COMMITTEE ON DATA
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Building data platforms to reduce inequities

Thursday 16 October 2025 11:00 (1h 30m)

Increasing amounts of data are routinely collected by governments, but providing insights from this data is often challenging. This can be due to restrictions in accessing the data and/ or data sparsity.

This session showcases innovative, interactive health and environmental data platforms that are providing inequity-focused data insights, ranging from platforms generated using low-cost solutions like R Shiny to more expensive, bespoke platforms. Some focus on visualising raw data; others on providing reliable estimates through advanced modelling. Most are freely available online, and Indigenous-specific data platforms are featured.

The session format will comprise five speakers from a range of government, non-government and academic institutions, each presenting for 10 minutes, followed by a 30 minute speaker panel session, inviting audience interaction.

Outcomes include a greater awareness and understanding of:
• Available data platforms
• Options and capabilities when building data platforms in different settings
• Protecting sensitive data when releasing estimates
• Using data platforms in decision making
• Communicating data insights to decision makers for impact.

The speakers and moderator are:

Dr Jessica Cameron, Senior Research Fellow and Group Lead of Understanding Cancer Inequalities, Cancer Council Queensland, Australia

'**The Australian Cancer Atlas and geographic inequalities in cancer**'
• The Australian Cancer Atlas is an online, freely available digital platform that visualises spatial differences in cancer outcomes.
• With ethics approvals and in collaboration with Data Custodians, statistical modelling enables the release of estimates of cancer disparities at a fine geographical granularity, making information accessible to the public without risking the release of sensitive health information, using the FAIR principles.
• Visualisations and clear communication make complex statistical and epidemiological concepts accessible to a broad audience, empowering diverse users to employ Atlas estimates.
• This has resulted in a range of stakeholders using the Atlas estimates to make data-driven positive change to clinical practice, government policy, service provision and community engagement.
• The Atlas also provides an infrastructure to support further research.

A/Prof Aswi, Head of Master's Program in Statistics, Statistics Study Program, Universitas negeri Makassar, Indonesia

'**From Model to Map: R Shiny Platforms for Identifying Health Disparities through Spatial Disease Modelling**'
• A user-friendly R Shiny web application was developed, integrating the shiny and CARBayes packages to implement multiple Bayesian spatial Conditional Autoregressive (CAR) models, making them accessible to users without advanced statistical programming skills.
• Users can input count data, population, and covariates. The app fits mutliple CAR models using different hyperpriors, evaluates model fit, checks convergence, and helps users choose the most appropriate model.
• The core output is an interactive thematic map displaying relative risk across regions, allowing easy identification of high-risk areas and supporting targeted public health interventions.
• The tool has been applied to Indonesian COVID-19 and stunting data, highlighting its flexibility in different epidemiological contexts.

Dr Aiden Price, Senior Research Associate, Centre for Data Science, School of Mathematics, Queensland University of Technology, Australia
Environmental Health Domain Specialist, Australian Urban Research Infrastructure Network (AURIN)

'**Extracting insights from data through the Australian Environmental Health (AusEnHealth) project**'
• The AusEnHealth Project creates accessible, interpretable indicators of environmental health vulnerability across Australia, covering heat, cold, and air pollution.
• These indices offer rapid insight into complex data, helping users explore patterns without needing advanced technical expertise.
• By using open data and producing publicly available and FAIR indicators and indices across all of Australia, AusEnHealth improves equitable access to decision-relevant environmental health information.
• The platform lowers technical barriers through open-source infrastructure and visual tools designed for government, research, and community use.

Dr Daminda Solangaarachchi, Senior Project Manager, Regional Insights Unit, First Nations Health and Welfare Group, Australian Institute of Health and Welfare

'**Regional Insights for Indigenous Communities (RIFIC): A platform for Indigenous data that empowers decision-making**'
• RIFIC is an online data visualisation platform developed by the Australian Institute of Health and Welfare. It serves as a one-stop shop for data and statistics about First Nations Australians, focusing on their health and wellbeing.
• Data is available at the lowest possible geographic level, and varies by underlying source.
• The prototype website was presented to government and in three workshops seeking feedback from key stakeholders, including representatives from Primary Health Networks, Aboriginal Community Controlled Health Organisations, and Empowered Communities.
• RIFIC is a powerful tool for decision-making.

A/Prof Susanna Cramb, Principal Research Fellow, Australian Centre for Health Services Innovation, School of Public Health and Social Work, Queensland University of Technology, Australia
Biostatistician, Jamieson Trauma Institute, Metro North Health, Australia

'**Identifying inequities in trauma care: the Queensland Injury Atlas**'
• The Queensland Injury Atlas aims to comprehensively visualise injury cases and costs across Queensland for clinical and government stakeholders.
• Underpinned by large linked datasets: all Queensland hospital injury admissions were linked to Queensland ambulance, emergency department and insurance compensation scheme data.
• Spatial data included patient residential area, health facility locations, and ambulance pick-up geocoordinates.
• An optimized database schema was developed and rigorously tested for performance, scalability, and reliability. Visualisations used HTML5, CSS3, and JavaScript frameworks like React.
• Information on injuries can be filtered by diagnosis or procedure codes, region, facilities, time point, or patient age, down to the individual patient journey, and is visualised through maps and graphs.
• This resource can aid in planning, auditing care and preventing injuries.

Session chair and panel moderator: **A/Prof Helen Thompson**, Associate Professor of Statistics, Centre for Data Science, School of Mathematics, Queensland University of Technology, Australia.

Primary authors: Dr PRICE, Aiden (Queensland University of Technology); Dr ASWI, Aswi (Universitas negeri Makassar); Dr SOLANGAARACHCHI, Daminda (Australian Institute of Health and Welfare); Dr THOMPSON, Helen (Queensland University of Technology); Dr CAMERON, Jessica (Cancer Council Queensland); CRAMB, Susanna (Queensland University of Technology)

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