

# Understanding Developmental Trajectories through Data Linkage

Presented by John McKenzie  
Menzies School of Health Research  
July 2016



# Our NHMRC Partnership Project



## Partners:

- Menzies School of Health Research
- NT Government
- AMSANT

## Research Themes:

- drivers of good/poor developmental outcomes
- best measures of these outcomes
- benefits and costs of policies and interventions

## Study Cohort:

- NT Children born 1994-2014 (about 60,000)

We have:

- Birth, Hospitalisation & Immunisation
- Education Records (Attendance, NAPLAN etc)
- Australian Early Development Census
- Child Protection & Out of Home Care
- Community Level Data

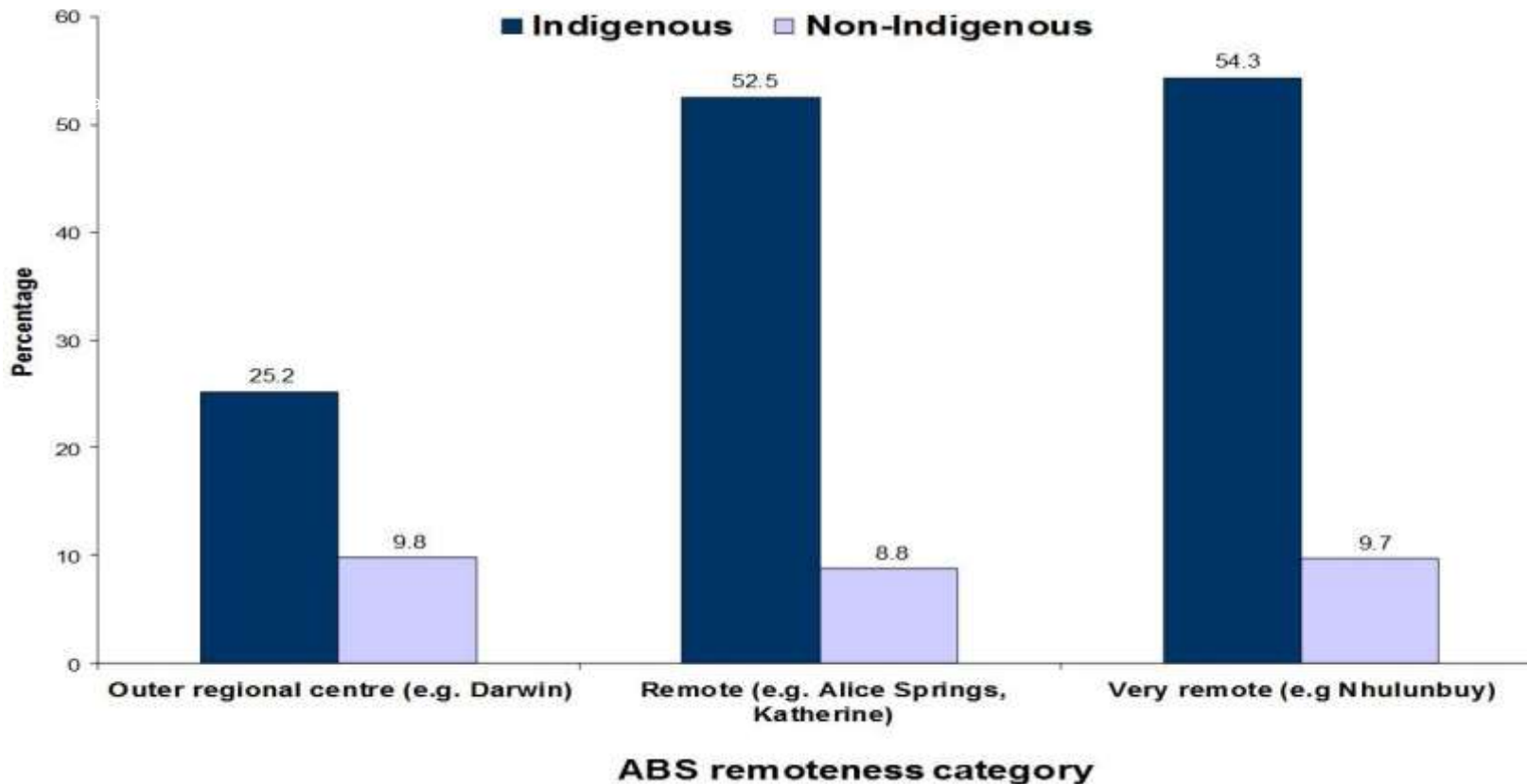
It is all de-identified.

The linkage is undertaken “at arm’s length” by SA NT Datalink

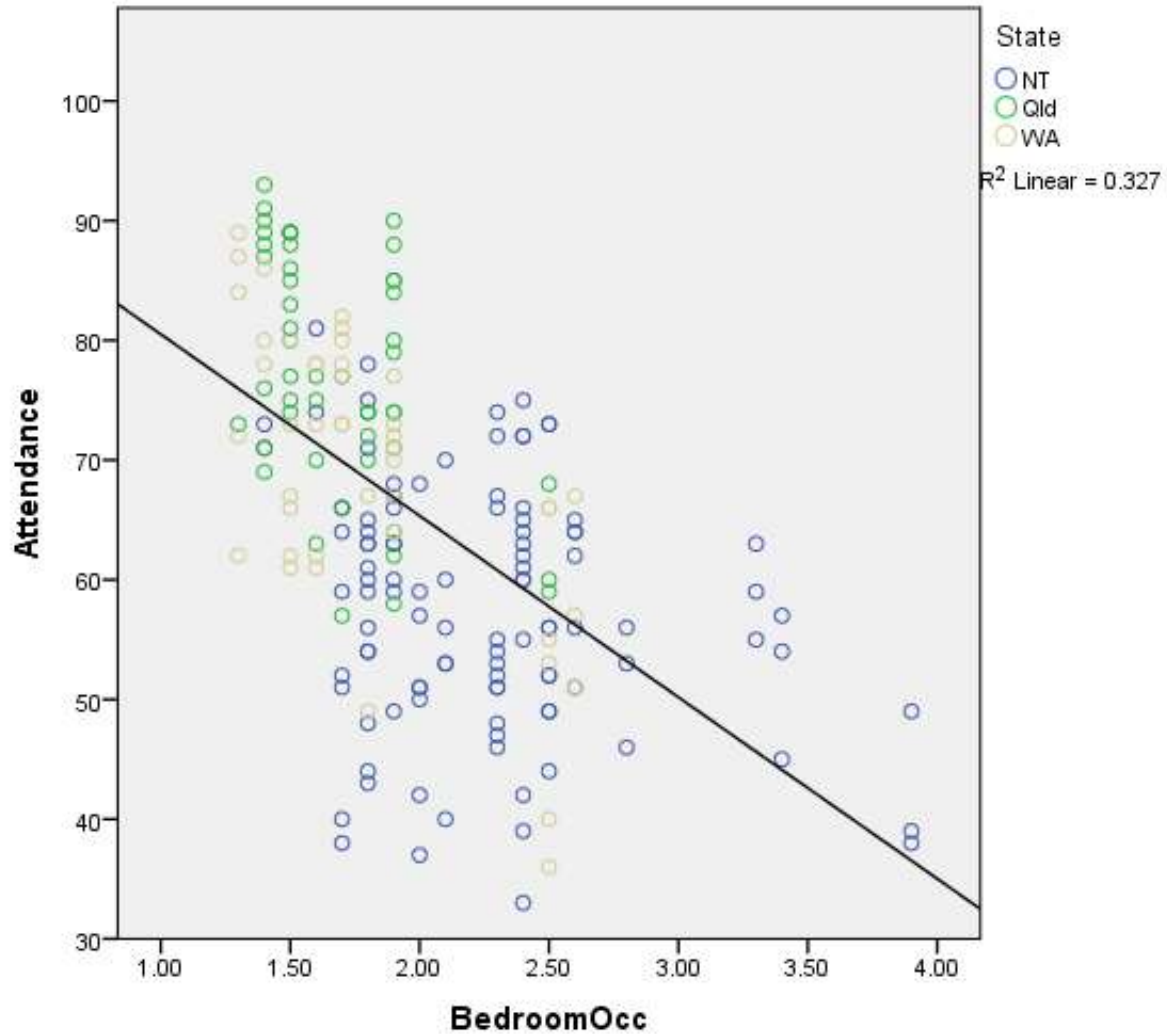
## Some Themes:

- Indigenous and Remote Children
- Different Cohorts, Different Outcome Drivers
- Demographic Drivers
- Failure of usual measures of SES

## Children Vulnerable 2+ Domains: NT AEDC, 2009



# Demographic Drivers



# Factors associated with Yr 3 reading < NMS

| <i>Factor</i>    | <i>All Children</i> |                    | <i>Indigenous Children</i> |                    |
|------------------|---------------------|--------------------|----------------------------|--------------------|
|                  | <i>N=7,601</i>      | <i>Adjusted OR</i> | <i>N=4603</i>              | <i>Adjusted OR</i> |
| Indigenous       | <b>60.6%</b>        | 2.89               |                            |                    |
| Carer Ed <year10 | 29.3%               | 2.68               | 43.9%                      | 2.56               |
| Mother <18yr     | 10.0%               | 1.86               | 15.6%                      | 1.91               |
| Remote           | 19.1%               | 1.11               | 18.2%                      | 1.46               |
| Very Remote      | 39.5%               | 2.70               | 60.7%                      | 3.51               |

Data: Linked Perinatal, Enrolment & NAPLAN data.  
 Note the selection bias (60% Indigenous).

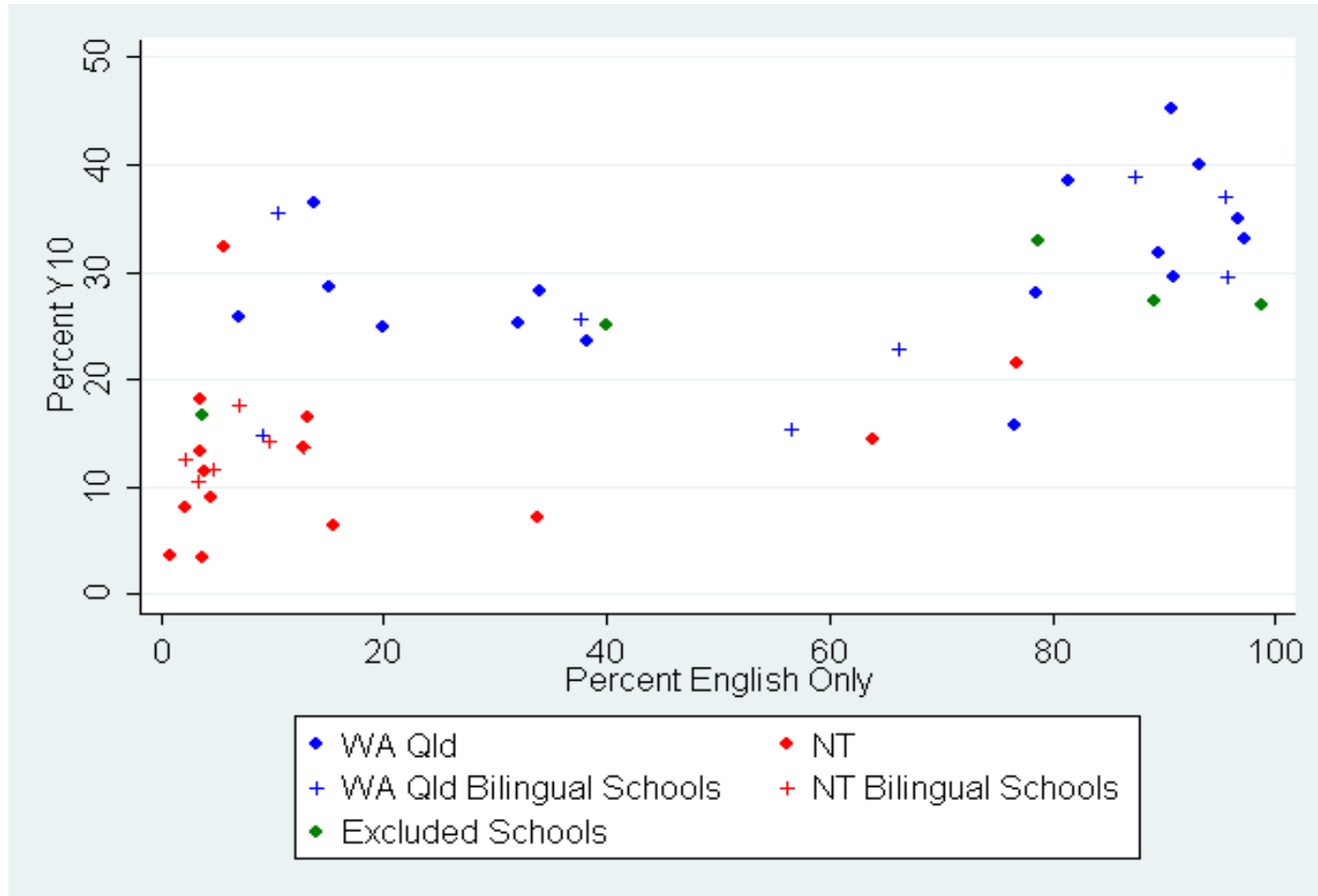
**Thank You**





# Is remote NT REALLY Different?

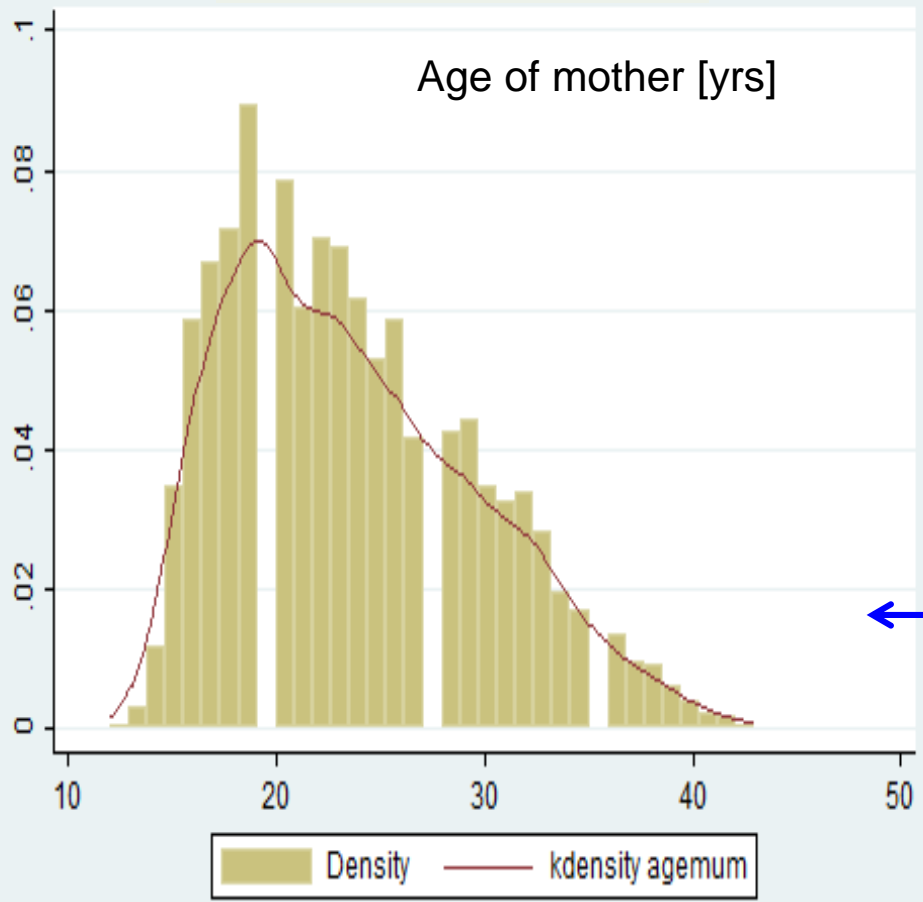
## NT Growth Town Schools and MySchool “equivalents” from WA & Qld



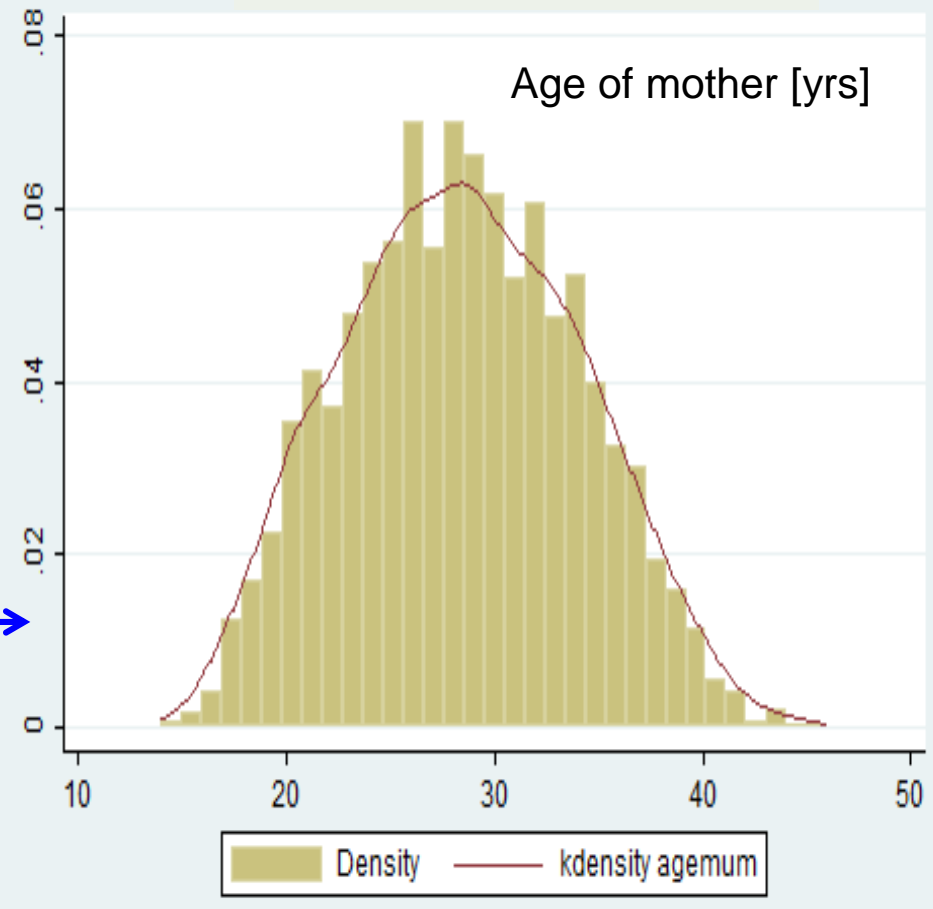
# Mother's age at time of child's birth



### Indigenous baby



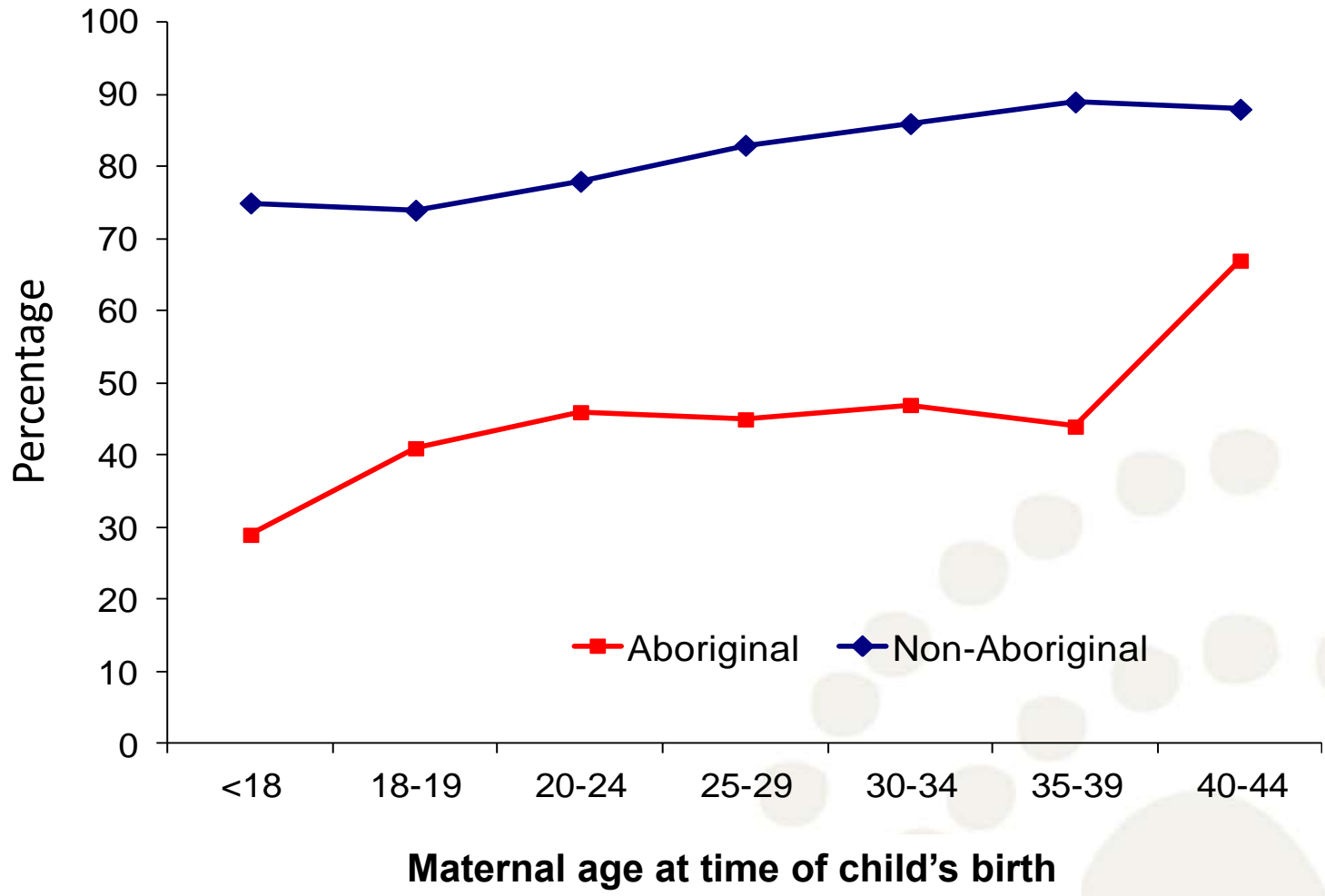
### Non-indigenous baby



# Maternal age & NAPLAN Yr 3 Reading



NT children scoring at or above the national minimum standard



Source: NT Early Childhood Development Datalinkage Study