



Opportunities for large scale collaborative research in Aboriginal Health through improved data linkage capacity and integration

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Background

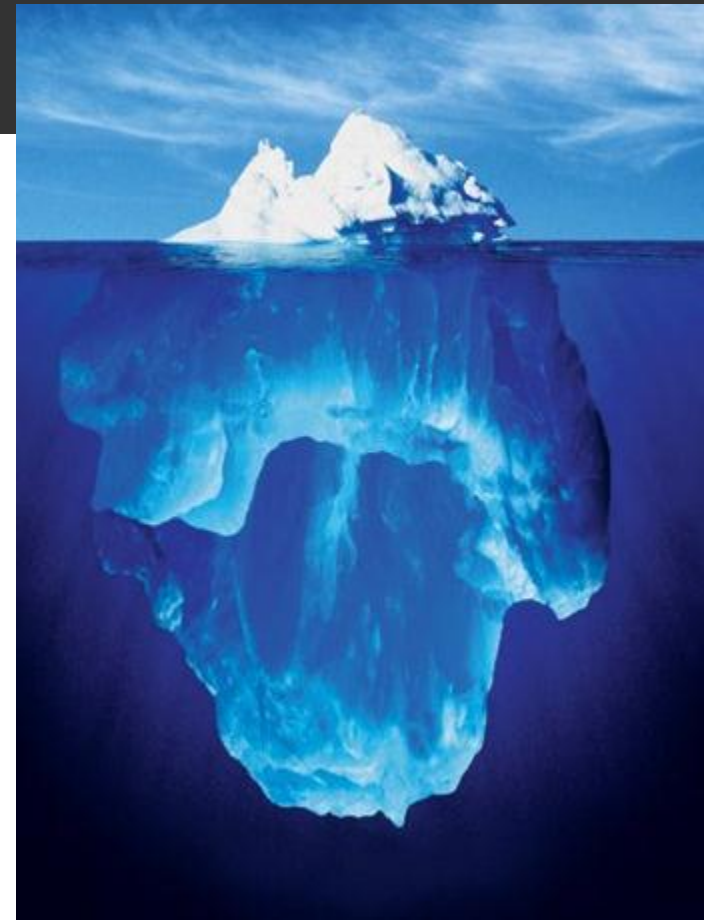
- Aboriginal health research to date, generally
 - Focused on individual communities/services
 - Small numbers
 - Focus on rural/remote
- Evidence gaps
- Quantitative, larger scale evidence critical for reliability, advocacy
- Dovetails well with qualitative and service level data

Data linkage as a framework for collaborative research

- Provides data on exposures, outcomes, potential confounders
- Provides data on health services use
- Create longitudinal data framework
- Allow whole of population analyses, over time
- Large numbers
- Multiple outputs – program of work; stability
- Multidisciplinary
- Policy implications

Challenges

- Administrative data
- Validity
- Events
- Understand your indicators
- Community engagement
- Technical capacity
- Lead time
- Definition of policy questions





"Your husband's doing well, but we're going to need to keep him overnight because he's funny and I'm lonely."

Example

- Indigenous Health Outcomes Patient Evaluation (IHOPE) program
- Admitted patients data collection + deaths
- Area- and individual-level variation in care
- Identification
- Revascularisation
- Deaths
- Ear health
- etc

Table 2. Sequentially Adjusted Aboriginal to Non-Aboriginal Hazard Ratio for Receiving a Revascularization Procedure Within 30 Days of AMI Admission

Model	Sequentially Adjusted For:	Variables and Random Effects Added to the Model:	AHR	95% CI	P Value
1	Demographics	+ Age, sex, year, AMI type*	0.63	0.57, 0.70	<0.01
2	Hospital of admission	+ random intercept†	0.82	0.74, 0.91	<0.01
3	Comorbidities	+ Selected comorbidities‡	0.90	0.81, 1.00	0.05
4	Substance use	+ Current smoking, alcohol and drug abuse	0.92	0.83, 1.02	0.12
5	Private health insurance	+ Private health insurance	0.96	0.87, 1.07	0.50
6	Socioeconomic status	+ Socio-economic status§	0.97	0.87, 1.08	0.55
7	Remoteness	+ Remoteness of residence¶	0.97	0.87, 1.07	0.52
8	Border hospital	+ Hospital transfers patients interstate#	0.96	0.87, 1.07	0.50

AHR indicates adjusted hazard ratio; AMI, acute myocardial infarction; and CI, confidence interval.

*Single-level model.

†Multilevel model accounting for clustering of patients within hospitals with a random intercept.

‡Comorbidities: diabetes mellitus without complications, diabetes mellitus with complications, congestive heart failure, chronic obstructive pulmonary disease, chronic renal failure, acute renal failure, cerebrovascular disease, pulmonary edema, depression, cancer, peripheral vascular disease, dementia, cardiac dysrhythmias, and shock.

§Socio-Economic Indices for Areas (SEIFA) Index of Relative Socio-Economic Disadvantage population quintiles based on statistical local area of residence.

¶Accessibility/Remoteness Index of Australia (ARIA+) based on statistical local area of residence.

#Hospital has transferred 10% or more of their AMI patients to an interstate hospital where they are lost to follow-up in our study.