

# Early Childhood Development in the NT: Issues to be addressed

Early Childhood Series

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## Contents

<b>ACKNOWLEDGEMENTS</b>	I
<b>RECOMMENDED CITATION</b>	I
<b>CONTENTS</b>	II
<b>ACRONYMS</b>	III
<b>EXECUTIVE SUMMARY</b>	IV
<b>1. INTRODUCTION</b>	1
<b>2. HOW ARE YOUNG CHILDREN FARING IN THE NT ?</b>	2
2.1 Birth outcomes	2
2.2 Child growth and nutrition	2
2.3 Child abuse and neglect	4
2.4 The Australian Early Development Index	6
2.5 Developmental vulnerability on entry to school	7
<b>3. UNDERSTANDING THE NT POPULATION CONTEXT</b>	9
3.1 The NT population	9
3.2 Demographic diversity	9
3.3 Birth rates	11
3.4 Life expectancy	12
3.5 Geographic distribution	12
3.6 Socioeconomic indicators	13
3.7 Rates of imprisonment	13
3.8 Socioeconomic disadvantage	14
3.9 Community disadvantage	14
3.10 Migration and mobility	14
3.11 Demographic stresses	15
3.12 Education and opportunity	16
3.13 Expected population changes	16
<b>4. THE NT SERVICE DELIVERY FRAMEWORK</b>	17
4.1 Catering for widely differing needs	17
4.2 Better integration of children's services	17
<b>5. INVESTING IN EARLY CHILDHOOD DEVELOPMENT</b>	18
<b>6. BIBLIOGRAPHY</b>	20

## Acronyms

NT	Northern Territory
AEDI	Australian Early Development Index
WHO	World Health Organization
UNICEF	United Nations Children’s Fund
USA	United States of America

## Executive summary

This paper introduces a series of topical papers intended to inform discussion of the development of a strategy for early childhood for the NT. It sets out the rationale for expanding investment in the early years, provides a snapshot of how the NT's children are faring and sets out the challenges that arise from the distinctive socio-demographic, cultural, economic and geographic contexts in which the Territory's children live.

At the time they commence school, many NT children are more developmentally vulnerable than other Australian children. The Australian Early Development Index (AEDI) assessment of all Australian 5 year olds in 2009 showed that children in the NT had higher levels of developmental vulnerability across each of the five domains assessed by the AEDI: physical health and wellbeing, social competence, emotional maturity, language and cognitive skills (school based) and communication skills and general knowledge. Almost a quarter of 5 year old children in the NT are developmentally vulnerable in two or more of these domains, meaning they are likely to need extra support in the transition to formal schooling. For Indigenous children living in remote and very remote areas this figure is just over 50%.

Compared with their non-Indigenous counterparts, Indigenous NT children are more likely to be born to younger parents, have lower birth weights, live in socioeconomically disadvantaged households, have had involvement with the child protection system, and live in remote communities where basic needs such as housing and nutrition are not always adequately met. Current rates of notification for child neglect give a clear signal of growing concern about the welfare of young children and the conditions of their families, and also point to the need for a significant improvement in systems of early intervention and preventive family support.

A key challenge in the delivery of effective early childhood services in the NT is the widely differing living circumstances of its Indigenous and non-Indigenous populations. These include differences in their population age structures; rates of fertility and mortality; geographical distribution and population dispersal. NT Indigenous children experience very high levels of developmental disadvantage, lower levels of educational achievement and school completion and entry into employment. In addition to the overall higher service requirements of children and their families in the NT, the population is relatively small, highly mobile and widely spread across a vast geographic area. High levels of interstate mobility are characteristic of the non-Indigenous population whereas the Indigenous population is frequently mobile within the Territory.

Demographic changes associated with the ageing of a relatively youthful Indigenous population are linked to a crisis of opportunity for youth, whose levels of literacy and numeracy limit their prospects of employment. These population attributes are associated with substantially higher rates of suicide and self-harm, substance misuse and rates of imprisonment—particularly among young men—that in turn impact negatively on family life and the circumstances of young children.

The characteristics of the NT population and the associated service delivery challenges present special challenges in building and supporting the workforce needed to provide the fundamental human services necessary to ensure children's health, developmental opportunities and successful transition into school learning. They also have significant implications for the way in which services for children and families need to be planned, funded and delivered to ensure their accessibility, cultural relevance, quality of implementation and program reach proportionate to the levels of need in this unique context.

The long-term costs to individuals, families and society of the high proportion of NT Indigenous children currently failing to achieve their developmental potential are substantial. Without significant reform of existing early childhood and family services—and family and community action to better support children's early development—these costs can be expected to increase.

The relevance of new scientific understandings of early child development for policies and strategies to achieve population-level improvements in health, education and wellbeing will be considered further in the discussion papers which follow in this publication series.

# 1. Introduction

Over the past decade there has been convergence of evidence from epidemiology, neuroscience, the developmental and genetic sciences, as well as research in education and economics showing that the most effective means of improving population health is through policies and services which give priority to improving trajectories of human development over the life-course. This evidence also shows that to produce gains at the level of the whole population requires minimising inequalities early in life.<sup>1</sup>

Recent brain development research has identified that biological, emotional and social influences early in life (i.e. before birth and during the early years of childhood) have a much stronger influence on the longer-term course of health, learning and other aspects of human development than previously realised.

The emerging scientific consensus suggests that without significant and sustained public investment to redress inequalities early in life, these inequalities tend not only to persist, but to multiply over time.<sup>2</sup> It has also led international agencies such as the WHO and the World Bank to encourage governments around the world to re-prioritise their investments in early childhood services to reduce disadvantage, build human capital and advance societal wellbeing.<sup>2</sup>

Given the NT's unique population characteristics and the range of socio-economic, cultural and geographic factors which influence children's environments of child-rearing and early learning, it is imperative that public policy gives higher priority to improving the quality and effectiveness of services for children and their families.

This is essential—both to create a fairer society—and to reduce the long-term human and financial costs associated with the present adverse developmental and educational outcomes of a substantial proportion of the Territory's children.

## 2. How are young children faring in the NT?

### 2.1 Birth outcomes

During 2009 a total of 3,819 births were registered in the NT, with 1,523 (40%) of these being recorded as Indigenous births.<sup>10</sup> While there have been some recent improvements in the proportion of NT Indigenous babies born with low birth weight i.e. less than 2500 grams, the overall number of low birth weight babies has increased between 1986 and 2005 (see Table 1). In the 2001 to 2005 period the percentage of Indigenous babies with low birth weight was almost double that of non-Indigenous babies (13.5% vs. 6.2%).<sup>3</sup>

The main factors associated with Indigenous low birth weight are prematurity i.e. less than 37 weeks gestation, sub-optimal maternal nutrition, young maternal age, high levels of psycho-social stress, high rates of maternal smoking, consumption of alcohol during pregnancy, and low rates of use of antenatal health care.<sup>4</sup> There has been a notable increase in both the proportion and number of babies born before 37 weeks gestation over this period.

**Table 1. Proportion of live births by Indigenous status: NT, 1986–2005**

	Average annual number (per cent)								% change <sup>(1)</sup>		
	1986–1990		1991–1995		1996–2000		2001–2005		Overall	Annual (95% CI)	
<b>Indigenous</b>											
Premature <sup>(2)</sup>	137	(12.8)	143	(12.3)	163	(13.7)	197	(14.8)	26.1	1.2	(0.6, 1.9)
Low birth weight <sup>(3)</sup>	157	(14.5)	152	(13.1)	159	(13.3)	180	(13.5)	-7.6	-0.4	(-1.1, 0.2)
APGAR <sup>(4)</sup> score <7	58	(5.5)	55	(4.8)	48	(4.1)	48	(3.6)	-40.6	-2.7	(-3.7, -1.7)
<b>Total</b>	<b>1085</b>		<b>1162</b>		<b>1194</b>		<b>1332</b>				
<b>Non-Indigenous</b>											
Premature <sup>(2)</sup>	115	(6.3)	145	(6.3)	176	(7.8)	165	(7.5)	33.7	1.5	(0.9, 2.2)
Low birth weight <sup>(3)</sup>	116	(6.0)	147	(6.4)	154	(6.9)	137	(6.2)	6.4	0.3	(-0.4, 1.0)
APGAR <sup>(4)</sup> score <7	39	(2.0)	45	(2.0)	47	(2.1)	42	(1.9)	-0.8	0.0	(-1.2, 1.1)
<b>Total</b>	<b>1947</b>		<b>2300</b>		<b>2245</b>		<b>2203</b>				

(1) % change in odds

(2) Less than 37 weeks gestation

(3) Less than 2,500 grams at birth

(4) A standard test of newborn health status performed at 1 and 5 minutes after birth

Source: Zhang et al. 2010<sup>5</sup>

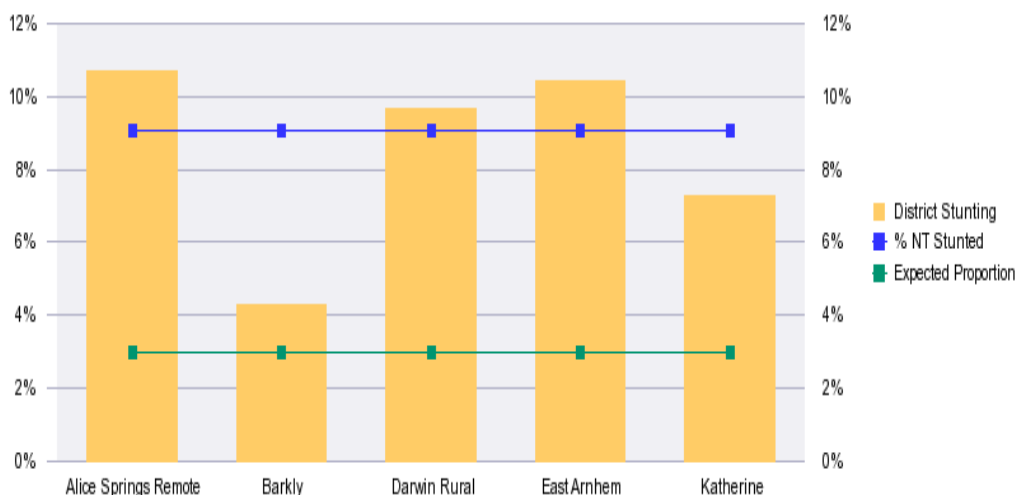
### 2.2 Child growth and nutrition

Measurements of height, length and haemoglobin are now made as a routine aspect of the *Healthy Under 5 Kids program*. The NT Government's Growth Assessment and Action program has over the past decade monitored the growth and nutritional status of Indigenous children aged 0 to 5 years living in communities defined by the Australian Bureau of Statistics as 'remote' or 'very remote'.<sup>5</sup> Figure 1 below details how the rates of key indicators of growth and anaemia status vary across the Territory. They show that among the 50 to 60% of Indigenous children aged 0 to 5 years for whom data were available 2008–09, the rates of stunting were around three times greater than expected rates. They also had rates of underweight four times greater than the expected; rates of wasting three times greater than expected and rates of anaemia around seven times greater than expected.<sup>5</sup>

The Growth Assessment and Action program has sought to address the known causes of anaemia through environmental health and health promotion efforts. These aim to minimise infections; advise families with children to increase dietary iron intake by encouraging consumption of meat, fish, chicken and green leafy vegetables, reducing bottle feeding with tea (common in some communities); and encouraging drinking of orange juice (as vitamin C assists in iron absorption). Children with acute anaemia are treated with intramuscular iron injection where this is indicated. These measures have made some limited progress in reducing the overall rates of iron deficiency anaemia in Indigenous children aged 0 to 5 years from around 30% in 2004 to 25% in 2009. This is still very high by international standards. Given the adverse effects of sub-optimal nutrition and anaemia on brain development in the early years these remain a significant impediment to the health and cognitive development of Indigenous children.<sup>6</sup>

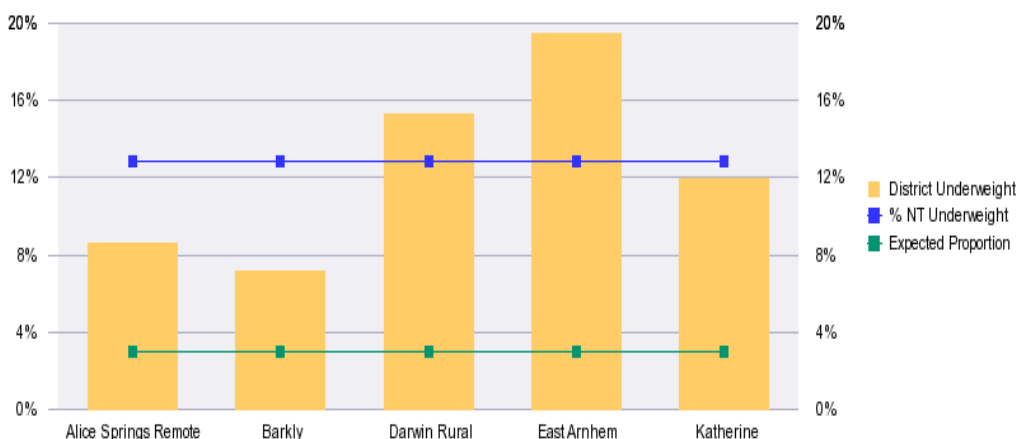
**Figure 1. Percentages of remote NT Indigenous children who were stunted, underweight, wasting or anaemic by health district (2008-2009)**

**(a) Children aged < 5 yrs STUNTED<sup>(1)</sup> by health district**



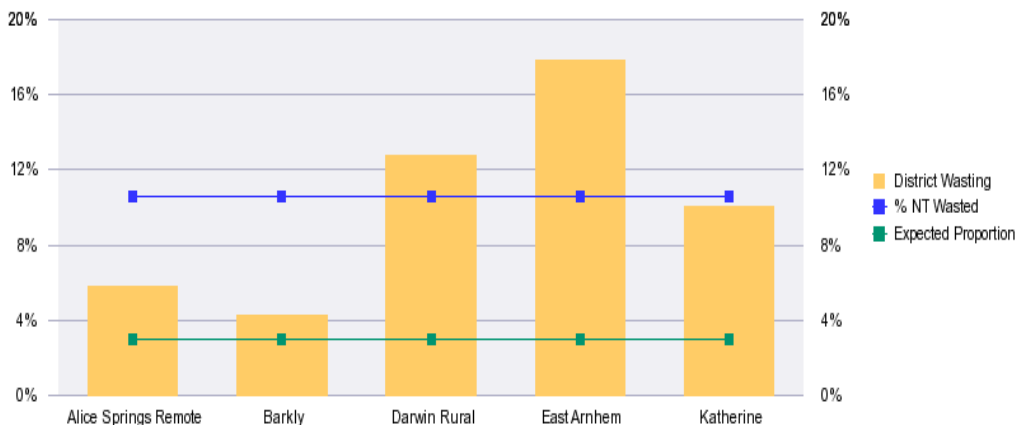
(1) HAZ < 2, for a child between 0 and 60 months old. HAZ is a z-score of a child's height related to averages based on growth age and gender calculated according to the US Centres for Disease Control and Prevention (CDC) rule.

**(b) Children aged < 5 yrs UNDERWEIGHT<sup>(2)</sup> by health district**



(2) WAZ < 2, for a child between 0 and 60 months old. WAZ is a z-score of a child's weight related to averages based on growth age and gender calculated according to CDC rule.

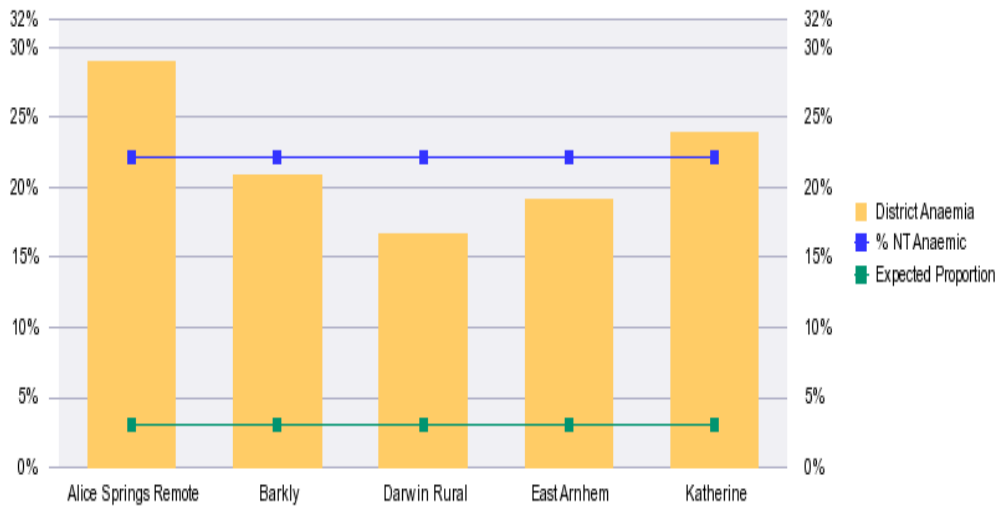
**(c) Children aged < 5 years WASTING<sup>(3)</sup> by health district**



(3) WHZ < 2, for a child between 0 and 60 months old. WHZ is a z-score of a child's weight and height combined related to averages based on height rounded and gender calculated according to CDC rule.



(d) Children aged < 5 years ANAEMIC<sup>(4)</sup> by health district



(4) Hb < 105 g/L for a child between 6 - 12 months old and 110g/L for a child between 12 – 60 months old.

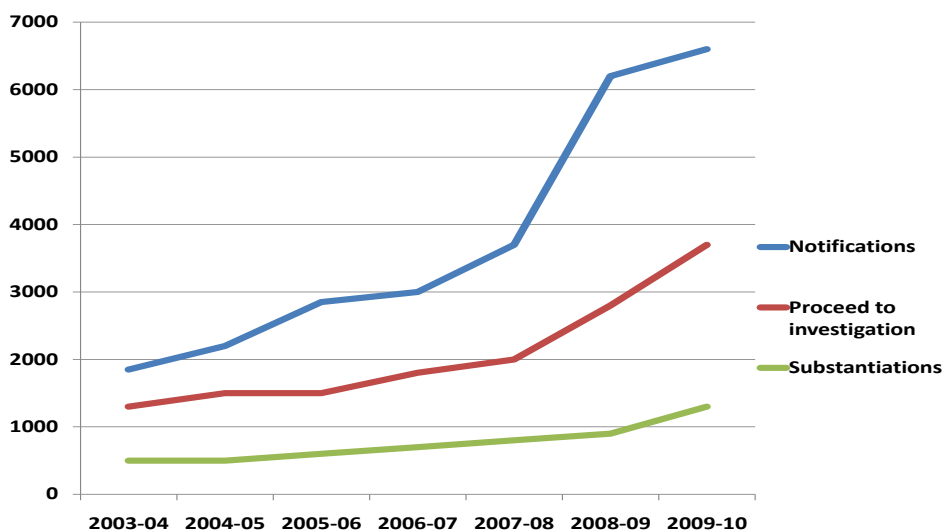
### 2.3 Child abuse and neglect

The *Growing them strong, together* Report of the Board of Inquiry into the Child Protection System in the Northern Territory 2010 has documented the scale of neglect and abuse along with the failures of the system in responding to it. In terms of the demands on the statutory services, there has been a significant recent increase in notifications to Northern Territory Families and Children (NTFC) which have more than tripled since 2003–04 with a 79.4% increase in notifications between 2007/08 and 2009/10 (see Figure 2 below).<sup>7</sup> The overwhelming majority of these notifications are for neglect.

The recent sharp rise in the number of notifications reflects the impact of the NT Emergency Response strategy and new mandatory reporting requirements for child abuse and domestic violence in raising community and practitioner awareness of these issues.

The Report of the Board of Inquiry into the Child Protection System in the Northern Territory 2010 highlighted that residual approaches (i.e. waiting until abuse or neglect has occurred or is likely to occur) are unsustainable, with demand outstripping capacity. It warned that, without a significant shift of focus to effective prevention and early intervention, the exponential growth in child protection notifications and substantiated abuse and neglect will continue.

**Figure 2. Notifications to NTFC and cases proceeding to investigation and substantiation: NT, 2003–2010**



Source: Report of the Board of Inquiry into the Child Protection System in the NT 2010.<sup>7</sup>

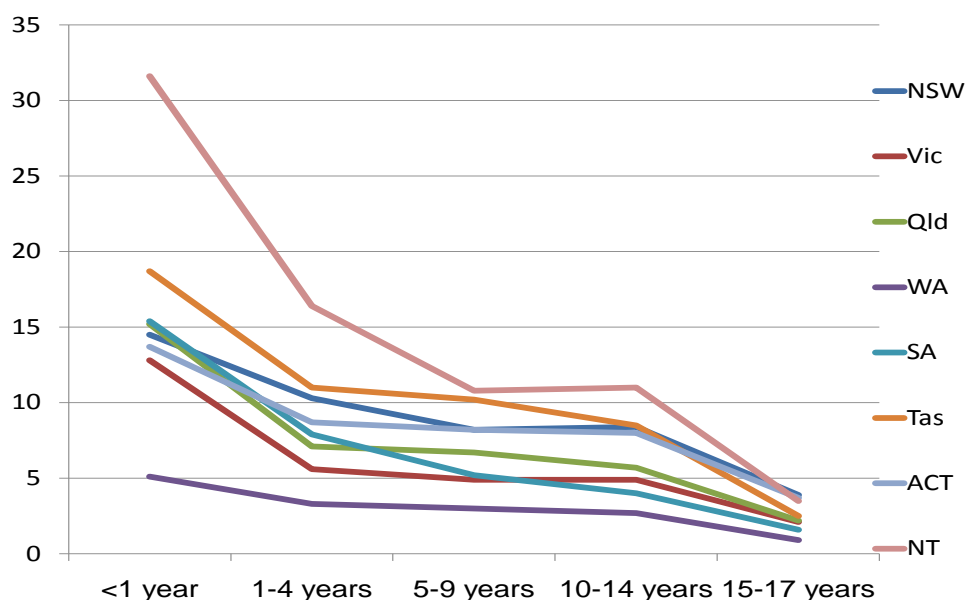
“In South Australia, of all children born in 1991, almost a quarter had been notified to child protection by age 16. For Aboriginal children, this figure was almost 60%. Even more startling, more than half of the Aboriginal children born in 2002 were the subject of a notification by the time they were 4 years old. While similar research has not been conducted in the NT, we could assume similar results given the reliance on statutory systems to respond to concerns about the wellbeing of children and given estimates that approximately 15% of Aboriginal children in the NT are notified to child protection services in a single year.”<sup>7</sup>

While the number of notifications has increased over threefold, the total number of substantiations appears to have changed little across the years 2003–04 to 2009–10<sup>7</sup>. In 2008–09, the number of children on care and protection orders in the NT rose from 520 to 577 children – an increase of 9.5%. The rate of children on care and protection orders in the NT was the highest across Australia in 2008–09 with 9.2 per 1000 children compared with the national average of 7 per 1000 children.<sup>7</sup>

Although Indigenous children experience a much higher rate of child neglect substantiations than non-Indigenous children in the NT, the most common forms of maltreatment of Indigenous children and non-Indigenous children are relatively similar. Despite the commonly held perceptions of maltreatment in Indigenous communities, child sexual abuse is the least frequently substantiated type of maltreatment for Indigenous children in the NT (as well as for other children in Australia). The most frequent form of substantiated maltreatment is child neglect. This generally refers to the failure—usually by the parent—to provide for a child’s basic needs, including failure to provide adequate food, shelter, clothing, supervision, hygiene or medical attention. The high rate of neglect is consistent with the high levels of chronic disadvantage including the lack of basic services and opportunities for employment in many Indigenous communities.<sup>7</sup>

Comparing the number of notifications per year by age of child (Figure 2) with the number of substantiations per year by age of child (Figure 3) it is evident that children aged birth to 4 years were significantly more likely to be the subject of a substantiated child protection investigation than children in other age groups, even though the numbers of notifications in the birth to 4, 5 to 9 and 10 to 14 age groups were relatively similar. For example, in 2009–10 children aged 0 to 4 years in the NT were twice as likely to be the subject of a substantiation as children aged 5 to 9 years and 10 to 14 years.

**Figure 3. Substantiations of notifications received in 2008–09 by age, states and territories (rates per 1000)**



Source: AIHW, 2008–09, Child Welfare Series Number<sup>47</sup>

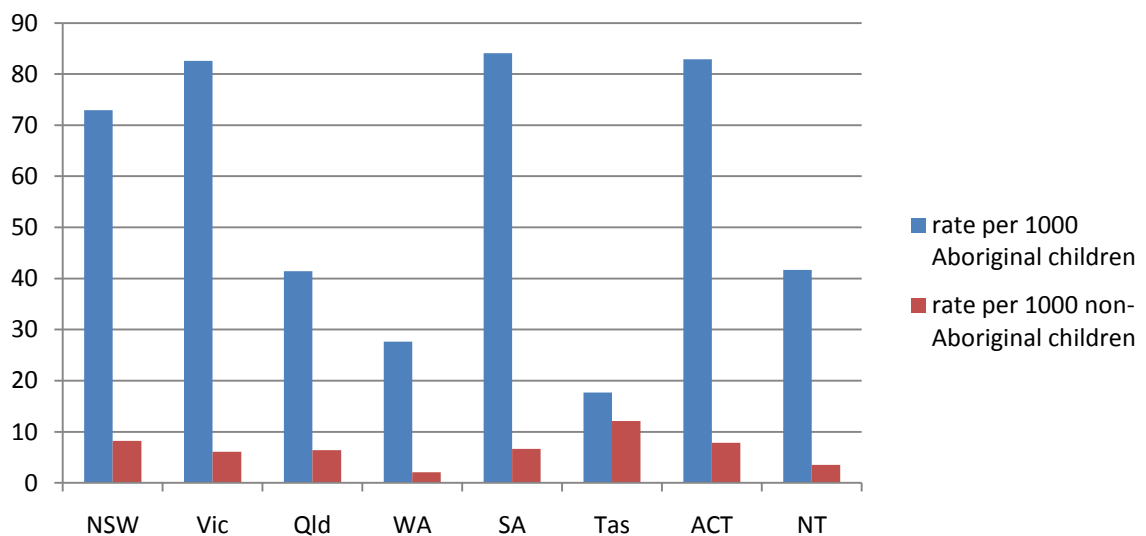
Figure 3 also illustrates that substantiation rates in the NT for infants less than 1 year of age are significantly higher than in any other jurisdiction in Australia. Around 3% of all infants less than 1 year of age in the NT were subject to a substantiation in 2008–09. Rates of substantiations for the 1 to 4 year age group are also higher in the NT, but less markedly so. The high number of

substantiations in the younger age groups in the NT correlates with the evidence that the most frequent form of substantiated maltreatment is child neglect, often indicated by failure to thrive (wasting and underweight).<sup>8</sup>

Analysis of data for Indigenous and non-Indigenous children, aged 0 to 4 years highlights that there is a high rate of substantiation of child protection notifications across Australia (see Figure 4). Contrary to common perceptions, rates of child abuse and neglect for Indigenous children are not higher in the NT than for Indigenous children in the rest of Australia.

Although 90% of substantiations in the NT in this age group involve Indigenous children, other States and Territories fare as poorly (Queensland) or more poorly (New South Wales, Victoria, South Australia and the Australian Capital Territory) in regard to substantiation rates for Indigenous children in the 0 to 4 age group.<sup>8</sup>

**Figure 4. Substantiations of notifications of Indigenous and non-Indigenous children less than 4 years in 2008–09 (rates per 1000)**



Source: AIHW, 2008–09, Child Welfare Series Number<sup>47</sup>

These trends undoubtedly reflect growing needs for family support, early intervention and prevention to address the rising incidence of child neglect in the NT population—concentrated heavily, but not exclusively, in the Indigenous population. They also convincingly highlight the need for an approach to early childhood services that engages vulnerable families in universal services and provides pathways to more targeted support, early intervention or specialised treatment where this is indicated.

## 2.4 The Australian Early Development Index

The first national assessment of young children’s health and development as they began their first year of full-time school using the Australian Early Development Index (AEDI) was made in 2009. The AEDI assessment process was specially adapted to ensure it was culturally relevant for Indigenous and non-Indigenous children and that it reflected their early childhood development outcomes in a psychometrically equivalent manner. In the NT a total of 3,219 children, 93.5% of the estimated five year old population were surveyed with this teacher rated measure.<sup>9</sup>

As a population measure, the AEDI reports the findings for all children in the community. It therefore reflects the status of early childhood development across the whole community. This enables the focus of attention to move beyond the individual child to a consideration of all children in the community. The AEDI community findings are useful in guiding local planning and mobilising community action to create better conditions for children. They are also useful for schools and school systems to understand the variation of student needs from community to community as well as informing and monitoring policies and programs for children.

The AEDI measures early childhood development across five domains:

**physical health and wellbeing**—children’s physical readiness for the school day, physical independence and gross and fine motor skills

**social competence**—children’s overall social competence, responsibility and respect, approaches to learning and readiness to explore new things

**emotional maturity**—children’s pro-social and helping behaviour, anxious and fearful behaviour, aggressive behaviour and hyperactivity and inattention

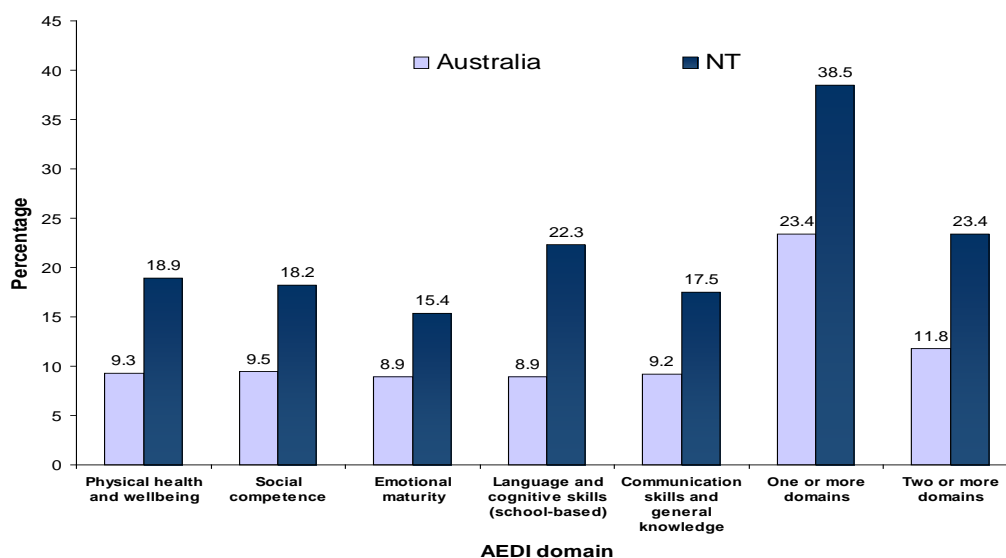
**language and cognitive skills (school based)**—children’s basic literacy, interest in literacy and numeracy, memory, advanced literacy and basic numeracy

**communication skills and general knowledge**—children’s communication skills and general knowledge based on teacher observations of developmental competencies and skills as measured in the school context.

The AEDI scores for each domain are reported as the proportions of children who are ‘on track’, ‘developmentally at risk’ and ‘developmentally vulnerable’. Children developmentally ‘on track’ are those who score above the 25th percentile for the domain (i.e. are in the top 75% of the national AEDI population on that domain). Children developmentally ‘at risk’ are those who score between the 10th and 25th percentiles of the national AEDI population. Children considered developmentally ‘vulnerable’ are those who score in the lowest 10th percentiles of the national AEDI population.

The 2009 AEDI results indicate that while the greater majority of NT and Australian children were developmentally ‘on track’ across each of the five AEDI domains, significantly higher proportions of NT children were developmentally vulnerable on each of the five AEDI domains in comparison with all Australian children (see Figure 5 below).<sup>9</sup> This has significant implications for schools in meeting the learning needs of these children.

**Figure 5. Children developmentally ‘vulnerable’ by AEDI domain: Australia, 2009**



## 2.5 Developmental vulnerability on entry to school

Children who are developmentally vulnerable on two or more AEDI domains are highly likely to require some form of special education support to make a successful transition into school learning. It can be seen in Figure 5 (above) that over a third of all NT children (38.5% of those surveyed) were developmentally vulnerable on one or more of the five AEDI domains compared with 23.4% of all Australian children. Similarly, almost one-quarter of NT children (23.3% of those surveyed) were developmentally vulnerable on two or more of the five AEDI domains compared with 11.8% of all Australian children.<sup>9</sup>

Data reported in the Northern Territory Results for the NT show that non-Indigenous children from ‘outer regional’, ‘remote’ and ‘very remote’ communities have generally similar rates of vulnerability (9.8%, 8.8% and 10.0% respectively). In contrast, Indigenous children from ‘remote’ and ‘very remote’ communities have very high rates of vulnerability (52.3% and 53.8%), which are more than twice the corresponding rate (25.1%) for Indigenous children from ‘outer regional’ communities such as Darwin.<sup>9</sup>

Indigenous children from language backgrounds other than English were more than twice as likely to be developmentally vulnerable than Indigenous children whose home language was English (55.9% compared with 22.3%) in contrast to non-Indigenous students from non-English and English language backgrounds (19.1% compared with 8.4%).<sup>9</sup>

These variations in children's developmental vulnerability by remoteness and language background highlight the extent to which the Territory's complex geographic and population circumstances impact on the normal processes of early child development. They highlight areas of particular need and the scale of the challenge for families, communities and governments in improving children's health, early development and readiness for learning at school.

### 3. Understanding the NT population context

The geographic, historical and economic, characteristics of the NT differ markedly from other Australian jurisdictions. The unique socio-demographic, cultural and economic diversity of the NT population also presents substantial challenges to the delivery of services.

#### 3.1 The NT population

Population projections based on Australian Bureau of Statistics census data estimate the total NT population in 2011 to be 229,678 people, with around 30% being of Indigenous descent.<sup>10</sup> Table 2 below details the number and percentage of Indigenous and non-Indigenous children in each of the 5 year age groups from 0 to 20 years estimated to be in the NT during 2011.

**Table 2. NT population projections for 2011 by five year age group and Indigenous status**

Age group	Indigenous Number (%)	Non-Indigenous Number (%)	Total
0 – 5 years	7,763 (40.1%)	11,574 (59.9%)	19,319 (100%)
5 – 9 years	7,756 (42.8%)	10,367 (57.2%)	18,123 (100%)
10–14 years	7,508 (43.7%)	9,683 (56.3%)	17,191 (100%)
15–19 years	7,105 (42.6%)	9,587 (57.4%)	16,692 (100%)
<b>Total (0-20 years)</b>	<b>30,132 (42.2%)</b>	<b>41,211 (57.8%)</b>	<b>71,343 (100%)</b>

Source: NT Treasury (2009)<sup>10</sup>

On many demographic and social indicators, the NT appears to comprise two distinct populations, Indigenous and non-Indigenous, with different histories, population dynamics, educational and employment opportunities and widely differing patterns of social and economic participation and achievement. However, a caution against treating these as homogeneous groupings is necessary: for example, a significant and growing number of Indigenous people share demographic characteristics much closer to those of the non-Indigenous population.

#### 3.2 Demographic diversity

At the core of demographic diversity in the NT are the very different age profiles of the Indigenous and non-Indigenous populations. Factors that contribute to the different age structures (births, deaths and migration in and out of the Territory) are themselves affected by the population age profile.

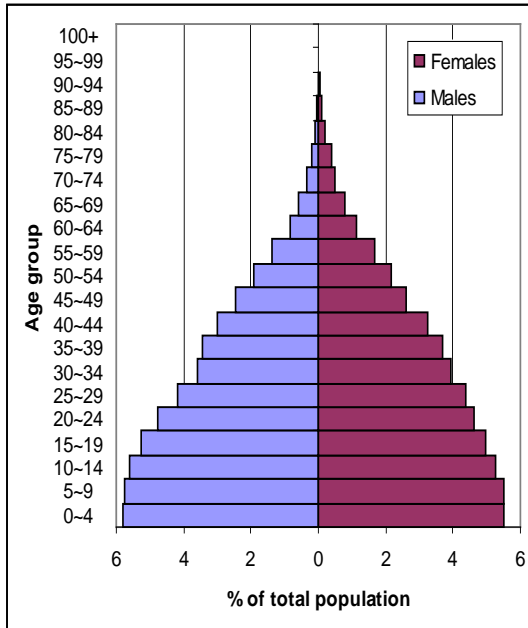
In Figure 6 below it can be seen that the majority of the NT Indigenous population is concentrated among younger age groups. This is mainly due to higher rates of early childbearing, higher rates of fertility and earlier mortality. The non-Indigenous population, on the other hand, has a higher proportion of people in the age ranges 20 to 50 years. The non-Indigenous population profile has characteristics of declining fertility occurring at later ages. In the NT it is also shaped by in- and out-migration related to employment mobility.<sup>11</sup>

Over a third (34%) of the NT Indigenous population is younger than 15 years of age in contrast to 21.5% of their non-Indigenous counterparts. These age differences have implications for the level of human capital that can be mobilised in support of child-rearing as well as for the way in which human services need to be tailored to meet the differing population needs.<sup>7</sup>

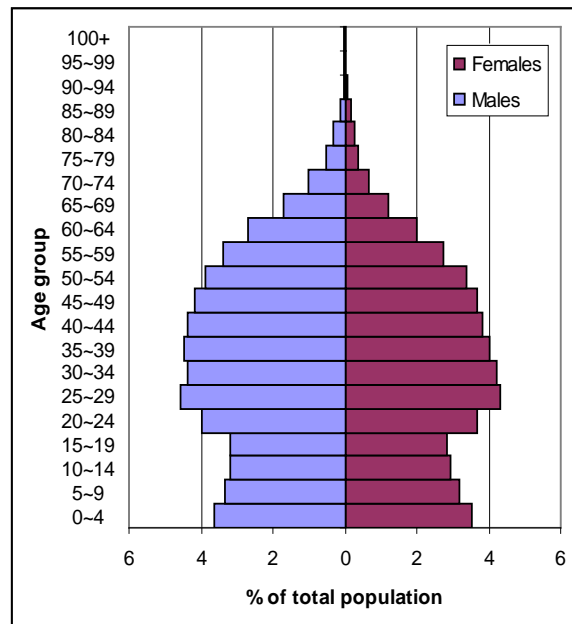
The NT Indigenous population is expected to grow faster than the older non-Indigenous population. This is because younger populations have proportionally more young women at the childbearing ages who are more likely to have a greater number of births. This contributes to a higher level of population growth over and above other factors affecting fertility. The number of people at reproductive ages (15 to 49 years) is projected to increase 46% from 2006 to 2036. It is also estimated that the Indigenous population aged 1 to 14 years will increase from 22,432 in 2006 to 29,761 in 2036, when it will be 42% of NT children this age.<sup>10</sup>

**Figure 6. Population pyramids: NT, 2010**

1(a): Indigenous population



1(b): Non-Indigenous population

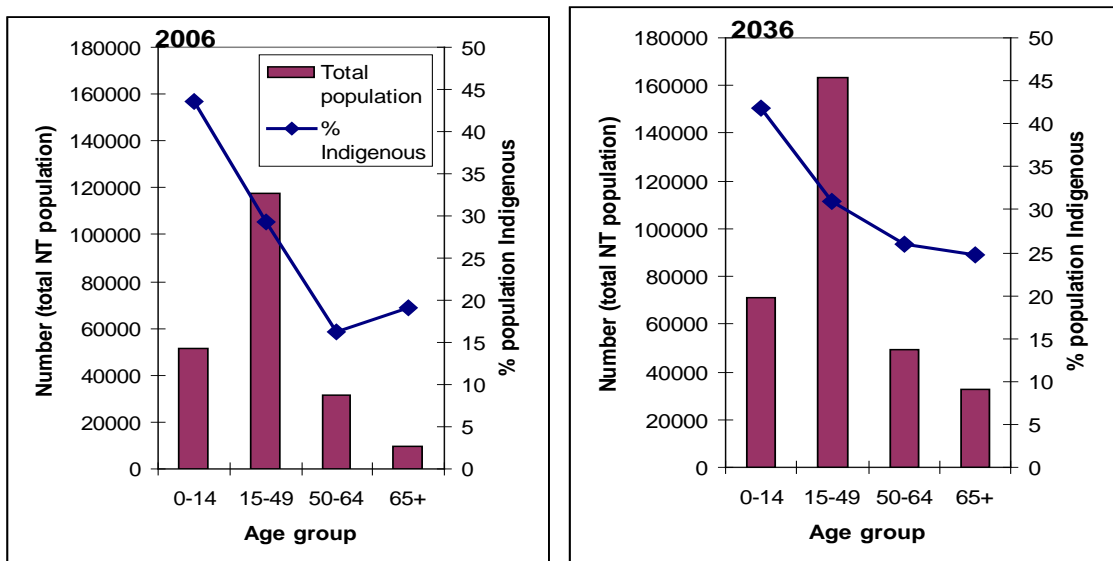


Source: NT Treasury, 2009<sup>11</sup>

In contrast, the main factor driving population growth in the NT non-Indigenous population is the net in-migration of new Territorians. Figure 7 (below) shows the expected change in the Indigenous NT population as a proportion of the total NT population between 2006 to 2036. Over this 30 year period, the non-Indigenous population aged 1 to 14 years will increase from 29,094 in 2006 to 41,518 in 2036 when it will be 58.2% of NT children this age.<sup>11</sup>

Despite its young age structure, both structural and numerical ageing of the Indigenous population are projected to occur over the coming decades. While there are substantial increases in the NT population of all people aged 65 years and older projected to occur between 2006 and 2036, there is also expected to be a greater proportional increase of Indigenous people this age. Their numbers are expected to more than treble by 2036.<sup>11</sup>

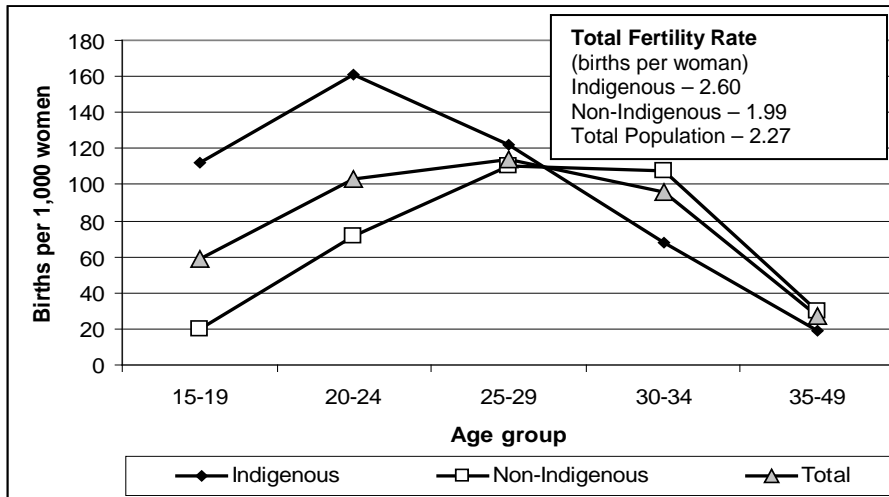
**Figure 7. Number of persons by age group and proportion of the population that is Indigenous: NT 2006 and 2036**<sup>11</sup>



### 3.3 Birth rates

A key factor in population growth is the fertility rate, or the number of children born to women. Indigenous births are concentrated at younger maternal ages. Different fertility rates, in conjunction with different age structures, will differentially shape the respective population growth and composition of the NT Indigenous and non-Indigenous populations over the coming years. While Indigenous fertility rates are higher than non-Indigenous rates, the difference in lifetime number of children women can expect to have, i.e. total fertility rate, is not very different. In fact, the Indigenous total fertility rate of 2.60 is not exceptionally high and lower than the overall Australian total fertility rate during the post- World War II baby boom. The difference between Indigenous and non-Indigenous fertility is largely explained by high rates of Indigenous childbearing during the teenage years.

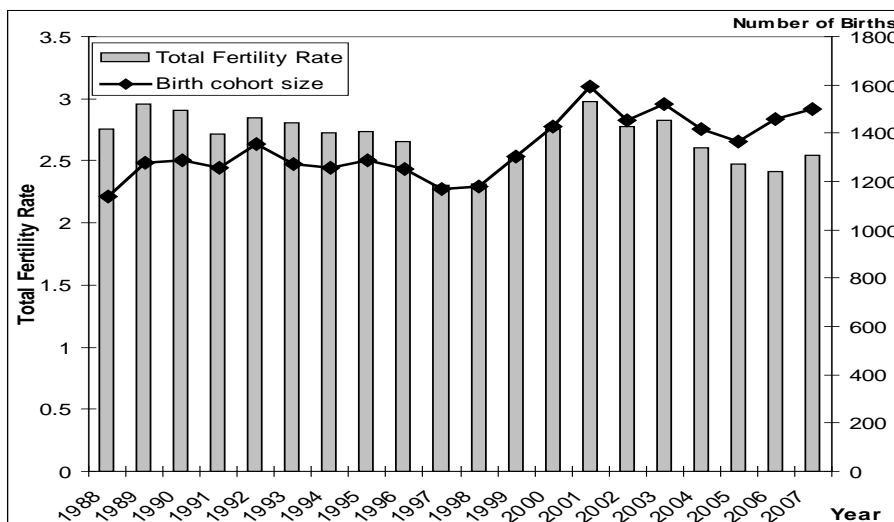
**Figure 8. Fertility rates by Indigenous status: NT, 2007**



Source: ABS (2008), Cat. No. 3301.0 Births Australia 2007; Vital registrations used as primary source.<sup>12</sup>

The impact of these fertility rates interacting with age cohorts of different sizes can be seen in Figure 9. This demonstrates that a lower overall fertility rate will not lead to fewer births, at least in the short term, because of the high number of women having children. This has important implications for interventions aimed at early childhood: even if they have few siblings (as indicated by the TFR), Indigenous children will be members of large birth cohorts experiencing greater competition for resources.

**Figure 9. Total fertility rate and number of births to Indigenous mothers: NT, 1998–2007**



Source: ABS (2008), Cat. No. 3301.0 Births Australia, various years<sup>12</sup>



### 3.4 Life expectancy

A key measure of a population's health is life expectancy at birth. While there are acknowledged difficulties determining life expectancy for Indigenous Australians due to variation between jurisdictions in the reliability of Indigenous identification data, the relevant NT Indigenous data on which these estimations are made are of relatively high quality. In 2006–07 the estimated NT Indigenous life expectancy at birth was 62.6 years for men and 68.5 years for women. Non-Indigenous estimated life expectancy at birth was notably higher at 79.5 years for men and 84.1 years for women.<sup>11</sup>

### 3.5 Geographic distribution

Table 3 shows that most of the NT population lives in the Top End. Over half of the non-Indigenous population lives in Darwin Urban (comprising Darwin, Palmerston and Darwin Rural). While a significant proportion of Indigenous Territorians also live in Darwin Urban, the Indigenous population is more widely distributed across the NT. One-quarter of the Indigenous population lives in the Alice Springs and surrounding districts which include large tracts of desert country.

Population projections for the NT show that, while this general pattern of a Darwin-centric population for the non-Indigenous population and more diversity among the Indigenous population will remain the same, the fastest growth will be in the Darwin Urban region (Table 3). Over the coming decade a greater proportion of both the Indigenous and non-Indigenous population will live in Darwin, placing greater pressure on early childhood and family services there.

Faster growth in the Darwin Urban and Darwin Rural regions could overshadow the growth in the number of people throughout every part of the NT. The only NT region not expected to have notable increases in its overall population is the Barkly region. However the Barkly and Katherine regions are also expected to have a declining number of non-Indigenous people living there, while the Darwin Rural area is likely to have relatively stable numbers.

**Table 3. Population distribution by Indigenous status and region: NT, 2006–11**

Region	Indigenous				Non-Indigenous			
	2006	2011	2016	2021	2006	2011	2016	2021
<b>Number</b>								
Darwin Urban	12 652	14 535	16 728	19 243	101 709	113 309	123 513	134 150
Darwin Rural	11 316	12 052	12 792	13 532	4 402	4 512	4 418	4 300
East Arnhem	9 930	10 696	11 430	12 141	5 854	6 231	6 572	6 912
Katherine	9 937	10 645	11 366	12 124	8 702	8 882	8 534	8 143
Barkly	4 003	4 227	4 451	4 665	2 151	2 188	2 114	2 018
Alice Springs	16 168	17 420	18 656	19 880	23 803	24 981	25 579	26 127
<b>NT</b>	<b>64 005</b>	<b>69 575</b>	<b>75 423</b>	<b>81 585</b>	<b>146 622</b>	<b>160 102</b>	<b>170 730</b>	<b>181 650</b>
<b>Per cent of total Territory population (%)</b>								
Darwin Urban	19.8	20.9	22.2	23.6	69.4	70.8	72.3	73.9
Darwin Rural	17.7	17.3	17.0	16.6	3.0	2.8	2.6	2.4
East Arnhem	15.5	15.4	15.2	14.9	4.0	3.9	3.8	3.8
Katherine	15.5	15.3	15.1	14.9	5.9	5.5	5.0	4.5
Barkly	6.3	6.1	5.9	5.7	1.5	1.4	1.2	1.1
Alice Springs	25.3	25.0	24.7	24.4	16.2	15.6	15.0	14.4
<b>NT</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: NT Treasury, 2009<sup>11</sup>

Of all Australian children who commenced their first full-time year of school in 2009, almost two thirds (64.7%) lived in areas defined by the Australian Standard Geographic Classification of<sup>9</sup> as 'major cities', 20.6% were in 'inner regional' areas, 9.3% in 'outer regional' areas, 1.9% in 'remote' areas and 1.2% in areas classified as 'very remote'. In contrast, over half (51.4%) of all NT children who commenced school that year lived in communities classified as 'outer regional' (e.g. Darwin), 22.2% in 'remote areas' (e.g. Alice Springs or Katherine), and 26.4% in 'very remote' areas (e.g. Yirrkala or Lajamanu). The substantially higher proportions of children living in such areas of remoteness in the NT has major implications for the per-capita costs of the provision of early childhood health, education and family support services relative to other Australian jurisdictions.

### 3.6 Socioeconomic indicators

As has been well documented, population measures of socioeconomic status show the Indigenous population to be disadvantaged compared with the non-Indigenous population. In the NT these differences are stark. The young age structure of the Indigenous population means these differences are likely to be exacerbated over coming years. Reported rates of unemployment and incarceration, for example, are more prevalent among young people (see Tables 4 and 5 below).

**Table 4. Number and per cent of population<sup>(1)</sup> aged 15 years and over with selected socioeconomic characteristics by Indigenous status: NT, 2006**

Characteristics	Number (per cent)			
	Indigenous		Non-Indigenous	
	Men	Women	Men	Women
<b>Highest year school completed</b>				
Year 11, 12 or equivalent	2 623 (16)	3 500 (19)	29 996 (59)	30 329 (65)
≤ Year 8 or did not go	6 379 (38)	6 947 (38)	2 715 (5)	2 240 (5)
<b>Highest post-school qualification</b>				
University degree <sup>(2)</sup>	162 (3)	358 (7)	7 129 (24)	11 620 (47)
Diploma <sup>(3)</sup>	169 (3)	418 (8)	3 596 (12)	4 216 (17)
Certificate level <sup>(4)</sup>	1 374 (23)	1 279 (26)	15 521 (52)	6 646 (27)
<b>Labour force status</b>				
Employed <sup>(5)</sup>	6 240 (37)	5 421 (30)	41 163 (71)	34 355 (66)
Unemployed <sup>(6)</sup>	1 014 (6)	941 (5)	1 135 (2)	914 (2)
<b>Median weekly income</b>				
Individual income	\$215		\$712	
Household <sup>(7)</sup> income	\$837		\$1 324	

(1) Excludes persons with Indigenous status not known.

(2) Post-graduate degree, graduate diploma and graduate certificate, bachelor degree.

(3) Advanced diploma and diploma.

(4) Certificate levels I-IV and level not defined.

(5) Paid employment of at least 1 hour per week, including CDEP.

(6) Not employed and actively seeking paid employment. Excludes those not in the labour force who are not actively seeking paid employment.

(7) Household with at least 1 person of any age who is resident at the time of the census and who identifies as being of Aboriginal and/or Torres Strait Islander origin.

Sources: ABS 2007a, 2007b<sup>13 14</sup>

Another population factor impacting on the capacity of young Indigenous parents to care for their current and future children is the growing demand for care from older persons as the population ages. The costs of chronic disease care already consume an extremely high proportion of overall Indigenous health expenditure and could increase further with the high rates of chronic illness and disability in the growing population of older Indigenous adults.

### 3.7 Rates of imprisonment

The overall rate of imprisonment of Indigenous people in the NT is around 13 times higher than the non-Indigenous rate. Given that the greater majority of prisoners are young men this reflects the disproportionately higher levels of difficulty experienced by Indigenous men. The very high rates of Indigenous imprisonment also have significant flow-on implications for male roles within families, and on families and children – both through the behaviours that lead to imprisonment - and the impact of father absence from families and the adjustments required when offenders return home.

**Table 5. Imprisonment rates: NT, 2009**

	Indigenous	Non-Indigenous
Number of prisoners	864	192
Imprisonment rate per 100 000 <sup>(1)</sup>	2 104	161
Per cent of all prisoners	81.8	18.2

(1) Rate per 100 000 adult population aged 18 years and over.

Source: ABS, 2009<sup>15</sup>

It must be remembered that these are measures of a dynamic and growing population. Given the projected increase in the NT population, if population rates of unemployment, educational

attainment or imprisonment remain the same, the numbers of people who are unemployed, leaving school early or entering prison are also likely to increase.

Even with reduction in the population rates of Indigenous imprisonment, there will remain a substantial number of families who are affected by these disruptive influences and causes of disadvantage. This obviously has serious repercussions for the delivery of early childhood services, stresses within families and needs for family support.

### 3.8 Socioeconomic disadvantage

The NT has the largest wealth disparities of all Australian States and Territories due to high concentrations of Indigenous disadvantage and the high levels of employment of the non-Indigenous population. Territorians in employment have equivalised gross weekly incomes that are higher on average than those of employed people in other parts of Australia. People working in the Territory are also more likely to be in full-time employment.

Indigenous people in the NT are more likely to live in an improvised home, tent or sleep out; they are more likely to have multi-family households and live in households of six or more people. They have lower equivalised gross weekly incomes; are more likely to speak an Indigenous language as their main language in the home compared to other Indigenous communities across Australia, and are more likely to not speak English well.<sup>7</sup>

### 3.9 Community disadvantage

Localised concentration of disadvantage in discrete Indigenous communities in very remote, remote and town camp settings is a key feature of the NT context. Some of these communities have extreme levels of social dysfunction associated with chronic, multiple sources of disadvantage. Of the 20 Territory Growth Towns where the NT Government is seeking to build human services, public amenities and economic viability to the levels enjoyed by equivalent sized towns elsewhere in Australia, nine are classified by the ABS as having the lowest area measures of disadvantage in the entire nation.

One of the main sources of disadvantage in such communities is the limited availability and poor quality of the public housing stock, which has resulted in chronic high levels of overcrowding. This together with poor maintenance has contributed to unhygienic living conditions, inadequate sanitation, poor water quality and generally poor standards of environmental health including dog health.

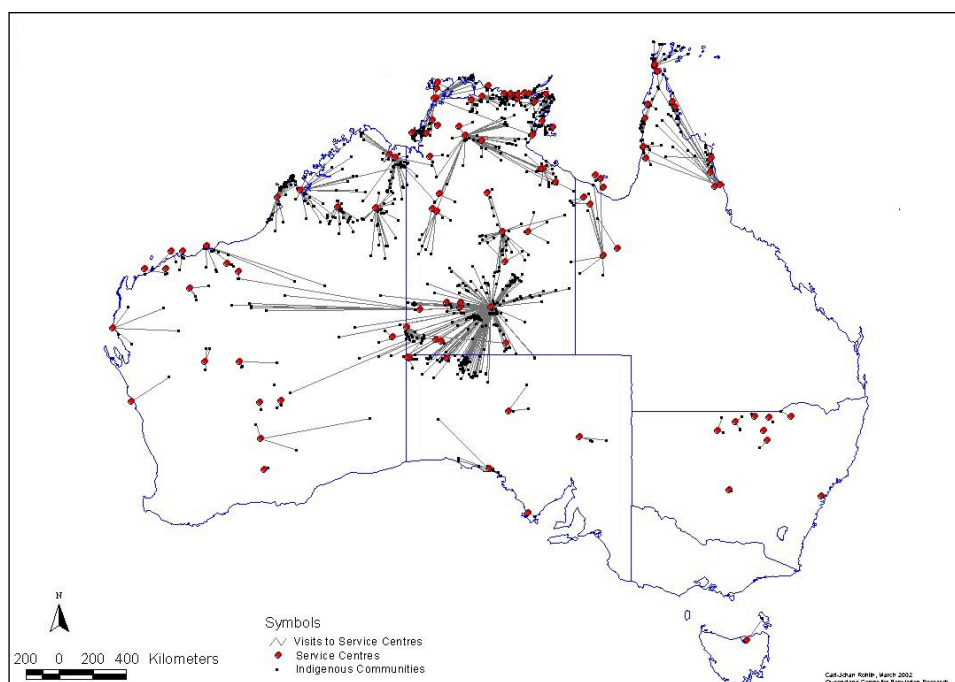
Most of the 20 Territory Growth Towns and their associated outstations and outlying homelands communities have much higher rates of overcrowding than comparable remote and very remote communities in northern Queensland and the north-west of Western Australian. They also have higher proportions of households where the main language spoken in the home is a traditional Indigenous language and significantly lower proportions of adults who have completed school education to Year 10 or are English language speakers than comparable communities in Queensland and Western Australia.<sup>13</sup>

### 3.10 Migration and mobility

Census data collected in 1996, 2001 and 2006 show the non-Indigenous NT population is highly mobile with much higher rates of interstate migration than the Indigenous NT population.<sup>16</sup> Given the concentration of the non-Indigenous population in the Darwin/Palmerston area it is reasonable to assume that most future in-migration of non-Indigenous people to the NT will result in this population tending to settle in the Darwin/Palmerston area. This interstate migration is highly age-specific with a net positive migration concentrated in the early adult ages. Even when net migration to the NT is negative (i.e. with more people leaving than arriving), there remains positive net migration for people in their 20s.

For the Indigenous population the key mobility issue is intra-state migration. This is extremely difficult to measure via census data.<sup>17</sup> Taylor has shown that Indigenous Australians travel significant distances to reach services for health, finance, shopping and so forth (see Figure 10).<sup>18</sup> This mobility is thus likely to influence census counts of Indigenous people at specific locations and thus affect the accuracy of planning decisions and where people want to access services.

**Figure 10. Travel distances from Indigenous communities to service centres**



Source: Taylor (2002)<sup>17</sup>

Recent analysis of data from the 1996, 2001 and 2006 censuses by Taylor and Carson has documented the extent of long-term urbanisation of the Indigenous population (see Table 5). This also shows a greater net movement of women into urban areas than men (i.e. 87 men for every 100 women).<sup>18</sup> This net migration of women includes the movement of children with their mothers and the movement of women into town to have babies. It is therefore expected to be another factor contributing to the growing need for early childhood services in urban areas.<sup>10</sup>

**Table 5. Indigenous migration between censuses: NT, 1991–2006**

	1991–1996	1996—2001	2001–2006	1991–2006	Flows (%)
<b>Rural to urban</b>	1244	1088	1196	3528	50.0
<b>Rural to rural</b>	520	394	361	1275	18.0
<b>Urban to rural</b>	766	569	394	1729	24.0
<b>Urban to urban</b>	195	225	174	594	8.0
<b>Total</b>	2725	2276	2125	7126	100.0

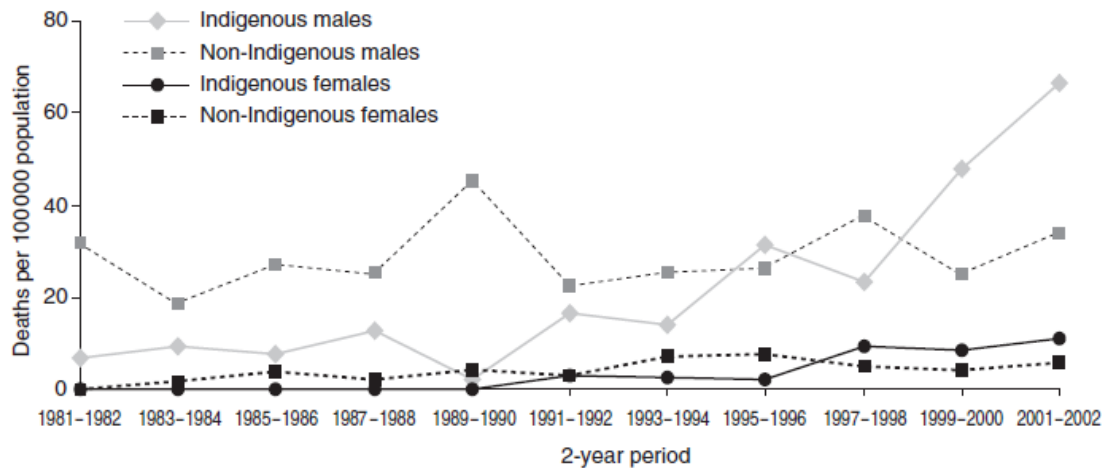
Source: Taylor and Carson (2009:33)<sup>19</sup>

### 3.11 Demographic stresses

Demographic change can intensify stressors within a population which not only test systems of welfare and provision for the young, but also put pressure on the 'opportunity structures' that shape pathways for social participation.<sup>20</sup> Populations such as the NT Indigenous population undergoing rapid demographic and health transitions commonly also experience elevated rates of premature mortality due to injury, suicide and homicide.<sup>21</sup> An example of this is the increase in male Indigenous suicide reported in the NT from 1981/1982 to 2001-2002 (Figure 11).<sup>22</sup> This is consistent with the international evidence on links between rapid demographic change and rates of suicide for indigenous populations in other countries, and suggests that suicide rates can be considered as an indicator of demographic stresses on families and individuals.

As large birth cohorts age, they also confront intensified competition that puts pressure on existing opportunity structures, including education, employment and social participation. With risks and vulnerabilities arising during child development in circumstances of impaired relationships to older caregivers, these cohorts are likely to be exposed to higher stress and elevated risks of suicide.<sup>21</sup>

**Figure 11. Age-adjusted suicides by gender, Indigenous status: NT, 1981–2002**



Source: Measey, et al, 2006 <sup>22</sup>

### 3.12 Education and opportunity

The projected population growth of working age Indigenous people is likely to present significant challenges in terms of the opportunities available for employment, further education and social participation. Just keeping pace with the demographic trends for growth in the young adult Indigenous population will require a significant expansion of the number of jobs potentially available. Improving the rates of workforce participation of Indigenous people in the NT is also challenged by the low levels of functional literacy and numeracy of many Indigenous school leavers which limit their capacity for taking up the work and educational opportunities which may be available. It is also impeded by the low completion rates of vocational and adult educational training courses for Indigenous students. Taylor's work at Wadeye shows that young people have much lower levels of participation in employment compared to older people, but are slightly more likely to complete training qualifications once started, albeit at a very low rate of completion. <sup>23</sup> This education and training impasse is likely to add significantly to social pressures resulting from demographic change in the age structure of the Indigenous population – particularly in more remote areas of the NT.

### 3.12 Expected population changes

Populations are not static. The population age composition of Indigenous Territorians today has emerged over the past 50 to 60 years as a result of growing fertility rates and high adult mortality. Such changes have many consequences for the transmission of risk and vulnerability and for the resources required to change social outcomes at the population level. The declining proportion of adults in the Indigenous population has almost certainly had implications for the quality and amount of care, leadership and mentoring received by young people who are raised in unstable households and families subject to high levels of stress. The ageing of the population does not mean reduced risks in childhood, as indicated by indicators like low birth weight and other indices of developmental vulnerability. The incidence of these risks is likely to continue to grow absolutely even if declining proportionately. They are also likely to be accompanied by continuing risks for youth and young adults such as suicide, violence and substance misuse.

These demographic trends will continue to have consequences. As cohorts of a very young society age, they produce demands for work and opportunity that society will have difficulty in providing. If improvement in functional literacy and other competencies of disadvantaged groups does not keep pace, employment disparities will continue to grow. Strategies to improve Indigenous outcomes must target early childhood determinants of disadvantage, but cannot be limited to strategies that target small children alone. They must also engage the parents and families of those children to improve the quality of childrearing and childhood environments. Improvements in the social and emotional competencies of young parents are important targets for interventions if they are to be able to take responsibility for their families. This means addressing their educational needs, life skills and capacity to work, as well as promoting specific qualities and capabilities of parenthood through intervention.

## 4. The NT service delivery framework

NT early childhood services are more fragmented and less well developed than the main universal services in education and primary health care. The development and expansion of early childhood services, education and care will not only require centre-based models of care and family support, but also active and continuing development of universal systems in health and education. There is a need to develop effective collaboration and planning within and across all sectors and practice disciplines concerned with child development.

The NT Emergency Response has seen a proliferation of discrete, short-term funded initiatives, often overlapping in aim and purpose and not integrated with existing universal and targeted services. At a recent symposium on Effective Integration of Services for Children and Families (2010) Professor Ilan Katz reviewed international evidence (from the National Evaluation of Sure Start, Brighter Futures, and other examples) on the outcomes of integration, noting that there is ample evidence that fragmentation of services has adverse effects on families and children (as well as on outcomes delivered by those services).<sup>24</sup> For Katz, the human dimension is too often missing from approaches to integration of services: the key to better collaboration is to provide the conditions for interpersonal relationships at all levels. The principles underpinning these conditions are trust, authority and negotiation. Integration cannot simply be imposed from above, but must be developed at strategic and operational levels. Practitioners need to be entrusted with the authority to develop relationships that support innovation in collaborative practices in community settings.

In the NT as a whole, skills and training shortfalls must be overcome by recruitment within and outside of the Territory. However, rapid economic growth will not necessarily see proportionate growth in workforce participation of Indigenous people relative to non-Indigenous, non-local participation. New developments often see reductions in Indigenous employment as demand for professional and managerial competencies is met from outside. The recourse to external skills and competencies to meet demand for human services could therefore further displace Indigenous participation and add to the marginalisation of community members.

### 4.1 Catering for widely differing needs

The demographic differences outlined in the NT population, between a mainly non-Indigenous, town-centred population with relatively high educational attainment and employment participation, and a mainly Indigenous, more remote-living, linguistically diverse population with very low educational achievement, high unemployment and high exposure to multiple risks and vulnerabilities from birth are dramatic. They set the NT starkly apart from other Australian jurisdictions. Population growth in the two groupings is driven by entirely different, in fact opposite, forces: in one population, growth is largely a product of in-migration and economic growth; in the other, it is a product of processes that see high fertility arising in and partly as a result of multiple stressors within families and relationships, circumstances that reflect and perpetuate impairment of the growth of capabilities in disadvantaged populations.

The planning for early childhood services in the NT thus clearly needs to be informed by the population dynamics and capability profiles of each of these population groups. This should aim to achieve “proportionate universality” in the delivery of primary services for all children and families which is able to recognise and respond to the diversity of circumstances and needs.

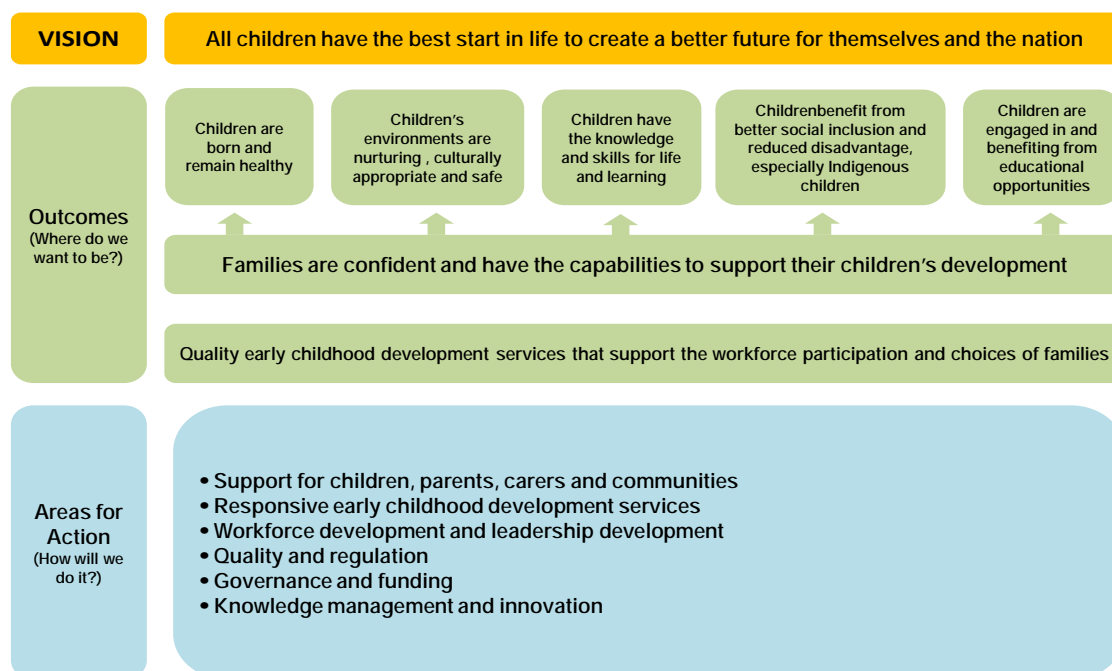
### 4.2 Better integration of children’s services

Early childhood services in the NT include preschools (government, non-government and mobile preschools); childcare centres; flexible services such as outreach and satellite services (long day care, out of school hours care and others); mobile child care services; playgroups; Jobs, Education and Training (JET) crèches and Innovative Childcare Service Hubs. The recently established *Families as First Teachers* program (FAFT) is building workforce and community capacity to support children’s early development and learning. A number of *Integrated Child and Family Centres* (ICFC) are also currently in development as part of a broader policy initiative to create an *Integrated Child and Family Services* framework. Accreditation, training and staffing levels vary considerably, enrolments and attendance are static in some preschools and declining in others. Universal access to preschool for fifteen hours per week is being introduced but, ensuring children’s attendance and effective participation and the quality of the teaching and learning environment will be vital to the effectiveness of this as a measure to reduce disadvantage.

## 5. Investing in early childhood development

The Council of Australian Governments' 2009 *Investing in the Early Years—A National Early Childhood Development Strategy* is based on the overwhelming evidence of the benefits to society of public investment to ensure all children get the best start in life. This national agreement for early childhood development to be a priority area of reform for all Australian governments aims to support Australia's future health through the prevention of chronic diseases in adulthood, and improve the nation's human capability and economic prosperity, through improved education, skills and productivity.<sup>25</sup>

**Figure 12. The early childhood development outcomes framework**



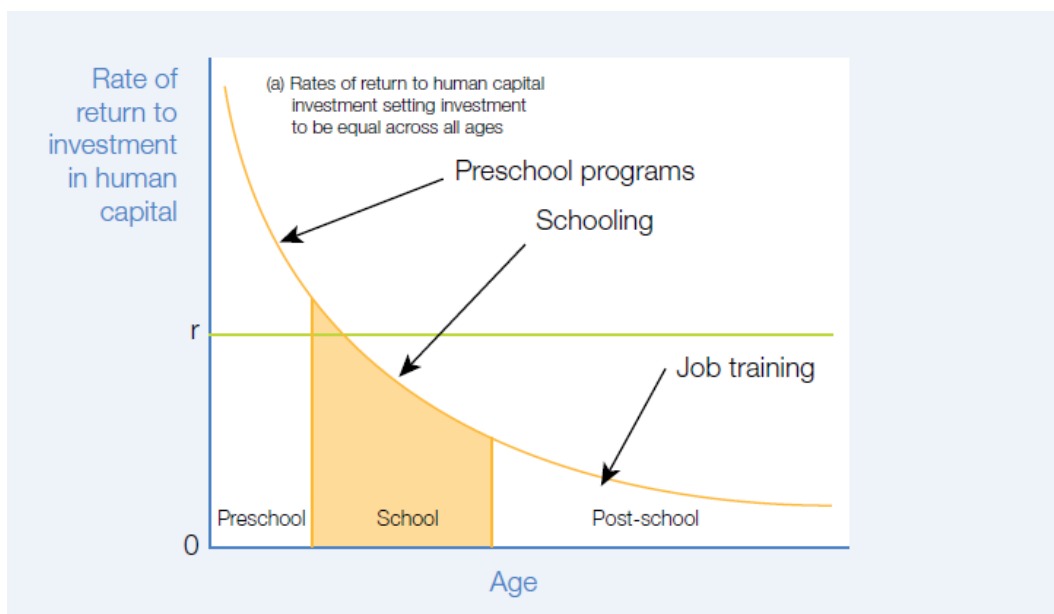
Source: Investing in the Early Years—A National Early Childhood Development Strategy, 2009<sup>25</sup>

International and Australian evidence clearly shows that investing to support and strengthen all aspects of early childhood development—including health, education, and wide ranging family and community supports—brings long-term benefits to children over the course of their lives as well as benefits to the whole community.

To achieve the improvements needed in the health and wellbeing of children and adults and 'close the gap' between the life outcomes of Indigenous and non-Indigenous Territorians, it is increasingly evident that preventive measures need to start early in the life course. The Nobel Prize winning economist James Heckman's evaluation of the economic return on investments in developmental prevention programs and services for highly disadvantaged populations in the USA demonstrates the extent of the benefits which can be gained by intervening early in the lives of children, rather than treating problems when they occur later in life.<sup>26</sup> Figure 13 below schematically illustrates the relative returns on public investments in human capital at different stages of the life course.

This new understanding of the importance of the early years for longer term health and human capability has been a key factor leading international agencies such as the WHO, the UNICEF and the World Bank to recommend public investment to improve children's health and early childhood development in the first five years of life as the most cost-effective strategy now available to governments for breaking the intergenerational cycle of disadvantage.<sup>1 2 27</sup>

**Figure 13. Rate of return to investment in human capital**



Source: Cahuma et al, 2006<sup>27</sup>

However, in developing a systematic approach to investment in the early years, it is essential that this be informed by a proper understanding of the NT population, its demographic composition and geographic dispersal, and an understanding of the environmental issues affecting the health, learning and social outcomes of NT children. This is particularly true in light of recent concerns about child welfare and the failings of the child protection system. Proper account will need to be taken of the special requirements of the service delivery context of the NT, as the capacity to address these varying challenges is such a crucial aspect of the effectiveness of policy and services for families and children.

An added benefit of a whole-of-population approach to strengthening early childhood development and family support is that this has been shown to be one of the most effective means of reducing child abuse and neglect. This is particularly important given the empirical evidence now available regarding the relationship between adverse early childhood experiences, particularly child abuse and neglect, and adult health and mental health status.<sup>28 29 30</sup> This suggests that reducing the occurrence of child abuse and neglect through strengths-based, whole-of-community and whole-of-government approaches to promoting healthy early childhood development and family support can have major long-term public health and mental benefits for individuals and society.<sup>30</sup>

Most families and communities place a high value on their children having a good start in life. However, the continuing poor health and educational outcomes evident in some segments of the NT population indicates that the developmental opportunities needed for a good start are not sufficiently available. The degree to which family, community and service capacity varies across the NT, also means that investment in basic (universal) child and family services needs to be proportional to the documented needs of particular communities and population groups.

The costs to individuals, families and society of children failing to achieve their developmental potential are substantial – but they are also preventable. Families, communities and government thus share a common responsibility in ensuring that all children are afforded the care and opportunities they need to obtain the best possible start in life.

“To exercise their rights, young children have particular requirements, including access to quality health and nutrition services and safe and emotionally fulfilling environments where they can play, learn and explore, under the responsive guidance of parents and other primary caregivers.”

*2010 Status report on the UN Convention on the Rights of the Child*<sup>31</sup>



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