

Working Paper no.17:

Health Policy and Effective Service Delivery to Mitigate Effects on Child and Youth Poverty

Expert Advisory Group on
Solutions to Child Poverty

August 2012

Purpose

1. Children living in poverty are at greater risk of poor health outcomes than other children. Children's physical and emotional health is also linked to their educational achievement, adult employment level and family relationships.
2. There are a range of actions that the government and the health sector can take to improve health outcomes and mitigate the effects of child poverty. This paper contributes to the EAG by summarising the primary evidence and presenting the recommendations that will be most effective in improving the health outcomes for children in poverty.
3. This paper has informed the direction and recommendations of the EAG's *Solutions to Child Poverty in New Zealand: Issues and Options Paper for Consultation*. These are preliminary findings. A final report will be published in December 2012. The findings in this paper do not necessarily represent the individual views of all EAG members.
4. The EAG wish to acknowledge the Secretariat and EAG members for their work on this report.
5. This paper is structured using a life-course approach. Recommended actions for improving child health are outlined, beginning with pregnancy and progressing through each developmental period of the child. In addition, a series of systems-related actions are recommended to underpin and support the policy and service delivery improvements proposed so that the decisions made by government and service providers will be evidence-based, using reliable and timely information.

Introduction

1. New Zealand children living in poverty, especially Māori and Pasifika children, have poorer outcomes than those living in households with average and higher incomes. Children growing up in low-income household face multiple risks. These children are:
 - at a 1.4 times higher risk of dying during childhood than children in higher-income households (Shaw, et. al., 2005).
 - more likely to die of Sudden Unexpected Death in Infancy (SUDI) than their peers (CYMRC, 2010).
 - three times more likely to be sick, and hospitalisation rates for children from low income areas are significantly higher than those in other geographic areas other children (Easton & Ballantyne, 2002).
 - at greater risk of contracting infectious diseases, as these spread more easily in overcrowded and difficult household conditions (Baker et al., 2000).
 - at least 1.5 times more likely to be hospitalised than their peers (Craig, et. al., 2011).
 - hospitalised at a 5.6 times higher rate than those in wealthier areas for injuries from assault, neglect or maltreatment (Craig, et. al., 2011).
 - more likely to have less fruit and vegetables than those in wealthier households (Ministry of Social Development, 2008).
 - more likely to have poor outcomes in adulthood, including higher risk of heart disease, alcohol and drug addiction and worse oral health at age 26 (Poulton et al., 2002).
 - Children with disabilities are overrepresented among poor children, with a disproportionate number living in beneficiary families (Fletcher & Dwyer, 2008, p. 27; Krishnan et al., 2002, MSD, 2004).
 - From 2007 - 2010 there has been an increase in children being admitted to hospital with socioeconomically sensitive conditions of just under 5,000 extra admissions per year

Māori and Pasifika children

2. New Zealand's child health outcomes continue to be disproportionately poor among low income Māori and Pasifika groups. Controlling for other factors, Māori and Pasifika have the worse health outcomes compared to New Zealanders from other ethnic groups. For example, Māori and Pasifika have the highest smoking, obesity and potentially hazardous drinking rates of all ethnic groups and are over-represented among the poor in New Zealand (MSD, 2010).
3. Inequalities in health for Māori and Pasifika appear very early in the life-course and can be seen for most common causes of death, injury, and hospitalisation. These inequalities are expressed in the following outcomes for infants and young children:

- Māori babies are five times more likely to die of Sudden Unexplained Death in Infancy (SUDI) than NZ Europeans.
- Māori and Pasifika mothers are more likely to have stillbirths and neonatal deaths compared with NZ European and non-Indian Asian mothers.
- During 2006-2010, preterm birth rates were significantly higher for Māori and Pasifika babies compared to New Zealand European babies
- Possibly avoidable hospitalisation (e.g. respiratory, gastroenteritis, serious skin infections) rates are higher for Māori than for NZ European children. Rates for Māori children increased while non-Māori non-Pasifika rates remained the same or declined. Rates were also higher during cooler months.
- Between 2002 and 2006, Pasifika children were 1.5 times as likely as NZ European children to be admitted to hospital for gastroenteritis and 4.5 times as likely to be admitted to hospital for serious skin infections.
- Pasifika children and young adults (0-24 years) are nearly 50 times more likely than European children (and twice as likely as Māori) to be admitted to hospital with acute rheumatic fever (ARF). (Craig et al., 2011, Craig et al, 2012).

Links between child poverty and poor health outcomes

7. The links between child poverty and poor health outcomes are well documented both internationally and in New Zealand. Socioeconomic factors in childhood are interlinked with a range of outcomes, shaping an individual's ability as an adult to be successful in education, work, relationships and community life (OECD, 2009; WHO, 2008). People with better health tend to have better education, better employment histories, better social networks, and higher lifetime incomes. Poverty greatly increases stresses on communities, families and children and increases the probability of poorer health, income and employment in adulthood (see Poulton et al., 2002, for evidence about the relationship between social mobility and chronic poverty).

Child poverty and life-long health risks

8. Low family income is associated with a range of negative child health outcomes. These include low birth weight, infant mortality, poorer mental health and cognitive development, and high rates of hospital admissions from a variety of causes (Hirsch, 2006). The effects are not linear (but particularly accrue to households in more severe and protracted poverty) and parental education and other mediating factors affect the magnitude of associations (OECD, 2009).
9. Neurobiological and longitudinal research highlights the importance of focusing particular attention on the early years of life (Shonkoff & Phillips 2000; OECD, 2009). Not all children in poverty or all children living in deprived areas will have poor life outcomes. However, a strong relationship exists between poverty, neighbourhood deprivation, overcrowding and poor health, unpredictability and violence, and children living in

poverty are more likely to be hospitalised with recurrent health issues (Fletcher & Dwyer, 2008).

10. Social and emotional problems in children are associated with exposure to one or more environmental stressors. Chronic stressors are likely to occur in families with one or more risk factors, such as poverty, parental mental health, parental substance abuse, domestic violence, and teen pregnancy. Chronic stress can have an adverse effect on the developing brain, especially in the foetal and early childhood periods (Gluckman, 2011).
11. The evidence indicates a cycle of either disadvantage or advantage that begins in childhood, continues into adult life and can be transferred to the next generation. For example, compared to adults from more advantaged backgrounds, those raised under disadvantaged socioeconomic circumstances have disproportionately higher adult mortality and morbidity rates that are due to cardiovascular and cerebrovascular diseases (Galobardes, et. al., 2006).
12. The *EAG Working Paper no. 2: Life-course effects of childhood poverty*, discusses the prospective-longitudinal data from the two New Zealand cohort studies that examine the possible pathways that lead from child poverty to a broad range of negative adult health outcomes. The research indicates that there is no single pathway that leads from child poverty to poor adult health, rather, there are multiple risks to living in poverty that may lead to poor adult health. Therefore, the solutions will need to incorporate a range of actions that address these various risk factors.
13. The EAG believes that implementation of the proposed recommendations will increase the chances that young New Zealanders living in low-income households will achieve better health outcomes both now and in their adult lives.

Guiding principles for policy and service delivery

14. In order to deliver health services effectively to children living in poverty and disadvantage, policy development and service delivery need to be guided by a set of principles that are evidence-based and reflect the values and aspirations of New Zealand society. This paper proposes that health policy development and service delivery should be guided by the following principles and considerations. They should:
 - a. Be child-centred and family-focused
 - b. Support childhealth and wellbeing by ensuring sufficient resources
 - c. Be evidence-based
 - d. Support children from before birth
 - e. Promote equality of early development opportunities for all children
 - f. Ensure that effective Māori and Pasifika models that improve child outcomes are available, evaluated, and utilised

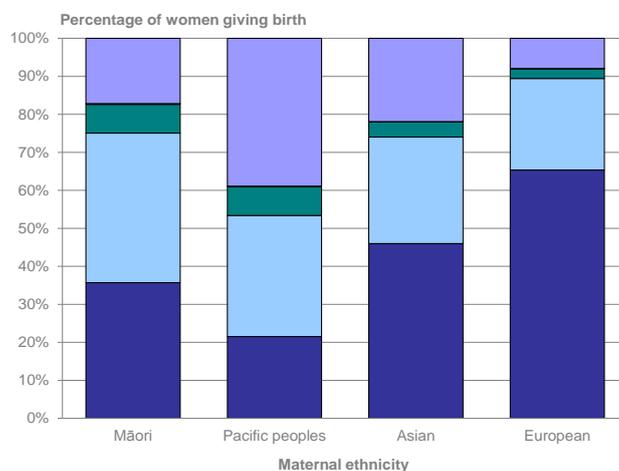
- g. Flow from a strong national framework, with local accountabilities and timely feedback loops.

Improving antenatal and maternity services

15. Approximately 60,000 babies are born in New Zealand each year. Primary maternity services are provided in a variety of ways and administered both nationally and at the District Health Board level. The policy, however, is based on lead maternity carer (LMC) services that are to provide continuity of care from the time a woman books with a LMC through to transition to the Well Child / Tamariki Ora (WCTO) service, four to six week post-birth.
16. The majority of LMC services are provided by independent midwives paid through the Section 88 maternity allocation (New Zealand Public Health and Disability Act 2000, www.govt.nz). However, some pregnant women, especially Pasifika women and women from disadvantaged circumstances, often present late in pregnancy and then rely on DHB midwives for maternity services. These are often women who have not accessed maternity services early in their pregnancies for various reasons, including lack of availability of midwives in their community. Budgeted expenditure for 2011/12 for demand driven LMC services (excluding DHB primary maternity services) was \$133 million.
17. The Primary Maternity Services Notice (sec 88) is the vehicle that sets out the service specifications and payments to community LMCs, which is how the majority of women receive maternity services. The government funds LMCs (generally midwives but sometimes general practitioners) Primary maternity services are demand driven and government expenditure in 2007 was \$132.85 million.
18. The national maternity collection data includes information on all women and babies whose primary maternity care is funded through section 88 (i.e., 85percent of all births; DHB funded primary care accounts for the remaining 15percent - these data will likely be available in 2013). Analysis of the national data from 2010, displayed in Figure 1, indicates that more than one third of Pasifika women and nearly one sixth of Māori women were not attended by a LMC (GP, midwife, obstetrician) during their pregnancies. Women from these groups are also least likely to enroll with a LMC early in their pregnancies. When other risks are present (e.g. smoking and alcohol use, family violence, obesity, poor nutrition, inadequate housing), their children are at greater risk of birth defects, infant mortality, poor health and development problems in infancy and beyond.
19. The research highlights the importance of early engagement with maternity services. In 2010, about half (50.1 percent) of all New Zealand women registered with an LMC during the first trimester of pregnancy. As seen in Figure 1, patterns of registration varied by maternal ethnicity. These findings show that the percent of Pasifika women not

registered with a LMC at any time during their pregnancy was much higher than either Māori or European.

Figure 1: Trimester of registration by maternal ethnicity, 2010



- More Māori and Pacific women registered with an LMC in the second trimester of pregnancy than the first.
- Over a third (38.9 percent) of all Pacific women were not attended by an LMC during their pregnancy.
- The majority of European women (65.4 percent) registered with a LMC during the first trimester of pregnancy.

Source: Ministry of Health Maternity Facts (www.moh.govt.nz).

20. Early engagement can enable health providers to inform and encourage pregnant women to have better antenatal nutrition, discontinue smoking and alcohol use, and identify other health needs such as mental health and social needs such as poor housing. The LMC is responsible for assessing the pregnant woman's health and the home environment and can connect women with appropriate social supports when a need is identified (e.g. housing, income support, addressing family violence, other social services).
21. The EAG recognises the challenge in engaging with some pregnant women and families. Many women find it difficult to access LMC services. A recent case study of a small number of Māori women living in poor and disadvantaged neighbourhoods found that, even though the women's pregnancies were confirmed by a general practitioner, being given a 'list of midwife names and numbers' was not useful to them. These women recommended the availability of individual LMC profiles that provided a photo, personal statement about the LMC's approach, and nature of her experience. In addition, these women stated that they needed to trust the health provider at the first contact in order to continue to use them. Unfortunately, their perceptions were that most health care providers did not 'connect' with them and "talked down to them" (Lehman, unpublished). These anecdotal comments, albeit representing a very small number of women, suggest that extra supports to make the first engagement with an LMC may be necessary and some health professionals may need additional training in order to effectively engage with Māori women from poor and disadvantaged circumstances.

22. Effective engagement strategies are documented in the international literature and used by a number of local service providers, especially those working in low income Māori and Pasifika communities. One approach is to train and supervise locally-based women as paraprofessionals (e. g. Community Mothers Programme, see Johnson, et. al., 2000) who can capitalise on their relationships in their community to reach out to those groups and individuals who may not otherwise seek health services when they become pregnant. Primary care services that are located in the neighbourhood and within a multi-use neighbourhood centre can also support early engagement with maternity services. Examples include Marae-based services and Work and Income offices, called 'Community Links' that incorporate regularly scheduled on-site consultation and information resources related to maternity and child health and social services.
23. Each DHB area now has a Maternity Quality Team responsible for monitoring and improving maternity services. It is recommended that the government directs these teams to prioritise increasing the early engagement of women living in poverty and disadvantage with maternity services, with provision of continuity of care throughout pregnancy through to transition to WCTO services. Each DHB should be directed to evaluate progress. Data are available through each DHB and the national maternity collection.

Recommendation 1:

The EAG recommends that the government direct health services, using District Health Boards as one mechanism, to increase the uptake and early engagement with maternity services (by 10 weeks of pregnancy) of women from low socioeconomic backgrounds, especially teenagers, Māori and Pasifika.

24. Health Workforce New Zealand is undertaking a 'service forecast' to guide the future shape of mother and infant services. This action came about as a result of the health sector's awareness of the need to address the increased demand and limited resources available to provide continuity of care. The results will be used to make decisions about system changes and workforce infrastructure. The overarching goal is to establish an integrated continuum of services for children antenatally and for the first three years after birth. The following have been identified by stakeholder groups as the most important focus areas:
 - Greater emphasis on family planning to reduce unintended pregnancies, including use of youth contact points (e.g. school-based clinics)
 - Health professionals to provide more practical assistance to women to find an LMC
 - An LMC system that is integrated with primary health services, including family integrated health centres (FIHC).

25. The EAG agrees that these are important features of effective maternity and early childhood services. However, this paper proposes the following additional priorities in order to take advantage of this opportunity to ensure a more holistic analysis:
- Integrated continuity of services should include antenatal to age five (the current 'service forecast' included children antenally to three years only. The universal WCTO service includes children to age five to ensure continuity of services through to the transition to compulsory education, completing the universal services with the Before School Check (B4SC).
 - A common assessment process, plan, and pathway is built into the services at crucial intervals universally for all children starting with the antenatal contact.
 - The resulting system should provide models of outreach and service delivery that result in early engagement and continuity of care for Māori, Pasifika, teen parents, and women living in poverty and disadvantage who are least likely to engage early with maternity services.

Improving services to pre-school children

26. The current approach to health and social service delivery is fragmented. This means it is not only administratively costly, but also inefficient and ineffective for those children and families most in need and least able to access services. These include families living in poverty who also have low literacy, those with disabilities or with children with disabilities, solo parents, and families isolated from mainstream society.
27. Infants and young children living in poverty and disadvantage are at higher risk of developmental and health problems. Many of these problems can be prevented or ameliorated when health professionals are engaged in trusting relationships with parents beginning antenally and continuing throughout the early years.
28. In the current system, parents often need to repeat their stories each time they see a different provider. In addition, professionals from different disciplines often do not have a shared understanding of the child and family circumstances or how best to engage with parents from different socio-economic and cultural backgrounds. A common assessment, service planning and delivery process would assist families by reducing the stress of having to tell their story multiple times. The approach would also assist service providers by reducing the time each professional needed to gather information since pertinent child and family information would be communicated both verbally and through shared child records.
29. The EAG recommends that a common assessment process be used across primary care, maternity and WCTO (using family partnership principals) to assess need, develop the service plan, offer appropriate services for each situation, and monitor child and family progress.

30. The purpose of having common assessment and service planning is to provide more consistency for parents, better coordination among professionals, and more effective transition from pregnancy through the developmental stages of the child.
31. The literature and input from New Zealand health professionals on common assessment, service planning, and delivery recommend the approach incorporate the following features:
- A common assessment undertaken universally on all infants starting antenatally
 - Assessment domains should include child health (beginning antenatally), maternal physical and mental health, family functioning, and basic needs (e.g. nutrition, housing, transportation, food, and clothing)
 - Utilisation of the outcomes of the common assessment for service planning/redistribution for local service need, i.e. using the child identified needs to plan service needs in each area, reorientate and redistribute current services, and reduce overlap where it exists
 - Cross-disciplinary training at the local level – using existing resources (e.g. Werry Centre inter-professional training manual (Ministry of Health, 2011) and sector-specific resources)
 - A designated lead professional to co-ordinate services for families assessed as needing that assistance
 - A process for sharing and transferring child health information
 - All parents and children are offered a universal base of maternity, WCTO and primary care provision, with extra supports provided specific to identified need. For example:
 - When pregnant women have disabilities or environmental or family issues of concern, the appropriate service providers and/or informal supports are included as part of the service plan.
 - When the infant or child has a disability or special health care need the appropriate specialist and advocacy services are engaged and part of the service plan.
32. The common approach would begin with primary care (on confirmation of pregnancy) and include maternity and WCTO as lead providers during the antenatal and the early years of development. The common assessment process would guide the development of service plans, tailoring them to the type and intensity of service needed for each child and family, including relevant social services.

Recommendation 2:

The government should develop, implement, and evaluate a common assessment pathway, service planning and delivery approach starting antenatally and continuing through to age 5.

Home visiting programmes to mitigate the effects of child poverty

33. Interventions to improve the health and social outcomes of young children living in low socioeconomic and disadvantaged neighbourhoods were initiated in the 1960s. For example, the US launched the Head Start programme in 1965 to break the cycle of poverty by providing preschool children from low income families a comprehensive programme to meet their emotional, social, health, nutritional and mental health needs. The programmes continue to be administered locally and funded nationally. Extensive research has been done to determine the effectiveness. The primary benefit was improved access to health services and cognitive gains in the short term, with white children retaining cognitive and academic benefits in later school years (Currie & Thomas, 1993). Early Head Start was launched in 1994 to provide services to disadvantaged families of infants and toddlers. The services begin during pregnancy and continue through age three. The programme is designed to be flexible, responding to the strengths and needs of each family and child. Services are either home-based, centre-based or a combination of both. Other features of the programme are continuous assessment of needs and quality assurance, based on Head Start Programme Performance Standards. Ten percent of child enrolment in both Head Start and Early Head Start can be children with disabilities.
34. Evaluation of Early Head Start found that by age three there were small but significant differences in cognitive, language, and emotional development compared with control group children. Parents, especially fathers who participated, were less likely to smack their children than those in the control group and the service significantly impacted parental participation in the work force and work-related training (Love et al., 2002).
35. A small number of home visitation programmes to improve outcomes for children by intervening early with parents living in disadvantaged circumstances appear to improve child health and developmental outcomes. These include the Nurse-Family Partnership, Healthy Families America (HFA), Early Intervention Programme for Adolescent Mothers (EIP), Healthy Steps, Home Instruction for Parents of Preschool Youngsters (HIPPY), Resources Education & Care in the Home (REACH), Child First, and Safe Care (www.homvee.acf.hhs.gov/programs). Among these, Child First and REACH target maternal health outcomes, while Safe Care's primary focus is reducing child abuse.
36. The Community Mothers Programme, launched in Ireland in 1983, varies from home visitation programmes listed previously with the primary providers of support being experienced volunteer mothers. It is specifically targeted at first and second-time

mothers from disadvantaged areas with large numbers of births. The goals are to develop the skills of parents of young children and build parents' self-esteem. The 'community mothers' live in the same area and are recruited to reflect the characteristics of the community. They receive 4 weeks of training and are supported by a Family Development Nurse.

37. The programme was evaluated in 1989-90 using a randomised controlled trial. Both intervention and control groups received the standard support of the local public health nurse, immunisation, and developmental assessment. The intervention group showed significant benefits compared with the control group in immunisation uptake, cognitive development, and improved nutrition. Mothers scored better on nutrition and self-esteem than control group mothers (Johnson et al, 1993). The children were followed up at seven years post intervention. Findings showed that excellent parenting skills persisted among participating families. Children in the intervention group were more likely to read books, visit the library and the dentist, and eat more nutritious foods. Mothers were more likely to speak positively about motherhood and had higher levels of self-esteem. The effects carried through to subsequent children born to the mothers who received the intervention (Johnson et al, 2000).

Home visiting programmes in New Zealand

38. The primary home visiting programmes in New Zealand specific to children living in poverty and disadvantage are the Family Start and Early Start programmes.
39. Family Start is targeted to poor and disadvantaged families, starting in pregnancy or infancy and continuing, if needed throughout early childhood. There is work underway to strengthen to strengthen the quality of Family Start service delivery and align Family Start with a continuum of care for pre-school children and their families.
40. The Early Start home visiting programme was developed in Christchurch in 1995 by a consortium of health and social service providers to meet the needs of children and their families living in high-risk and severely disadvantaged environments. The programme was evaluated using a randomised control trial design. Evaluation results found that the programme produced a series of small benefits for child-related outcomes. At the 36-month assessment, parents in the Early Start programme had significantly higher rates of positive and non-punitive parenting attitudes, however, the effect sizes were small (.25) between the Early Start and control groups. The Early Start children received numerous health benefits compared with the control group. These were greater attendance at primary care, higher uptake of Well-Child services, reduced rates of hospital admissions for accidents and poisoning, and increased use of pre-school dental services. However, again, the effect sizes were small. There were no significant differences in immunisation and breastfeeding between the Early Start and control group.

41. New Zealand service delivery incorporates home visiting as part of primary maternity services and well-child services. Not all families receive home visits, however, many families regardless of their socio-economic circumstances, are provided home visitation.

Well-child/Tamariki Ora services to mitigating the effects of child poverty

42. Well-Child/Tamariki Ora (WCTO) is a free service that is offered to all New Zealand children from birth to five years. The main objective of the Well-Child/Tamariki Ora (WCTO) is to support families/whānau to maximise their child's developmental potential and health status from birth to five years, establishing a strong foundation for ongoing healthy development.
43. WCTO services are provided by registered nurses with specialised training in well child provision. WCTO provides universal services through community clinics or home visiting. The schedule of visits incorporates the number of universal visits and specifies the health services specific to each visit.
44. As a result of a review of the programme, a number of changes have been made to provide more easily accessible information to parents, additional information for providers regarding mother-child attachment, maternal depression, and violence within the home. The revised provider handbook includes chapters on screening for maternal depression, possible mother-child attachment issues, and violence within the home. WCTO providers began using the revised WCTO Schedule in 2011. The schedule incorporates the LMC responsibilities and general practice six week visit along with the WCTO provider responsibilities. The revised schedule also includes a list of interventions that providers may refer to when specific needs or risk factors are identified through the needs assessment process.
45. As of July 2011, WCTO providers are required to report child outcome and referral data by child NHI routinely. The child-specific reporting requirements will allow the monitoring of outcomes and analysis of referrals. Monitoring by child NHI will enable government to determine who receives additional visits and link the data with demographic and primary health data. The well child service has not been evaluated for effectiveness.
46. The Before School Check (B4SC) was implemented as the eighth and final Well-Child check in 2006. The B4SC is a comprehensive health check intended for all four year olds before they transition to compulsory school. This check replaces the School New Entrant Check. The goal is to assess and address any health or social-emotional needs prior to school entry so that children enter school able to participate to the best of their abilities. This check provides a final opportunity, prior to the transition to school, to detect and address any unmet need (e.g. social-emotional, hearing, vision).
47. The Well-Child Consortium of academics and providers provide a range of information about WCTO, immunisation, and other child health issues through a website managed

through the University of Auckland (www.wellchild.org.nz). The EAG endorses and acknowledges the ongoing work to improve WCTO, especially by providing more comprehensive assessment to ensure that children living in poverty and disadvantage and their families receive the types and intensity of services needed to ensure child health and mitigate the effects of poverty.

Infant mental health - an emerging issue

48. Infants and young children living in poverty and disadvantage whose mothers are unable to establish positive attachment and support them emotionally are at risk of developing social and emotional problems if these issues are not identified and adequately addressed. Maternal depression and maternal mental health problems are risk factors associated with infant and early childhood mental health problems. There is a higher incidence of post natal depression in women who are less supported, solo parents who are under 20 years of age, and women living in poverty and disadvantage. In-utero exposure to alcohol and other drugs present risks of fetal alcohol spectrum disorder (FASD). Antenatal exposure to alcohol can result in developmental delay, and cognitive, social and emotional deficits (Ministry of Health, 2010a).
49. The term ‘infant mental health’ was coined in the 1960s by Fraiberg and her colleagues. It is defined as the “social, emotional and cognitive wellbeing of a baby within the context of a caregiving relationship (Fraiberg, et. a. 1987, in Healthy Beginnings, 2012). While the recognition of infant mental health as a discipline is contentious, it remains important to identify and provide appropriate services to address parent-infant attachment issues and infant stress.
50. New Zealand has made significant progress in increasing service provider knowledge of infant mental health issues and ability to recognise risk of attachment problems between mother and infant. This progress can be, in large part, attributed to a small number of committed mental health and early childhood education professionals who established the Infant Mental Health Association of Aotearoa New Zealand (IMHANZ) and the partnership between these champions, the Werry Centre, and the Ministry of Health.
51. The capacity to provide a comprehensive approach to infant mental health is in its developmental stages. To build this capacity, the Ministry of Health recently published guidelines for developing perinatal and infant mental health services have been distributed to all DHBs (Ministry of Health, 2012).

Improving health outcomes for all children growing up in poverty

52. The New Zealand health and disability system is mainly funded from general taxation. The Ministry of Health (MOH) allocates more than three-quarters of the nearly \$14 billion of public funds it manages through Vote Health to district health boards (DHBs). Funding is

allocated to each DHB using a population-based funding formula. This funding approach devolves responsibility to DHBs. There are currently twenty DHBs, each responsible for planning, purchasing, and providing health services within their areas, including public hospitals and the majority of public health services. About 20 percent of the remaining MOH funding is used for national services.

53. Because of this structure, it is challenging at best to determine precisely how much of the health budget is spent on children. The nationally contracted services allow the most reliable information regarding the spend on primary maternity (community-based midwifery) and Well-Child/Tamariki Ora (WCTO). DHB funded and contracted services spending on children is much more challenging to ascertain. This is mostly because of how primary care organisations (PHOs) are funded. Moreover, PHOs and private general practices are privately owned and have significant autonomy in how they are managed and what they charge as co-payments to enrolled families and individuals.

Re-orientating child health funding

54. The Marmot Review (2010) states that *“Focusing solely on disadvantage will not reduce health inequalities sufficiently. To reduce the steepness of the social gradient in health, the principle of proportionate universalism must be applied.”* The Ministry of Health is applying this principle to the funding and service specifications for many parts of the health service including WCTO. We recommend that this funding principle be applied to re-design the funding of antenatal and post natal health services and across all primary child health services.
55. The WCTO service specifications entitle all children in New Zealand to a ‘core’ number of visits. These visits and their content are specified in the universal WCTO schedule. Additional funding is provided to deliver extra visits and services to families based on assessment of need. Plunket provides 85 – 90 percent of Well Child services nationally and receives \$41.96 million to provide universal or core services. As of October 2011, additional funding of \$4.106 million per annum was allocated to target children and their families during their first year of life (not to age five) based on need (personal communication with Ministry of Health).
56. In addition to Plunket, there are 57 Māori and Pasifika organisations that provide WCTO services. The total funding for core visits, based on 15 percent of service coverage, is \$12.73 million, in addition to funding for targeted additional visits during the first year of life of \$0.725 per annum.
57. As of 2011/12, The Ministry of Health requires providers to submit reports by child NHI, enabling the government to determine the reach and nature of WCTO universal and targeted services, including the number and types of referrals to other services. This paper recommends that these data be used to determine the effectiveness of the

universal and targeted approach in engaging families living in poverty and providing the additional support and referrals based on assessment of need.

58. Health policy and how it is delivered can magnify the effects of child poverty, or can work in a way to buffer its effects across the life course (WHO, 2008). A strategic approach is required to direct policy, service delivery, evaluation, and continuous improvement. In the *Fair Society, Healthy Lives* review of health inequalities in England (2010), recommendations are made on actions to reduce the social gradient in health. The report states that “...actions must be universal, but with a scale and intensity that is proportionate to the level of disadvantage” (p 10). The term proportionate universalism is used to describe this concept.

Recommendation 3:

The government should develop a maternity and child health funding strategy based on the principle of proportionate universalism, providing universal services and targeted extra services based on assessment of need.

Dental care services

59. These services are another important component of child health care. Public funding for dental services is intentionally focused on services for children and adolescents. Universal primary level services for 0-17 year olds cost approximately \$133 million per annum. Service utilisation is best among primary school aged children (around 98 per cent), but unfortunately around half of five year olds start school with tooth decay, and around 2000 children under eight need hospital level treatment each year, most of which is related to preventable tooth decay. Children from Māori, Pasifika and low income homes are over represented.
60. District health boards (DHBs) are working to increase pre-school engagement (currently around 60 per cent) especially in Māori and Pacific communities, aiming for targets of 50 per cent of 0-2 year olds, and 85 per cent of 3-4 year olds. Fixed clinics are located in areas of high population and high need, with mobile units servicing high needs and remote communities. The Ministry of Health has mapped these services. An extra \$36m in operational funding supports extra staff and allows for greater education, prevention and community outreach work to occur (Ministry of Health, personal communication).
61. As with use of other preventive health services, children living in poverty appear to receive inadequate preventive dental care during the early years. There continues to be a gap in knowledge of what is required to increase preventive care at home and use of the dentist prior to entering school. The WCTO programme is required to screen for dental health. However, currently there is no reliable data regarding the extent that this screening results in actions to address identified problems. Historically, primary schools held on-site dental clinics. More recently, children are assessed in school and the need

for professional dental care is identified, children are referred. Again, there is no monitoring of whether children then went to the dentist.

Child nutrition

62. The research is clear that lack of access to enough food and nutritional food during pregnancy and childhood is linked to poor health outcomes. These include more frequent illness, including stomach, headaches and colds. In addition, lack of healthy food is also associated with higher cholesterol intake and obesity, which is a significant problem in New Zealand (Qigley, et. al., 2005). In 2003, a Ministry of Health survey found that around 20percent of households with school-age children experienced food insecurity, with rates significantly higher among Pasifika, Māori, large families, and families from the lowest socio-economic groups (Parnell, et. al., 2003).
63. There have been efforts, especially in the area of public health, to raise awareness of healthy eating and improve the eating habits of New Zealanders. However, the efforts have been ad hoc, with no government strategy to guide the direction and measure progress. The focus of these efforts has not been to target children living in poverty. Examples of public health programmes include Healthy Eating Healthy Action (HEHA) and Project Energise Waikato.
64. The Healthy Eating Healthy Action (HEHA) initiative supported community-based programmes to raise nutrition awareness and increase healthy eating, especially to reduce obesity and diabetes. This programme was ended and the funding reallocated to other health services. There was an evaluation plan in place but the impact of the initiative was never determined since the programme ended before the impact evaluation was completed. The continuation of the programme and evaluation would have resulted in information, including cost effectiveness findings, that could have determined the extent that the programme improved the health of children and families in low income communities.
65. Project Energise Waikato began in 2004, following a call by the Waikato DHB for proposals to reduce childhood obesity. “Energizers” worked with primary schools to improve nutrition and increase the activity levels of children. Evaluation of the programme found statistically significant differences between the programme group (compared to the control group) in systolic blood pressure, height and height-z score, and percent of body fat and FMI. More schools were providing healthier food options and families were more aware of the importance of good nutrition and physical activity. These results appear promising and could be used to guide health and education partnerships to improve child nutrition in low decile schools.
66. The government has never had a child nutrition strategy. This paper urges government to make the development of a child nutrition strategy a high priority. The government has the tools in place to proceed with the development of a child nutrition strategy, such

as the recently published evidence-based Food and Nutrition Guidelines (2012) for use by health practitioners for all stages of the life cycle and accompanying health education resources for parents and caregivers. A national strategy would integrate all of the efforts to improve the nutrition of pregnant women and children and establish a plan of action that can be evaluated.

67. The nutrition strategy could include relevant components of a ‘food in schools’ programme, as recommended in the education working paper, to ensure all children have the proper nutrition to participate fully in their education. Currently, there are examples of the B4SC assessments identifying child nutrition problems with no proper referral or follow-up system to address the issues. The strategy could also address the need for additional resources at the local level to assist communities to provide the services required when children are identified as obese or underweight.

Recommendation 4:

The government should develop and evaluate a national child nutrition strategy.

Immunisation and infectious diseases

68. Rates of infectious disease and possibly preventable hospitalisation are significantly higher among children living in poverty, Māori, and Pasifika. As stated in the introduction to this paper, children living in poverty are:
- three times more likely to be sick, and hospitalisation rates for children from low income areas are significantly higher than for those from wealthier areas (Easton & Ballantyne, 2002).
 - at greater risk of contracting infectious diseases, as these spread more easily in overcrowded and difficult household conditions (Baker et al., 2000)
 - at least 1.5 times more likely to be hospitalised than children from wealthier areas (Craig, et. al., 2011)
 - Pasifika children and young people (0-24) are nearly 50 times more likely than European children (and twice as likely as Māori) to be admitted to hospital with acute rheumatic fever (ARF).
69. Immunisation is a public health service and can be provided in primary care settings and in homes or other sites by qualified health professionals. In the past two years, the number of Māori and Pacific children fully immunized at age two rose nearly 14 percent, to 85 and 91 percent, respectively. Immunization rates in the Auckland area also saw significant gains, with nearly a 20 percent rise over the past two years. Despite these gains, New Zealand still lags behind other developed nations, where childhood immunisation rates by age one average over 95 percent (Commonwealth Fund, 20011).
70. The Government’s Better Public Service targets to support vulnerable children include two targets related to immunisation:

- Increase infant immunisation rates for two year olds and reduce the incidence of rheumatic fever.
 - Increase immunisation rates so that 95 percent of eight month olds are immunised with three scheduled vaccinations by 2017.
71. The government strategy that was implemented in 2007 to increase immunisation has proven effective in reaching a significant number of families living in poverty and disadvantage. In the past two years, the number of Maori and Pasifika children fully immunised at age 2 rose nearly 20 percent, to 92 and 97 percent, respectively. Children from the lower socioeconomic deprivation areas 9-10 now have rates of 94 percent which are equal to those from NZDep areas 1-2. Immunisation rates in the Auckland area also saw significant gains, with nearly a 20 percent rise over the past two years. Despite these gains, New Zealand still lags behind other developed nations, where childhood immunisation rates by age one average over 95 percent (Commonwealth Fund, 20011). However this is a strong demonstration of how having a clear national focus and strategy working well with effective service delivery at all levels can reach children in poverty and close equity gaps.
72. The core components of the strategy were setting national targets, the implementation in 2005 of the National Immunisation Register (NIR) enabling real-time feedback on progress to government, DHBs and service providers, use of the media to publish comparisons by DHB, confident health care teams with the skills to communicate effectively with parents, and outreach services to engage with parents who were the most difficult to reach. NZ has full enrolment on the NIR of all children and it is linked to all Practice Management Systems currently.
73. Currently, 90-95 percent of children are enrolled with primary care providers. These providers are responsible for these children's immunisation status. All DHB areas now have outreach services. Primary care refers a child to the outreach service when the child has not had the scheduled immunisation. An estimated two percent of children are not recorded as up to date with their immunisations. This is a small but vulnerable group. The EAG notes the continued strategic approach to reaching the government targets and supports an emphasis on reaching the two percent of children not up to date with their immunisations. These efforts should result in improved outcomes for children living in poverty and disadvantage.

Improving access and affordability of primary health care

74. Primary health services are those that are received in the community rather than in a hospital or institutional setting. Primary health care covers a broad range of health and preventative services, including acute health care, education, counseling, and mental health interventions. Primary health services are pivotal to ensuring that children who are the most disadvantaged receive effective health care early, with comprehensive

assessment, coordination and continuity of health care across the transitions from one developmental stage to the next. This section describes how primary health services can mitigate the effects of child poverty.

75. The funding formula for Primary Care Organisations, most simply put, is based on the demographics of the population within the designated geographic area. The research suggests that, while those with low incomes in those areas would pay lower fees, the lower fee alone does not mean that low income families use primary care at the same level as those with higher incomes. However, research in Scotland found that since the introduction of the Free Child Health Care Scheme in 1997 the increase in GP consultations was most profound among infants in the lowest socio-economic group (Dovey et al. 1999, Dovey 2002).
76. Recently published data from Capital and Coast DHB demonstrated a link between increased investment in primary healthcare and increased access to primary care among low income and high needs groups. In addition, analysis of the data indicated improved health outcomes, reductions in emergency department use, and reductions in possibly preventable hospitalisations for high-needs populations (Tan, et. al., 2012).
77. Within New Zealand, Maori children are significantly more likely to be hospitalised for possibly preventable conditions, such as respiratory, gastroenteritis, and serious skin infections than non-Maori children. Between 2011 and 2012, rates for Māori children increased while non-Māori non-Pasifika rates remained the same or declined (Craig, 2012). It is anticipated that emergency room visits and hospitalisations of young children for infectious diseases could be reduced and serious health problems ameliorated if children were able to receive free primary care services and free after hours services at any time of day or night.
78. Because government recognises the value of utilising primary care to prevent and ameliorate child health problems before they become costly to treat, New Zealand implemented the 'Free Child Health Care Scheme' in 1996 for children 0 to 6 years. In 2007, the Government invested an additional \$8.25 million for primary care practices that committed to providing free care to children under six years. To date, approximately 80 percent of practices provide free visits during regular hours. However there are also other barriers to utilisation. For example, some families on low incomes owe their primary care provider for unpaid co-payments. Anecdotal information indicates that unpaid bills may be one important barrier that stop families from using their primary care provider even when their young children are ill. The EAG emphasises that the health of children, of any age, should not be compromised by the family's inability to pay.
79. In July 2012 government implemented free after hours primary care visits for children 0 to age 6. All DHBs are required to have a minimum of 60 percent coverage, with 100 percent coverage to be achieved 'as soon as practicable'. The EAG urges the government

to adopt a specific target to achieving 100 percent coverage. The current policy is not directive enough to ensure timely achievement of the goal.

Recommendation 5:

The Ministry of Health should continue to implement the current national initiative to establish free primary care visits for all children from 0-6, 24 hours/7days a week and set a specific target to make timely progress toward 100 percent coverage.

The EAG recommends that government also examine the benefits and costs of providing free and after-hours services to mitigate the effects of poverty by reducing possibly preventable hospitalisations of children from poor families.

In the longer term, the EAG recommends that the government consider providing free primary care to all children up to age eighteen. School age children living in poverty and disadvantage face many of the same risks as pre-school age children. The rates of hospitalisation for older children are lower than for those under age six, however, the need for primary prevention is equally as important for their health and development.

Recommendation 6:

The government should gradually reduce parent co-payments for children older than six years until access to free primary care visits 24 hours/7days a week can be achieved for all children to age eighteen.

80. A further effort to improve primary care is the 'Better, Sooner, More Convenient Primary Health Care' initiative that was introduced in 2009. The goal of the initiative is to deliver a more personalised primary health care system that provides services closer to home to better manage chronic health conditions and improve coordination of care (MOH, 2011). The initiative encourages activities that emphasise multi-disciplinary approaches to services and decision-making, including the co-ordination of services with secondary care, public health and other community-based services. In addition, primary health care organisations are expected to proactively support high need populations.
81. The regional plans and activities have generally not prioritised children and youth. However, a number of the specific activities underway provide services to children. These include Family Integrated Health Centres (FIHC) and Services to Improve Access (SIA).
82. The SIA funding is particularly relevant for children in poverty since the purpose is to fund new services and services that improve access for targeted groups, specifically: Māori/TangataWhenua, Pasifika peoples and/or people living in NZDep index 9-10 (highest deprivation) areas. Funds are allocated according to the number of people from these population groups enrolled in the PHO. SIA funding is used in a variety of ways. Examples include: the provision of clinics at work sites, marae, church groups and schools, transport services to help people get to clinics and interpreter services.

83. There are a range of opportunities to provide improved access and support to pregnant women from poor and disadvantaged groups. For example, antenatal clinics could be set up at locations that are already the natural gathering places for Pasifika, Māori, and refugee groups. In addition, other services such as WCTO and immunisation services could also provide group-based clinics and information sessions for parents and whānau in these settings. There appear to be opportunities already available that could be better utilised to address the primary health care needs of children in poverty that include expanding culturally responsive community-based services. The EAG endorses actions to improve Māori and Pasifika access to primary health care for children and their families and whānau.

The importance of youth health services to mitigate the effects of poverty

84. The physical and social contexts of neighbourhoods have an impact on young people. Living in socio-economically disadvantaged communities is associated with poorer nutrition, physical inactivity, overweight, and poorer overall health and wellbeing (Adolescent Health Research Group, 2008, 2010).
85. The risks inherent in the adolescent period (e.g. poor impulse control resulting in risk behaviours, conduct problems, and yielding to peer pressure) are exacerbated for young people from high deprivation environments who face additional challenges (e.g. disabilities, poor parenting, family violence, parental substance abuse or parent incarceration, neighbourhood disorganisation).
86. Most young people are enrolled with primary health care. In addition, Family Planning Services are available at no charge. The typical way of accessing primary health care, by making clinic appointments, presents barriers for some adolescents. In addition, these services are not free of charge to older children and adolescents. Moreover, adolescents may have questions and concerns about sexual health, addiction, and mental health issues which they do not feel will remain confidential if they use their family's primary health organisation.
87. Research appears to show that young people tend to use health and other services in a fairly spontaneous manner – where convenient, when needed, and when the health provider can be trusted. The availability of school-based health services and youth one-stop-shops, especially when they are staffed by professionals who understand how to engage with adolescents, appear to be effective ways to provide health services for adolescents because both of these service types overcome the barriers described.

Youth Health Services

88. Youth health services include school-based health services (SBHS), youth one-stop-shops, and Child and Adolescent Mental Health Services (CAMHS), with a small number of primary health care organisations providing primary mental health services. Students in level nine are eligible for free wellness checks by a health professional using the HEADSS assessment (Home and Environment, Education/employment, Activities, Drugs, Sexuality and Suicide/depression).
89. Current SBHS are funded nationally at \$5.6 million per annum, covering 135 decile one and two schools, teen parent units, and alternative education services. In April 2012, the Prime Minister announced an expansion of SBHS to decile 3 secondary schools, at a cost of \$10 million, as part of the Youth Mental Health Package.
90. The EAG supports this expansion. However, concern remains that SBHS continue to lack sustained resourcing.
91. The quality of SBHS matters. The Otahuhu College health service is often considered the best example of how SBHS should be configured and implemented.

Example 1: The Otahuhu College health service

Otahuhu College is a decile 1 secondary school with an enrolment of 1500, with high numbers of Māori and Pasifika students. The SBHS service was part of the original AIMHI (Achievement in Multicultural High Schools) pilot sites implemented between 2002 and 2004. The evaluation of the pilot programmes showed that the AIMHI schools made significant gains over a number of areas when compared with other low-decile schools between 2002 and 2004. The AIMHI students expressed greater satisfaction with their school and felt they had greater support for their academic achievement. The AIMHI students also reported that there was support for ethnic diversity within their school, unlike their peers in the comparison schools. (Ministry of Health, 2009). The evaluation results indicated that the integration of health and social services into the schools was a key contributor to the success of this programme.

The Otahuhu school health clinic is funded in multiple ways. First, the school provides the facility and pays overhead (approx. \$42,000 per annum). The Auckland District Health Board (ADHB) employs a Clinical Nurse Educator for clinical supervision of nurses who are youth health trained (1 FTE per 750 students at a rate of \$69,900 per FTE; including salary; \$2,500 per FTE for cost of supplies and equipment; \$1,000 per FTE for professional development). Two FTE social workers are funded through the Multiagency Social Worker in Secondary Schools (MASIS) programme funded through the Strive Community Trust contract with MSD. A 'youth-friendly' GP works on site 15 hours per week. This position was originally funded through the Ministry of Health's Services to Improve Access (SIA) primary care funding. ADHB is working out how to continue to ensure that the services that the GP provides can still be offered. One solution is to fund a GP consultancy service rather than pay for the GP to be on site. The ADHB estimates it would cost \$150,000 per annum for GP consultancy for 9 schools (11 nurses). The nurses could operate on 'standing orders' and provide clinical advice to other nurses when necessary.

There is also space for a private physiotherapist to hold regular clinics (funded through ACC claims). The clinic uses MedTech 32 database which is covered through the PHO and other sources. There is a 0.5 FTE receptionist/administrator (paid through the school's overhead contribution). In addition, students are represented by a Student Health Council and a Health Promoting Schools programme which are integrated into the clinic.

92. The availability of sustained funding for SBHS in low decile schools would enable school boards and youth health providers to have the confidence to build and strengthen these services. It may be possible to access funding through primary health care organisations (PHOs). These organisations receive population-based funding from government that includes funding for the enrolled youth population. It may be possible to direct PHOs to provide a reasonable portion of that funding to the secondary schools to support health services in the schools. Some PHOs already contribute to SBHS. However, there is no directive that requires PHOs to do so. Additional means of providing sustained funding

should also be explored in collaboration with DHBs, Boards of Trustees, and other community organisation and charitable trusts.

93. Youth one-stop-shops represent another youth-friendly health and social service in New Zealand. Young people can use the health service on a 'drop-in' basis, which fits with how adolescents tend to access support. This type of service provides access to free and confidential health services, especially for young people who are not in school.
94. Teens may initiate their concerns about pregnancy in a school based health service or by seeing a health professional in a youth one-stop-shop. The education system funds Teen Parent Units which incorporate school-based health services. These units currently support only about 12 percent of the teens who are parenting. The EAG Education working paper includes a recommendation to expand the number of Teen Parent Units in high deprivation communities.

Recommendation 7:

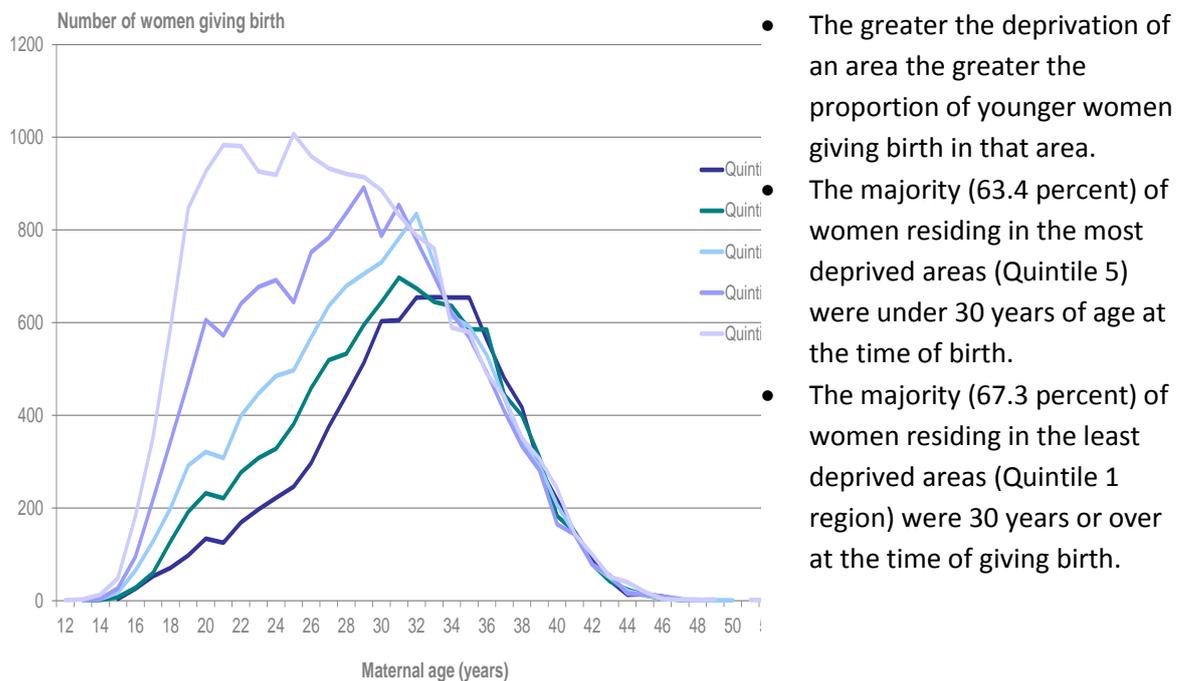
The government should establish sustained funding for youth-friendly health and social services in all low decile secondary schools.

95. Sustainable funding could enable school-based health services to retain quality staff by giving the health professionals more job security and establish health services in low-decile schools as integrated components of the school culture.

Teenage pregnancy and parenting

96. Growing up in poverty is associated with becoming a teen parent. Figure 2 demonstrates that, in New Zealand in 2010, the majority of women giving birth in the most deprived areas were young compared with the age of the women in low deprivation areas.

Figure 2. Maternal age distribution by deprivation quintile (of mother's residence) with Quintile 1 being the least deprived and Quintile 5 being the most.



Source: Maternity Facts, Ministry of Health, 2012.

97. Research shows that that young parents tend to obtain fewer educational qualifications, are more likely to be parenting alone or in unstable partnerships, and experience greater unemployment and welfare dependence than their peers who delay parenthood (Woodward, et. al., 2001). Teen pregnancy and parenting can drive young people into poverty, especially when the needed social supports are not available. Moreover, without the social and financial support required, teen parents are more likely to disengage with education and less likely to become meaningfully employed (Friesen, et. al., 2008). The children of young parents have also been reported to be at elevated risk of congenital medical problems and poor health, limited educational attainment, antisocial behaviour, and early parenthood themselves (Moffitt 2002, Miller et al. 2003, Pogarsky et al. 2006, in Friesen, et. al., 2008).
98. Findings from the recent review by the Families Commission (2012) of teenage pregnancy and parenting suggest that the types of resources provided by SBHS have the potential to reduce teen pregnancy. They include providing information to young women and young men about contraception and a resource to discuss relationships and sexuality. As discussed in the following section, the best way to support young people to access health services is to make it easy for them. Having the health resource in school does exactly that.

System changes to support policy and service delivery improvements

99. This section describes what government can do to improve the overall performance of the health sector to mitigate the effects of child poverty. There are two primary areas that can make significant contributions to improving how services are delivered so that families living in poverty and disadvantage will receive the types and intensity of support that results in better outcomes for their children:

- Improving health information systems to ensure that they provide reliable and timely data for planning and funding.
- Evaluating the existing models of community health services that appear to be more effectively reaching, engaging and offering broader services to children in poverty.
- Utilising the evaluation to expand on the models that are shown to be effective.

Improving the health information system

100. The importance of having reliable and timely information on child health has been widely acknowledged by government and the health sector. Reliable and timely information is needed to develop policy and funding strategies that are cost effective and identify areas of concern and to monitor children's health and wellbeing.

101. In the absence of a national integrated information strategy, numerous data bases have been set up to monitor specific service delivery programmes and to identify and address implementation gaps. Examples include the National Immunisation Register (NIR), the Before School Check database, and the WCTO contract data (from multiple WCTO providers) now reported to government by child NHI. These information systems are not interoperable and often there is duplication of effort by health professionals which takes additional time away from delivering services. In addition, there is a lack of quality control to ensure the reliability of data entered.

102. In addition to the issues related to the aggregate data important to national information, service providers find it challenging to identify and engage with families living in poverty and disadvantage who are not proactively accessing maternity and other health services. The health sector has identified the lack of access to information about these children as one barrier to effectively identifying, engaging and providing continuity of health care to this group of children. The immunisation strategy represents an effective means of reaching children by being able to identify all children and where they live. A reliable information system combined with culturally responsive outreach and health services can provide both individual child health monitoring and population data to guide policy and service delivery improvements.

103. The following set of recommendations include establishing reliable data collection for every child born in New Zealand. The development of a child health information system is the long-term objective, with short and medium-term actions to progress the work.

Short-term goal

104. The short term goal is to ensure all children are identified, and linkages made between a general practitioner (i.e., primary care provider) and the family and enable monitoring of child immunisation and receipt of antenatal services, WCTO services, including the Before School Check (B4SC), through to the transition to compulsory school.
105. The enrolment at birth with a primary care provider will mean that each infant will be added to that primary care provider's database and be assigned a National Health Index unique identifier (NHI) before leaving the hospital. The primary care provider system should be able to access LMC and WCTO information. The primary care provider will be the child's health care coordinator.
106. This recommendation can be implemented at minimal additional cost to the government. Some DHBs already enroll infants before they leave the hospital. The shift to electronic interoperable systems for all LMCs and WCTO providers will take more time and investment.

Recommendation 8.

As a short-term action, the government should direct the Ministry of Health to work with DHBs to enroll all children at birth with a primary health care provider (NHI assigned at that time), the national immunisation register (NIR), and with Well-Child /Tamariki Ora (WCTO) providers. This approach is sometimes referred to as 'triple enrolment'.

Medium-term

107. In the medium-term, the government should progress to electronic sharing of individual enrolment and appropriate clinical records across health care providers. The IT Health Board's (www.moh.govt.nz) work programme includes the Integrated Care Initiative, which consists of multiple projects related to electronic sharing of patient information. One of the projects is the Shared Maternity Record of Care which will introduce a new way for the maternity sector to share and transfer information during pregnancy and childbirth and until the baby is six weeks old, including between primary and secondary care. The work was initiated as a result of a review of maternity services which identified significant problems with reliable and timely transfer of information, especially in emergency and high risk situations, that jeopardised the health of the mother and baby. Once this project is operational, the learnings and the system could be used to progress an electronic child health record.
108. There would be additional costs to expanding this work. The costings would need to be worked through by a team of information technology, health provider, and cost analysts.

The IT Health Board currently partners with the health sector and other stakeholders to progress the maternity project.

Recommendation 9:

As a medium-term action, the government could expand the current IT Health Board's Shared Maternity Record of Care project to include the child health shared record through to age 18.

Long-term

109. This concept of establishing a single enrolment child information system continues to be raised by the government and community groups as one solution to the current fragmented and disconnected information systems across health and social services. We recognise that considerable fiscal and technical resources will be required to progress this recommendation. However, having one information system or interoperable systems with a unique identifier for each individual could provide efficient analysis of population data for planning, funding, and research purposes.

Recommendation 10:

As a long-term action, the government should progress the development of a single enrolment information system for all child health and social services.

Evaluation of promising community-based service delivery models

110. During the last two decades, developed nations have launched policy initiatives to improve the health and wellbeing outcomes for disadvantaged groups by developing whole-of-government policies that support community-based initiatives.

111. One example of these policy initiatives is the Sure Start programme on the UK. This initiative was an ambitious government policy strategy to improve child outcomes during the early years. The catalyst for the initiative came out of the 1998-2000 comprehensive spending review. The review was commissioned as part of the Government's commitment to end child poverty by 2020. These reviews now occur every three years. The purpose is to provide cross-departmental responses to particular policy issues. Sure Start Local Programmes (SSLP) were rolled out in the most deprived neighbourhoods in England. Government funding is provided for up to ten years to develop services for pregnant women with children 0-4 and their families. Prior to this policy, the primary focus of government child policy was on children 4 years of age and older.

112. Another major difference between Sure Start and previous policies is that it was built on community development principles. The programme is:
- **Outcomes-driven** –
 - Accountability: is around outcome and process targets and monitored centrally
 - Flexible: each programme has almost complete freedom to decide what services to provide.
 - **Multi-agency partnership reliant** – with coordinated planning and delivery of services
 - **Community empowerment and involvement are central to governance** – involving parents in the multi-agency partnership and at all levels of decision making.
113. The Sure Start Programme is currently being impacted by Every Child Matters (DfES, 2003). The primary focus of Every Child Matters is integrated services, including a common assessment framework, designated lead professional to coordinate services when a child needs more than one specialist service, and a single child database of information. The Every Child Matters initiative places multi-disciplinary teams in and around places where children are, including schools, Sure Start Children’s Centres (SSCC), and primary care centres. The SSCC are not targeted to disadvantaged neighbourhoods and the number now far exceeds the SSLP sites (Katz et al., 2009).
114. The evidence regarding these initiatives comes primarily from formative evaluation. The policy and how it was implemented was problematic. Community sites were offered the flexibility to decide what types of services would be included in each community site. The result was that some centres provided evidence-based approaches and interventions while others did not.
115. Although New Zealand does not have a national policy to address child poverty and vulnerability, some of the current policy activity in New Zealand is related to progressing a whole-of-government strategy to improve outcomes for those groups of groups who are at greatest risk of poor health and social outcomes.
116. The government’s Green Paper for Vulnerable Children is the most recent example of a whole-of-government strategic approach. As this work progresses, it will be important to recognise and avoid making the mistakes that have been made by others.
117. Within the health sector, there is a focus on working across disciplines at the DHB level to monitor the quality of maternity services, improve coordination between primary care and maternity services, and provide continuity of services when children and parents transition from maternity to WCTO and then to primary education.

118. Many communities in New Zealand already leverage funds from local DHBs, the Ministry of Health (including the Services to Improve Access primary care funds), and social services to provide better coordinated models of service delivery in high deprivation communities. Some examples of these community-based services include clinics at work sites, marae, churches, schools, and community health centres. Systematic evaluation of existing models would determine their effectiveness in engaging families from poor and disadvantaged groups, the extent that the models prevent or ameliorate child health problems and the common features of effective models.

Recommendation 11:

The government should evaluate existing community-based services that incorporate health and social services in high deprivation communities (e.g. integrated and co-located models of service delivery), systematically piloting, conducting effectiveness trials, and, based on the results, implementing the effective approaches in additional high deprivation communities (i.e. a preventive science approach).

Conclusion

119. New Zealand children living in poverty, especially Māori and Pasifika children, have poorer outcomes than their peers. The links between child poverty and poor health outcomes are well documented. The evidence leaves no doubt that significant child health disparities exist among those children living in poverty who are also subject to additional risks.
120. The policy and service delivery changes that may be necessary to enable evidence-based and promising prevention and intervention to reach those who need them most will be challenging but can be achieved with long-term leadership, whole-of-government approaches and effective information sharing to enable local communities to establish joined up and high quality services.
121. The policy recommendations presented in this report are consistent with the New Zealand and international evidence regarding how to improve outcomes for children living in poverty, thereby reducing health inequalities and mitigating the effects of poverty. This paper incorporates concepts and recommendations from the *Fair Society, Health Lives* report, the *Closing the Gap* report (World Health Organisation, 2008), the *Best Start in Life: Achieving Effective Action on Child Health and Wellbeing* report (Public Health Advisory Committee, 2010) and New Zealand research, within the context of current policy and service delivery.
122. New Zealand has made significant gains in the areas of immunisation, primary health enrolment, and provision of local solutions to access and use health services in low income and disadvantaged communities, with primarily Māori and Pasifika groups. The

policies and strategies that contributed to these results and lessons learned can be the starting point for progressing short and long term actions to mitigate the effects of child poverty.

References

- Acheson, D. (1988). 'Public Health in England: The Report of the Committee of Inquiry into the Future Development of the Public Health Function'. London: HMSO
- Baker, N. (2011). 'Sudden Unexpected Infant Death – No More “Stunned Amazement”'. The New Zealand Medical Journal 124 (1345).
- Child Poverty Action Group (2011). 'Left Further Behind: How Policies Fail the Poorest Children in New Zealand'. Auckland: Child Poverty Action Group.
- Children's Action Plan (2011). 'The Green Paper for Vulnerable Children: Every Child Thrives, Belongs, Achieves. <http://www/childrensactionplan.govt.nz/>.
- Commonwealth Fund (2011). 'Childhood Immunisation Rates Reach Record High, International Health News Briefing'. www.commonwealthfund.org/Newsletters/International-Health-News-Briefing.
- Craig E., C. Jackson, D. Y. Han (2007). 'Monitoring the Health of New Zealand Children and Young People: Indicator Handbook.' Auckland: Paediatric Society of New Zealand, New Zealand Child and Youth Epidemiology Service, Dunedin.
- Craig, E. (2011). 'New Zealand Children's Social Monitor 2011 Update'. New Zealand Child and Youth Epidemiology Service, Dunedin.
- Craig, L., J. Adams, G. Oben, A. Reddington, A. Wicken, and J. Simpson (2012). 'TeOhongaAke: The Health Status of Maori Children and Young People in New Zealand'. Dunedin, New Zealand: University of Otago, New Zealand Child and Youth Epidemiology Service.
- Currie J., and D. Thomas, (1993). 'Does Head Start Make a Difference?'. NBER Working Paper No. 4406. Cambridge, MA: National Bureau of Economic Research.
- Department for Education and Skills (2003). 'Sure Start Programme'. London: Department for Education and Skills.
- Doherty, P., A. Stott, K. Kinder, and S. Harradine (eds.) (2004). 'Delivering Services to Hard to Reach Families in on Track Treas: Definition, Consultation, and Needs Assessment'. Home Office Development and Practice Report No. 15.
- Expert Advisory Group on Solutions to Child Poverty (2012). EAG Working Paper no. 2: Life-course effects of childhood poverty, Office of the Children's Commissioner. Wellington.
- Easton, B. H. & Ballantyne, S. (2002). 'The Economic and Health Status of Households', Wellington School of Medicine, Wellington.

Families Commission (2012). 'Teen pregnancy and parenting in New Zealand'. Families Commission, Wellington.

Fancourt, N., N. Turner, M. I. Asher, T. Dowell (2010). 'Primary Health Care Funding for Children Under Six Years of Age in New Zealand: Why is this so Hard?'. *Journal of Primary Health Care* 2 (4).

Friesen, M. D., D. M., Fergusson, L. J. Woodward, & A. Chesney (2008). 'Living Standards & Material Conditions of Young New Zealand Families'. *Social Policy Journal of New Zealand*, 33.

Galobardes, B, Smith, D, & Lynch, J. W. (2006). Systematic Review of the Influence of Childhood Socioeconomic Circumstances on Risk for Cardiovascular Disease in Adulthood, *Annals of Epidemiology*, 16 (2). Bristol, England.

Infometrics Ltd. (2011). '1000 Days to Get it Right for Every Child: The Effectiveness of Public Investment in New Zealand Children'. Wellington: Every Child Counts.

Jacobsen, V., N. Mays, R. Crawford, B. Annesley, P. Christoffel, G. Johnston, & S. Durbin (2002). 'Investing in Well-being: An Analytical Framework' Working Paper 02/23. Wellington: New Zealand Treasury.

Johnson, Z, B. Molloy, E. Scallan, P. Fitzpatrick, B. Rooney, T. Keegan (2000). 'Community Mothers Programme - Seven Year Follow-up of a Randomized Controlled Trial of Non-Professional Intervention in Parenting'. *Journal of Public Health* 22 (3).

Johnson, Z., F. Howell, B. Molloy (1993) 'Community Mothers' Programme: Randomised Controlled Trial of Non-Professional Intervention in Parenting'. *British Medical Journal* 306 (1449).

Love, J. M., E. E. Kisker, C. M. Ross, P. Z. Schochet, J. Brooks-Gunn, D. Paulsell (2002) 'Making a Difference in the Lives of Toddlers and Infants and Their Families: The Impacts of Early Head Start'. Report to Administration for Children and Families. Princeton, NJ: Mathematica Policy Research, US Department of Health and Human Services.

Ministry of Health (1998). 'Child Health Strategy'. Wellington: Ministry of Health.

Ministry of Health (2007). 'Whānau Ora Health Impact Assessment'. Wellington: Ministry of Health.

Office of the Children's Commissioner (2011). Children Newsletter focusing on the Government's Green Paper for Vulnerable Children. Spring, 78.

Olds, D. L., Kitzman, H. J., Cole, R. E., Hanks, C. A., Arcoleo, K. J., Anson, E. A., Luckey, D., Knudtson, M. D., Henderson, Jr, C. R., Bondy, J., Stevenson, A. J. (2010). Enduring Effects of Prenatal and Infancy Home Visiting by Nurses on Maternal Life Course and Government Spending Follow-up of a Randomised Trial Among Children at Age 12 Years. *Archives of Pediatric and Adolescent Medicine*, 164 (5), pp 419-424.

Organisation for Economic Co-operation and Development (2009). 'Doing Better for Children'. Available at www.oecd.org/publishing/corrigenda.

Poulton, R., B. J. Caspi, W. M. Thomson, A. Taylor, M. R. Sears, T. E. Moffitt (2002). 'Association between Children's Experience of Socioeconomic Disadvantage and Adult Health: a Life-Course Study'. *The Lancet* 360 (9346).

Public Health Advisory Committee (2010). 'The Best Start in Life: Achieving Effective Action on Child Health and Wellbeing'. Ministry of Health, Wellington, New Zealand. <http://www.phac.health.govt.nz>.

Ryall, T. Hon. (2011) <http://www.beehive.govt.nz/minister/tony-ryall>.

Shaw, C., Blakely, T., Crampton, P., & Atkinson, J. (2005). 'The contribution of causes of death to socioeconomic inequalities in child mortality: New Zealand 1981-1999', *New Zealand Medical Journal*, 118 (1227).

Shonkoff, J. P., and D. A. Phillips (eds.) (2000). 'From Neurons to Neighborhoods: The Science of Early Childhood Development'. Washington D.C.: National Academy Press.

Tan L, Carr J, Reidy J (2012). New Zealand evidence for the impact of primary healthcare investment in Capital and Coast District Health Board *New Zealand Medical Journal*, 30, pp. 1325-1352.

TeTuia Well Child, available at www.wellchild.org.nz.

U.S. Department of Health and Human Services, available at <http://homvee.acf.hhs.gov/>.

Woodward, L.J., D.M. Fergusson and L.J. Horwood (2001) 'Risk factors and life processes associated with teenage pregnancy: Results of a prospective study from birth to 20 years. *Journal of Marriage and Family*', 63, pp 1170-1184.

World Health Organisation (1986). 'Ottawa Charter for Health Promotion'. Geneva, Switzerland: WHO Press.

World Health Organisation (2008). 'Closing the Gap in a Generation: Health Equity Through Action on Social Determinants of Health: Commission on Social Determinants of Health Final Report'. Geneva, Switzerland: WHO Press.