The Seeding Success Study

Exploring early childhood pathways and outcomes in Aboriginal children using a statewide cross-sectoral data resource in New South Wales

Presenter: Dr Kathleen Falster, Australian National University and UNSW
Department of Family and Community Services Research Seminar 11 May 2017
Presentation outline

• **Background:** The Seeding Success Study

• **Statewide cross-sectoral data resource** for child health, development and wellbeing research and evaluation

• **Research findings**

• **Implications for policy** in New South Wales
Researchers and government in collaboration

The Seeding Success Study collaboration

- NSW Health FACS Dept of Education
- Australian researchers
  International researchers from UK and Canada

Community engagement (primarily via study reference group)

Evidence for policy and practice
  e.g. reports for policy, scientific research papers
BMJ Open  What factors contribute to positive early childhood health and development in Australian Aboriginal children? Protocol for a population-based cohort study using linked administrative data (The Seeding Success Study)

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Statewide cross-sectoral data resource for child health, development and wellbeing research...
What **early life characteristics** promote positive early childhood outcomes?

How do child outcomes **vary across geographic areas**?

How can we **predict children at risk** of adverse outcomes to better inform targeted **early intervention**?

What are the **pathways** of children and families **through systems** (e.g. health, community services)?

Can we use these joined-up data to **evaluate what programs and policies work**, and what doesn’t?
Research Methods

For building a statewide, cross-sectoral data resource for child health, development and wellbeing research
Primary outcome: child development at age five

Australian Early Development Census: collected every three years nationally since 2009
Children in the data resource

- Born in NSW (Birth registrations, perinatal records)
- Started school 2009/12 (Australian Early Development Census)

166,278 children
Parent data in the data resource

Parent data
(health records prior to birth)

NSW Government
Health

Parent data
(school enrolment)

NSW Government
Education
What is currently in the data resource?
## Sources of Aboriginal status: birth and school age

<table>
<thead>
<tr>
<th>Individual with Aboriginal status recorded</th>
<th>Birth records</th>
<th>School AEDC (Development)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RBDM (Birth registration)</td>
<td>PDC (Perinatal)</td>
</tr>
<tr>
<td>Child</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Mother</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Other parent</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>
Enhanced enumeration of Aboriginal children

166,278 children in the cohort

10,430 (6%) children recorded as Aboriginal on at least one child or parent record at birth or school entry
How does a mother’s age at childbirth relate to the child’s development at age five in Aboriginal and non-Aboriginal children?
Indigenous children born to younger mothers

Births per 1,000 women

Age groups (years)

15–19 (a)
20–24
25–29
30–34
35–39
40–44
45–49 (b)

Indigenous mothers
All mothers

(a) Includes births to mothers aged less than 15 years.
(b) Includes births to mothers aged 50 years and over.

Source: ABS 2010a.

Figure 6.1: Age-specific fertility rates, by Indigenous status, 2009
Mechanisms underlying the relationship between maternal age and risk of preterm birth: a sibling study of their firstborns

Debbie A Lawlor, 1* Laust Madsen 2

1MRC Centre for Causal Analyses in Ti Bristol, UK and 2Section of Social Med of Bristol

**Figure 2** Maternal age and risk of preterm birth. The major dotted line is the hazard ratios estimated in the cohort analysis; the minor dotted lines are 95% confidence limits of these estimates. The solid line hazard ratios estimated in the sister-control analysis; the minor solid lines are 95% confidence limits for these estimates. A hazard ratio of 1 reflects the average risk of preterm birth in the population. The overlaid histogram shows the distribution of maternal age (n = 264,695 individuals from 121,859 groups of sisters)
Mother’s age is often used as criterion for early intervention

• Easily measured

• Readily available
Proportion of births by mother’s age at childbirth and Aboriginality

Legend: Non-Aboriginal births
Proportion of births by mother’s age at childbirth and Aboriginality

Legend: Non-Aboriginal births; Aboriginal births
Risk of developmental vulnerability on one or more domains by mother’s age at childbirth and Aboriginality

Legend: Non-Aboriginal births; Aboriginal births; vulnerability non-Aboriginal children
Risk of developmental vulnerability on one or more domains by mother’s age at childbirth and Aboriginality

Legend: Non-Aboriginal births; Aboriginal births; vulnerability non-Aboriginal children; vulnerability Aboriginal children.
Is a mother’s age at childbirth a useful marker of a child’s development at age five in Aboriginal and non-Aboriginal children?

❌ Aboriginal children
• Higher risk in children born to young mothers, and more babies born to young mothers…
• BUT high risk across the maternal age range.

✔ non-Aboriginal children
• Higher risk in children born to young mothers, but few babies born to young mothers.
Implications for policy and practice?

Early intervention and support services for Aboriginal mothers and their children, regardless of the mothers age, may reduce the gap in child development outcomes at age five.
Early life pathways of children who come to the attention of child protection services
Children’s contact with the child protection system before the end of the first year of school

- 166,278 children born in NSW
- 26,779 ROSH report
- 7,038 substantiated ROSH
- 2,950 ever in OOHC

- 1-2 in 10 children ever had ROSH report
- 1 in 20 children ever had a substantiated ROSH report
- 1 in 50 children ever in OOHC
What are the characteristics of children who have a risk of significant harm report during early childhood?

Almost 20% kids with ROSH are Aboriginal but only 5% of general population.
What are the patterns of emergency department visits and hospitalisations for children who come to the attention of child protection during early childhood?
ED visits and hospitalisations in children reported at risk of significant harm vs. other, before age five

- ED visits - ROSH
- ED visits - no ROSH
- Hospitalisations - ROSH
- Hospitalisations - no ROSH

0% 20% 40% 60% 80% 100%

0 1 2 3 4 5+

ED visits and hospitalisations in children reported at risk of significant harm vs. other, before age five
Implications for policy and practice?

Could joined-up routinely collected data at the point of care help health workers identify at risk kids earlier?
Implications for policy and practice
“Joined-up” cross-sectoral population data can make visible the experiences of small and vulnerable population groups
Research and FACS strategic objectives?

• **Children and young people are protected from abuse and neglect**
  → pathways of children and families in, through, and out of health, community service and other systems
  → how to identify at risk kids
  → inform targeted early intervention

• **Aboriginal people, families and communities have better outcomes**
  → outcomes of children and families
  → inform targeted intervention/support

• **Learn about what works and what doesn’t**
Acknowledgements

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The Seeding Success Investigators: Louisa Jorm, UNSW Australia; Kathleen Falster, Australian National University (ANU), Sax Institute, UNSW; Sandra Eades, Baker IDI Heart and Diabetes Institute; John Lynch, University of Adelaide; Emily Banks, ANU; Marni Brownell, University of Winnipeg, Canada; Rhonda Craven, Australian Catholic University; Kristjana Einarsdóttir, formerly University of Western Australia; Deborah Randall, UNSW; Alastair Leyland, University of Glasgow, Scotland; Sharon Goldfeld, Royal Children’s Hospital & Murdoch Research Institute, Melbourne; Elizabeth Best, NSW Health Office of Kids and Families; Marilyn Chilvers, NSW Department of Family and Community Services.

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- AIHW Data Integration Services Centre
- Data custodians of the data sources being linked for the Seeding Success study
- Aboriginal Health and Medical Research Council of NSW
- NSW Department of Family and Community Services
- NSW Health Office of Kids and Families
The Seeding Success Study: contact details

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https://cbdrh.med.unsw.edu.au/project/seeding-success-identifying-factors-contribute-positive-early-childhood-health-and
Data Resource Profile shortly to be published in...
# How long has it taken?

<table>
<thead>
<tr>
<th>Year</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
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<tbody>
<tr>
<td></td>
<td>Apply for NHMRC funding (March)</td>
<td>Draft data linkage protocol</td>
<td>Data linkage</td>
<td>Linkage of school enrolment data</td>
<td>Data analysis</td>
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<tr>
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<td>Awarded grant (Nov)</td>
<td>Obtained data custodian approvals</td>
<td>Build data resource</td>
<td>Update data resource</td>
<td>Drafting reports and research papers</td>
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<tr>
<td></td>
<td>Obtained ethical approvals</td>
<td>Data analysis</td>
<td>Data analysis</td>
<td>Future funding to use and maintain data resource?</td>
<td>Drafting reports and research papers</td>
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Policy and community engagement including Reference Group with representatives of Aboriginal communities/services
Opportunities for future linkages...
Major reasons for ED visits/hospitalisations

1. Respiratory conditions
2. Injury
3. Infections

For children with and without ROSH reports before their fifth birthday

But… more frequent admissions for children with ROSH reports

Very few children diagnosed with maltreatment in ED/hospital