Agenda

• Medicinal Cannabis Study Overview by Christine Hallinan
• Data Quality of OHDSI APAC: CDM Inspection Study Update & Deep Learning Comparison Study Overview by Chungsoo Kim
• December Meeting Preview
• Support Areas Follow-up Survey Extension
Medicinal Cannabis in Australia

Capturing Evidence from Australia's Medicinal Cannabis Natural Experiment

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Acknowledgment:
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Department of Addiction Medicine, St Vincent’s Hospital Melbourne
Departments of General Practice and Medicine, The University of Melbourne
There is no robust comprehensive national monitoring system in place, to ascertain Medicinal Cannabis effects and detect ‘signals’ that indicate the presence of side effects and adverse events, that could be attributed to Medicinal Cannabis use.

We face many Challenges in Healthcare today, with rising numbers of difficult to treat problems including mental ill-health, chronic pain, addiction, insomnia, and treatment resistant conditions.

Consumers are increasingly driving demand for new therapeutics such as medicinal cannabis; this changes the paradigm through which Evidence Based Medicine is practiced.

Greater Consumer Involvement in healthcare is valuable but should not be at the cost of rigorous and reproducible approaches that underpin Scientific Methodologies.

The way forward is to INTEGRATE all available Real-World Evidence including Digital Health Data, Clinical Trial Results, Consumer Discourse, and Provider and Patient Experience to grow the knowledge and understanding about New and Emerging Therapeutics.

Electronic Medical Records (EMR) as a Data Source

**Background:**
- Medicinal cannabis prescribing can be monitored using data from the general practice EMR.

**Method:**
- Rule-based digital phenotyping
- 1,164,846 active patients from 109 practices
- September 2017 to September 2020

**Results:**
- 80 patients with 170 prescriptions of medicinal cannabis were identified in the PATRON* database.
- Reasons for prescription included anxiety, multiple sclerosis, cancer, nausea, and Crohn’s disease.
- 9 patients had possible adverse effects that included depression, motor vehicle accidents, and gastrointestinal symptoms.

**Discussion:**
- EMR’s enable the monitoring of community use of medicinal cannabis.

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The Need for Evidence – WHY?

Medicinal Cannabis SAS B* Prescription Applications
January 2017 - October 2023

Number of Applications

Patients Newly Prescribed Cannabis by Authorised Prescribers** in Australia

Newly Prescribed Patients

*SAS-B - Prescriptions Applications to TGA by Medical Practitioners for therapeutics that are not included in ARTG for a single patient under their care

**Authorised Prescribers – Medical Practitioners approved by a HREC or endorsed by a specialist college to prescribe medicinal cannabis
References

Current status of OMOP-CDM in OHDSI APAC regions: Lessons for Data Quality Assessment

Updates

2023-11-02
Chungsoo Kim & Sujin Gan
Objectives

What is this study for?
• Collecting CDM Inspection reports from OHDSI APAC community

Why is this study needed?
• To check the current status of OMOP-CDMs, to get insights from the our CDMs, and to seek quality improvement point.

What is the final goal?
• It could provide a basic reference of statistics which can be used for future CDM conversion.
• Disclosure of current status of conversion, contents, and data distribution of CDMs of the OHDSI APAC community.
Methods

• Data sources: CDM databases from OHDSI APAC community
• Collecting inspection reports from each site.
• R package for automatically creating inspection reports.

• Collectibles
  – Number of record, person
  – Number of unique concepts per person
  – Source-CDM mapping ratio
  – Proportion of standard concepts in mapped codes
  – Drug mapping level (granularity)
  – Frequent concept list in each domain
  – Achilles heel result (error / notification / warnings)
Updates

- New report from NUHS (Thx Singapore team)
- Study close
- Inquiries for missing data and some issues in reports to data partners
  - e.g., Number of the source code

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Some institutions store visit ids than visit type in visit_source_value column for their needs.

- Writing a draft manuscript
- Making a poster for the Annual conference of the American Medical Informatics Association
• 2023 AMIA @ New Orleans
• Poster session (Nov 13th 17:00-18:30)
• [Action Needed] Community feedback before printing the poster (~ Nov 6th)
Deep Learning Comparison
An OHDSI Network Study

This slide was presented in 2023 OHDSI European Symposium.

2023-11-02
LH John, Chungsoo Kim, JM Reps, EA Fridgerisson
Observational healthcare data limit efficacy of deep learning:
- highly sparse
- high-dimensional
- heterogenous
Study design

Aims and objectives
- Assess the added value of massive observational healthcare data for the development of deep learning models

Prediction methods
- Logistic regression L1
- Gradient Boosting
- ResNet (Gorishnyi, 2021)
- FT-Transformer (Gorishnyi, 2021)

Prediction problems
- Dementia in persons aged 55 and above
- Lung cancer in persons aged 45 and above
- Bipolar in persons diagnosed with major depressive disorder

Confirmed databases
- Optum SES
- Optum EHR
- MDCR
- IQGER
- IPCI
- AUSOM
### Results

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Join The Network Study!

Help us assess the added value of observational data for the development of deep learning models.

Head over to GitHub https://github.com/ohdsi-studies/DeepLearningComparison
Docker Hub : https://hub.docker.com/r/egillax/deeplearningcomparison

Watch out!

This study requires a recent **Nvidia graphics card** to execute.
Thank you for listening!
December Meeting Preview

• Anna Ostropolets from the OHDSI Vocabulary Team will join us again to go over community contribution guidelines for drug vocabularies
  – https://github.com/OHDSI/Vocabulary-v5.0/wiki/Community-contribution-guidelines:-drug-vocabularies

• Previous sessions handled non-drug vocabularies only
  – https://github.com/OHDSI/Vocabulary-v5.0/wiki/Community-contribution-guidelines:-non%E2%80%90drug-vocabularies
  – Recordings of the sessions are available at https://www.ohdsi.org/apac/
Support Areas Follow-up Survey Extension

• Follow-up survey on the APAC community’s support areas of interest have been extended until **end of November**
• Results will be used to plan out topics for 2024 so please make sure to submit your responses if you want your interests to be reflected!
• Survey is focused on understanding specific needs of the community around two areas that received the most votes from the initial survey – data analytics and uniform data representation
• Direct link to survey: [https://forms.office.com/r/sGXSnXV4G3](https://forms.office.com/r/sGXSnXV4G3)
Thank you!