

Adopting a causal pathways approach to improving the health and educational outcomes of Indigenous children

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“Closing the Gap” targets



0–4 years
Halve the gap in mortality rates for Indigenous children under five within a decade



4–16 years
Halve the gap in reading, writing and numeracy achievements for children within a decade



15–64 years
Halve the gap in employment outcomes within a decade

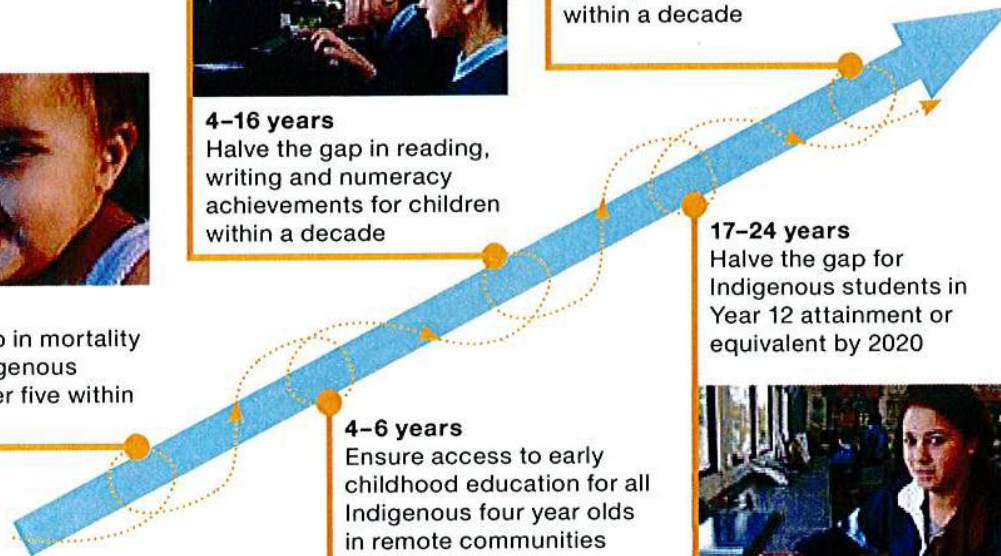


17–24 years
Halve the gap for Indigenous students in Year 12 attainment or equivalent by 2020



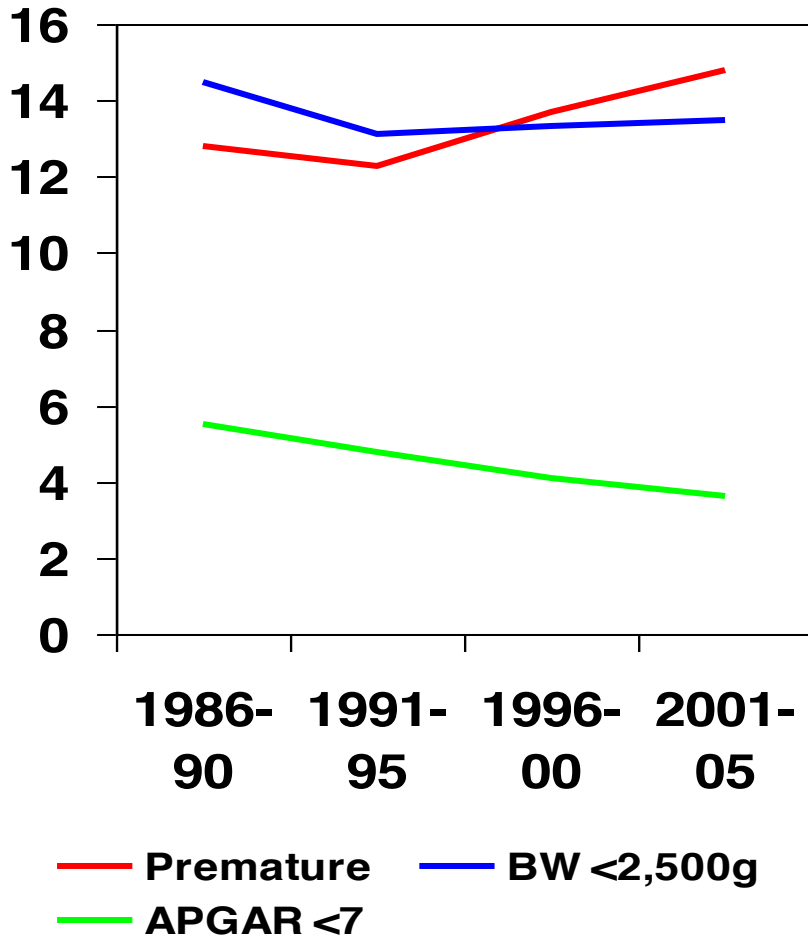
4–6 years
Ensure access to early childhood education for all Indigenous four year olds in remote communities within five years

Overarching target
Close the gap in life expectancy within a generation

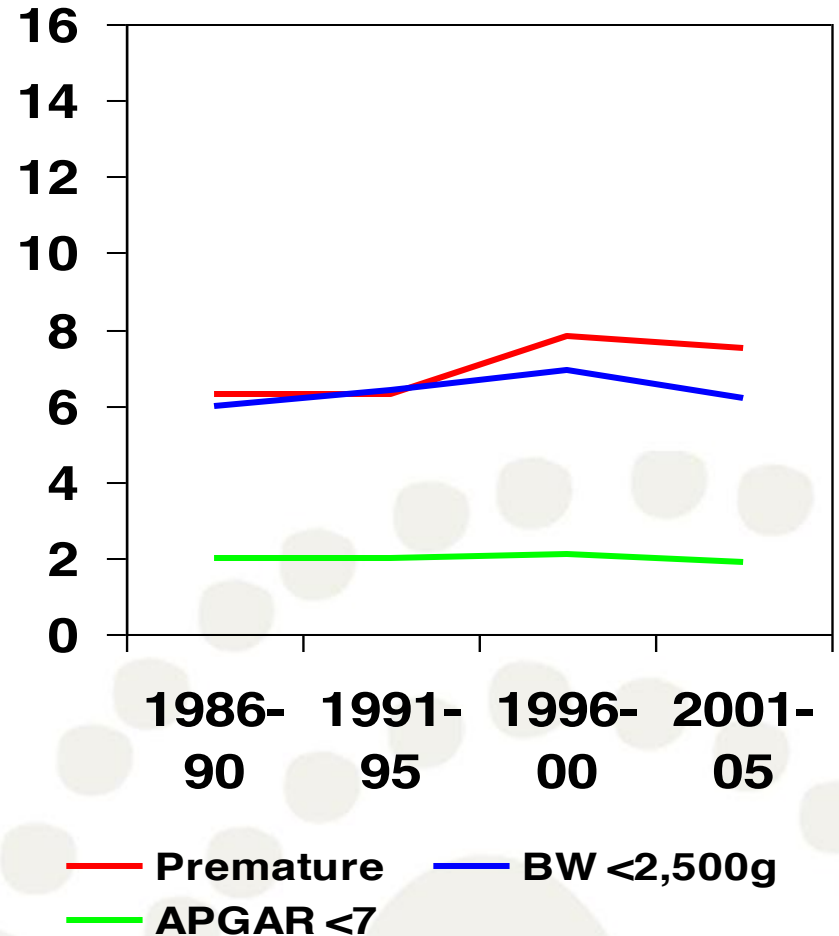


NT Birth outcomes: 1986-2005

Percentage of Indigenous births

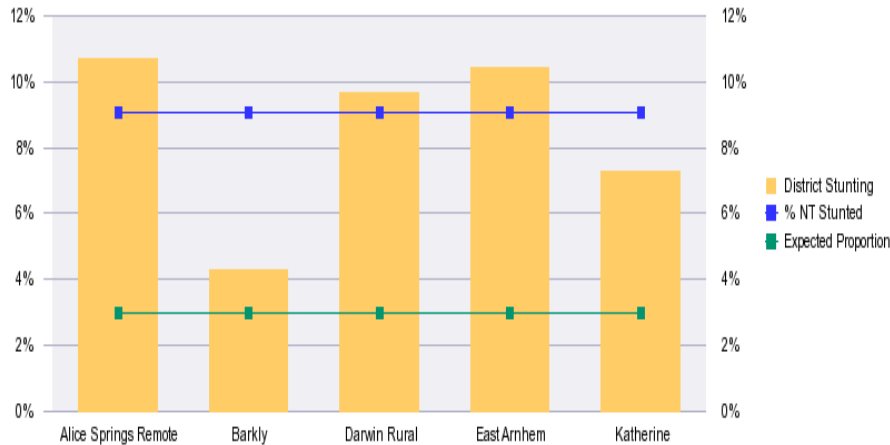


Percentage of non-Indigenous births

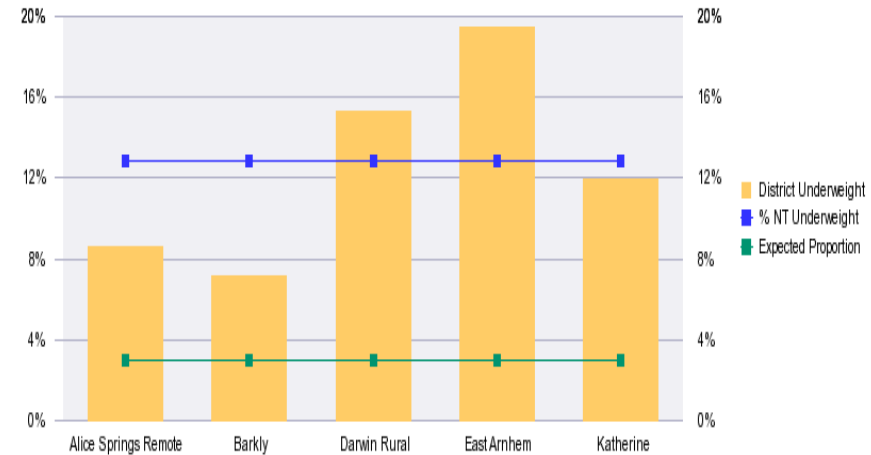


Child growth and nutrition

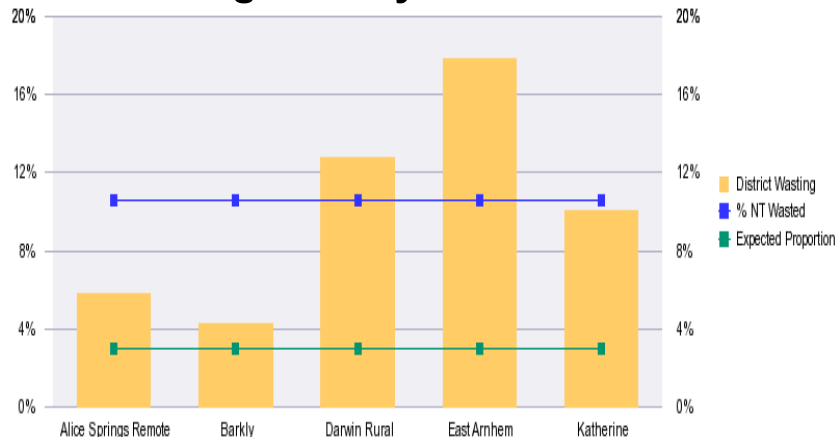
Children aged < 5 yrs STUNTED



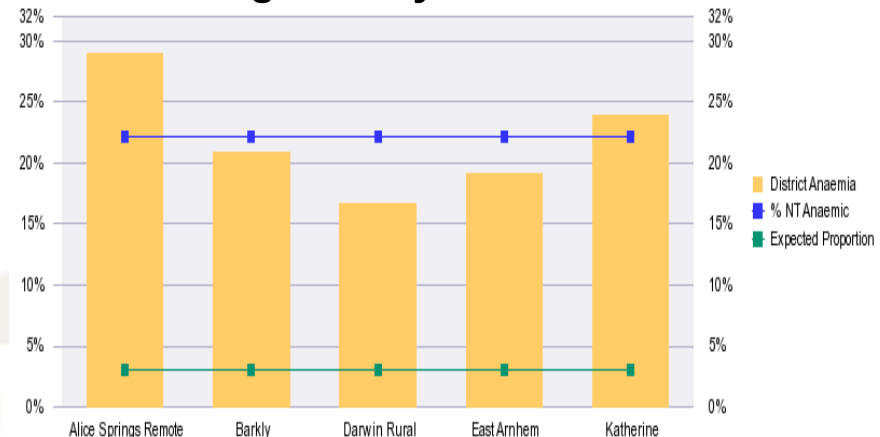
Children aged < 5 yrs UNDERWEIGHT



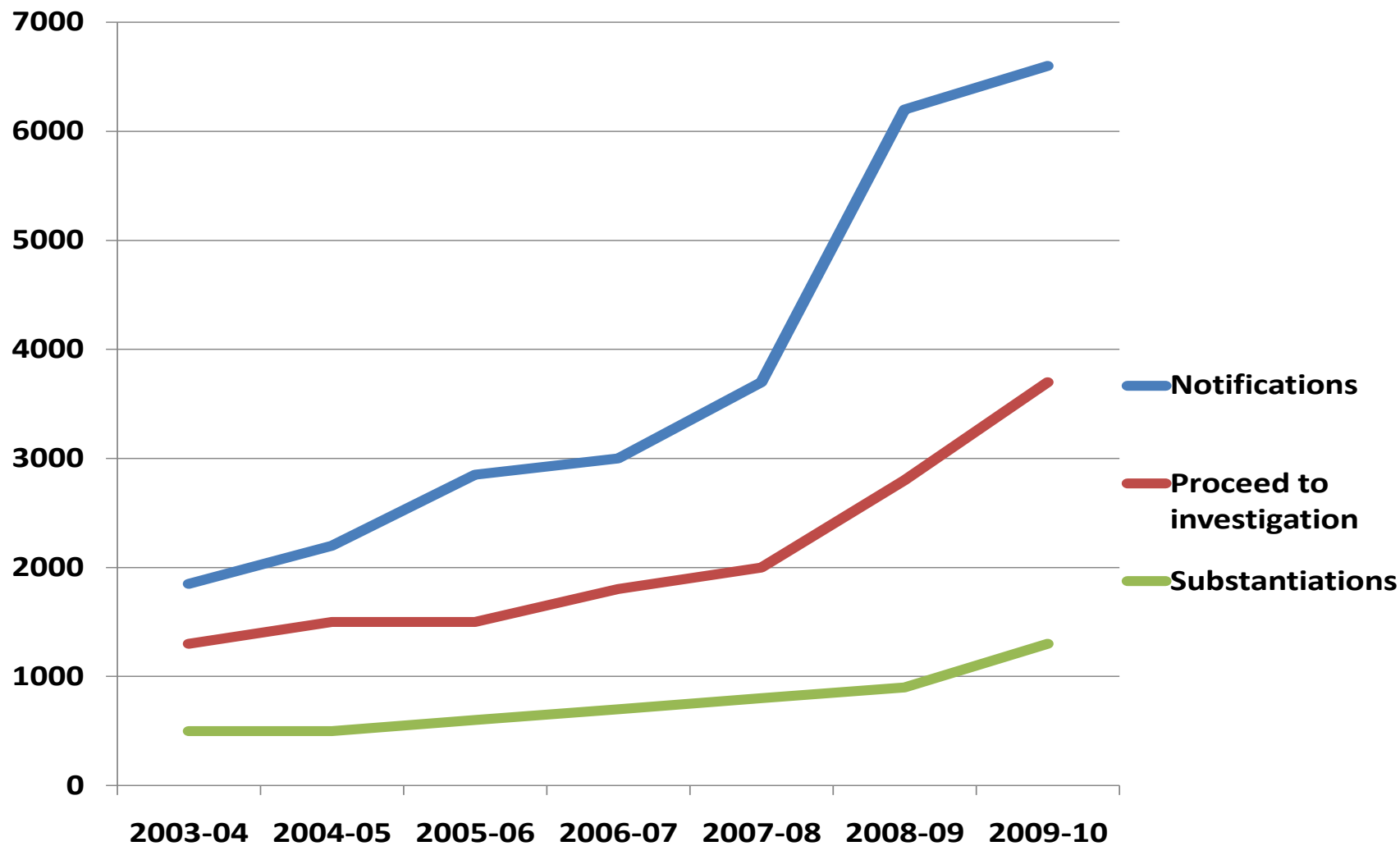
Children aged < 5 years WASTING



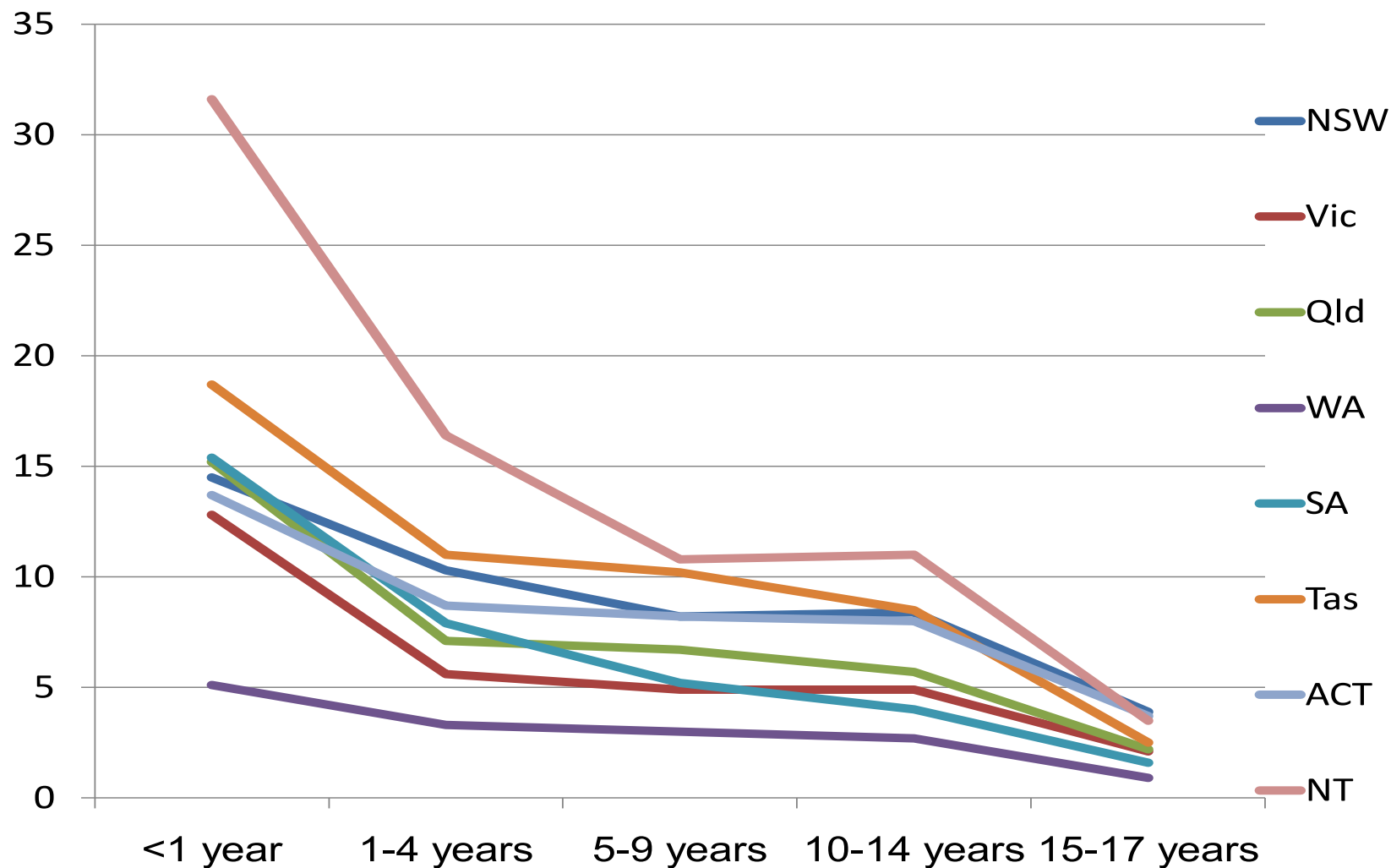
Children aged < 5 years ANAEMIC



Child abuse: NT 2003 - 2010

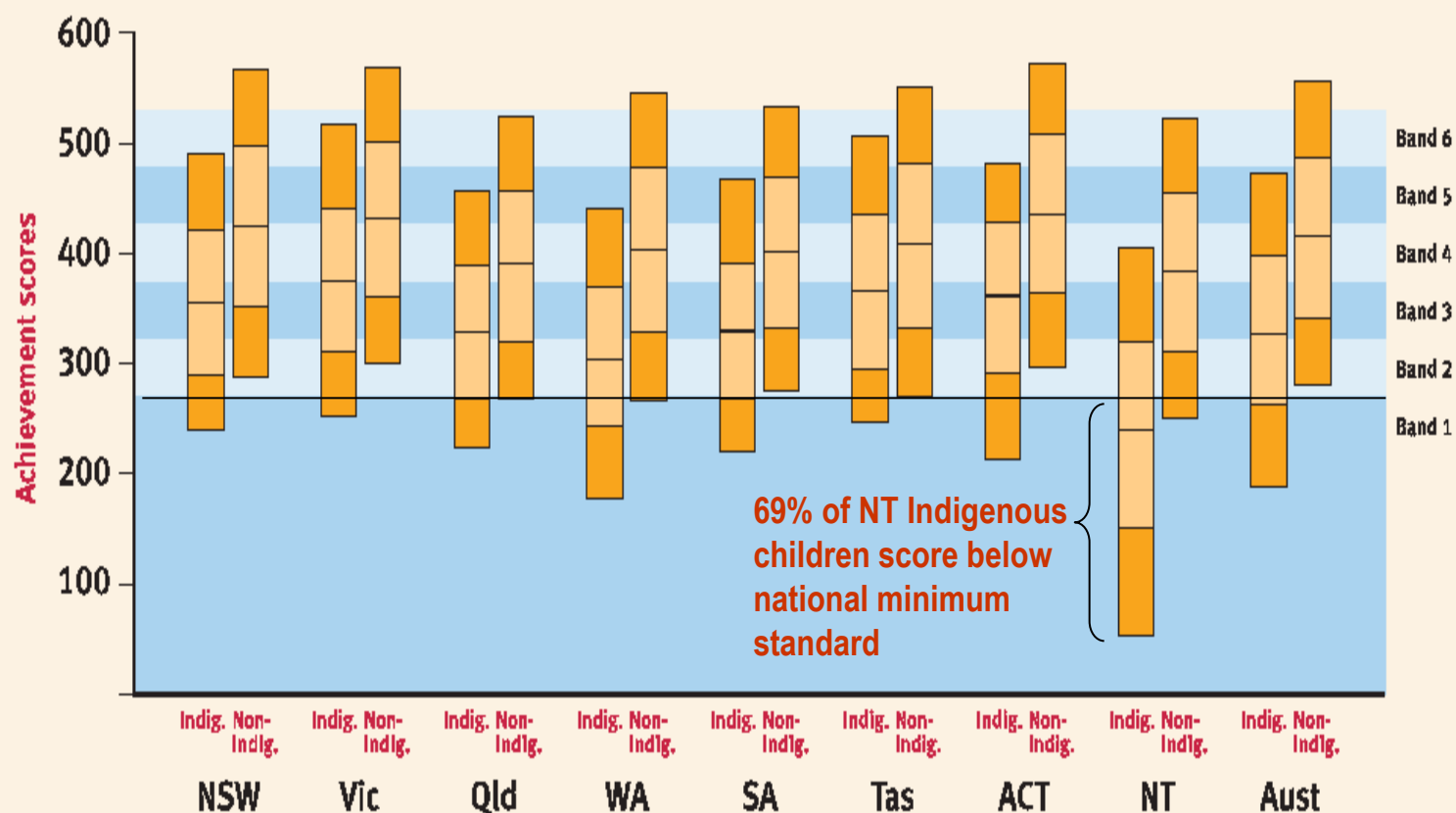


Substantiations of child maltreatment notifications by age, state & territory



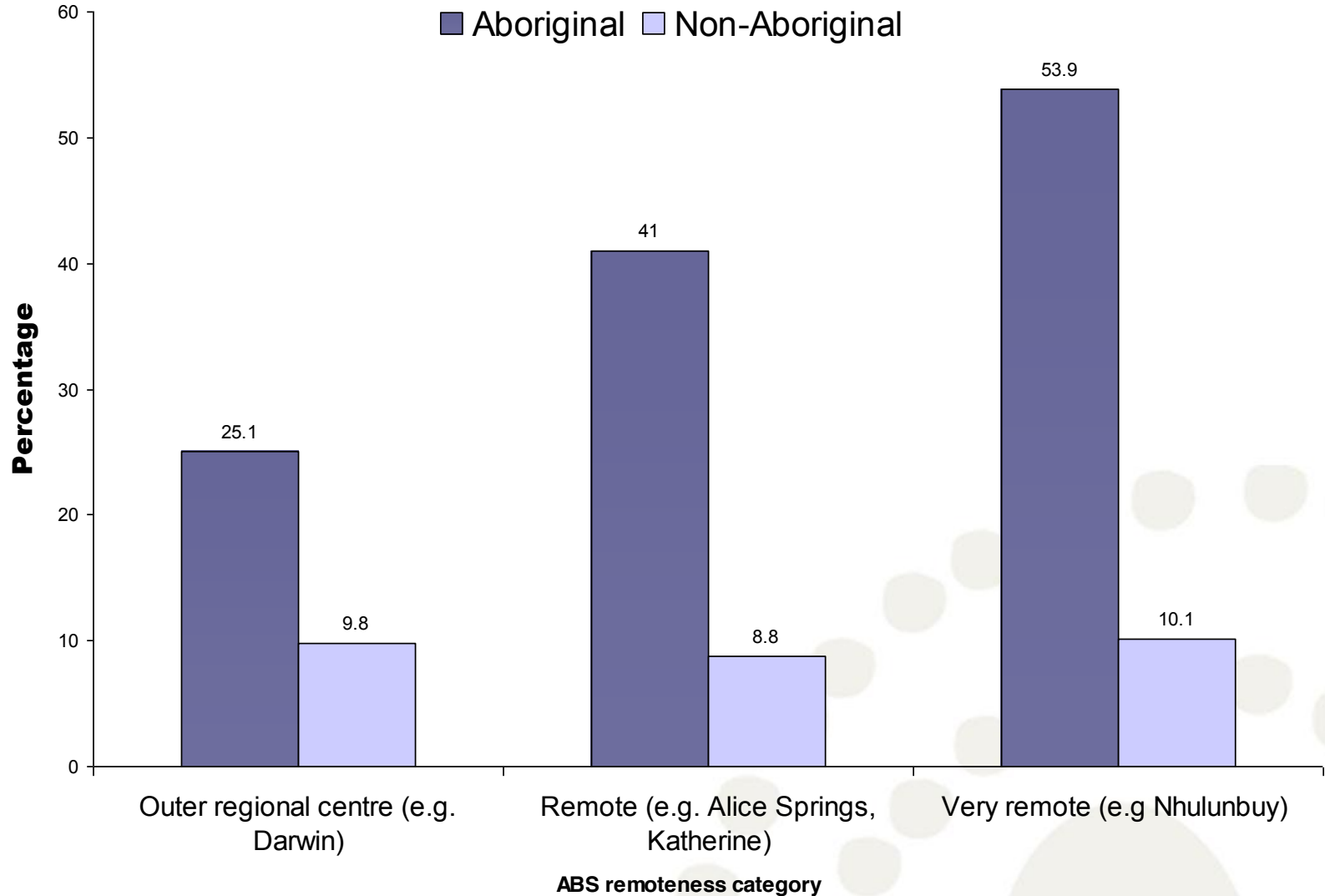
NAPLAN Year 3 Reading

Figure 3.R3: Achievement of Year 3 Students in Reading, by Indigenous Status, by State and Territory, 2009.



Australian Early Development Index (AEDI): NT, 2009

% of children developmentally vulnerable on 2 or more AEDI domains

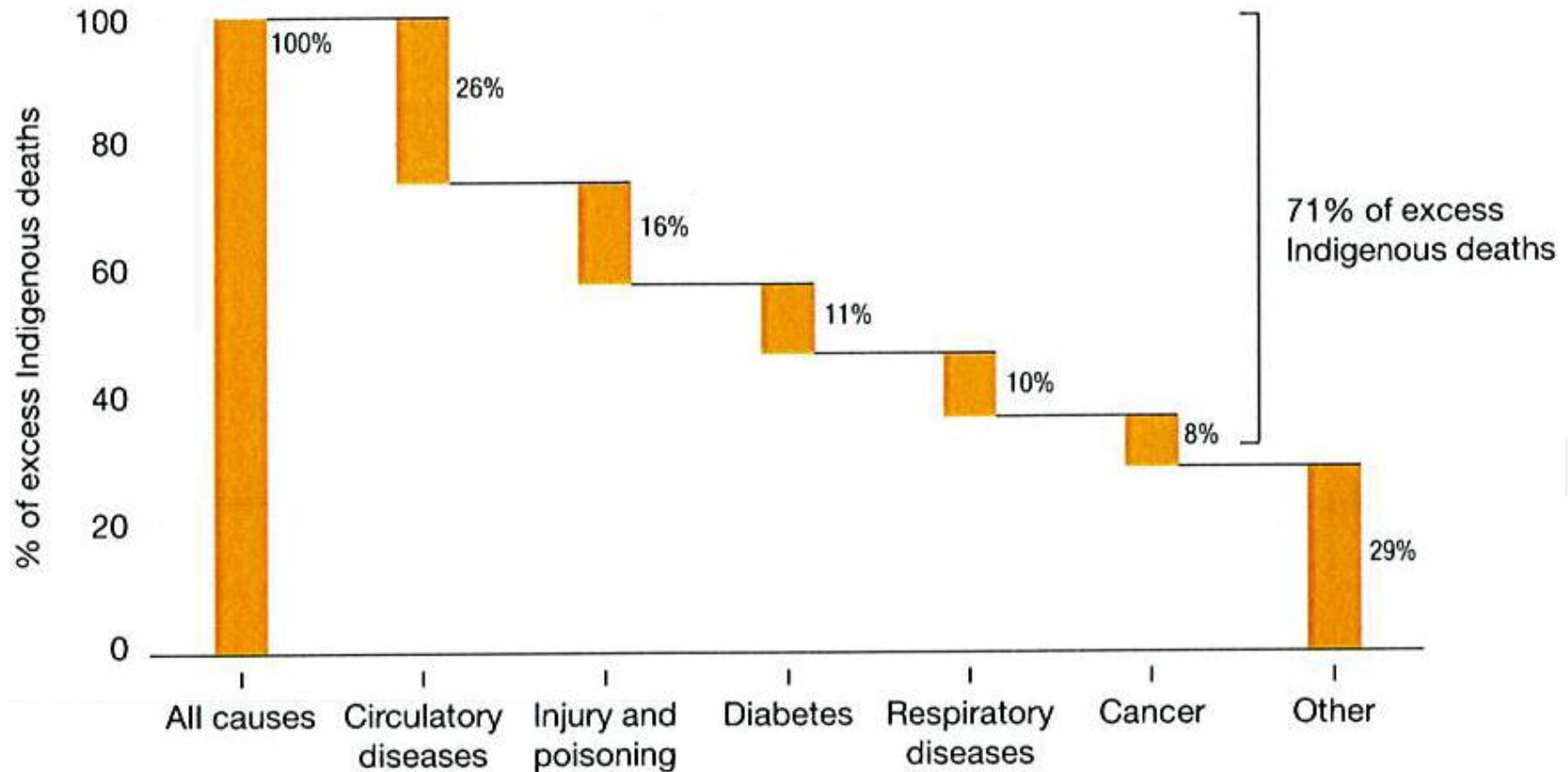




Why invest in early child development

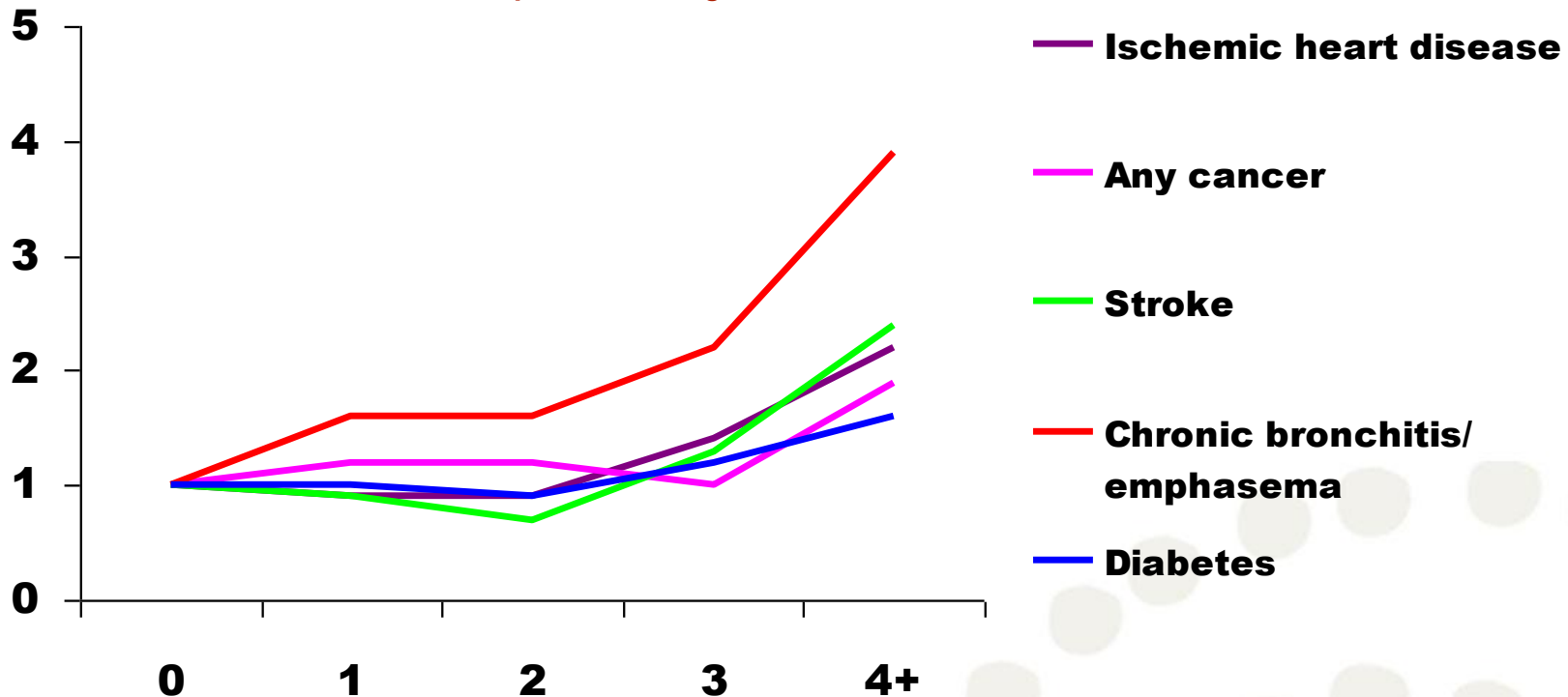
- 1. New methods in brain science and epigenetics** show how children's experiences in their family, community and early learning environments influences brain development and establishes the foundation for their future health, learning and behaviour.
- 2. Longitudinal studies** showing the extent to which adult health, wellbeing and capability have their origins in family and community environments of early child rearing.
- 3. Intervention studies** demonstrating the effectiveness and long-term (adult) benefits of evidence-based preventive strategies and programs for young children
- 4. Economic studies of early childhood interventions** document the high return on investment of preventive strategies and programs delivered early in the life-course.

Leading causes of Indigenous deaths



Source: AIHW National Mortality Database (Data for Qld, WA, SA and NT 2002-06)

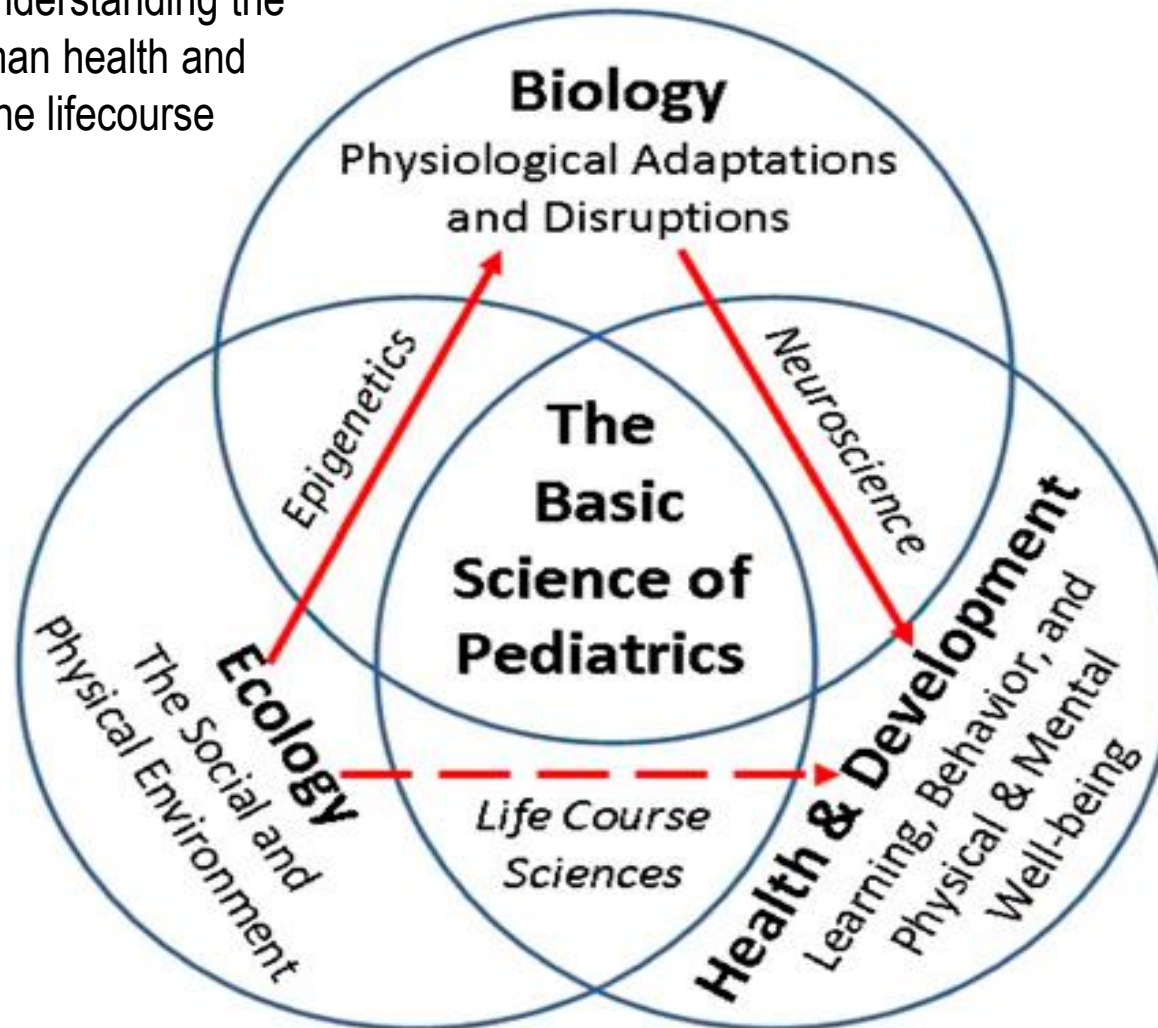
Risk (Odds Ratio) of specific causes of death by number of childhood adverse experience categories



Number of adverse childhood exposures in 3 categories:

Abuse: a) Physical, b) sexual, c) psychological. **Household dysfunction:** d) Member of child's household with problem drinking/alcoholism, e) used street drugs, f) had a mental illness, g) attempted suicide; h) Mother treated violently; **Criminality:** i) Household member was imprisoned

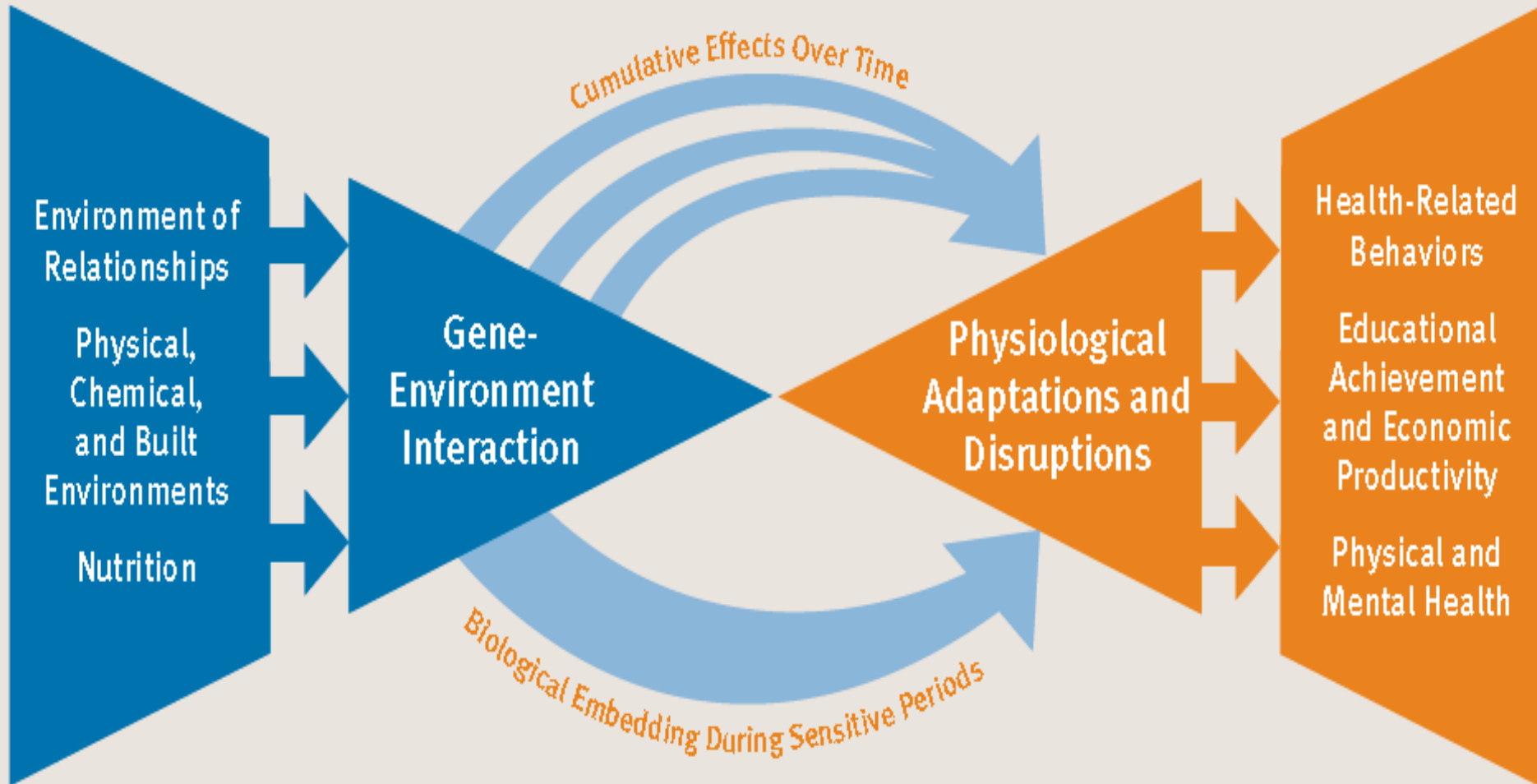
Proposes an eco-biodevelopmental framework for understanding the evolution of human health and capability over the lifecourse



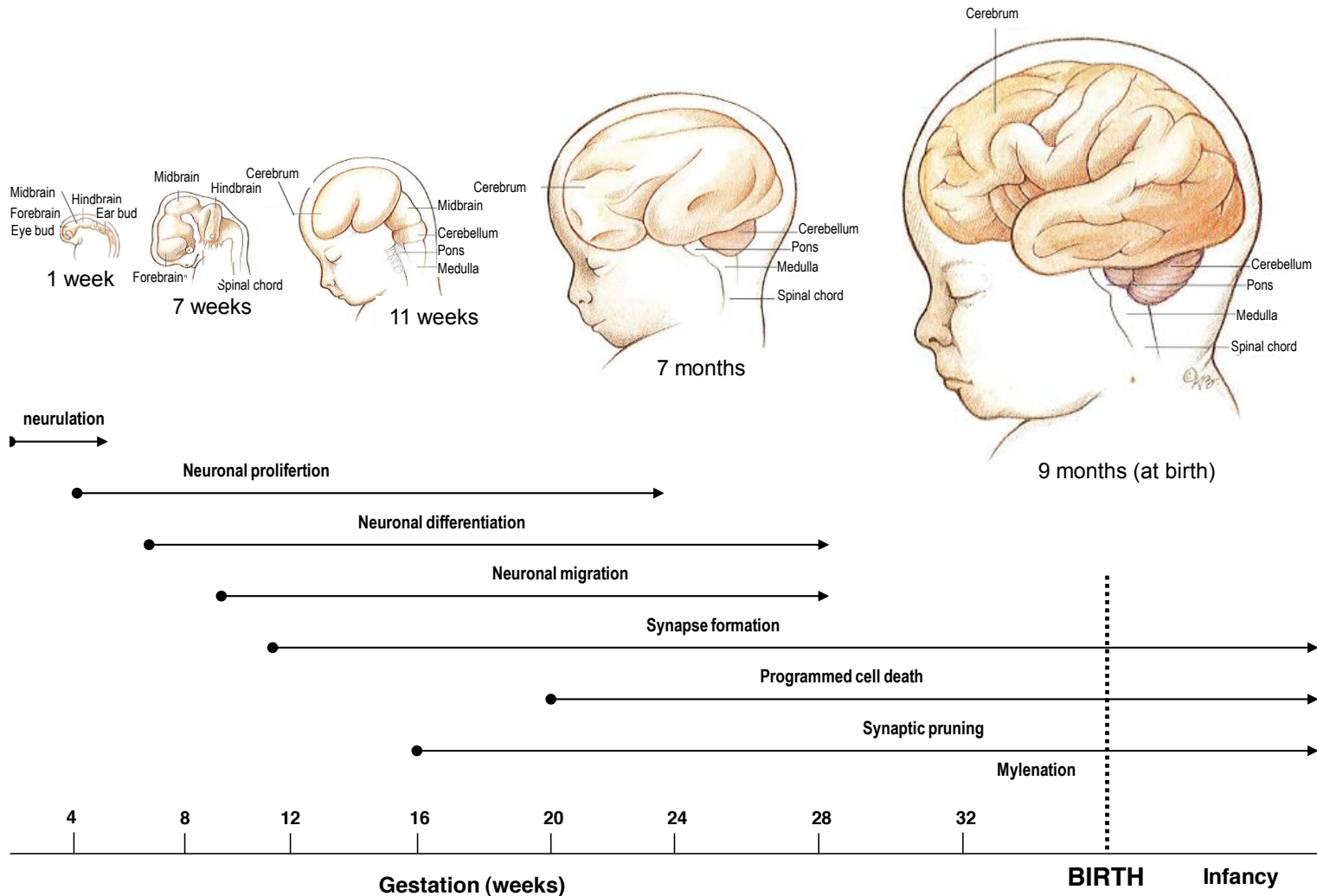
Biological embedding of early experiences

Foundations of Healthy Development and Sources of Early Adversity

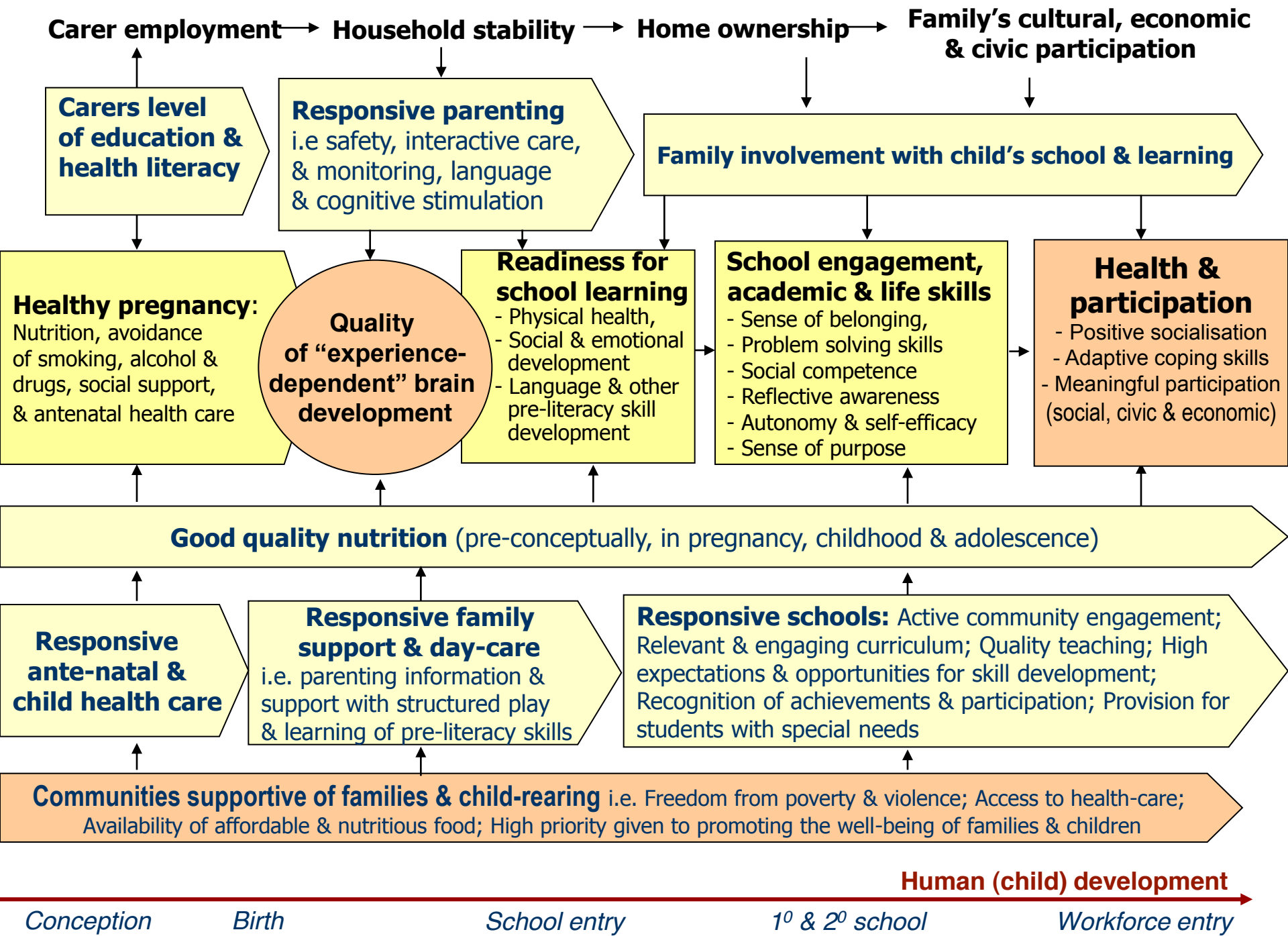
Lifelong Outcomes



Brain development before birth



- **Smoking** – Infant survival, SIDS, infant & child respiratory health, infant & longer term sleeping patterns, cognitive development and behaviour
- **Alcohol** – FAS & FASD (no safe threshold)
- **Maternal stress** –risk of child behavioural and emotional problems especially ADHD, impulsivity and emotional over-reaction, language delay
- **Antenatal & perinatal depression** - increased risk of child behavioural and emotional problems
- **Under-nutrition** – IUGR, LBW & later risks for insulin resistance & obesity



Mapping community resources for child development

Rate the following resources for children in your community (1=very poor, 2=poor, 3=adequate, 4=good & 5=excellent)

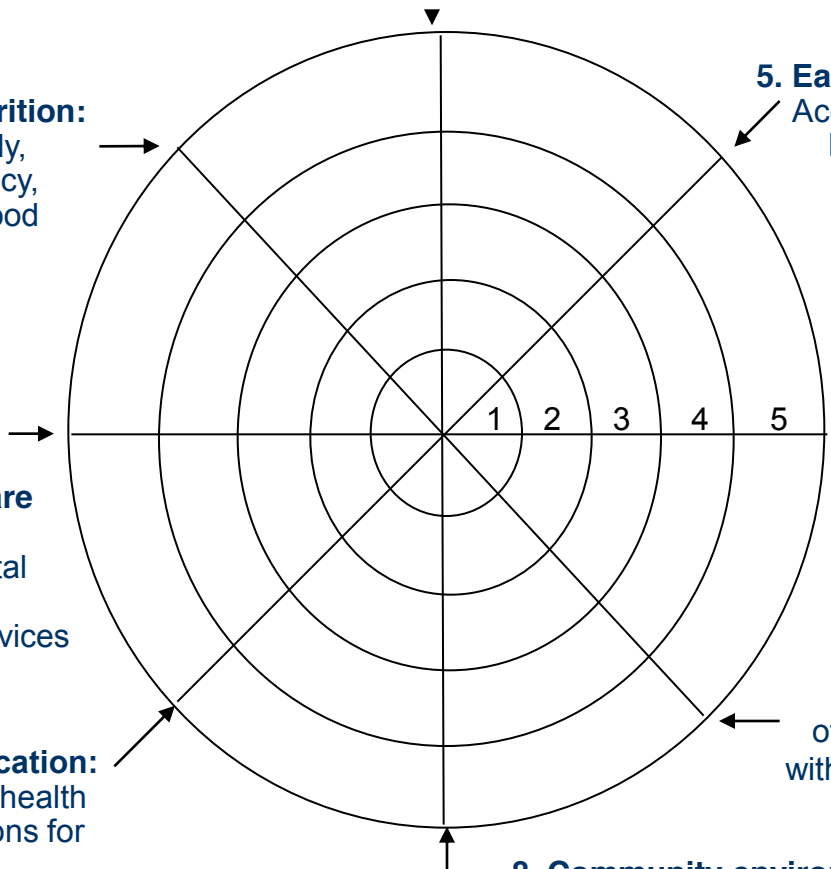
Community resources supporting healthy child development

4. Responsive families & parenting: Secure attachment, interactive care; safety and monitoring, stimulation of language, cognitive & social skills

3. Healthy nutrition: pre-conceptually, during pregnancy, infancy, childhood & through adolescence

2. Maternal & child health care
Reproductive health, ante-natal care, maternal & children's services

1. Parents' education: Parental health, health literacy, aspirations for their children



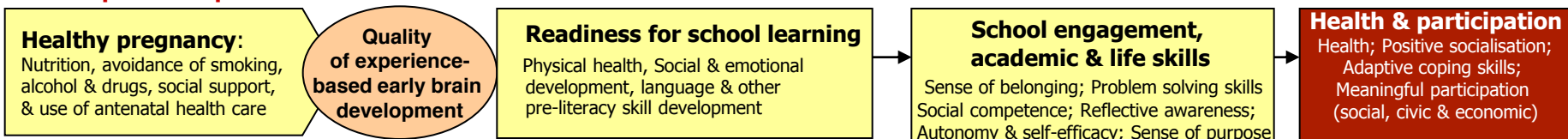
5. Early childhood care & family support: Access to good quality day-care, play-based pre-literacy activities & learning, family & parenting support

6. Parents involvement with school & child's learning: Aspirations & encouragement school of attendance and participation

7. Responsive schools i.e. High expectations, engaging curriculum, opportunities for skill development & responsibility, acknowledgement of achievements, provide for students with special needs

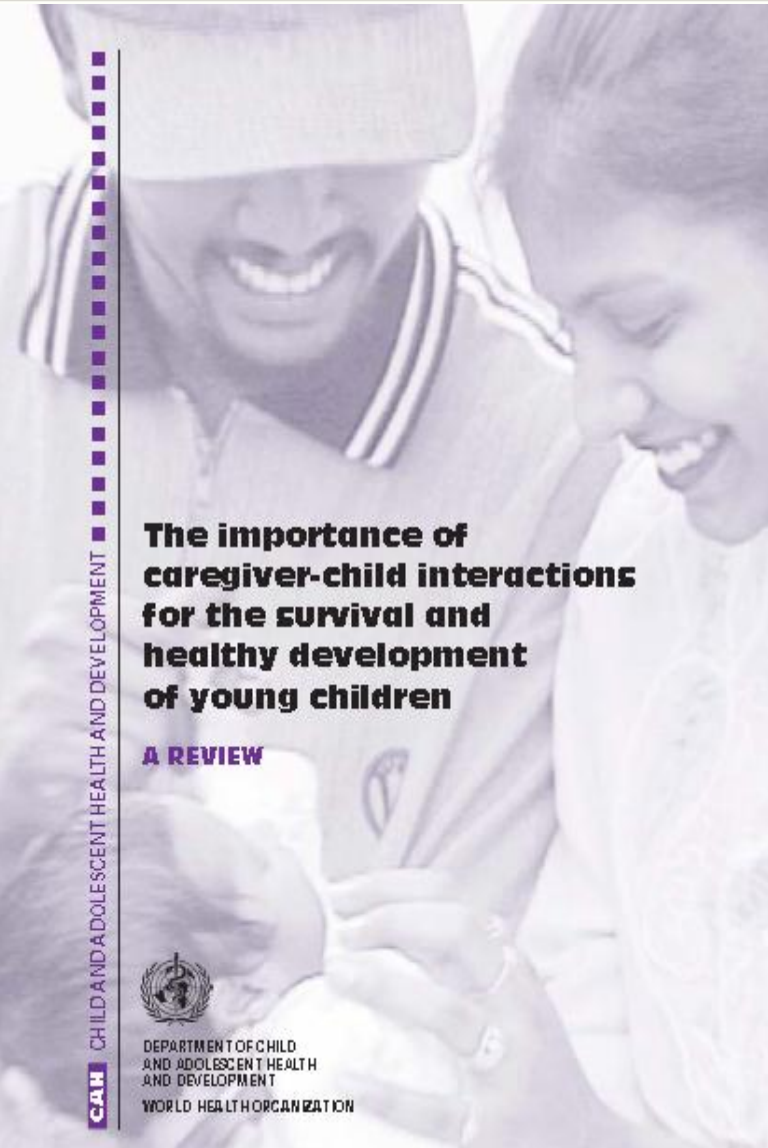
8. Community environment supportive of child-rearing
Absence of poverty & violence, availability of affordable & nutritious food; commitment to family & child well-being

Developmental processes



What could we do better?

- Heighten professional and community awareness of preconception health and antenatal risks for FGR maternal and later child health outcomes
- Tailor and adapt CDC guidelines for preconception health care for Indigenous contexts
- Investigate new ways of delivering preconception and sexual health care e.g. incorporate into routine health contacts; outreach youth health services etc.
- Concerted emphasis on the importance of pre-maternal and maternal nutrition - foetal and infant under-nutrition has lifelong consequences and needs to be viewed as a disease



Children develop best when the caring adults around them respond in warm, individualised and stimulating ways

Prompt, contingent and appropriate responsiveness by the child's mother or other primary caregiver has important consequences for the child's sense of emotional security and long-term benefits for the child's developing brain



Focus on children most at risk

- Undernourished
- Impoverished
- Underserved by family services

Begin early

- with the youngest children

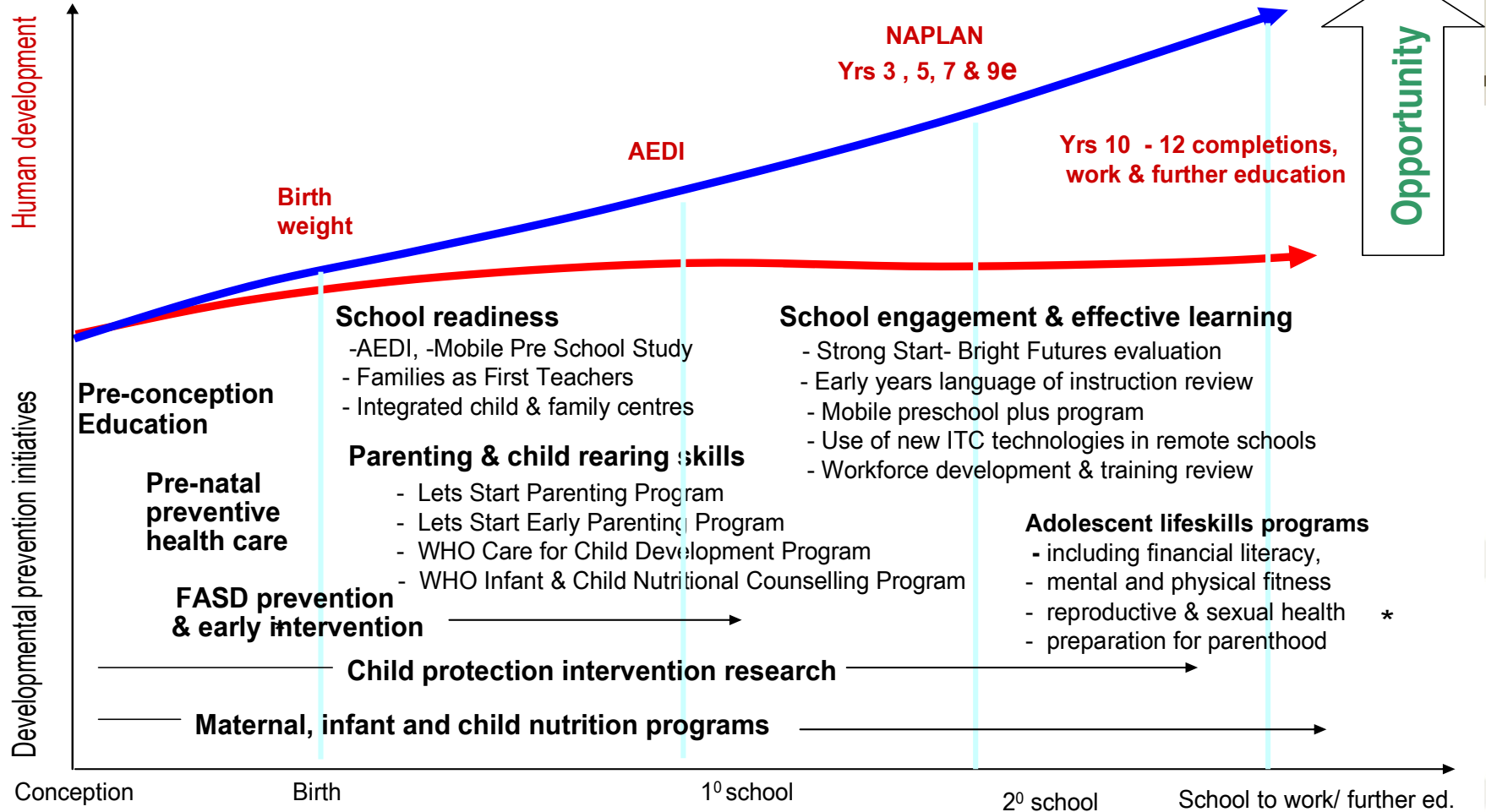
Combine interventions to

- Improve basic health care
- Improve nutrition (breastfeeding and complementary feeding)
- Improve mother-child interactions
- Stimulate psychosocial development

Strategic research agenda of the Menzies Centre for Child Development and Education (2012)



Figure 1. Current & planned CRE research initiatives



Human development

Developmental prevention initiatives

Pre-conception Education

Pre-natal preventive health care

FASD prevention & early intervention

Child protection intervention research

Maternal, infant and child nutrition programs

School readiness

- AEDI, -Mobile Pre School Study
- Families as First Teachers
- Integrated child & family centres

Parenting & child rearing skills

- Lets Start Parenting Program
- Lets Start Early Parenting Program
- WHO Care for Child Development Program
- WHO Infant & Child Nutritional Counselling Program

School engagement & effective learning

- Strong Start- Bright Futures evaluation
- Early years language of instruction review
- Mobile preschool plus program
- Use of new ITC technologies in remote schools
- Workforce development & training review

Adolescent lifeskills programs

- including financial literacy,
- mental and physical fitness
- reproductive & sexual health *
- preparation for parenthood

NAPLAN
Yrs 3, 5, 7 & 9e

AEDI

Birth weight

Yrs 10 - 12 completions, work & further education

Opportunity

Conception Birth 1⁰ school 2⁰ school School to work/ further ed.

Population level monitoring of program outcomes and NT population trends in child health, education and child protection utelising the SA-NT DataLink facility and the CQI service data systems developed by the Menzies CCDE

Aims of a proposed CRE in Indigenous child development and wellbeing

- Establish a high-level scientific knowledge network,
- Develop new scientific research-practitioner collaborations,
- Build service data infrastructure and the analytic capacity required to inform service development and uptake of preventive services and programs fostering healthy early child development of Indigenous children
- Extend the CCDE's existing program of research by conducting the work needed to prepare fully developed research funding proposals in the areas of:
 - Indigenous adolescent pre-conception education
 - Pre-natal preventive health care
 - Foetal alcohol spectrum disorders (FASD) prevention and early intervention
 - Maternal, infant and child nutrition interventions to optimise development and reduce iron deficiency anaemia
 - Implementation of the WHO/UNICEF Council the Family of Care for Child Development (CCD) program
- Systematic dissemination of evidence on population health approaches to improving Indigenous early childhood development and education