

# A population approach to early childhood services: Implementation for outcomes

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## Acronyms

AEDI	Australian Early Development Index
NAPLAN	National Assessment Program – Literacy and Numeracy
NT	Northern Territory
OECD	Organisation for Economic Co-operation and Development
UNICEF	United Nations Children’s Fund
USA	United States of America
WHO	World Health Organization

## Executive summary

This paper outlines the rationale and features of strategies to support early child development that are effective in improving outcomes for the whole population. A population approach aims to monitor and improve the health, educational and social outcomes of the population as a whole. It can be a part of efforts to reduce inequalities between groups within the population and has a strong focus on the social determinants of health and educational success. A population approach utilises indicators to measure the health and wellbeing of the population, as well as to inform policy decisions and the public about progress. The research is clear that early childhood development plays a key role in many life outcomes, so it is important that the wellbeing of the NT's children is carefully monitored and that effective strategies to improve outcomes for all children are adopted.

A population approach to improving developmental health and wellbeing in the NT is likely to require:

1. **A central focus on population-level outcomes and determinants as the basis for decisions:** use of best evidence to inform policy; use of a variety of data and methods to identify effective interventions; disseminating findings and facilitating policy uptake.
2. **Increased upstream investment in prevention, balancing long- and short-term investments.**
3. **Application of multiple intervention strategies:** taking action on early life determinants and their interactions; implementing strategies to reduce inequalities; applying a comprehensive mix of interventions and strategies; integrating actions in multiple settings; aiming to improve health over the lifespan.
4. **Collaboration across sectors and levels:** engaging partners to align values and purpose and establishing concrete objectives and visible results; identifying champions and investing in alliances; securing political support; sharing leadership, accountability and rewards among partners.
5. **Employing mechanisms for public involvement and demonstrating accountability for developmental outcomes:** implementing results-based accountability; instituting effective evaluation systems; promoting impact assessment measures and publicly reporting results.

The population approach has a wider focus than the ongoing provision of services to individuals with a need for clinical care, treatment or remediation. It focuses more on outcomes for the population as a whole and is concerned with policies, services and practices which are more preventive in their focus. It does not focus solely on delivery of services to groups with disorders or those at higher risk of disorder, but rather seeks to reduce the occurrence and impact of risks more broadly across the population. Thus, to improve developmental outcomes at the population level requires a broader approach than simply incrementally improving existing, child health, early childhood services and school education. It requires drawing on evidence of the causes and outcomes of child health, development and educational success to identify the best strategies for improving the health, capacities and competencies of all children.

Evidence shows that many of the most important determinants of health and learning lie beyond the direct influence of health services and schools. For example, children's survival and healthy development has been shown to be strongly linked to the level of maternal education, rather than to health services alone. Education outcomes are also substantially influenced by determinants outside of school, such as family and community influences on early learning that shape the child's developmental readiness for school learning.

Children who are developmentally vulnerable are found across the entire socioeconomic spectrum. While these vulnerable children are certainly more likely to be found within families and areas of highest disadvantage, the greatest number of vulnerable children are found across the middle of the socioeconomic status range. This is because the most disadvantaged groups have smaller numbers of vulnerable children compared with the population overall. Effecting changes in the broader population can therefore result in the prevention of a much larger number of cases. However, universal approaches that target the whole population can also increase the gap between the middle group and the most disadvantaged groups. This is because the most disadvantaged groups are subject to multiple risks and may be the least likely to access or benefit from universal services.



For these reasons an effective population approach needs to deploy a mix of interventions and strategies, including both universal programs and targeted interventions and strategies that address the needs of disadvantaged and vulnerable communities.

Australian governments have recently agreed on a set of national targets to close the gap between Indigenous and other Australians in terms of life expectancy and disadvantage. They have also committed to a reform agenda to accelerate the changes needed to improve population level outcomes for Indigenous people. The types of interventions supported by these policies most likely to have population-level effects for Indigenous people include policies and services to reduce the very high rates of low birth weight, supporting universal access to preschool, and expanding access to quality childcare and family support.

The Report of the Board of Inquiry into the Child Protection System of the Northern Territory has recommended an extended investment in primary, secondary and tertiary prevention within an integrated system of services for children and families. The report is clear that unless there is a significant investment in 'upstream' preventive services at the population level, even the best integrated system of forensic and clinical services for families at 'high risk' or subject to notification will be overwhelmed.

For these investments to be effective there needs to be a policy commitment to quality implementation of evidence-based programs, alongside well designed evaluations. The expansion of preventive programs needs to be integrated with quality universal services. In the health care sector, an integrated primary health care model would need to include improved developmental checks within clinical care, as well as expanded population health programs promoting healthier development. The child care, family services and education sectors also have a major role in early developmental prevention which can enable a greater proportion of children making a successful transition into formal school learning.

While the health, education, childcare and family sectors all have defined responsibilities for their specific contributions to children's developmental outcomes, other sectors and services such as local government, housing and justice are also vital to enabling the desired outcomes to be achieved. This highlights the need for coordination and joint planning for the effective delivery of the range of services needed. This is also dependent on the data infrastructure available to inform policy and resourcing decisions as well as the capacity for monitoring service delivery, service quality, outcomes and costs.

Accountability for outcomes within a population approach relies on flows of information between stakeholders, agencies and providers that enable policy makers and partners to engage the public – and the other levels of government – about key objectives for children's health, development, education and wellbeing.

The public reporting of progress towards key policy goals also assists the understanding and support of government and non-government stakeholders and the general public of the complex issues that must be addressed in improving developmental outcomes of the NT's children. This will require:

- Continuing development of key indicators of developmental health that can improve the evidence-base for decision making and policy by government and community sector services
- Building the data infrastructures of the Departments of Health; Children and Families; and Education and Training to improve systems of service monitoring and accountability, capacity for data integration, and the analytic capacity needed for routine public reporting
- Ensuring that when new services are developed and innovations are trialled, the quality of implementation is able to be monitored and service outcomes measured
- New programs should not be implemented unless there is good evidence to suggest they are able to be suitably adapted for implementation in the NT context and maintain the required standards of quality so their effectiveness can be established.

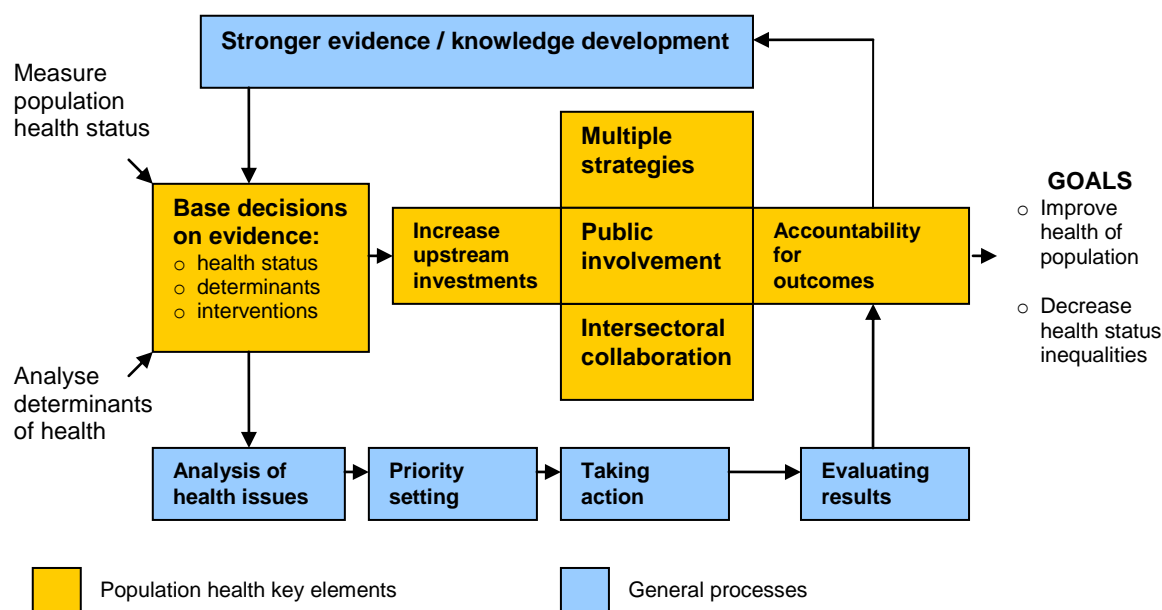
# 1. What is meant by a population approach?

Population approaches in policy and services are strategies by which systems seek to improve outcomes for a population as a whole. They typically involve the careful definition and then monitoring of outcomes and are informed by understanding the key determinants and causal processes leading to the desired population outcomes. There is now a substantial body of international evidence showing that population approaches in human service delivery can not only improve outcomes for a population as a whole – they are also one of the most effective means of reducing inequalities and areas of disadvantage in society.

The scientific rationale for population approaches in human services has its origins largely in the epidemiology of population health. However in recent years there has been growing policy recognition that the principles of this approach also have relevance in education and other areas of human services. For this reason it is useful to briefly review some of the key features of the population health model as it is now articulated. A recent Canadian policy document has outlined the key elements of the population health model.<sup>1</sup> This is described schematically in Figure 1 below:

“Population health refers to the health of a population as measured by health status indicators and as influenced by social, economic and physical environments, personal health practices, individual capacity and coping skills, human biology, early childhood development and health services. As an approach, population health focuses on the interrelated conditions and factors that influence the health of populations over the life course, identifies systematic variations in their patterns of occurrence, and applies the resulting knowledge to develop and implement policies and actions to improve the health and wellbeing of those populations.”<sup>1</sup>

**Figure 1. Population health key elements**



Source: Health Canada, (2001). The Population Health Template <sup>1</sup>

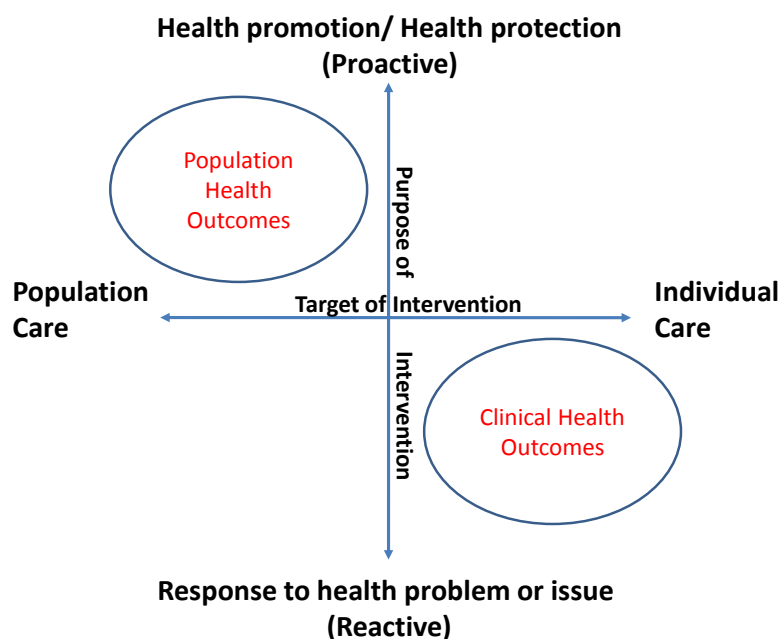
Critical elements of an effective population health approach are a detailed understanding of the distribution of a problem or risk factor across a population, then the identification of the principal determinants for the problem or risk factor (that affect the largest segments of the population). Finally to deliver improved population-level outcomes, an effective population health approach utilises the most effective interventions that address these identified principal determinants.

The measurement of population outcomes using a range of key indicators is seen as indispensable to informing policy choices about service investments. Development of relevant indicators and data systems able to gather and then analyse them are some of the key elements underpinning the achievement of population health outcomes.

Existing health and education data collections in the NT provide a useful basic foundation for the information infrastructure required for a population approach to early childhood services. However, these will need to be extended and augmented by the development of other information systems permitting the systematic evaluation of programs and services at the local, regional and jurisdictional level. Such systems are necessary for monitoring, and evaluation. They are also needed for planning and decision making at all stages of implementation, from policy and investment choice, to 'on the ground' implementation and delivery of services, as well as the on-going evaluation of outcomes.

The second critical element of a population approach is a commitment to 'increase upstream investments', that is, to intervene earlier in the causal stream, to prevent the risk or cause rather than to rely solely on treating the outcome. This implies the use of a wider kind of evidence in making choices about resources and effective strategies. While traditional health care is typically reactive and starts from the need to provide care to individuals to deal with health problems or their individual risks of disease, population care builds on the evidence of risks, causes and outcomes measured for the whole population. It is more proactive and seeks to reduce these risks within the population group. (Figure 2) It is important to recognise that for children population health outcomes represent a distinct and separate 'buy' for the health system to the clinical health outcomes for individuals that health care typically addresses.

**Figure 2: Integrated model of health care**



Source: Nossar, V (1998) <sup>2</sup>

According to Rose, while practitioners working with high-risk individuals may be very effective at motivating behaviour change at the individual level, this does not address the incidence of risk at the population level where "a large number of people at small risk may give rise to more cases of disorder than the small number who are at high risk."<sup>3</sup> That is, the causes of individual cases of disorder are not the same as the causes of the incidence of risk in a population. Rose's work has been very influential in focusing preventive efforts on determinants of outcomes for populations by seeking to reduce risk behaviours and promote lifestyle change in populations – for example by reducing the incidence of smoking to reduce risk of cardio-vascular diseases.

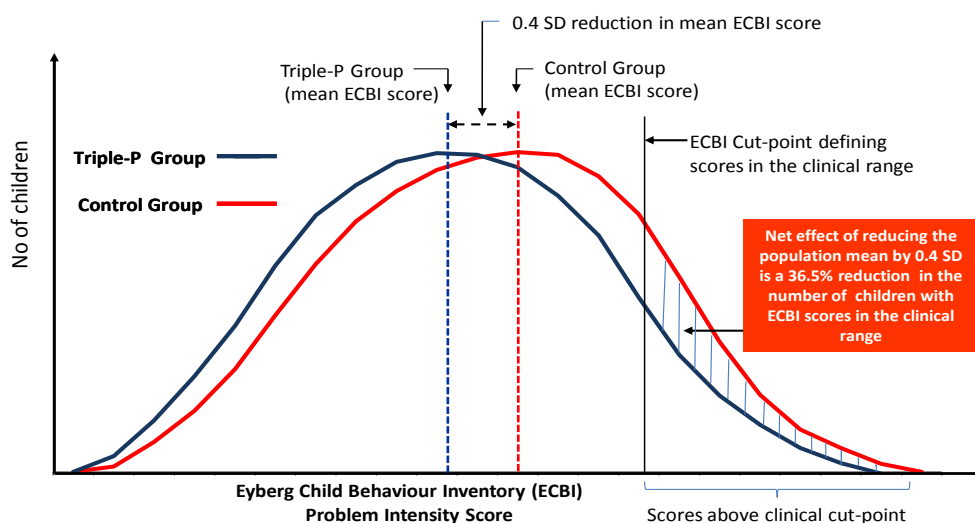


This principle has been applied by preventive interventions to seeking to reduce the overall incidence of disruptive behaviour disorders in early childhood through improving parenting skills. Given the evidence that early onset disruptive behaviour disorders such as Attention Deficit Hyperactivity Disorder and Conduct Disorder tend to persist and substantially increase risks for later delinquency, substance misuse and crime, all of which incur substantial social and economic costs, interventions targeting these disorders early in childhood can achieve significant population level gains. A notable example is the success of a large-scale randomised control trial of the universal delivery of an evidence-based parenting program, Triple P, in eighteen USA counties with population sizes between 50,000 and 175,000. The intervention was found to not only produce significant improvements in child behaviour outcomes it was associated with large effect-size reductions in independently measured adverse population-level outcomes: substantiated child maltreatment, child out-of-home placements, and child maltreatment injuries.<sup>6</sup>

Underpinning the effectiveness of population interventions that target all children and families (within a community, region or society) is the fact that vulnerable children are found across all segments of society.<sup>4</sup> Families and communities in areas with the greatest levels of socioeconomic disadvantage generally have the highest percentage of vulnerable children but relatively small numbers of children. Conversely, children across the middle ranges of socioeconomic disadvantage are less likely to be vulnerable, but because there are so many more children in these groups, this is where the greater number of vulnerable children are to be found. This is important as policies which only target preventive programs and services to the most disadvantaged groups can miss the majority of children who are likely to experience difficulties.<sup>4</sup>

Another important reason for the effectiveness of population approaches is that programs which result in small average improvements for the whole population also often produce large gains for the relatively few children with more severe problems at the upper end of the distribution of problem severity. This effect is illustrated in Figure 3 below which shows the child behaviour scores for children two years following their participation in a population level implementation of the group version of Triple P Positive Parenting Program in high-needs areas of Perth (n=1,200). The 0.4 Standard Deviation reduction in the mean behaviour problem scores of children who received the program in comparison with control children who did not receive the program also resulted in a 36.5% reduction in the number of children with child behaviour problem scores in the clinical range.<sup>5</sup>

**Figure 3: Universal delivery of group Triple P Positive Parenting Program in high-needs areas of Perth: Distribution of child behaviour scores for participating children at year 2 follow-up (n=1,200)**



Source: Zubrick et al (2005)<sup>5</sup>

A common criticism of the population health approach is that interventions that focus on promoting healthier behaviours for individuals across a whole population can potentially reduce these risks unequally e.g. between those more and less able to change behaviours, those more and less able to respond to health promoting messages, and those more and less likely to participate in preventive interventions.<sup>6</sup> This means that to be most effective, population health approaches also need to have a preferentially greater impact on 'vulnerable populations' rather than simply relying on change in behaviours in the general population.

Vulnerable populations or communities often share a large number of social, economic or other characteristics that put them at 'higher risk of risks' - in other words, there are 'communities at risk' or 'groups at risk' versus 'individuals at risk'.<sup>6</sup> In communities with multiple sources of disadvantage, the independent risk associated with each of these disadvantages tend to compound one another resulting in the average overall risk for individuals becoming substantially higher than in communities having fewer sources of shared disadvantage. This has two important implications for the design, delivery and effectiveness of preventive interventions. First, the level and intensity of the intervention (i.e. program exposure) required to achieve the desired effects are substantially higher than in less vulnerable communities. The second implication is that the very high proportion of individuals at risk makes it more efficient for program delivery to target the entire community rather than seeking to reach only those individuals at increased risk.

Contemporary population health approaches now rarely focus on a single risk factor and instead focus on programs and community-level action to address multiple risk factors – particularly those associated with adverse longer-term outcomes over the life course. An individual's position in the social distribution of risks is 'the product of a life trajectory' of exposure to risk and it is now well understood that many adult health and social problems have their roots in early childhood and family life.<sup>7</sup>

Many of the most influential early life risks are a consequence of community level factors such as stress exposures related to community problems of violence and substance misuse or growth failure related to food insecurity and inadequate understanding of children's nutritional requirements. To deal with such community-wide problems, collective community and family action may need to be mobilised through building leadership and human capability, rather than solely relying on service delivery strategies that remain largely focused on the consequences of the problems and behaviours of individuals.

Some education and other early childhood services are already delivered within a population policy framework. For example the ages of school entry age, compulsory school attendance, and school leaving are all prescribed by law. These legislated requirements aim to ensure that the population as a whole participates in formal education to a standard defined by school curricula and the tertiary training requirements of teachers. The recent focus on national test results for literacy and numeracy (NAPLAN) also reflects a push towards use of population-level evidence for defining uniform national standards for educational improvement in these aspects of school learning.

Until very recently, educational strategies have been mostly focused on school effectiveness and effective teaching, as well as on school attendance rates. This is now being extended to include a greater consideration of other determinants of school learning, particularly those that are outside the traditional remit of schools and school-based services. These include children's early social and emotional, behavioural and cognitive development and any special needs. Key factors that influence these aspects of childhood development are parenting and the quality of early childrearing, as well as the nature of support for learning and education within the home.

The 2009 national implementation of the AEDI is another example of a whole population policy. The population and community level data available from the AEDI on five areas of early child development relevant to children's readiness for school learning is now being used at the national, state/territory and community levels to inform service planning and community action to improve children's early development in the years from 0 to 5 years.

The focus on prevention and increased 'upstream investment' that is central to the population approach in health applies equally in the development of a population approach to education and other early childhood services.

However, the effectiveness of such 'up-stream' preventive strategies is predicated on the availability of population data regarding the early determinants, most relevant to children's development and learning and how these are distributed across the population as a whole, and within specific groups and communities where children are at higher developmental risk.

Because the critical determinants of child development do not fall neatly within the remit and sphere of influence of any one particular sector, such as healthcare, childcare, family services or education, a population approach cannot rest solely on the incremental extension of existing services delivered by each of these sectors. It requires action on many fronts to influence the range of determinants shaping children's development. These influences operate across multiple settings such as home, family, school and the community. They are also subject to the relationships which children and families have with the services available in these settings. An effective population approach to improving early childhood development outcomes will necessarily require clear commitment to inter-sectoral planning and collaboration in program development and implementation.

## 2. Multiple determinants of population outcomes

### 2.1 Social determinants of health outcomes

Population approaches in health are based on an appreciation of the importance of the social and economic factors in determining health. They start with the acknowledgement that many of these critical determinants of health are outside the direct reach of the health care system.

Epidemiological research has shown that the level of public expenditure on health care has had only a limited effect on improving disease outcomes and mortality rates. Although richer countries tend to do better in health terms than poorer ones, health outcomes are not simply a result of a society's wealth. International comparisons suggest that neither national income, nor proportion of Gross Domestic Product expended on health services, account for differences in life expectancy.<sup>8</sup> According to Preston, "factors exogenous to a country's current level of income probably account for 75 to 90% of the growth in life expectancy for the world as a whole between the 1930s and 1960s".<sup>9</sup>

The international evidence from developing countries which have reduced their population rates of infant mortality is that the single most important causal factor in these health improvements is modern formal education and the achievement of basic literacy among mothers.<sup>10</sup> The benefits of education for health appear to act in two ways. First, in conjunction with the availability of modern medicine and public health measures it transmits health knowledge and knowledge of risks that lead to changes in behaviour. Second, it promotes female autonomy and parental self-responsibility that lead to improved responsibility for care of children, conscious family planning and related behavioural changes. Political and cultural influences in civil society (political engagement and a high value on formal education) may promote or impede female autonomy and the education of women and limit or support the choices that they make in the care and education of children.

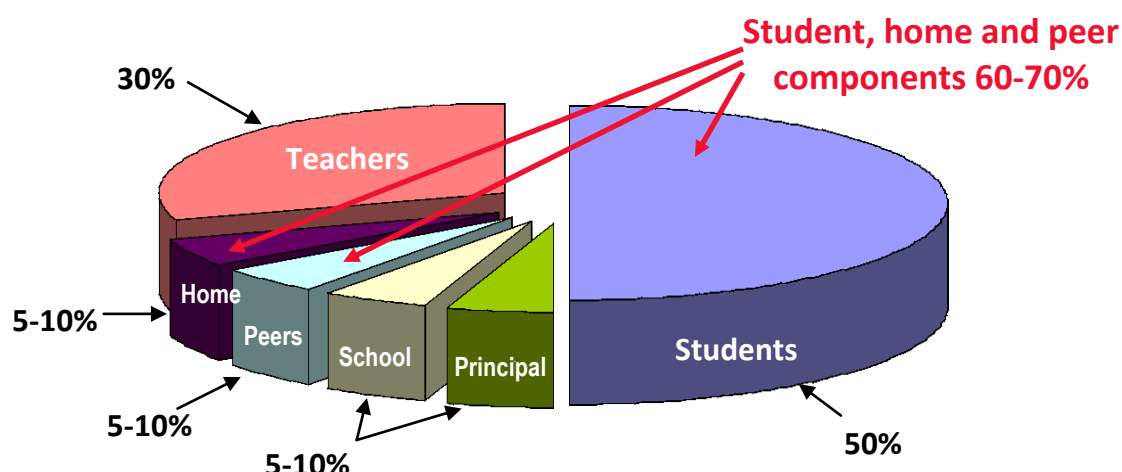
Evidence regarding the social, cultural and behavioural associations with recent reductions in infant and childhood mortality highlights the importance of the quality of early child care and parenting for infant survival and healthy development. The population health approach thus extends beyond provision of health services to engage with a wider range of determinants of children's development by promoting improvements in parenting, parental efficacy and support for learning.

### 2.2 Social determinants of education outcomes

Educational attainment is not simply a product of teaching and learning systems in the school setting. It is also shaped significantly by developmental and social determinants of children's readiness to learn before school entry as well as ongoing influences on the informal acquisition of social, emotional and academic competencies at school and in other social settings. The student contribution to educational outcomes includes not only intelligence, but also those early literacy foundations and social and emotional competencies that shape school readiness, readiness to learn and response to teachers at school. Students with social and emotional difficulties are 'selected for failure' earlier than would be predicted by their cognitive or even their language abilities alone.

Hattie has summarised evidence from many studies of the main contributors to children's achievement in education. In figure 4 it can be seen that students account for 50% of variance, home for 5 to 10%, schools for 5 to 10% (including the contribution of principals), peer effects for 5 to 10% and teachers for 30%.<sup>11</sup> In other words, influences outside of school (student characteristics, home and peers) account for 70% of variance in learning outcomes while teachers, schools and principals account for 30% of variance in learning outcomes. In a population like that of the NT, with very large numbers of children developmentally vulnerable and in effect unready for school, the percentage of variance attributable to non-school determinants would be much larger still.

**Figure 4. Sources of achievement variance in education**



(Source: Hattie, 2003) <sup>11</sup>

Non-school determinants of student performance at school are a powerful ongoing influence on the effectiveness of school systems.<sup>12</sup> There is now considerable research evidence showing that social and emotional learning makes a major contribution to academic and social outcomes.<sup>13</sup> A population approach to the improvement of education outcomes would not only target academic competencies but also social and emotional learning, beginning before preschool and continuing through the transition to school and on into primary and secondary years.<sup>14</sup> It would aim at prevention and early intervention and act as a bridge between school and family settings. Evidence shows that strategies to engage with the social and cultural context of students and their families, as well as with the developmental contexts of children's early learning, can produce important outcomes in terms of learning, behaviour and socialisation.<sup>15</sup>

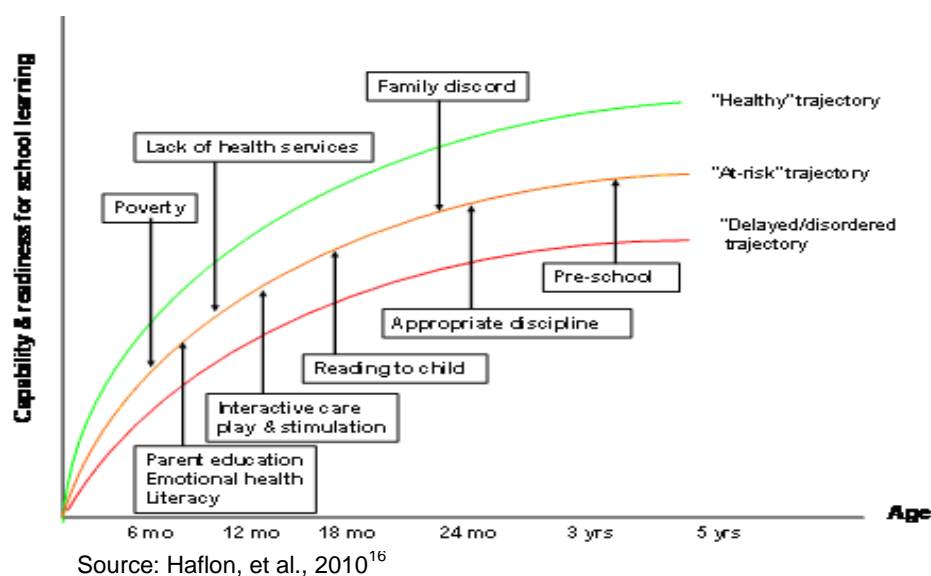
## 2.3 Bringing health and education together in early childhood

International evidence on the determinants of school readiness and the influence of early education on outcomes in health, wellbeing and participation over the life course is consistent with the emerging science of early brain development. Sensitive periods in brain and biological development start prenatally and continue throughout childhood and adolescence. The extent to which these processes lead to healthy trajectories of development depends upon the qualities of stimulation, support and nurturance in the social environments in which infants and young children live and grow. This is represented schematically in Figure 5.

Studies in developing countries also show that programs that enable access to quality health care, especially during pregnancy and in the first few years of life, that combine a strong focus on the promotion of nutrition and child growth with parent training to strengthen attachment, enhance early stimulation and parents' contribution to children's early learning. Family counselling initiatives such as the Care for Child Development program have been integrated with routine health services,<sup>17</sup> and are now widely promoted by the WHO and UNICEF in disadvantaged populations and communities.<sup>6 18 19</sup>

There is evidence that strategies which target children directly rather than simply providing information to parents, tend to be more effective. Programs targeting parents principally are more effective when these also include opportunities for experiential learning in acquiring and practising new skills and practical strategies.<sup>6</sup>

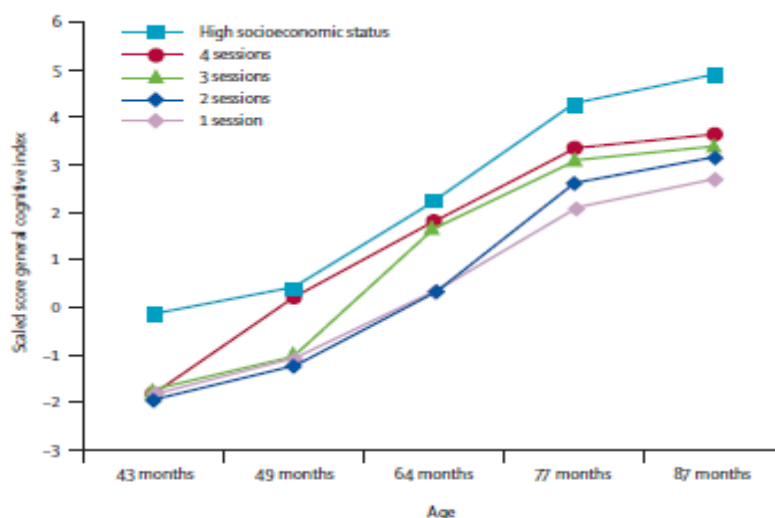
**Figure 5. Strategies to improve population health trajectories**



In addition to strategies that target early learning in the home, organised childcare and early education have consistently been shown to be important agents of change at the population level in both developed and developing countries. International evidence on early education shows that rates of enrolment in preschool affect school readiness and the transition to school: as preschool enrolments rise, rates of repetition in grade 1 and early dropout rates decline.<sup>20</sup>

Maximising children's exposure to high quality early childhood education (educational day care and preschool) facilitates their readiness for school learning and later academic success. This was clearly demonstrated in the findings from forty-three OECD countries participating in the 2003 Program for International Student Assessment, which showed that, after taking into account socioeconomic factors, children who attend preschool for more than a year had a significant performance advantage in later school achievement than those with less preschool attendance.<sup>21</sup> For example, a longitudinal study of a preschool intervention for disadvantaged children in Columbia showed that for each additional preschool session attended there was an incremental gain in their general cognitive functioning by age 87 months. It also showed that higher levels of preschool participation by disadvantaged children helped narrow the gap in their cognitive outcomes in comparison with children of high socioeconomic status who received no interventions (Figure 6).<sup>6</sup>

**Figure 6. Improvement of cognitive index of children exposed to preschool**



(Source: Engel, et al, 2007)<sup>6</sup>



Provision for the universal availability of more than one year of early childhood education is now increasingly recognised by governments around the world as an investment and not a cost. Economic studies of the benefits of children's participation in well resourced, good quality early childhood education programs for two years show that they are associated with substantial savings in other areas of education spending principally resulting from a reduced need for special education; prevention of grade repetition and early dropout; improvement in educational productivity; and enhancement of children's social and emotional and behavioural wellbeing.<sup>22</sup>

An economic modelling study recently commissioned by the State of New York in the USA concluded that over and above the long-term economic and social benefits, the universal introduction of two years of preschool or educational childcare would recover between 41 per cent and 62 per cent of the State's initial investments in early childhood education in medium-term savings elsewhere in the education system.<sup>22</sup>

Internationally, enrolment in preschool is strongly correlated with completion rates and reduced dropout rates in primary education, even when Gross Domestic Product is controlled for. Preschool attendance is in effect an indicator of school readiness, with flow-on to later school outcomes. It is clear that a quality preschool can reduce educational and related social disadvantage.<sup>16</sup>

## 2.4 Human development, Indigenous disadvantage and policy

The Nobel economics prize winner Amartya Sen argues that poverty and disadvantage are to be understood as deprivation of opportunity to develop human capabilities and competencies.<sup>23</sup> Following Sen, former Secretary of Treasury in Australia, Ken Henry defined Indigenous disadvantage in terms of human capability, arguing that there are "three key interdependent foundations to Indigenous disadvantage: poor economic and social incentives; the underdevelopment of human capital and capability in general; and an absence of the effective engagement of Indigenous Australians in the design of policy frameworks that might improve those incentives and capabilities".<sup>24</sup>

The policies referred to as *Closing the Gap* are anchored within a formal agreement between the Australian Government and States and Territories, the National Indigenous Reform Agreement.<sup>20</sup> This sets ambitious targets for population level change in Indigenous outcomes with effort directed across seven 'building blocks': early childhood; schooling; health; economic participation; healthy homes; safe communities; governance and leadership.

Australia's approach to *Closing the Gap* echoes the WHO's *Closing the Gap in a Generation* initiative.<sup>25</sup> The WHO Commission on Social Determinants of Health argues that to achieve equalities in health, interventions must target the social determinants of health and wellbeing according to three principles of action: improve the conditions of daily life (i.e. the circumstances in which people are born, grow, live, work and age); tackle the inequitable distribution of power, money and resources (the structural drivers of those conditions of daily life) globally, nationally and locally; and measure the problem, evaluate action, expand the knowledge base, develop a workforce that is trained in the social determinants of health and raise public awareness about those determinants". The commission particularly emphasises "the importance of early child development including not only physical and cognitive or linguistic development but also, crucially, social and emotional development" and estimates that "200 million children worldwide are not achieving their full development potential".<sup>6</sup>

### **National Closing the Gap targets<sup>7</sup>**

1. Close the gap in life expectancy within a generation
2. Ensure all Indigenous 4 year olds in remote communities have access to early childhood education within 5 years
3. Halve the gap for Indigenous students in Year 12 equivalent attainment by 2020
4. Halve the gap in employment outcomes between Indigenous and non-Indigenous Australians within a decade
5. Halve the gap in mortality rates for Indigenous children under 5 within a decade
6. Halve the gap in reading, writing and numeracy achievements for Indigenous children within a decade

However, only a few of the initiatives undertaken under Australia's *Closing the Gap* policies are in fact population-level initiatives.

Fewer still are being implemented through coordinated preventive strategies capable of meeting the proposed timelines for the *Closing the Gap* population targets. The *Closing the Gap* policies require accelerated improvement in education, employment and social participation more rapidly than current social trends would predict. This is unlikely to be achieved through simple extension of existing services and programs.

Life expectancy rates for Indigenous people, for example, have improved slowly over the last decades, but have not got any closer to life expectancy of the Australian population as a whole. Infant mortality rates in the NT also fell dramatically in the middle to late 20th century, which is usually attributed to improved basic health care, antenatal care and hospital births. However, these population gains have more recently levelled off despite continuing improvement and expansion in the availability of health services. Even though more Indigenous children are succeeding in their school and further education, it is also the case that, for a range of reasons, the 'gap' between Indigenous attainment overall and that of the general population according to measures of educational and vocational outcomes continues to widen. Population strategies to close the gap require more than the incremental extension of 'business as usual'.

### 3. Services to improve outcomes at a population level

“A fundamental challenge ... is to find an appropriate balance between long-term investment in human capital development and the moral responsibility to ensure that the quality of life for young children does not fall below a minimum standard of decency”.

(Shonkoff and Phillips, 2000)<sup>26</sup>

Implementing a population approach necessarily involves confronting the unequal distribution of risks and outcomes between social groups. The provision of universal programs to meet the fundamental needs of all children is generally recognised as central to improvement of most population outcomes. However, services have generally tended to focus on addressing the immediate service needs of high needs groups and sectors of the population and this has often been at the expense of ensuring that developmental preventive initiatives are available for the benefit of the whole child population.

Many NT children are raised in a context of high risk that includes significant psychological burdens from life stresses, family instability, alcohol and drug use, premature death, suicide and family violence. All of these family and community issues are related to increased likelihood of developmental and behavioural adjustment difficulties and mental health or substance use problems. Without more intensive community level interventions to reduce children's exposure to such stressors a significant proportion of NT children will be at increased risk for these longer-term life outcomes. The need for additional support and care in environments of high risk means that there are powerful reasons for developing even better programs of care and treatment as well as ensuring that universal preventive initiatives are available, as a matter of human entitlement.

#### 3.1 Universal and targeted services

A key concern for population approaches to improving child development outcomes is to achieve an optimal balance in the availability of, and expenditure on, different levels of service or care and preventive 'upstream' interventions. The levels of service delivery and intervention now most commonly distinguished are universal, targeted and indicated services.<sup>27</sup>

##### *Universal services and supports*

These are services and supports aimed at the whole population and need to be accessible to all. Their main goal is often to increase protective factors and reduce risks for child development, support optimal family and community environments for all children. Universal approaches include maternal, child and family health services, early childhood education, childcare services and family support services. They include broad legislated supports such as paid parental leave, medical benefits, childcare assistance as well as promotional strategies for dissemination of information about child development, risks and appropriate responses that are provided through various media.

##### *Targeted services and supports*

These services and supports focus on children and families or communities where there is a higher level of need or higher level of risk than in the general population. The aims of many of these programs are also often preventive: to minimise the effect of risk factors on children and to develop protective factors and resilience. Importantly, targeted services and supports contribute to reducing inequalities and improving outcomes in disadvantaged groups within the population. One risk can be lack of access to universal services: priority or supported access to universal services through health care concessions, childcare assistance, family payments and rebates, and offering an additional year of preschool to disadvantaged children are all forms of targeted support. However, other important targeted services are directed at specific categories of need, risk or difficulty, such as disability, developmental delay, behavioural or conduct problems in children as well as family risk factors that may affect children in various ways. These programs include outreach programs, supported playgroups, special health or education services, disability and inclusion support services, but also early intervention programs targeting parenting or family relationships that aim to prevent foreseeable difficulty or to improve competencies.

### **Indicated services and supports**

Indicated services and supports are individually tailored to a particular child and family situation that is often highly stressful for the child, often ongoing and may require a more intensive response. Examples of such problems include parental substance abuse, mental illness and homelessness, and when children are experiencing or at risk of abuse or serious harm. The aim of these services is to prevent or reduce risks to children and build parents' skills and capacity. These services may include intensive whole-of-family services, specialist treatments and programs for parents. Another example of intensive services are the specialist supports for children with disabilities, which help to build on the child's strengths and maximise their development potential, reduce the impact of the disability, improve the child's functioning as much as possible and support the family. Intensive services for adults are an important contact point for some of the most marginalised children who might not routinely attend children's services due to family dysfunction. By definition these services offer limited or no preventive benefit at a community or population level, but are targeted treatments for high risk individuals.

"The central problem for all developed countries ..... is that intervention happens too late, when health, social and behavioural problems have become deeply entrenched in children's and young people's lives. Delayed intervention increases the cost of providing a remedy for these problems and reduces the likelihood of actually achieving one .... It is time to recognise that the prevailing culture of late intervention is expensive and ineffective."

(Allen G. 2011) <sup>27</sup>

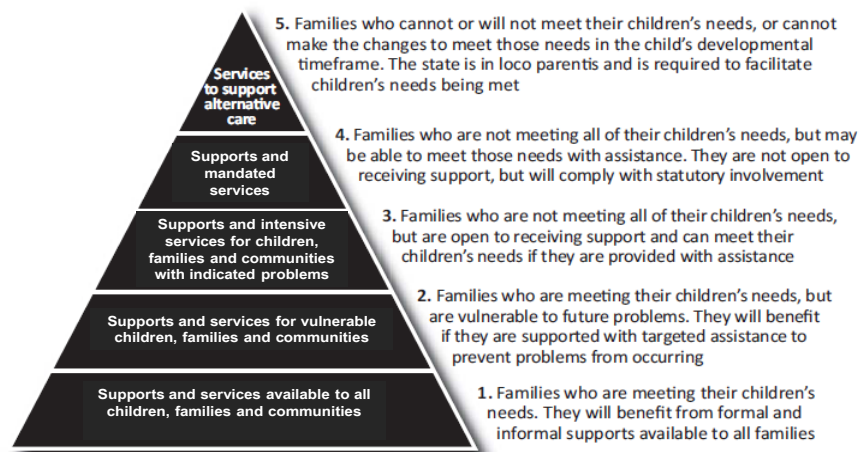
### **3.2 Needs identified by the *Growing them strong, together* report**

The *Growing them strong, together* Report of the Board of Inquiry into the Child Protection System in the Northern Territory 2010 documented a rising tide of notifications for child neglect and recommended a significant increase in expenditure of new funds on the systematic implementation of new preventive and supportive services. <sup>28</sup> The inquiry was " ...unequivocal about its view that addressing child abuse and neglect through effective prevention and treatment efforts is one of the single most effective commitments that a government could make to health, wellbeing and productivity of society." <sup>28p95</sup>

The report's recommendations would have significant impacts on service provision if implemented as part of a population strategy. It specifically called for investment to include expanded and new "...secondary prevention, tertiary prevention, therapeutic and reunification services for vulnerable and at-risk children, families and communities, along with a range of intensive service options, therapeutic services and intensive family support. (Recommendation no. 10). <sup>28 p27-28</sup> These are to be developed in conjunction with a comprehensive workforce strategy that "reflects the required progressive move to a strong early intervention focus and service provision that covers the continuum of universal, secondary and tertiary services" (Recommendation no. 119). <sup>28p.42</sup>

The report argues that in a truly integrated system there should be pathways from universal services to more targeted and intensive services, but also from higher-end services back to universal platforms that are assured by a range of collaborative mechanisms. These include: assessment and referral processes; provision of information; cross-sectoral and cross-disciplinary training; collaboration and continuity of care. However, insofar as these recommendations concern improvements to forensic and clinical services, their development and integration could occur with little or no impact on population outcomes unless the underlying causes of risk are identified and prevented.

**Figure 7: Integrated model for child protection services applied to the current service system**



Source: Northern Territory Government, 2010<sup>28</sup>

In its proposed model for integrated child protection services (Figure 7), the Report of the Board of Inquiry into the Child Protection System in the Northern Territory 2010 gives a sense of the numbers of families for which the different tiers of response apply: The base of the pyramid includes supports and services available to all families and children, the peak layers represent the forensic responses to fewer families, where there are much higher levels of risk.

While desirable in terms of the continuity, comprehensiveness and quality of clinical care, realignment and integration of forensic and clinical services can be achieved without impact on population outcomes. That is to say, improvements at levels 3, 4 and 5 of the pyramid by themselves will have little or no population-level impact on prevention of risk of neglect and abuse. In fact, the chief finding of the report was that these levels of response would continue to be overwhelmed by demand if there was no action at levels 1 and 2, with wide scale prevention and support for the population as a whole.

In summary, the report findings and suggestions point in two directions that are central to the development of a population approach to early childhood services:

- There is a need for significant investment in new more effective preventive and supportive programs that are designed to be implemented for the NT context
- There needs to be a redesign of service provision relationships on an inter-sectoral basis to ensure that systems are able to support population-wide preventive activity.

### **3.3 Building systems to integrate universal services and improve prevention**

The strongest universal service platforms in the NT are primary health care centres and schools; services in health and education are often among the most stable and well supported services in rural and remote communities. However, these services are currently limited in terms of the range and quality of early childhood and family support they are able to provide. Moreover, current understandings of their role and their 'core business' often limit innovation in service development and any expansion of new more effective preventive services.

Remote health services, managers and staff are subject to heavy demands for the provision of acute and comprehensive primary care. These include services such as physical health checks and immunisations which have demanding requirements for compliance and reporting. Schools similarly have a commitment to core services that leave limited capacity to engage families or to implement preventive programs. The combined effects of funding models, accountability and reporting requirements and the burden of basic service provision requirements for both sectors works against the simple addition of new interventions that are perceived as 'non-core' services.

While engaging with existing universal services, the major components required for a comprehensive population approach to child development, prevention and family support almost certainly require further development of the resources, systems and supports that define the organisational and professional capabilities of health centres, schools and other services. In primary health services a more integrated model of health care<sup>2</sup> would provide both individual clinical outcomes through client-focused individual care and population outcomes through active provision of preventive services (see Figure 2). This integration can be achieved both through development of preventive elements of client-focused care (as in proactive engagement of children and parents for preventive developmental checkups) and through the provision of preventive programs as discrete population health activities appropriately focussed on both the general community and risk groups. Systems of continuous quality improvement can then act as drivers to improve the level and quality of preventive population health checks provided and can also contribute to the development of better linkages between new preventive programs and primary health care practices.

Programs of prevention need to be implemented with sufficient quality and intensity and at sufficient scale, if they are to achieve change at a population level. "It is now well known that lack of fidelity – sticking rigorously to the discipline and measures of a programme – significantly erodes the impact of evidence-based Early Intervention." (*Allen G, 2007, p 83*)

Thus the current policy commitment to universal access to preschool and development of integrated child and family support centres together provide an important new opportunity to implement a system of universal service provision that can also sustain expanded prevention activities capable of achieving outcomes of significance at a population level. Planning for the development of health, early education and childcare services should include provision for systems and management supports and for practice protocols which might effectively link preventive activity with other services as part of an integrated model of early childhood services.

Within a population approach to early childhood that spans both maternal and child health, early childhood care and education, the evidence-base concerning population outcomes in the NT needs further development. Current data-gathering and reporting from various sectors is fragmented and does not adequately reflect the critical importance of early childhood development for community health, educational and social outcomes. The currently available NT administrative and epidemiological datasets provide at best only limited support for the development and sustainability of a population strategy for early childhood.

The critical role for data development and evaluative research within an effective population strategy will therefore require:

- Continuing development of key indicators of developmental health to improve the evidence-base for policy and contribute to explanation of important causes of social, educational and health outcomes. This needs a specific focus on child development and its key determinants across all sectors.
- Identification of population indicators of early childhood development and its key determinants. These should be routinely monitored through the establishment of suitable methods of data-gathering, data integration and improved resources for data analysis within the Departments of Health; Children and Families; and Education and Training.
- Research and evaluation to ensure that developmental prevention programs are effectively monitored and their outcomes rigorously measured. Programs based only on evidence of their efficacy derived elsewhere should not be implemented unless it has been ensured that they have been implemented with fidelity to a given standard, and that their adaptation for the NT context is feasible and has been explicitly evaluated.



## 4. A population approach for early childhood development in the NT

According to the Health Canada<sup>1</sup> model, the critical action elements needed in a population approach to improve developmental health and wellbeing can be summarised as including:

1. **A central focus on population-level outcomes and determinants as the basis for decisions:** use of best evidence to inform policy; use of a variety of data and methods to identify effective interventions; disseminating findings and facilitating policy uptake.
2. **Increased upstream investment in prevention, balancing long and short term investments.**
3. **Application of multiple intervention strategies:** taking action on early life determinants and their interactions; implementing strategies to reduce inequalities; applying a comprehensive mix of interventions and strategies; integrating actions in multiple settings; aiming to improve health over the lifespan.
4. **Collaboration across sectors and levels:** engaging partners to align values and purpose and establishing concrete objectives and visible results; identifying champions and investing in alliances; securing political support; sharing leadership, accountability and rewards among partners.
5. **Employing mechanisms for public involvement and demonstrating accountability for developmental outcomes:** implementing results-based accountability; instituting effective evaluation systems; promoting impact assessment measures and publicly reporting results.

Implementing these action elements in the NT will present distinct challenges given its demographic, geographic and cultural circumstances and the consequent diversity of its environments of child-rearing. Nevertheless, building the elements for a population approach to developmental health and wellbeing will require policy leadership to balance investment priorities; and to build the required service infrastructure and its supporting information systems.

### 4.1 Accountability for outcomes

The OECD's report on investment in population health argues that governments need to support 'the basic infrastructure of a population health system', including research, data development, collection and analysis, as well as 'service utilisation .... and government expenditures among different groups'.<sup>7</sup> This infrastructure should extend beyond development of data on outcomes and services, and also be able to support the implementation of services, and provide quality assurance support for early childhood practices and programs, from universal services like childcare and preschool through to targeted programs of prevention and family support.

A population approach for early childhood services in the NT needs to be informed by an understanding of the full range of early life determinants of children's outcomes and how these are distributed and operate in the NT population context. The recent establishment of the SA-NT DataLink is likely to become an important component of the data infrastructure in the identification and monitoring of these determinants. This is because it provides a new capacity for the confidentialised linkage of population-level information extracted from different administrative datasets. It will, for example, assist in clarifying the extent to which early childhood health issues have a causal role in influencing subsequent developmental outcomes in other areas such as early child development and academic performance as measured by the AEDI and NAPLAN.

Such data linkage analysis should also be extended to utilise administrative data in other areas of human services for children and families e.g. to establish the nature and extent of health vulnerabilities associated with officially recorded abuse and neglect. Similarly, the relationship between housing availability and quality and children's developmental and educational outcomes also needs to be quantified so that longer-term consequences of observed causal associations can be properly costed and factored into government decision making and budgetary planning.

The NT has some experience with developing information systems to monitor and improve the outcomes of primary health care practice, such as the Audit and Best Practice for Chronic Disease model. This has recently also been extended to include audits of child health care and other areas of evidence-based care at a population level.<sup>29</sup> These quality improvement systems have proved useful and effective in monitoring progress in building workforce capacity according to evidence-based models and guidelines. Consideration should therefore be given to the development of similar forms of technical support for the quality improvement in other early childhood services, including universal preschool and integrated child and family services. However, these services often have different systems of funding, different implementation methods, and can involve a mix of service providers: government, non-government and other community organisations. Some already have quality improvement processes through their management systems, practice support and reporting arrangements while others do not.

Despite the many complexities involved, improving data systems to guide, coordinate and monitor service delivery and outcomes is vital to ensuring that the additional monies now being spent in overcoming Indigenous disadvantage actually reach their intended destinations and are producing demonstrable effects. Building the capacity for more integrated use of existing administrative data systems also seems likely to become increasingly important – both for improving and monitoring children's population-level outcomes – and to assist joint decision making at the community, regional and highest levels.

The sharing of information between stakeholders, agencies and providers can enable policy makers and non-government partners to engage communities and the general public in an informed discussion of the rationale for policy and ensure that there is community understanding of the value of strategic objectives for improving children's health, development and wellbeing. Making this information available to the general community in accessible ways is an important means of mobilising public support behind policy and program goals e.g. encouraging parental support for children attending school or parental and family use of preventive services. Regular public reporting of progress towards defined goals can also assist in clarifying and making transparent the complexity of the issues which must be addressed.

## 4.2 Bringing about transformational change

The *Growing them strong, together* Report of the Board of Inquiry into the Child Protection System in the Northern Territory 2010 has made it very clear that the existing fragmented and reactive nature of service approaches for children and families in the NT has failed to address the systemic roots of the many problems now limiting the developmental opportunities of a large proportion of NT children. The new direction proposed in the report's recommendations is consistent with the population approach outlined in this paper and has the potential to be transformational in the sense of bringing about an entirely different level of effectiveness in addressing the current levels of need.

Bringing about this kind of transformational change will require strong leadership at the political, organisational and community levels through a clear articulation of the reasons for change and a new direction for children's futures. This can only be achieved by all levels of government committing to achieving a more effective balance between strengths-based preventive and health promoting services for all children as well as ensuring that children with specific disorders or special needs have access to the specialised clinical, remedial and support services they require.

For this population approach to be truly transformational, it will need to be more than just a re-organisation of services or re-prioritising resources for their delivery. It will require a long-term commitment to system change across government, the development and evaluation of new models of service delivery and new ways of working in collaboration with the non-government sector and communities.

Most importantly, the new service models should be consistent with current understandings of early brain development and the life-long interactions between early life risk, protective and health promoting influences that affect long-term trajectories in health, education and wellbeing. They should also be based on proven principles of effective implementation and the rapidly growing body of evidence on the costs and benefits of programs and strategies able to produce better outcomes for children and the whole population.

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