OHDSI Australia Chapter 2024

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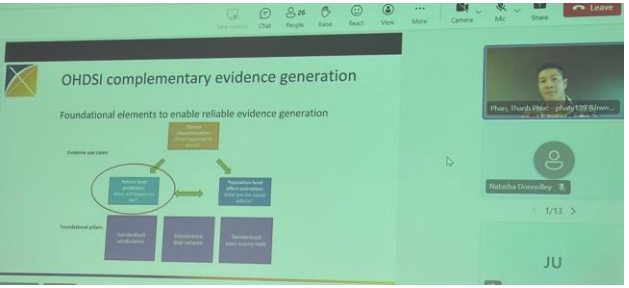
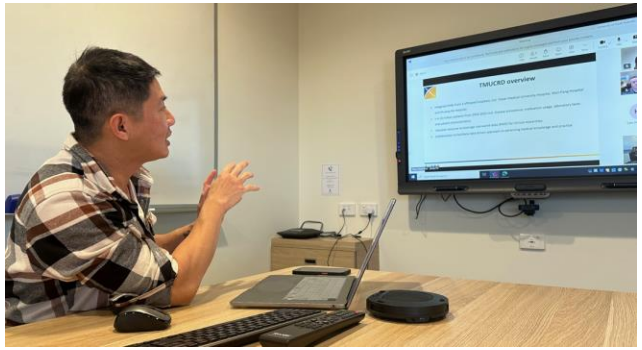
What we accomplished…

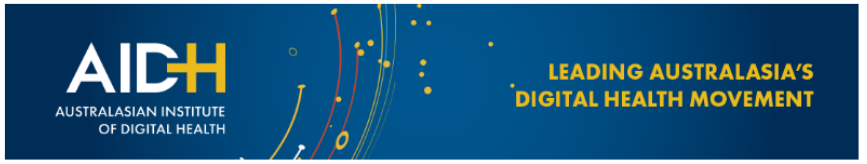
Presentations and Training

Expand training opportunities/ resources for Australia

Medicines Intelligence CRE
real world evidence • smarter medicine use







Let's do things together – Interoperability on health

HOSTED BY THE AIDH SA BRANCH (IN-PERSON)

Hallmark of contemporary health care is dominated by chronic diseases. With progressive specialisation of care providers such care is offered by a growing virtual team working across jurisdictions and across organisations. If we want to follow the pathway towards digitising health and keep the idea of holistic care alive, we need to meet the challenge of interoperability across institutions and individuals.

In the May event we will have 3 speakers

- Wolfgang Mayer will share experience with industry-strength semantic interoperability in software ecosystems and the role of standardisation in this endeavor
- Nicole Pratt will describe the philosophy of Common Data Models and their role in international studies
- Alastair McDonald will highlight experience and perspectives of interoperability from the point of view of SA Health.

Proudly supported by EY.

Phuc Phan Thanh, Taipei Medical University visits Quality Use of Medicines and Pharmacy Research Centre, University of South Australia!

Publications

Increase outputs

Open access Review

BMJ Health & Care Informatics

Seamless EMR data access: Integrated governance, digital health and the OMOP-CDM

Christine Mary Hallinan ,[1] Roger Ward,[1] Graeme K Hart,[2] Clair Sullivan,[3] Nicole Pratt,[4] Ashley P Ng ,[5,6] Daniel Capurro,[2,7] Anton Van Der Vegt,[8] Siaw-Teng Liaw ,[9] Oliver Daly,[2] Blanca Gallego Luxan,[10] David Bunker,[8] Douglas Boyle[1]

To cite: Hallinan CM, Ward R, Hart GK, *et al*. Seamless EMR data access: Integrated governance, digital health and the OMOP-CDM. *BMJ Health Care Inform* 2024;**31**:e100953. doi:10.1136/bmjhci-2023-100953

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ABSTRACT

Objectives In th
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the OMOP-CDM
epidemiological,
well as health s

JOURNAL OF MEDICAL INTERNET RESEARCH Tsafnat et al

Editorial

Converge or Collide? Making Sense of a Plethora of Open Data Standards in Health Care

Guy Tsafnat[1,2,3], PhD; Rachel Dunscombe[4,5*], MICT; Davera Gabriel[1,3,6*], RN; Grahame Grieve[7,8*], PhD; Christian Reich[3,9*], BSc, MD

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J. Bichel-Findlay et al. (Eds.)

doi:10.3233/SHTI231075

PLOS ONE

RESEARCH ARTICLE

The OMOP common data model in Australian primary care data: Building a quality research ready harmonised dataset

Roger Ward, Christine Mary Hallinan*, David Ormiston-Smith, Christine Chidgey, Dougie Boyle

Health & Biomedical Research Information Technology Unit (HaBIC R2), Department of General Practice and Primary Care, Faculty of Medicine, Dentistry & Health Sciences, The University of Melbourne, Parkville, Victoria, Australia

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Abstract

Background

The use of routinely collected health data for secondary research purposes is increasingly recognised as a methodology that advances medical research, improves patient outcomes, and guides policy. This secondary data, as found in electronic medical records (EMRs), can be optimised through conversion into a uniform data structure to enable analysis alongside other comparable health metric datasets. This can be achieved with the Observational Medical Outcomes Partnership Common Data Model (OMOP-CDM), which employs a standardised vocabulary to facilitate systematic analysis across various observational databases. The concept behind the OMOP-CDM is the conversion of data into a common format through the harmonisation of terminologies, vocabularies, and coding schemes within a unique repository. The OMOP model enhances research capacity through the development of shared analytic and prediction techniques; pharmacovigilance for the active surveillance of drug safety; and 'validation' analyses across multiple institutions across Australia, the United States, Europe, and the Asia Pacific. In this research, we aim to investigate the use of the open-source OMOP-CDM in the PATRON primary care data repository.

Methods

Check for updates

Citation: Ward R, Hallinan CM, Ormiston-Smith D, Chidgey C, Boyle D (2024) The OMOP common data model in Australian primary care data: Building a quality research ready harmonised dataset. PLoS ONE 19(4): e0301557. https://doi.org/10.1371/journal.pone.0301557

Editor: Dong Keon Yon, Kyung Hee University School of Medicine, REPUBLIC OF KOREA

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Visualising Variation in the Real-World Clinical Delivery of Chemotherapy Protocols

Georgina KENNEDY[a,b,c] Meg STEVENS[a] and Timothy (
[a] *Faculty of Medicine & Health, UNSW Sydney, A*
[b] *Ingham Institute of Applied Medical Research, Liverpool,*
[c] *Maridulu Budyari Gumal (SPHERE) Cancer Clinical Acade*

Abstract. Typical univariate measures of variation in chemotherap to capture and describe the full multi-dimensional complexit adjustments in real-world data. In this preliminary work, we visualisations of observed treatment events, as well as treatm relative to initial prescriptions, as a means of gaining insights into c of treatment variation in cancer patients. Simple clustering techn used to confirm the utility of these visualisations and our abil observed variations with historical events.

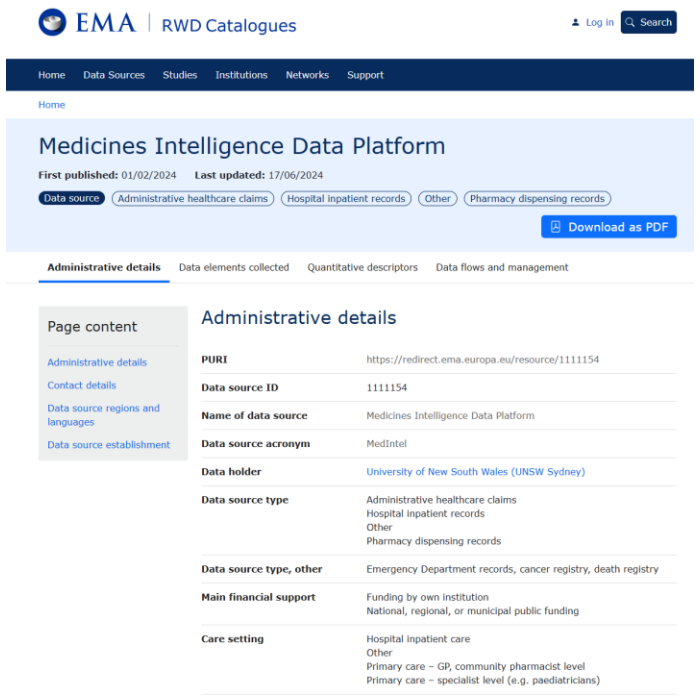
Risk of aortic aneurysm or dissection following use of fluoroquinolones: multinational network cohort study

Jack L Janetzki, PhD[1,*], Jung Ho Kim, MD[2,*], Evan Minty, MD, MSc[3], Jung Ah Lee, MD[2], Daniel R Morales, MD[4], Rohan Khera, MD, MS[5-7], Chungsoo Kim, PharmD, PhD[5,6], Thamir M Alshammari, PhD[8], Scott L DuVall, PhD[9,10], Michael E Matheny, MD[11,12], Thomas Falconer, MS[13], Seonji Kim, PhD[14], Thanh-Phuc Pham, MBA[15], Phung-Anh Nguyen, PhD[16-18], Min-Huei Hsu, MD[19], PhD; Jason C. Hsu, PhD[15-18], Rae Woong Park, MD, PhD[20], Kenneth KC Man, PhD[21-23], Sarah Seager, BA[24]; Mui Van Zandt, BS[24]; James P Gilbert, PhD[25], Patrick B Ryan, PhD[15,26], Martijn J Schuemie, PhD[26,27], Marc A. Suchard, MD, PhD[9,27-29], George Hripcsak, MD, MS[13], Nicole Pratt, PhD[1,†], Seng Chan You, MD, PhD[14,30,†]

Data Assets

DARWIN EU

To expand Australian data assets in OMOP format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Medicines Intelligence Data Platform

First published: 01/02/2024 **Last updated:** 17/06/2024

Data source | Administrative healthcare claims | Hospital inpatient records | Other | Pharmacy dispensing records

Download as PDF

Administrative details | Data elements collected | Quantitative descriptors | Data flows and management

Page content

- Administrative details
- Contact details
- Data source regions and languages
- Data source establishment

Administrative details

PURI	https://redirect.ema.europa.eu/resource/1111154
Data source ID	1111154
Name of data source	Medicines Intelligence Data Platform
Data source acronym	MedIntel
Data holder	University of New South Wales (UNSW Sydney)
Data source type	Administrative healthcare claims Hospital inpatient records Other Pharmacy dispensing records
Data source type, other	Emergency Department records, cancer registry, death registry
Main financial support	Funding by own institution National, regional, or municipal public funding
Care setting	Hospital inpatient care Other Primary care – GP, community pharmacist level Primary care – specialist level (e.g. paediatricians)

Pharmacoepidemiology and Drug Safety

WILEY

REAL-WORLD DATA SOURCES FOR PHARMACOEPIDEMIOLOGIC RESEARCH OPEN ACCESS

The Medicines Intelligence Data Platform: A Population-Based Data Resource From New South Wales, Australia

Helga Zoega[1,2] | Michael O. Falster[1] | Malcolm B. Gillies[1] | Melisa Litchfield[1] | Ximena Camacho[1] | Claudia Bruno[1] | Benjamin Daniels[1] | Natasha Donnolley[1] | Alys Havard[1,3] | Andrea L. Schaffer[1,4] | Georgina Chambers[5] | Louisa Degenhardt[3] | Timothy Dobbins[1] | Natasa Gisev[3] | Rebecca Ivers[1] | Louisa Jorm[5] | Bette Liu[1] | Claire M. Vajdic[6] | Sallie-Anne Pearson[1]

[1]School of Population Health, Faculty of Medicine and Health, UNSW Sydney, Sydney, Australia | [2]Centre of Public Health Sciences, Faculty of Medicine, University of Iceland, Reykjavík, Iceland | [3]National Drug and Alcohol Research Centre, Faculty of Medicine and Health, UNSW Sydney, Sydney, Australia | [4]The Bennett Institute for Applied Data Science, Nuffield Department of Primary Care Health Sciences, University of Oxford, Oxford, UK | [5]Centre for Big Data Research in Health, Faculty of Medicine and Health, UNSW Sydney, Sydney, Australia | [6]The Kirby Institute, Faculty of Medicine and Health, UNSW Sydney, Sydney, Australia

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Received: 1 May 2024 | **Revised:** 1 July 2024 | **Accepted:** 22 July 2024

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Keywords: Australia | data linkage | pharmacoepidemiology | population-based | real-world data

Medicines Intelligence

CRE

real world evidence • smarter medicine use

EMR to OMOP Project…

To expand Australian data assets in OMOP format

- Pilot study 2021-2023
  - Oracle CERNER sites
    - Queensland health, University of NSW hospital affiliates, Austin health, Western health
    - Victoria Parkville Precinct (EPIC), Peter MacCallum, Patron GP

Australian Research Data Commons

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ARDC > News and Events > News > Advancing Healthcare Through Standardised Electronic Medical Records

Advancing Healthcare Through Standardised Electronic Medical Records

The ARDC has helped safely and securely standardise electronic medical record data using the Observational Medical Outcomes Partnership Common Data Model (OMOP-CDM) to realise its huge potential for research and healthcare. We're now building on this work through the new Data Integration activity of our People Research Data Commons for health research and translation.

Published: 13 September 2024

Privacy - Terms

Open access Review

BMJ Health & Care Informatics

Seamless EMR data access: Integrated governance, digital health and the OMOP-CDM

Christine Mary Hallinan ,[1] Roger Ward,[1] Graeme K Hart,[2] Clair Sullivan,[3] Nicole Pratt,[4] Ashley P Ng ,[5,6] Daniel Capurro,[2,7] Anton Van Der Vegt,[8] Siaw-Teng Liaw ,[9] Oliver Daly,[2] Blanca Gallego Luxan,[10] David Bunker,[8] Douglas Boyle[1]

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Received 29 October 2023
Accepted 14 January 2024

ABSTRACT

Objectives In this overview, we describe theObservational Medical Outcomes Partnership Common Data Model (OMOP-CDM), the established governance processes employed in EMR data repositories, and demonstrate how OMOP transformed data provides a lever for more efficient and secure access to electronic medical record (EMR) data by health service providers and researchers.

Methods Through pseudonymisation and common data quality assessments, the OMOP-CDM provides a robust framework for converting complex EMR data into a standardised format. This allows for the creation of shared end-to-end analysis packages without the need for direct data exchange, thereby enhancing data security and privacy. By securely sharing de-identified and aggregated data and conducting analyses across multiple OMOP-converted databases, patient-level data is securely firewalled within its respective local site.

Results By simplifying data management processes and governance, and through the promotion of interoperability, the OMOP-CDM supports a wide range of clinical, epidemiological, and translational research projects, as well as health service operational reporting.

electronic medical record (EMR) data into a standardised structured data model. The conversion of data has the potential to provide hospitals, health departments, auditors, regulators and universities valuable insights tailored to each institution's needs, both for operational and research purposes. This is achievable as long as the secure utilisation of an institution's EMR clinical and administrative data for purposes beyond its initial collection, known as 'secondary use', is effectively managed and employed.

Such data can be transformative, especially if used to monitor, evaluate and audit healthcare to improve clinical practice, reduce inefficiencies, contribute to the evidence base and develop a 'learning healthcare system' for improved patient care.[1–4] However, this potential is often not realised due to the inherent complexity of EMR databases—that comprise thousands of data elements across

What’s next….

https://ardc.edu.au/program/data-integration/

The Australian Research Data Commons proposes a framework for the systematic integration and use of data from electronic medical records (EMRs) across Australia for research and analysis.

EHDEN
EUROPEAN HEALTH DATA & EVIDENCE NETWORK

Three year project to establish "Australian Health Data to Evidence Network" **AHDEN** to coordinate the adoption and implementation of the OMOP CDM across Australia, including; key governance, security, and privacy considerations to ensure the framework's successful integration into existing health data systems

- Implementing the OMOP CDM across Australian States and territories to standardise EMR data,
- enhance interoperability,
- Build capacity,
- share learnings, and
- support local, national, and international collaborative research projects.

A coordinated National Approach to

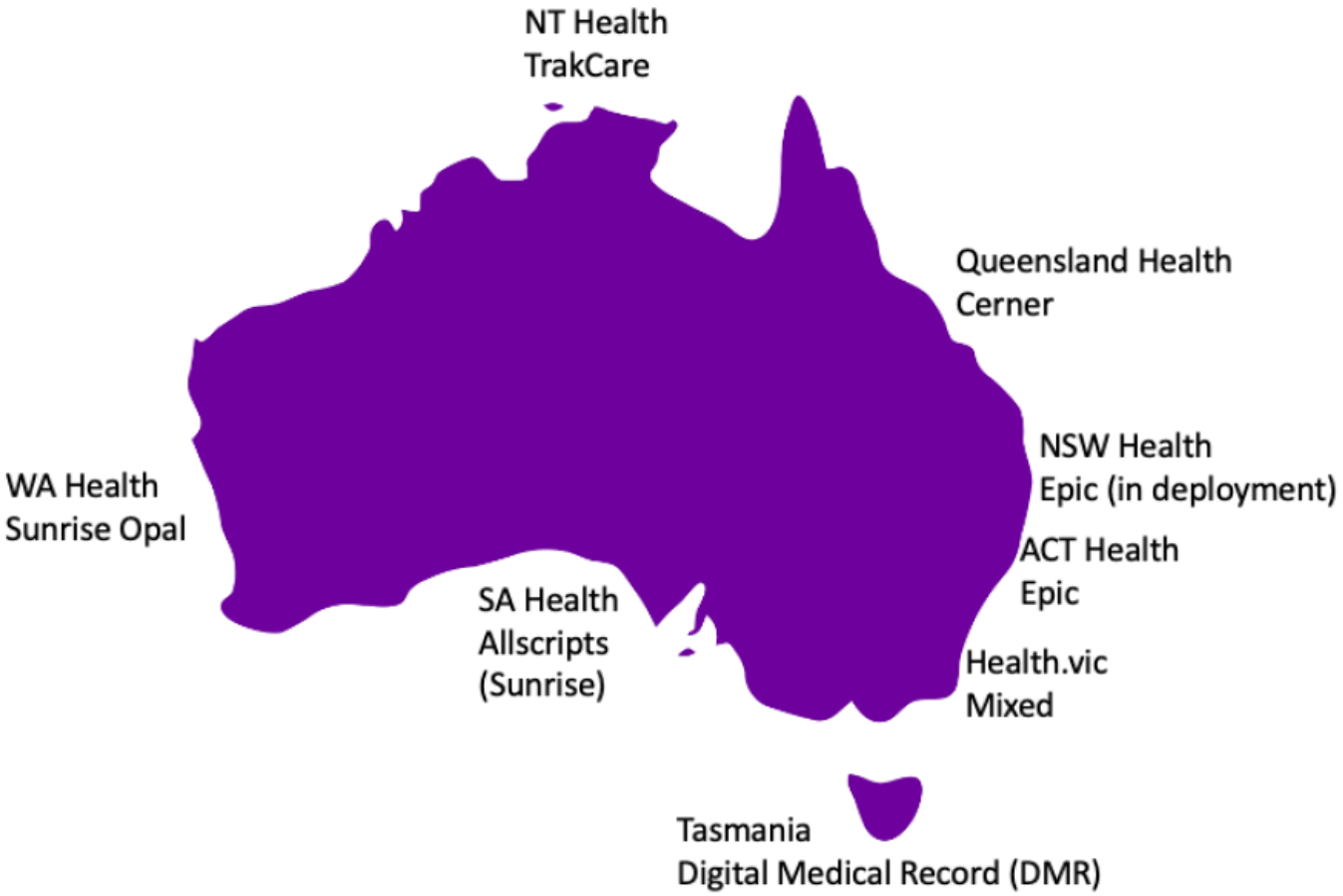

Figure 2. Public Hospital Electronic Medical Records Systems in Australia

AHDEN	
Data	Making EMR data research ready
Research	Catalysing “networked” studies on EMR data
Skills	Building the skills of researchers and health services to participate
Policy	Improving policy coherence and strategy
Services	Central shared services eg. Discovery dashboards QA/QC, automation

Issues specific to Australia!

OHDSI Australia

Wednesday 24th April 2024 @1pm AEST

A/Prof Kalinda Griffiths
Director Poche SA+NT
Flinders University

Indigenous data sovereignty and the identification of Aboriginal and Torres Strait Islander people in health data within Australia

Generating the evidence!

New studies:

- Treatment pathways in Epilepsy
- Implementation of the Prevalent New User Design in Pharmacoepidemiology
- GLP1RA and DILI

To increase the use of Australian datasets in OHDSI studies

www.ohdsi-australia.org

Cheers!