabetes Mellitus Cohort: Insights for Data Consistency



Our posters

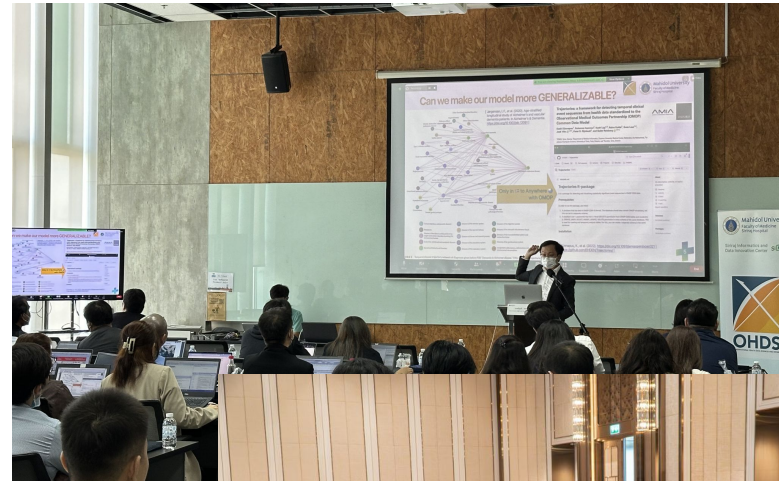


Lighting talk



Thailand OHDSI

- Sep 2023: Hands-on Workshop: Introduction to OMOP CDM
- April 2024: Thailand OHDSI Tutorial
- Many joined the APAC ETL project (the PASAR)



Thailand Next Steps



- We want to join the network studies
- 8 University hospitals have ongoing ETL projects to OMOP CDM
- A team from Khon Kaen University (Northeastern part of Thailand) also join the event





Thank you





APAC 2024 Closing

Mui Van Zandt



2024 OHDSI APAC Goals

Research

Build research expertise and collaboration amongst the different chapters through publication

Milestones

- 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

Milestones

- 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

Milestones

- Host APAC symposium
- Distribute quarterly newsletters
- Host monthly community calls and scientific forums



2024 OHDSI APAC Achievements

Research

Build research expertise and collaboration amongst the different chapters through publication

Milestones

- Initiated new APAC study in collaboration with Singapore HSA
- Showcased initial study results at the 2024 APAC Symposium

Training

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

Milestones

- Hosted 4 in-person trainings in Japan, Thailand, Taiwan and Singapore
- Initiated and successfully completed first community-wide ETL project

Communication

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

Milestones

- Hosted 2024 APAC symposium
- Distributed 4 quarterly newsletters
- Hosted 12 community calls and 13 scientific forums



2024 Highlights

Research

Build research expertise and collaboration amongst the different chapters through publication

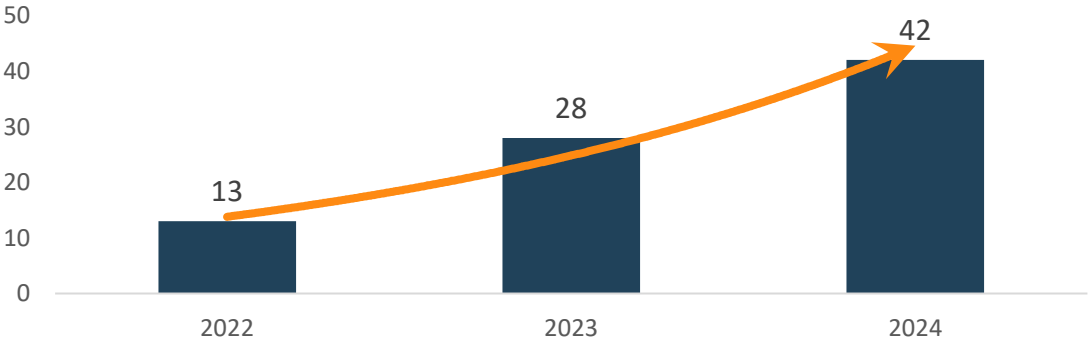
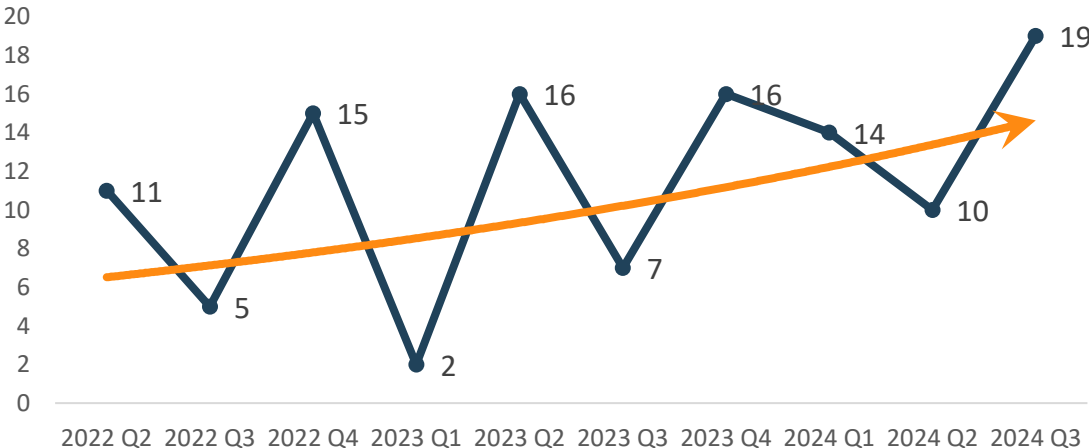
Milestones

- Initiated new APAC study in collaboration with Singapore HSA
- Showcased initial study results at the 2024 APAC Symposium



APAC Studies

Increasing trend of publications and abstract submissions from APAC



Psychotropic drug prescribing before and during the COVID-19 pandemic among people with depressive and anxiety disorders: a multinational network study

Hao Luo*, Yi Chai*, Sijia Li, Wallis C Y Lau, Carmen Olga Torre, Joseph Hayes, Ivan C H Lam, Xiaoyu Lin, Can Yin, Stephen Fortin, Dave M Kern, Dong Yun Lee, Rae Woong Park, Jae-Won Jang, Celine S L Chui, Jing Li, Sarah Seager, Kenneth K C Man, Ian C K Wong



Summary

Background People with mental health conditions were potentially more vulnerable than others to the neuropsychiatric effects of the COVID-19 pandemic and the global efforts taken to contain it. The aim of this multinational study was to examine the changes in psychotropic drug prescribing during the pandemic among people with depressive and anxiety disorders.

Methods This study included electronic medical records and claims data from nine databases in six countries (France, Germany, Italy, the UK, South Korea, and the USA) of patients with a diagnosis of depressive or anxiety disorders between 2016 and 2021. The outcomes were monthly prevalence rates of antidepressant, antipsychotic, and anxiolytic drug prescribing. The associations between the pandemic and psychotropic drug prescribing were examined with interrupted time series analyses for the total sample and stratified by sex and age group. People with lived experience were not involved in the research and writing process.

Findings Between Jan 1, 2016 and Dec 31, 2020, an average of 16567914 patients with depressive disorders (10 820 956 females [65.31%] and 5746958 males [34.69%]) and 15 988 451 patients with anxiety disorders (10 688 788 females [66.85%] and 5 299 663 males [33.15%]) were identified annually. Most patients with depressive disorders and anxiety disorders were aged 45–64 years. Ethnicity data were not available. Two distinct trends in prescribing rates were identified. The first pattern shows an initial surge at the start of the pandemic (eg, antipsychotics among patients with depressive disorders in MDCD_US (rate ratio [RR] 1.077, 95% CI 1.055–1.100), followed by a gradual decline towards the counterfactual level (RR 0.990, 95% CI 0.988–0.992). The second pattern, observed in four databases for anxiolytics among patients with depressive disorders and two for antipsychotics among patients with anxiety disorders, shows an immediate increase (eg, antipsychotics among patients with anxiety disorders in IQVIA_UK: RR 1.467, 95% CI 1.282–1.675) without a subsequent change in slope (RR 0.985, 95% CI 0.969–1.003). In MDCD_US and IQVIA_US, the anxiolytic prescribing rate continued to increase among patients younger than 25 years for both disorders.

Lancet Psychiatry 2024;

11: 807–17

Published Online

September 3, 2024

[https://doi.org/10.1016/S2215-0366\(24\)00245-1](https://doi.org/10.1016/S2215-0366(24)00245-1)

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School of Public Health

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43 publications so far in 2024, including 1 high-impact publication in *The Lancet Psychiatry*



2024 Highlights

Training

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

Milestones

- Hosted 4 in-person trainings in Japan, Thailand, Taiwan and Singapore
- Initiated and successfully completed first community-wide ETL project





2024 APAC ETL Project

1st ETL Project

First community-wide ETL initiated by the APAC community

4 Teams

Consisting of 5 functions needed for a typical OMOP conversion (data analysis, ETL, vocabulary mapping, quality assurance and project management)

3 Months

From project kickoff in August to completion in November, adopting Agile methodology

136 Participants

Signing up to either contribute as volunteers or learn as observers

1 Database

Perioperative and Anesthesia Subject Area Registry (PASAR) established by Singapore General Hospital (SGH)

9 Regular Meetings

To review sprints amongst the project team and provide updates to the general community





Project Team

Team of 39 volunteers around the globe!

Natthawut 'Max' Adulyanukosol • Boon Sheng Lim • Shreema S Rao • Muhd Zufadli Hafiz Ismail
• Burin Boonwatcharapai • Naphat 'Aut' Permpredanun • Yoshihiro Aoyagi • Balachandran
Elangovan • Yizhi Dong • Lydia Liu • Evelyn Goh • Satish Kumar Anbazhagan • Steven Yong •
Jiawei Qian • Afreen Chitwadgi Sikandara • Nongnaphat Wongpiyachai • Sornchai Manoson •
Chinapat Onprasert • Alicia Koh • Hengxian Jiang • Erwin Tantoso • Brandan Tan • Sukatat
Leknimit • Yong Zhe Lim • Mun Chun Chow • Gyeol Song • Qi Yang • Lakshmi Kudendran •
Leong Hui Wong • Kosuke Tanaka • Krittaphas Chaisutyakorn • Liying Pei • Shigemi Matsumoto
• Cynthia Sung • Asif Syed • Elisabeth E. Park • Keiko Asao • Santan Maddi • Karthik Seetharaman

Special thanks to NUS team led by Professor Mengling Feng!



2024 Highlights

Communication

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

Milestones

- Hosted 2024 APAC symposium
- Distributed 4 quarterly newsletters
- Hosted 12 community calls and 13 scientific forums



<https://ohdsi.org/apac2024/>



APAC Events in 2024

April APAC

- ✓ Three in-person events hosted in Japan, Thailand and Taiwan
- ✓ Targeted to familiarize new collaborators in the region with OHDSI/OMOP and understand local perspectives/considerations

OHDSI India Symposium

- ✓ First symposium hosted by the OHDSI India Chapter
- ✓ Brought together more than 20 community leaders in the field of health data research for a day of sharing, learning and networking

OHDSI APAC Symposium

- ✓ 5-day in-person event hosted in Singapore consisting of lectures, tutorials and a datathon
- ✓ Co-hosted with Singapore Healthcare AI Datathon & Expo (IMAGINE AI)

2024



April

October



December





APAC Titan Award Winners



Jack Janetzki



Jung Ho Kim



Natthawut "Max" Adulyannukosol

Titan Award for **Clinical Application**
for their contributions to the **2023 SOS Challenge**

Titan Award for **Community Collaboration**
for his contributions to the **2024 APAC ETL Project**
and **Thailand leadership**

See you in China at the 2025 APAC Symposium!

*Save the Date
December 6 – 7, Shanghai*



Thank you!