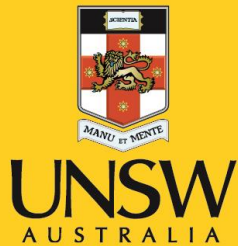# The Seeding Success Study

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

CENTRE FOR
BIG DATA RESEARCH
IN HEALTH

UNSW
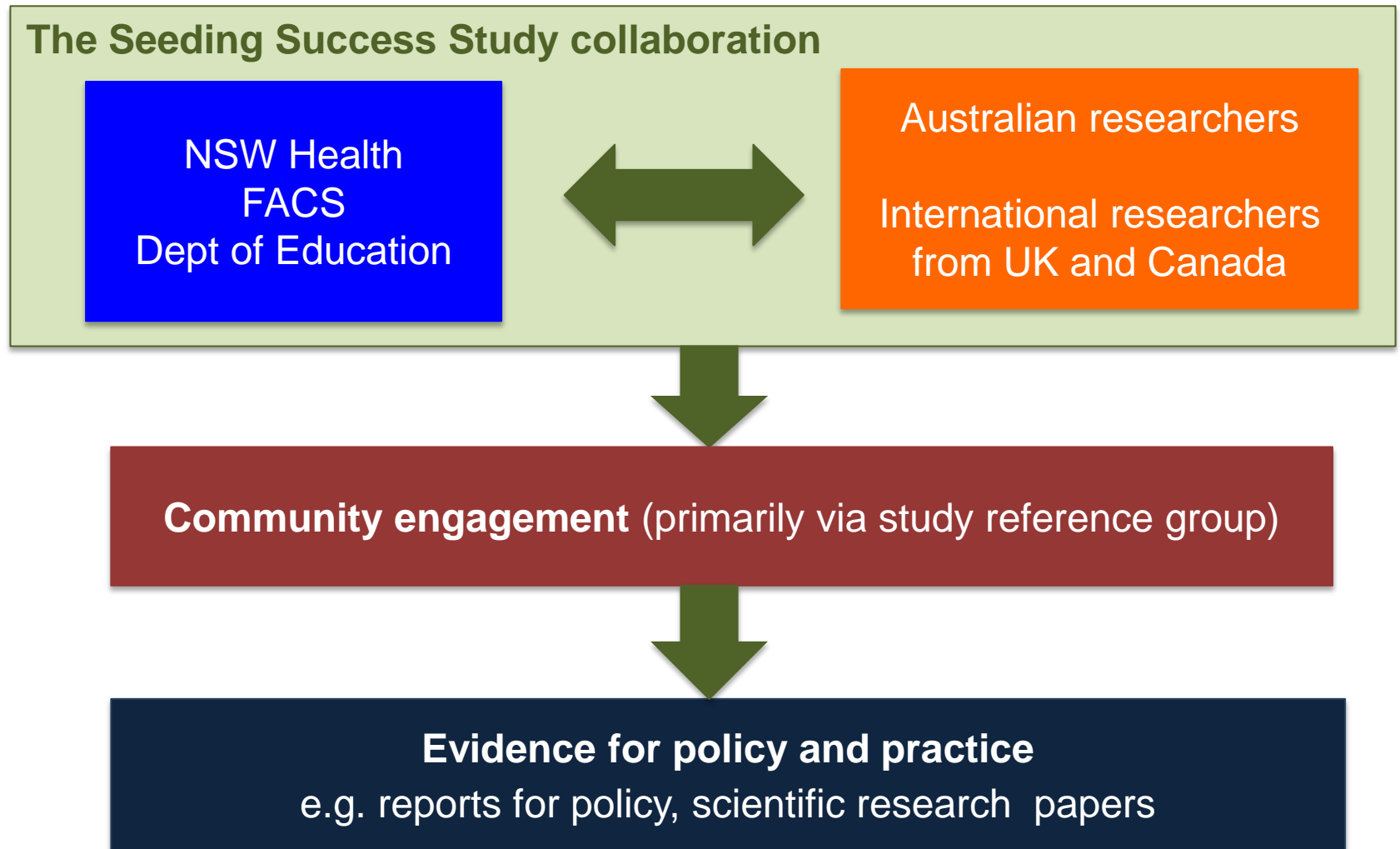AUSTRALIA

Never Stand Still   Medicine

cbdrh.med.unsw.edu.au

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

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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)

Kathleen Falster,[1,2,3] Louisa Jorm,[3,4] Sandra Eades,[5] John Lynch,[6] Emily Banks,[1,2] Marni Brownell,[7] Rhonda Craven,[8] Kristjana Einarsdóttir,[9] Deborah Randall,[3,4] on behalf of the Seeding Success Investigators

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?
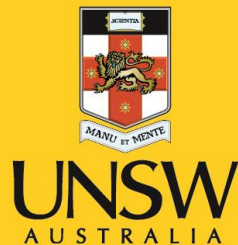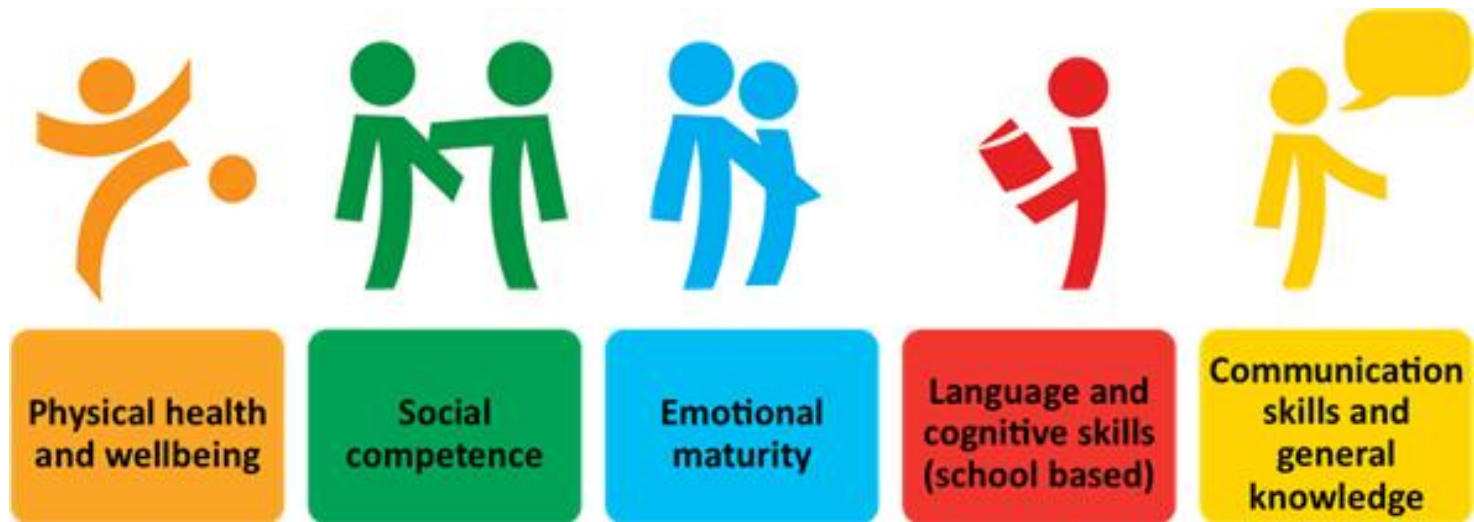
Research Methods

For building a statewide, cross-sectoral data resource for child health, development and wellbeing research

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Primary outcome: child development at age five

Physical health and wellbeing | Social competence | Emotional maturity | Language and cognitive skills (school based) | Communication skills and general knowledge

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
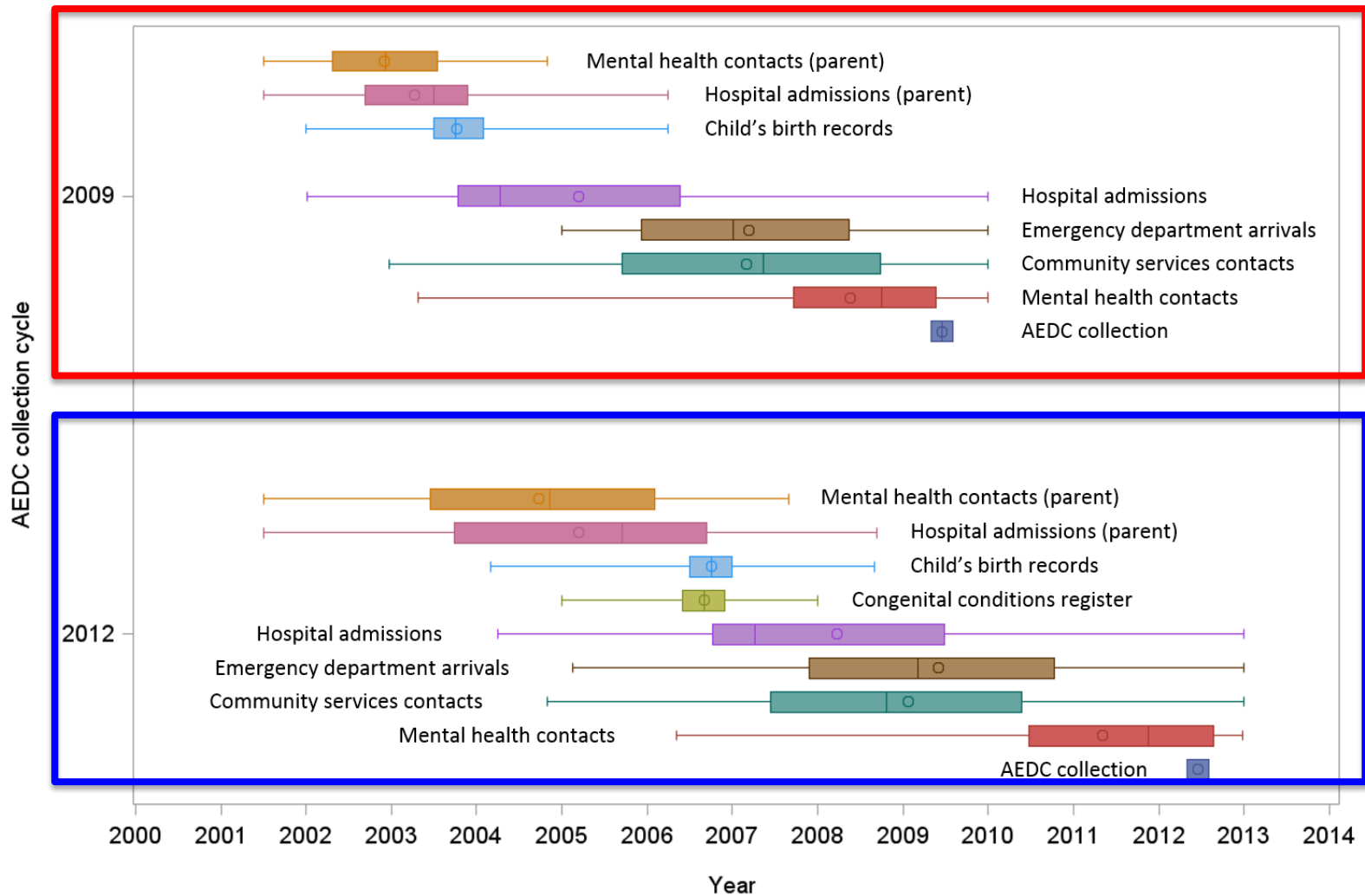(Australian Early Development Census)

166,278 children

Parent data in the data resource
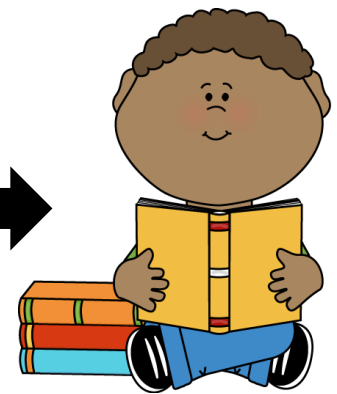
Parent data
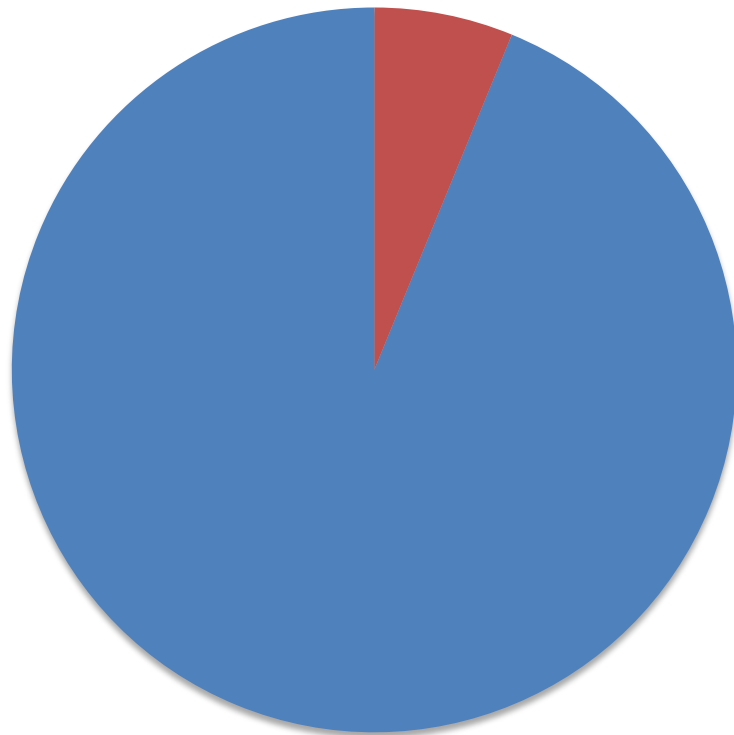(health records prior to birth)

Parent data
(school enrolment)

What is currently in the data resource?

Sources of Aboriginal status: birth and school age

Individual with Aboriginal status recorded	Birth records			School
	RBDM (Birth registration)	PDC (Perinatal)	APDC (Hospital)	AEDC (Development)
Child			✓	✓
Mother	✓	✓	✓	
Other parent	✓			

Enhanced enumeration of Aboriginal children

166,278 children in the cohort

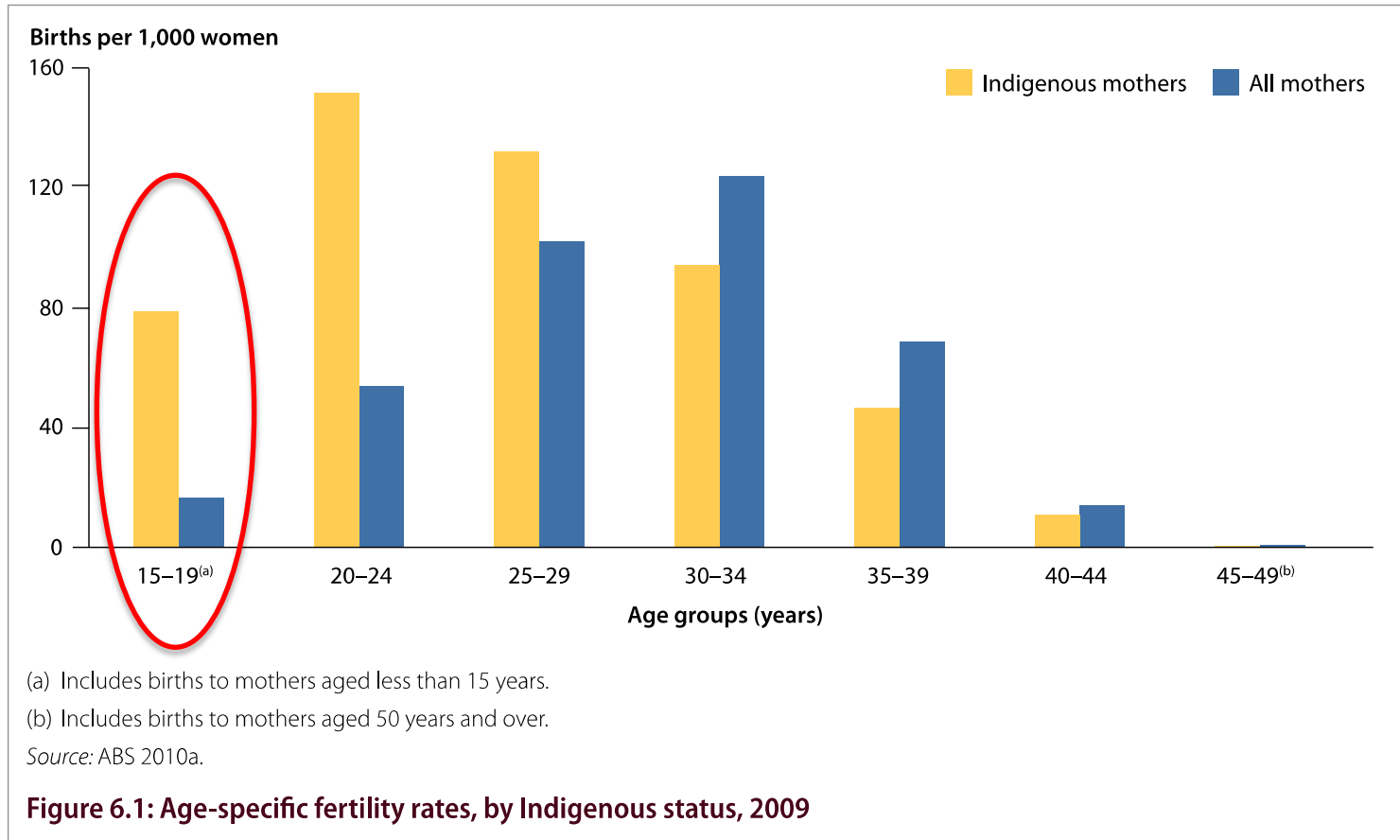10,430 (6%) children recorded as Aboriginal on at least one child or parent record at birth or school entry

■ Aboriginal   ■ Non-Aboriginal
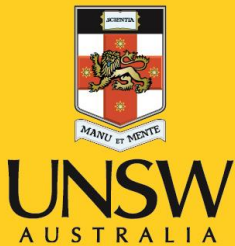
How does a mother's age at childbirth relate to the child's development at age five in Aboriginal and non-Aboriginal children?

Indigenous children born to younger mothers

Births per 1,000 women

Legend: Indigenous mothers, All mothers

Age groups (years): 15–19[a], 20–24, 25–29, 30–34, 35–39, 40–44, 45–49[b]

(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

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Mechanisms u   f maternal age v   mes: a sibling study   and their firstborn

Debbie A Lawlor,[1]* Laust Mo

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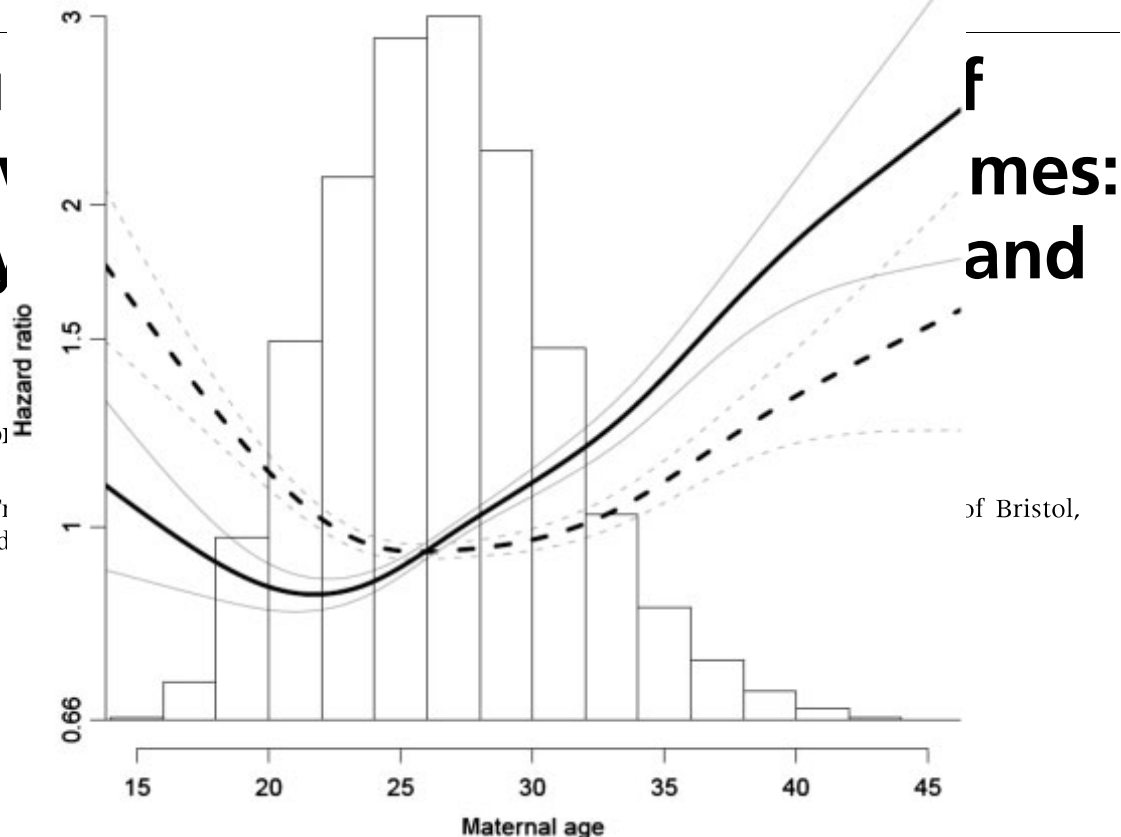

Figure 2 Maternal age and risk of preterm birth. The major dotted line is the hazard ratios estimated in the cohort analysis; the minor dotted lines are 95% confidence limits of these estimates. The solid line hazard ratios estimated in the sister-control analysis; the minor solid lines are 95% confidence 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)

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Mother's age is often used as criterion for early intervention

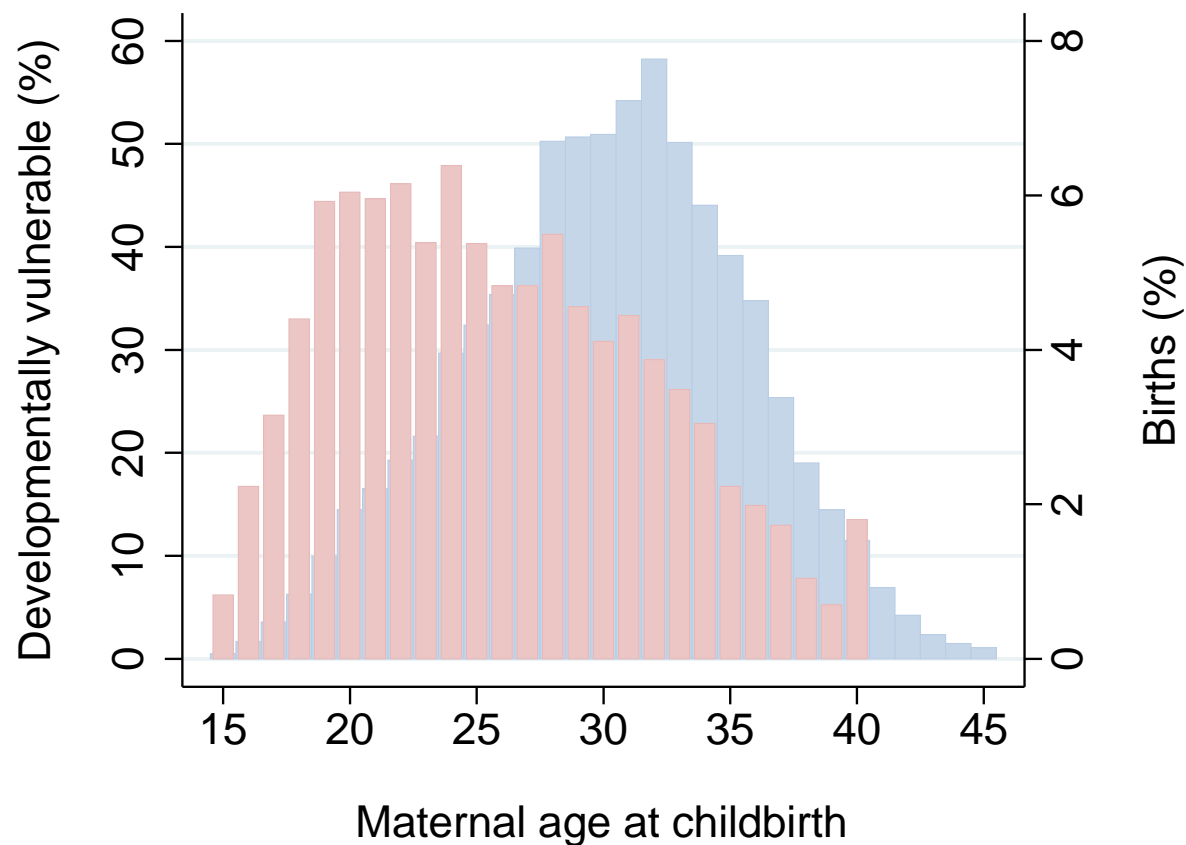- Easily measured

- Readily available

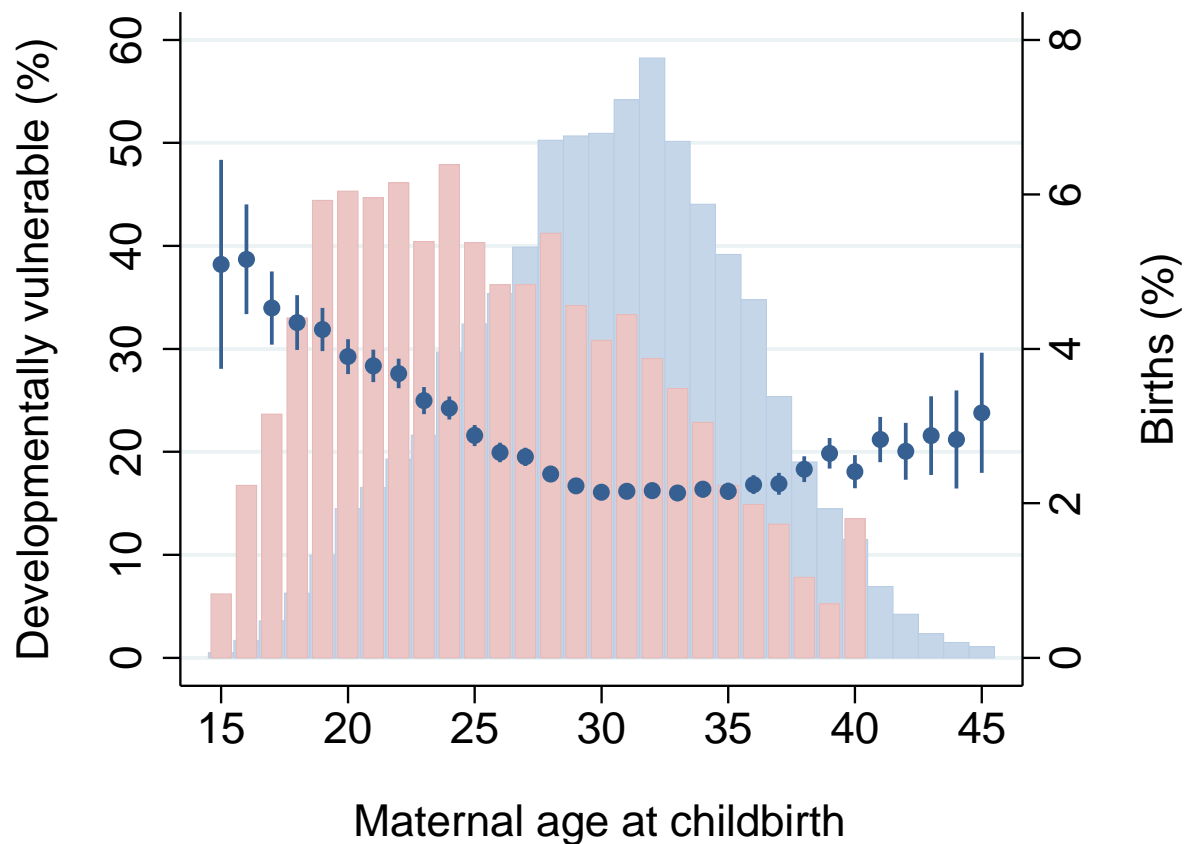# Proportion of births by mother's age at childbirth and Aboriginality
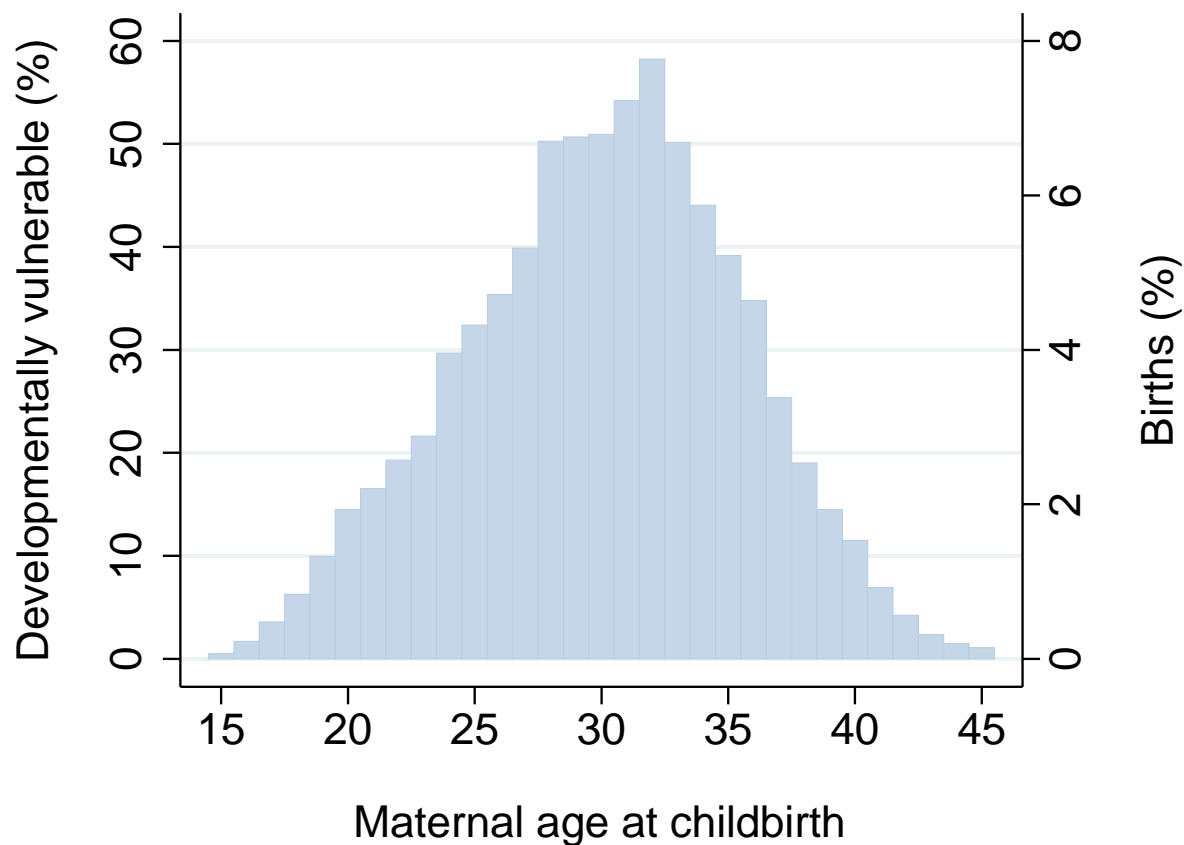
Legend: Non-Aboriginal births

# 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
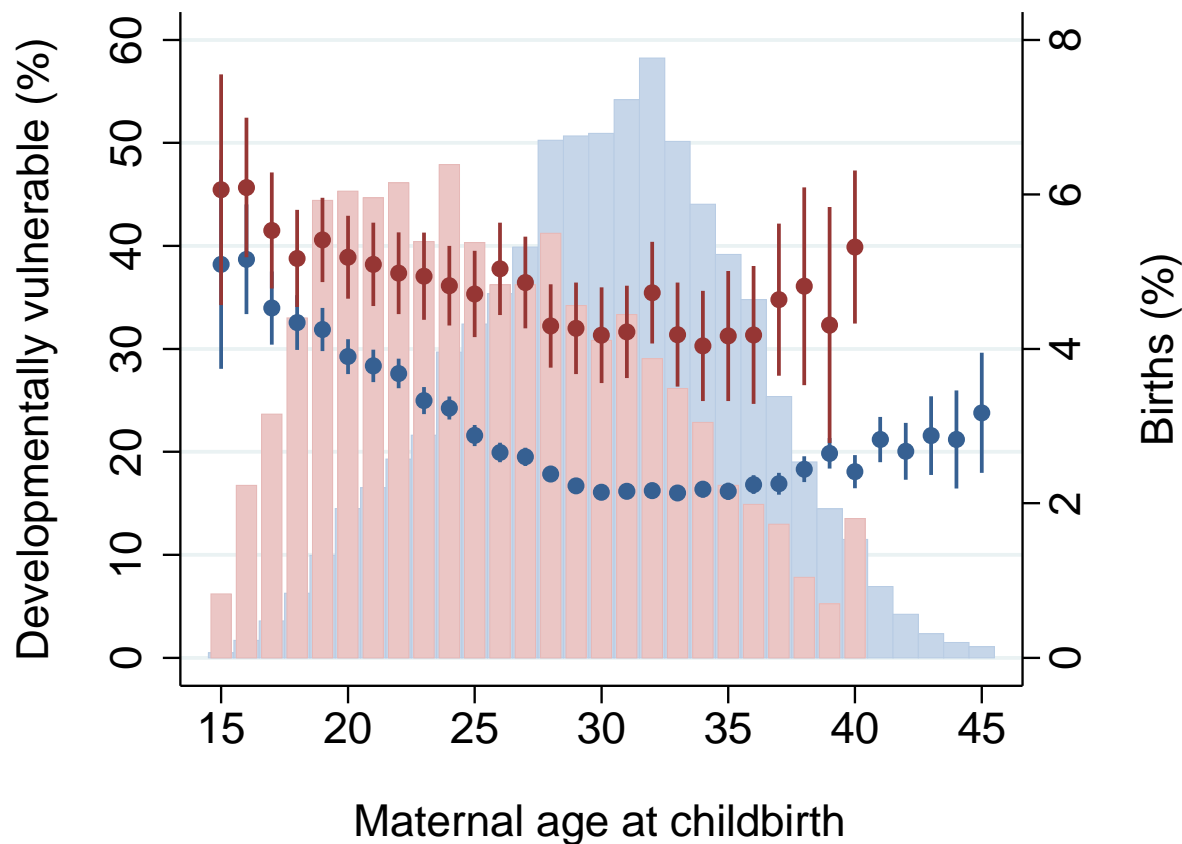
Legend: Non-Aboriginal births; Aboriginal births; **vulnerability non-Aboriginal children; vulnerability Aboriginal children.**

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.
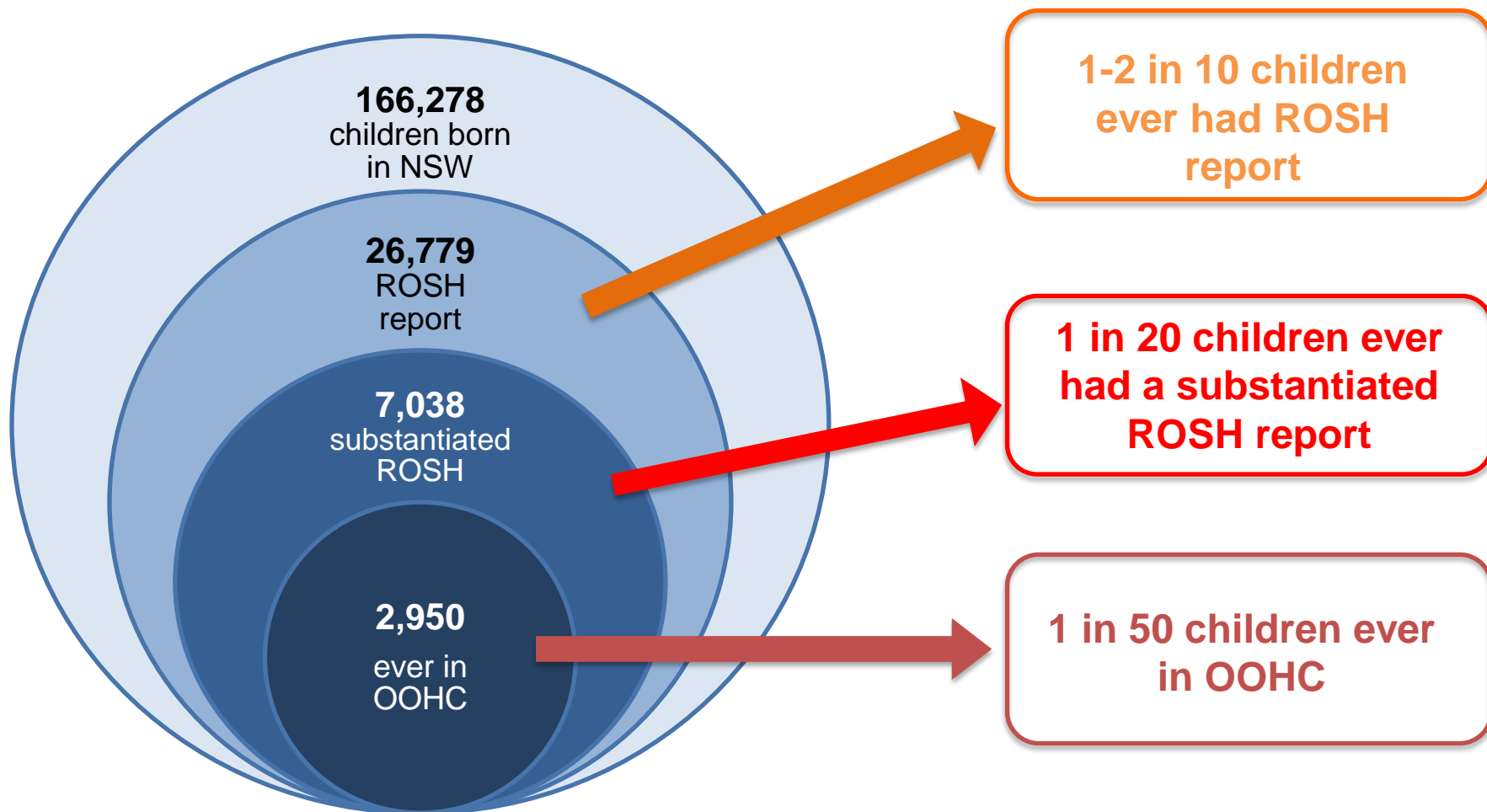
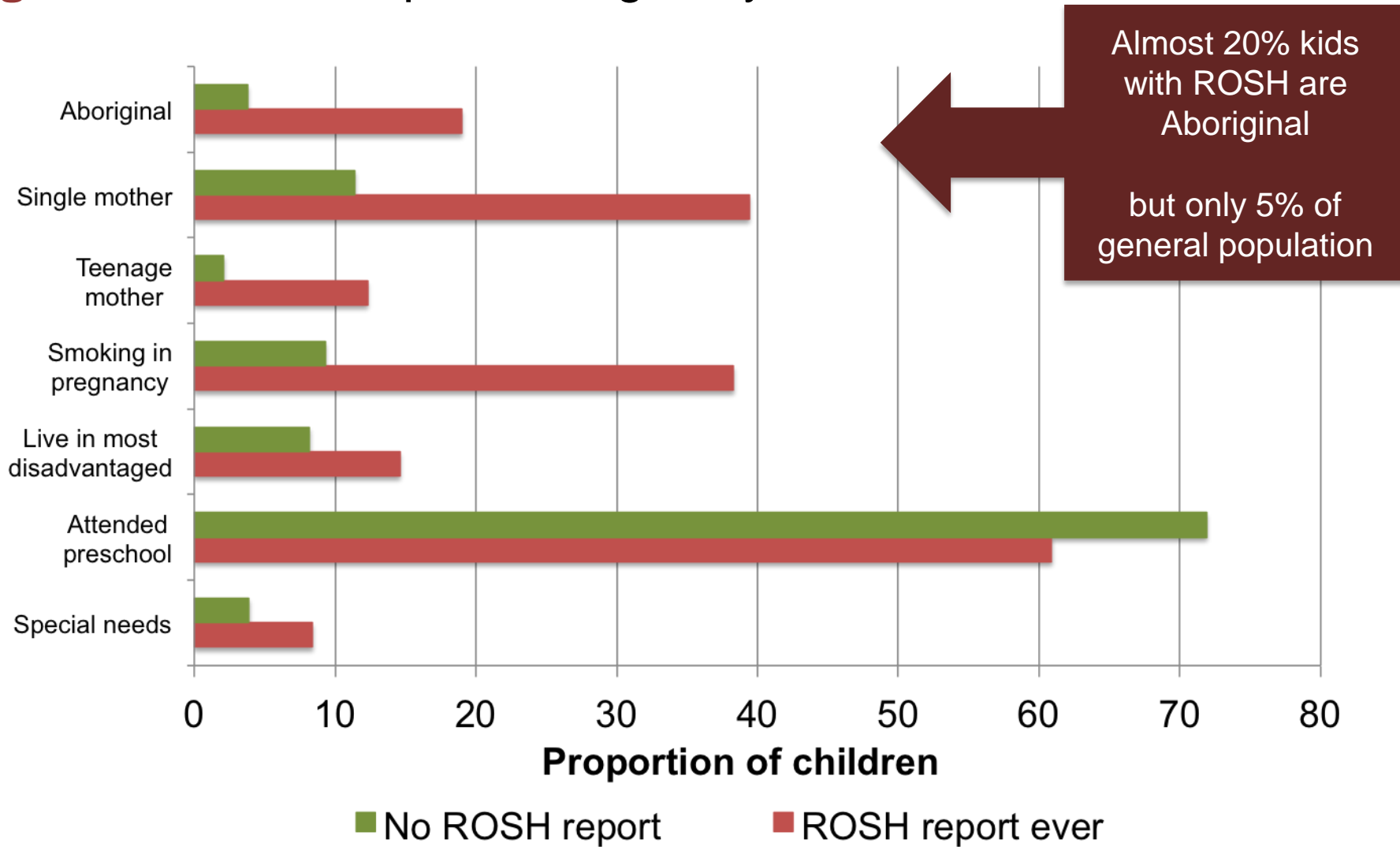Early life pathways of children who come to the attention of child protection services

# 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
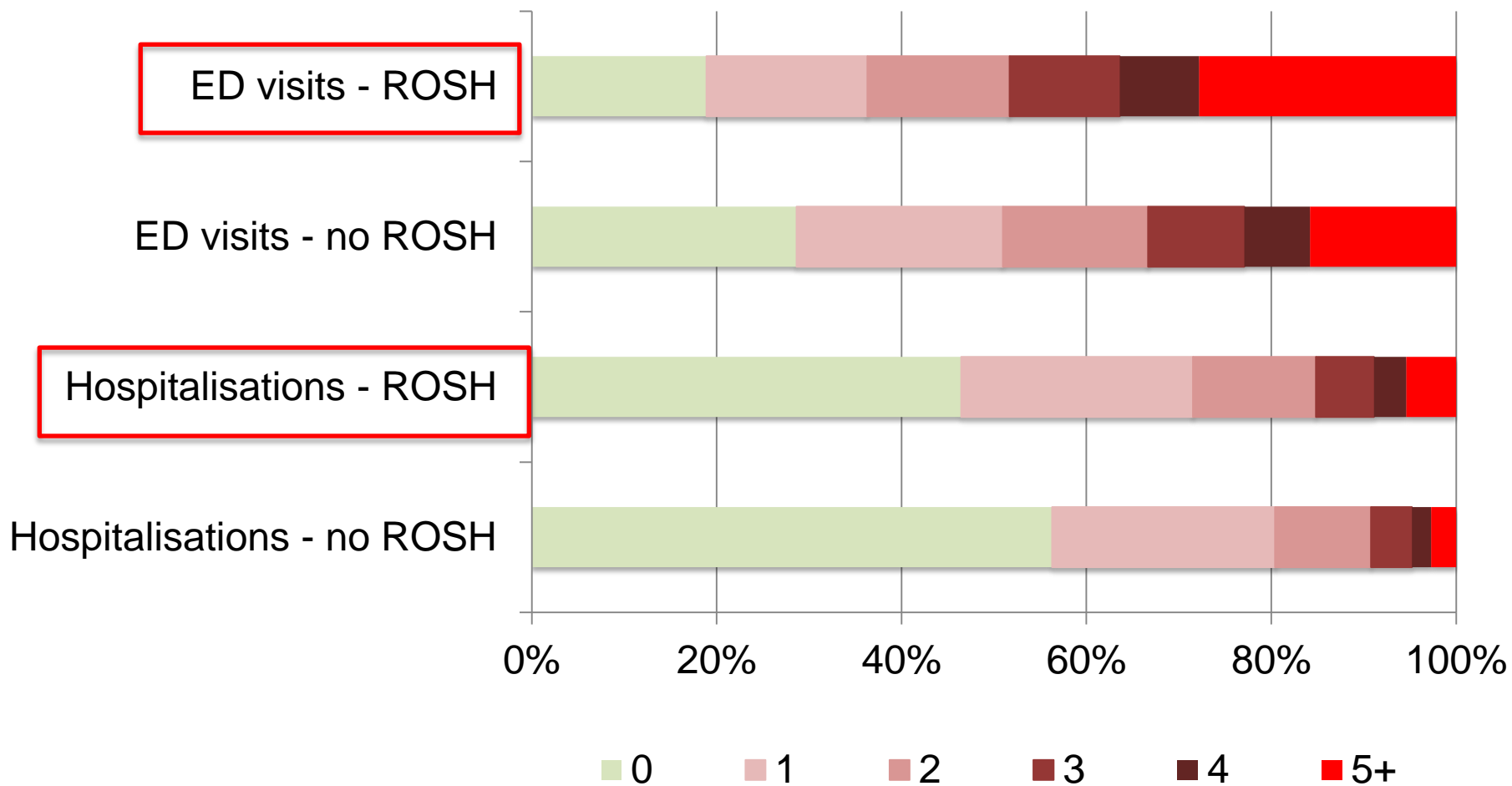
Implications for policy and practice?

Could joined-up routinely collected data at the point of care help health workers identify at risk kids earlier?

Implications for policy and practice

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"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

The Seeding Success Study: contact details

Dr Kathleen Falster, Study Director and Investigator

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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?

Year				
2013	**2014**	**2015**	**2016**	**2017**
Apply for NHMRC funding (March)	Draft data linkage protocol	Data linkage	Linkage of school enrolment data	Data analysis
Awarded grant (Nov)	Obtained data custodian approvals	Build data resource	Update data resource	Drafting reports and research papers
	Obtained ethical approvals	Data analysis	Data analysis	Future funding to use and maintain data resource?
			Drafting reports and research papers	
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