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Maawit Maladjiny: A primary care provider intervention to improve early child neurodevelopment in urban Aboriginal children

Prof Dan McAuley, Edith Cowan University

Acknowledgement

- We would like to begin by acknowledging that we are in Treaty 1 territory and that the land on which we gather is the traditional territory of Anishinaabeg, Cree, Oji-Cree, Dakota, and Dene Peoples, and on the homeland of the Métis Nation.



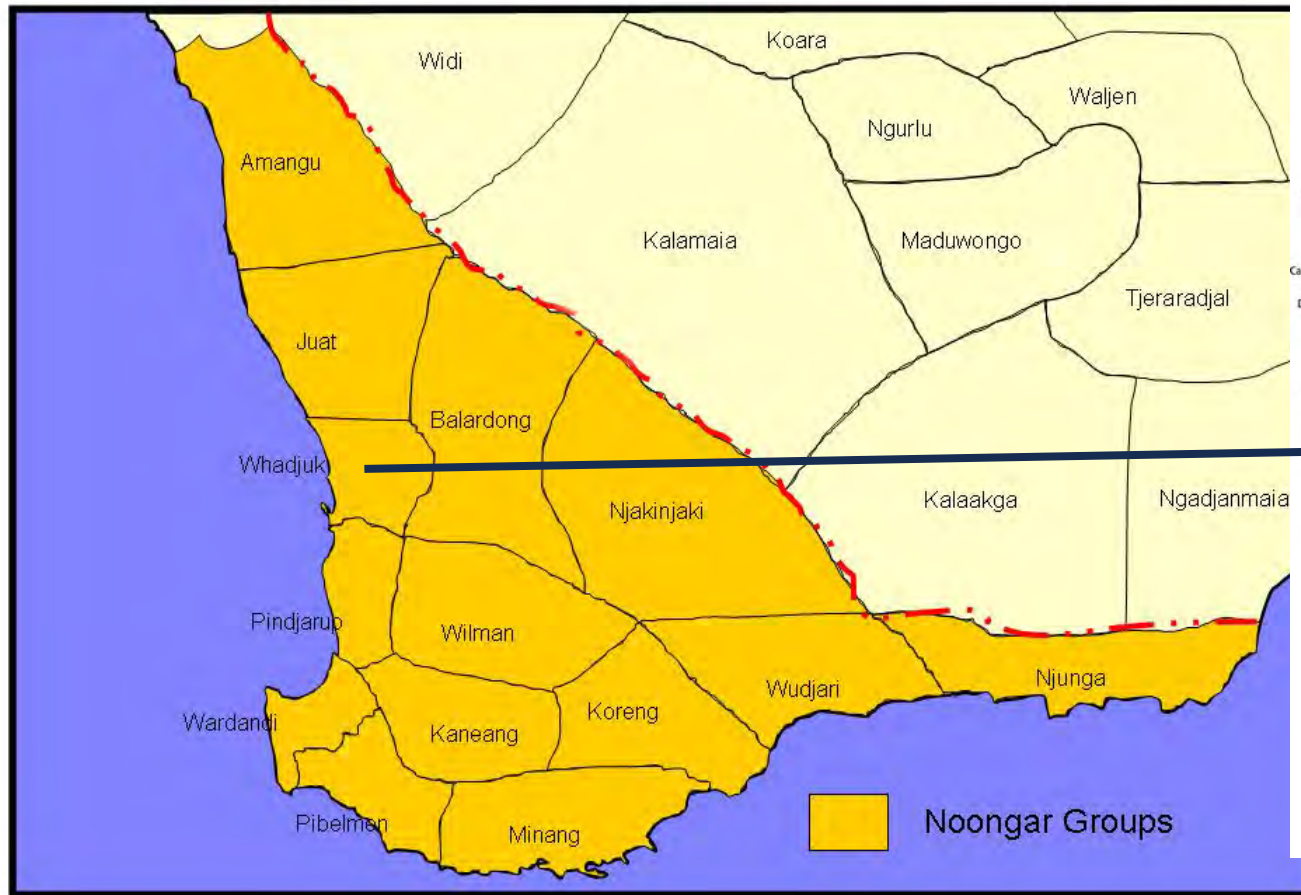
The World Map

Australia, Western Australia



Traditional lands of the Noongar nation. Perth, South-West Western Australia.

ABORIGINAL GROUPS OF THE SOUTH WEST OF WESTERN AUSTRALIA



Learning outcomes

1. Utilise the key elements of evidence synthesis in identifying the most appropriate study design and trial interventions in early child development.

2. Identify the key factors to consider when developing a clinical trial to be delivered in an Aboriginal population.

3. Increase understanding of how to deal with issues arising in the implementation of a CT through exposure to a real time example.

Maladjiny Research Centre

Western Australia

Our purpose

- To conduct research and evaluation that improves the delivery of health services to Indigenous children and their families.

Our vision

- To ensure there are high quality health services that respond to needs of Indigenous children and their families.

Our mission

- To support Indigenous families having active participation in a responsive health care system.



Maladjiny Research Centre Activity

- Research and evaluation of service delivery / models of care systems and existing health and wellbeing programs both existing and new
 - Implementation
 - Data Linkage
 - Evidence synthesis
- Build capacity within health services, researchers, policy makers, and students



Importance of early childhood development

Globally, more than 40% of disadvantaged children under five years have neurodevelopmental problems resulting in social, emotional, and educational functioning deficits into adulthood.

The first 1,000 days of a child's life have the greatest opportunities and greatest risks that directly impact their health.

Optimising early childhood development (ECD) can reduce lifetime inequality.

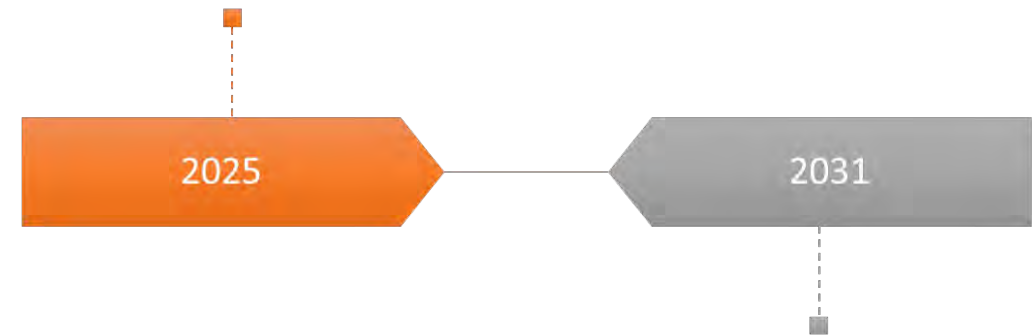
Closing the Gap

Targets

Closing the gap is a national strategy aimed at reaching equality in health, education and economic outcomes between Aboriginal and Torres Strait Islander people and non-indigenous persons.

Target 3 and 4 specifically relate to child development.

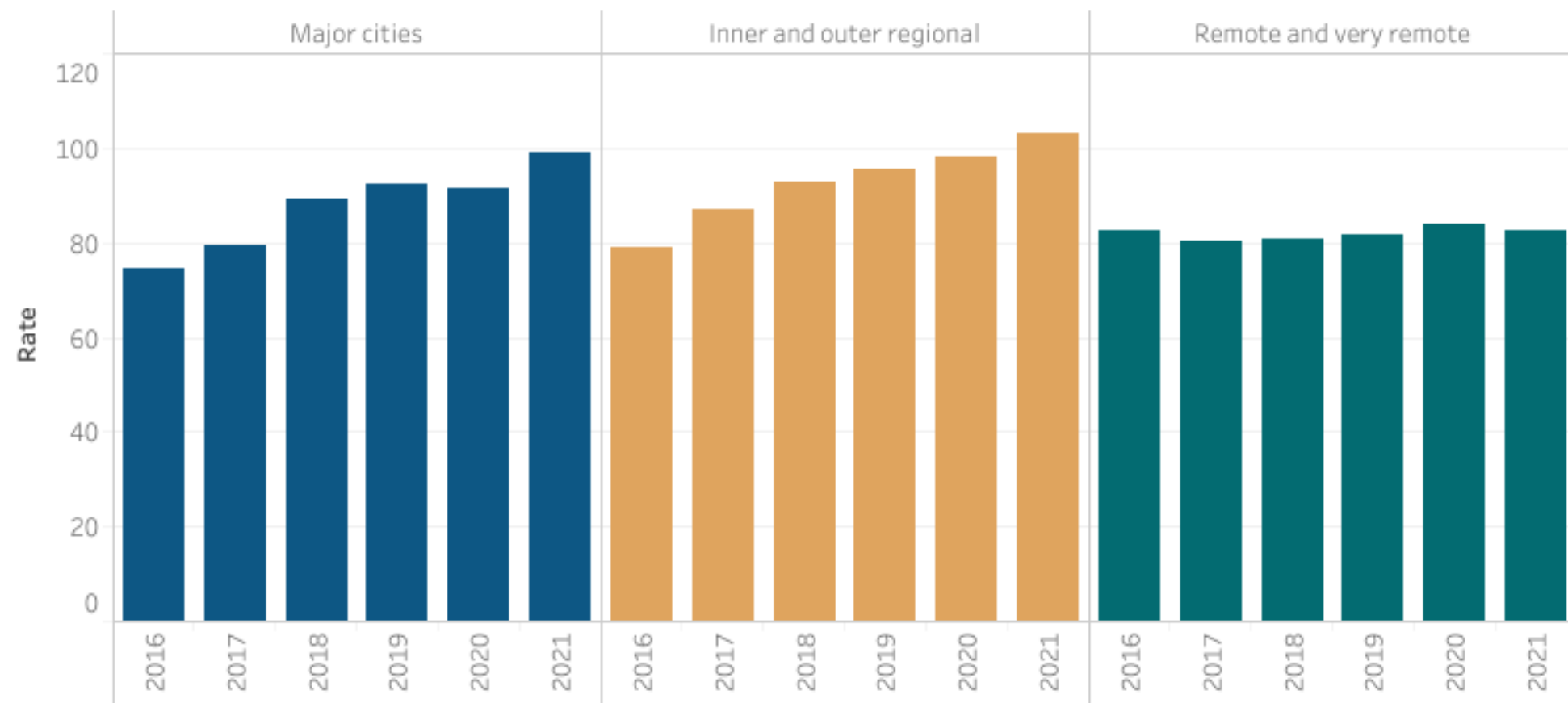
Target 3: By 2025, increase the proportion of Aboriginal and Torres Strait Islander children enrolled in Year Before Full time Schooling (YBFS) early childhood education to 95 per cent.



Target 4: By 2031, increase the proportion of Aboriginal and Torres Strait Islander children assessed as developmentally on track in all five domains of the Australian Early Development Census (AEDC) to 55 per cent.



Figure CtG3.3 Rate of Aboriginal and Torres Strait Islander children in the state-specific YBFS age cohort who are enrolled in a preschool program, per 100 children aged 4 years in the community, Aust (a)
by remoteness area, by year

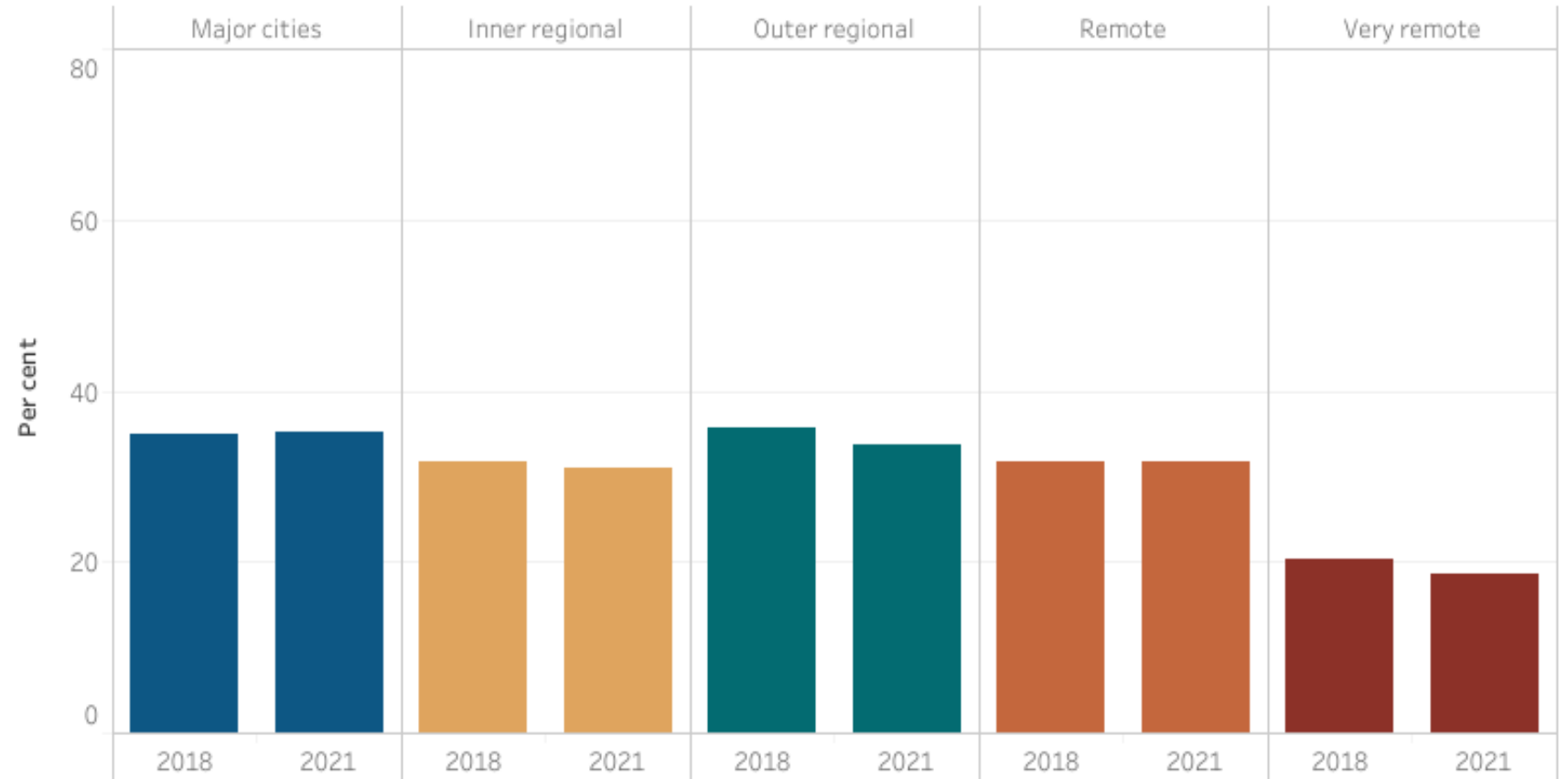


Source: table CtG3A.5, Derived from ABS (unpublished) Preschool Education Australia; ABS (unpublished) Estimates and Projections
Aboriginal and Torres Strait Islander Australians

(a) There are no major cities in Tasmania or the NT and no remote (including very remote) areas in the ACT.

In 2021, 31.3% of WA Aboriginal children were developmentally on track on all five AEDC domains

Figure CtG4.3 Children assessed as developmentally on track in all five domains of the AEDC, Aboriginal and Torres Strait Islander people, WA
by remoteness area, by year

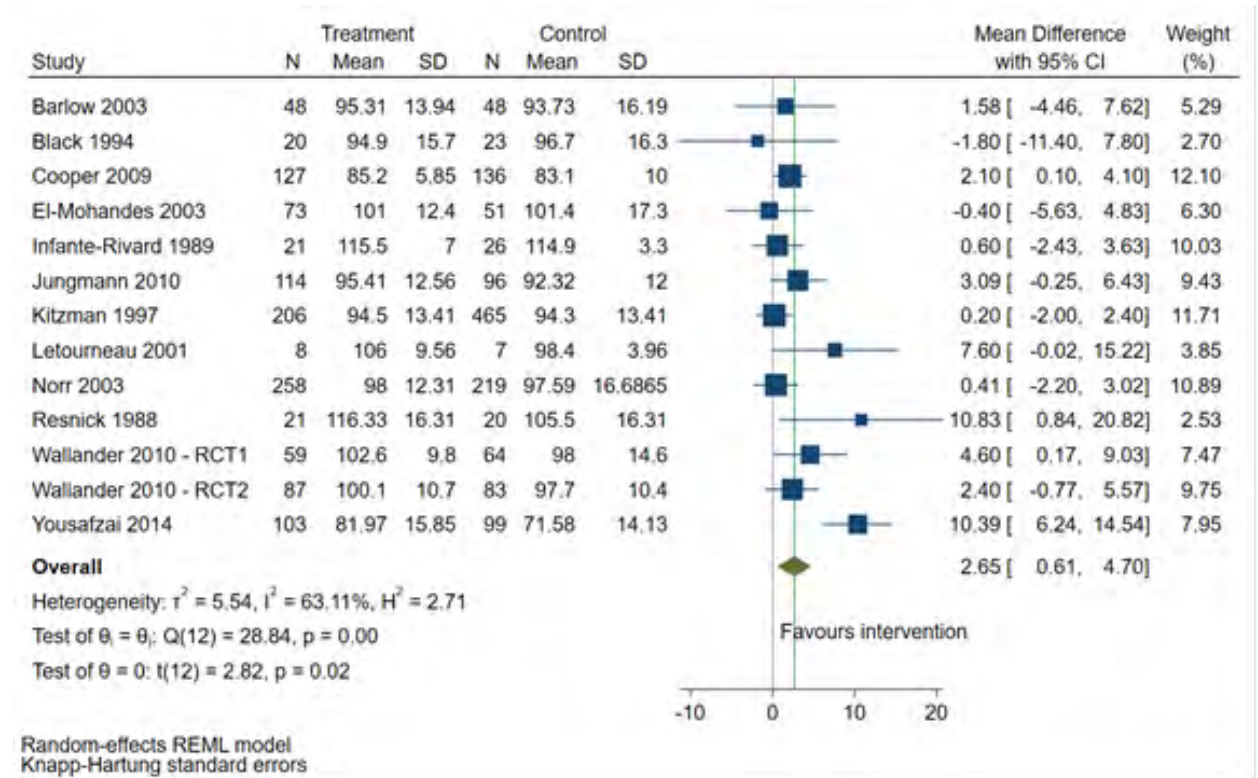


Source: table CtG4A.4, Australian Government Department of Education Skills and Employment Australian Early Development Census

ECD interventions improved cognitive outcomes in infants aged between 0-36 months¹

ECD intervention implemented in the neonatal period by health service providers

We found no studies or programs that targeted Aboriginal children in our review.



N = Number of children in study, SD = Standard deviation, 95% CI = 95% confidence interval

Choosing the intervention



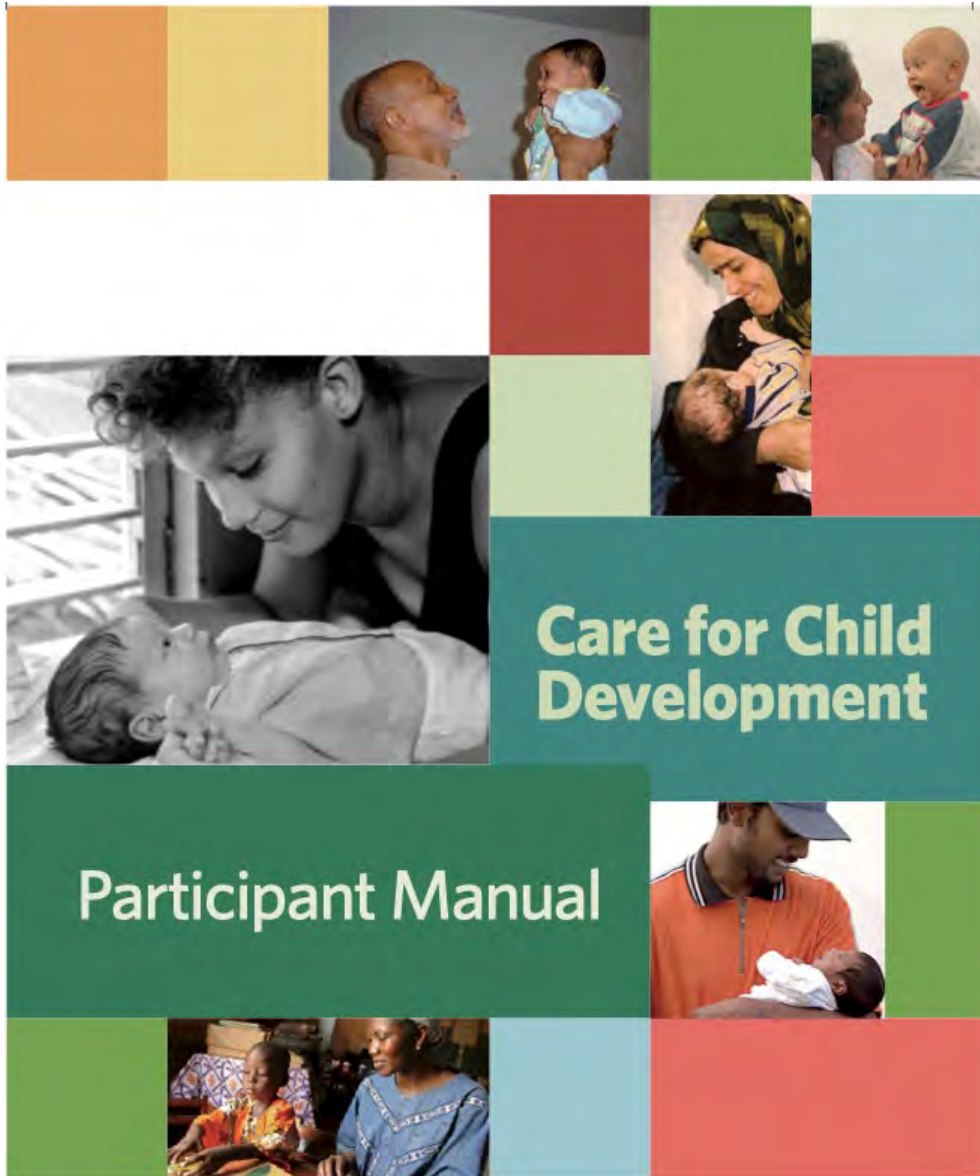
EVIDENCED BASED



FLEXIBLE AND CULTURALLY
ADAPTABLE



EASILY INTEGRATED INTO
EXISTING SERVICE PROVISION



‘Care for Child Development’ (CCD) program

- Healthcare provider delivered ECD interventions include WHO's Care for Child Development package (CCD)
- CCD program has been implemented in Aboriginal communities in the Northern Territory and was easily adapted within the urban and remote contexts



Maawit Maladjiny

Overall aim

Improve Early Child Development outcomes for Aboriginal children in an urban population.

Primary objective

Determine whether the CCD program improves infant cognitive development at 12 months compared to usual care.

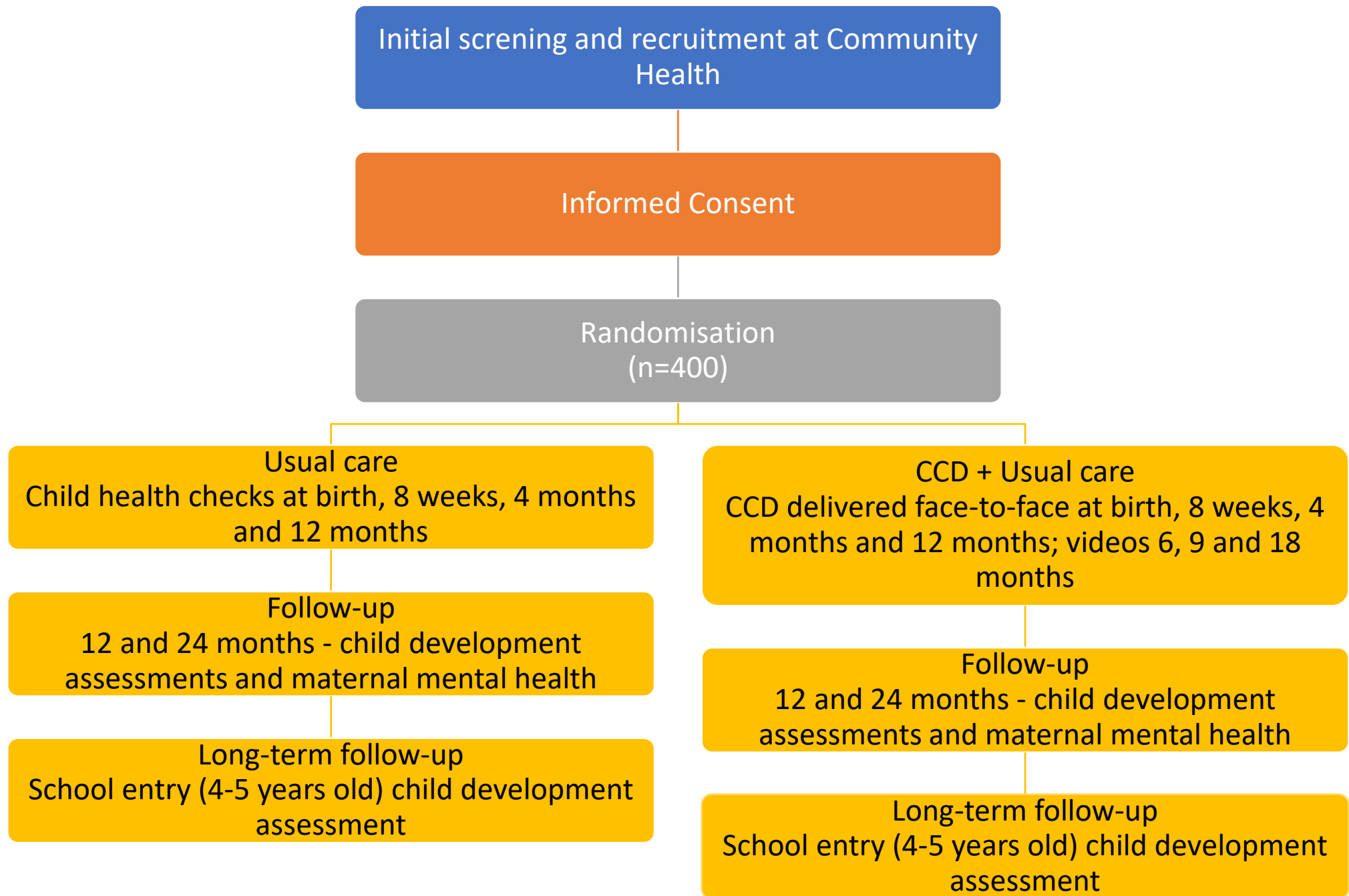
Secondary objectives

Determine whether the CCD program compared with usual care improves language and motor development, parent responsiveness and maternal mental health at 12 and 24 months.



Research Team

- CIs and AIs: 3 Senior Aboriginal researchers, 3 Senior Researchers, 3 Mid-Career Researchers, PhD Student; across multiple universities; Health Service leaders
- Skillset mix – Cultural leadership, Epidemiologists, Statisticians, Nurses, Midwife, Health Economist, Health services researchers, Policy makers, Paediatricians, Neonatologist, Child development specialists, Policy makers



Setting

- Perth metropolitan area at centres which provide free child health checks 'Universal Services' and 'Universal Plus' services which provide extra support for child health, development and parenting
- Implemented within Community Health

Participants and recruitment

- Aboriginal infants up to one month of age over a 12-month period will be eligible
 - Including high risk infants, such as preterm infants and those under the care of child protection
- Recruitment/Retention Officer (RRO) will be an Aboriginal person with strong connections to the community who liaise with the Aboriginal Health Team at Community Health and DYHS to identify these families for the study

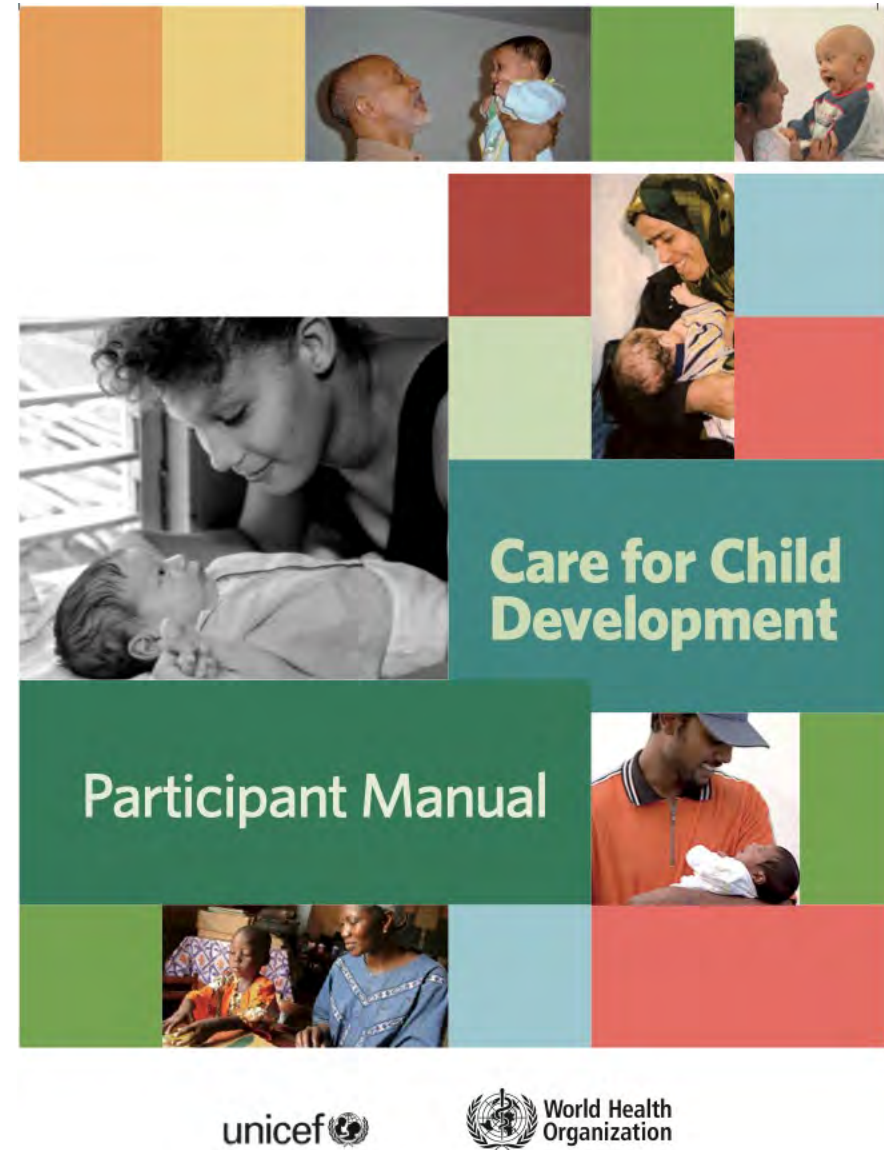


Intervention

In WA, child health checks are completed at birth-14 days, eight weeks, four months, and 12 months

Control group: will receive Universal Services, Universal Plus, and Partnership Child Health Services depending on the child's need

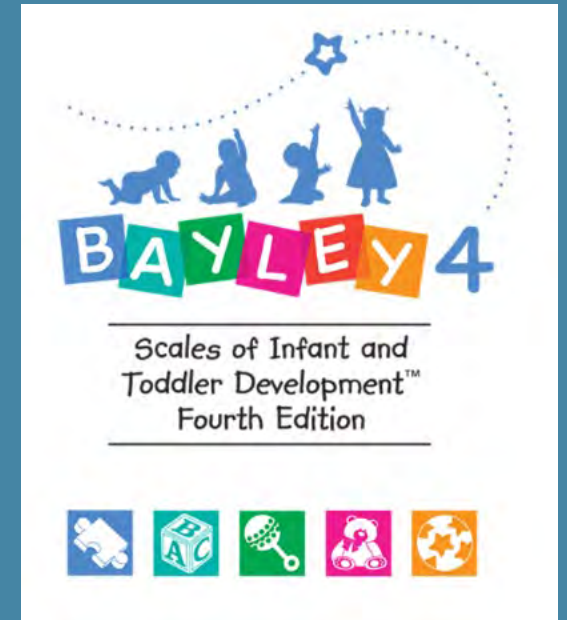
Intervention group: Trained interventionists will deliver the WHO/UNICEF Care for Child Development (CCD) package at each child health check + animation videos



Data collection

Our study focuses on the three most important outcomes for parents and their infants at 12 and 24 months:

- Early child neurodevelopment – Bayley-4
- Caregiver mental health
 - Aboriginal Patient Health Questionnaire-9 (aPHQ-9)
- Parental responsiveness
 - Observation of Mother-Child Interactions
 - School entry development assessments
 - ASQ-TRAK



Significance of outcomes

- Published benefit-cost ratios suggest that for every dollar invested in early childhood development services, there will be at least a \$2 return to society.
- The economic return has been estimated at between 15-17% for every dollar, when considering crime, education and welfare savings, and increased taxes due to higher earnings.
- Community Health support for translating this into practice.



PhD Proposal: Process evaluation and implementation science

The question

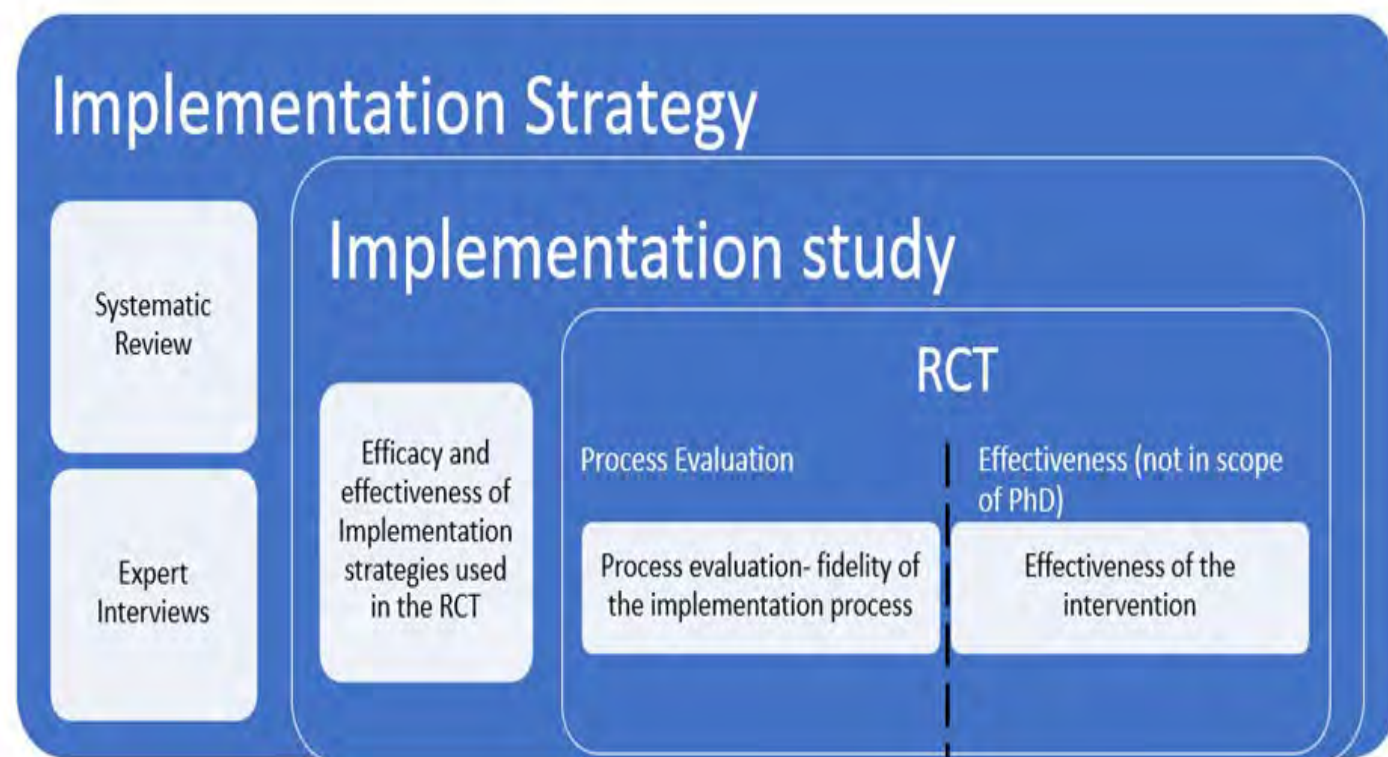
Can a randomised control trial process evaluation be combined with implementation science to speed up the implementation and scale up of evidenced based early child development programs in primary health care?

The problem

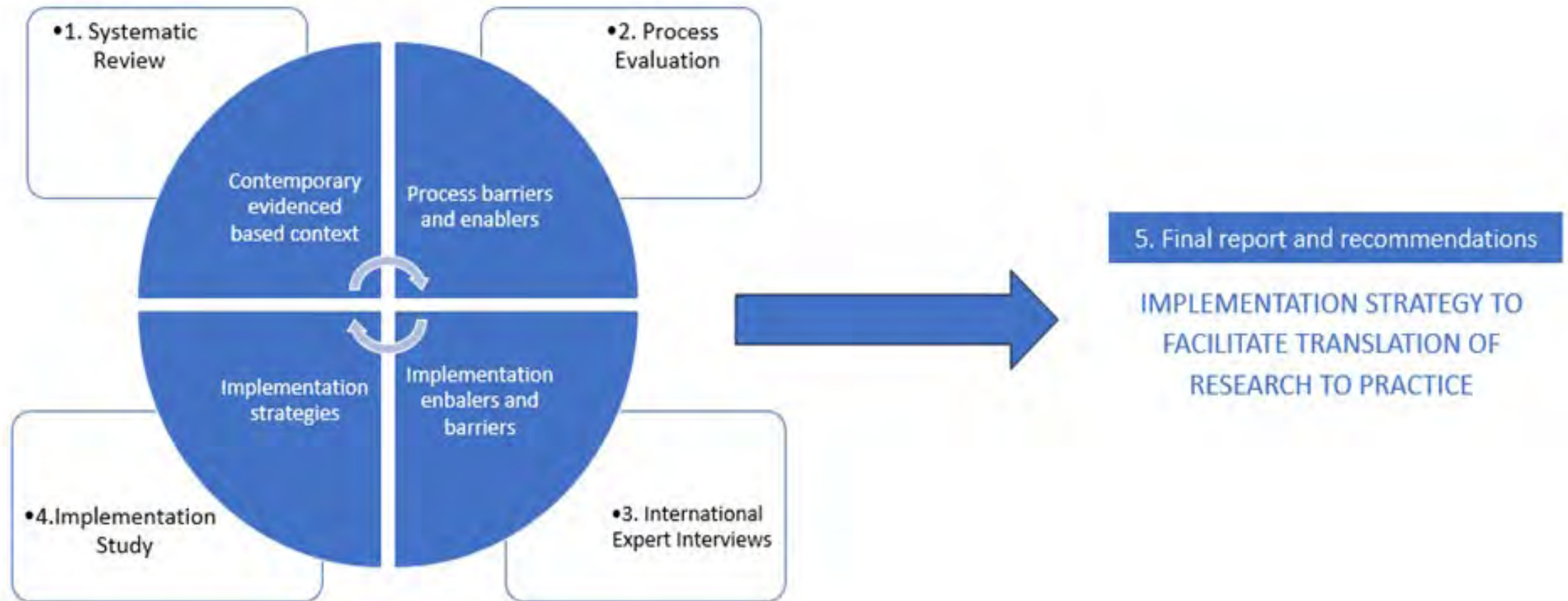
- There is often a long time-lag between research and practice
- Process evaluations are encouraged but not common in trials
- Process evaluation focus on the trial phase with real world implementation learnings secondary
- Implementation theory is complex and relatively new as a “science”

Proposed PhD study alongside the Maawit Maladjiny RCT using a nested approach

1. Process Evaluation of the intervention in the RCT
2. Implementation study
3. Systematic review
4. Expert Interviews



Proposed PhD study in a nutshell





Progress on the Maawit Maladjiny trial

Funding

Ethics and Governance

Research Team

Meetings with the CCD developer – Dr Jane Lucas

Observation of CCD in action : Tanzania

Training from International expert from Belize

Adapted training and associated materials

Development of animated videos

Dr Jane Lucas: CCD Developer





Tanzania



Tanzania



Reflections from Tanzania



Contextualizing the program

Training Modification


- Classroom training shortened from five days to one day to reflect the workers existing understanding of child development
- One practical day to translate knowledge into practice
- Teaching methods adapted for adult learners
- Adopted a train the trainer model


Resources and Workforce

- Resources adapted to the local context include videos for parents
- Workforce employed in health vs. volunteers


Training the trainers



- 

Care for Child Development
- 

Course objectives

 1. Observe Responsive Caregiving
 2. Teach primary caregivers how to play and communicate with their children
 3. Help troubleshoot problems
- 

Technical Sessions

 - Group work
 - Role play
 - Learn concepts
 - Observation
 - Support
 - Practical sessions
 - Debriefing
- Give example of caregivers

Course objectives

1. Observe Responsive Caregiving
2. Teach primary caregivers how to play and communicate with their children
3. Help troubleshoot problems



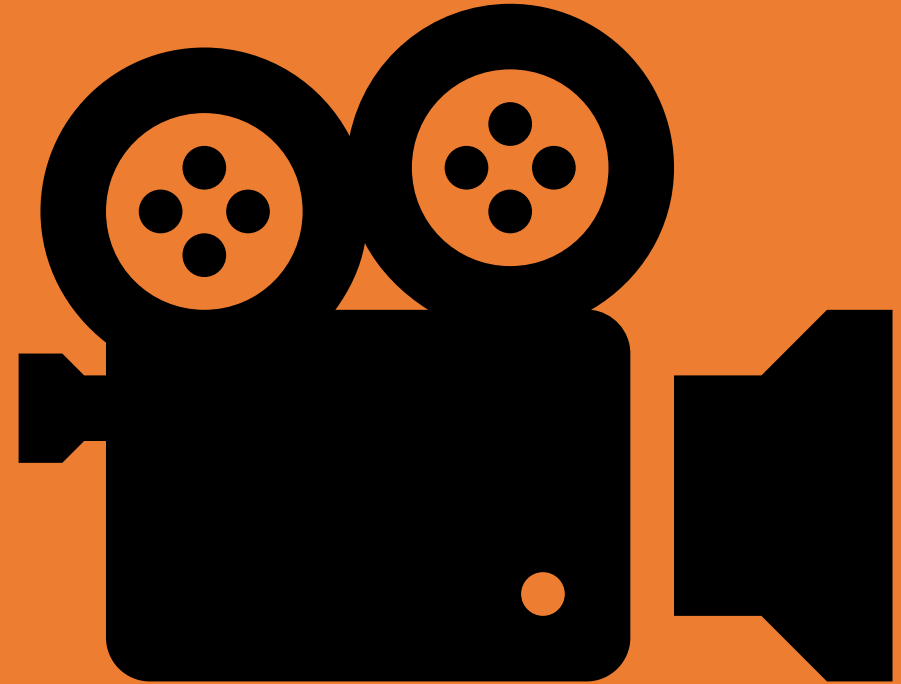
Practical Training

Practical sessions with volunteer caregivers and bubs at different ages.





Animated
videos



Current state of the project:

Pilot phase



All recruitment documentation prepared



Animated videos developed



Recruitment officer and CCD worker trained



Pilot study has commenced



First phone calls made...



Questions?

Maladjiny

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