INTRODUCTION TO THE CHILDREN'S SOCIAL HEALTH MONITOR

In New Zealand, there are currently large disparities in child health status, with socioeconomically vulnerable children experiencing a disproportionate burden of morbidity and mortality [1]. Such disparities have persisted, despite one of the longest periods of economic growth in recent decades, as well as historically low unemployment rates.

During the past 18 months, New Zealand's economic environment has changed rapidly, with rising unemployment [2], and a large increase in the number of children reliant on benefit recipients. Given that large disparities in health status are evident for socioeconomically vulnerable children, even during periods of economic prosperity, it is possible that as the downturn progresses, and more families become reliant on Government assistance, some of the adaptations families make in order to meet their basic household needs (e.g. house downsizing / increasing the number of occupants to meet rent payments, deferring heating costs to pay for groceries) may result in unintended health consequences for children (e.g. increases in infectious and respiratory diseases, exposure to family conflict).

The Development of the Children's Social Health Monitor

In response to deteriorating economic conditions in New Zealand and Australia over the past 18 months, a Working Group of health professionals from a range of Organisations[1] with an interest in child health was formed in early 2009. Over the course of the year, this Working Group discussed the rationale for monitoring child health during a recession, the conceptualisation of an indicator set which could be used to monitor the impact of the recession on child wellbeing, the range of indicators which might be included, and the criteria by which these indicators should be selected. As a result, it was proposed that a Children's Social Health Monitor be developed, which comprised the following:

1. *A Basket of Indicators to Monitor Prevailing Economic Conditions*: Ideally, indicators would capture different facets of economic wellbeing (e.g. in a recession several quarters of negative growth (GDP) may precede upswings in Unemployment Rates, which in turn will influence the number of Children Reliant on Benefit Recipients).
2. *A Basket of Indicators to Monitor Children's Health and Wellbeing*; Ideally indicators would responded relatively quickly (e.g. months-small number of years) to family's adaptations to deteriorating economic conditions (e.g. Hospital Admissions and Mortality from Conditions with a Social Gradient) and would provide an overview of family wellbeing from a variety of perspectives.

The baseline Children's Social Health Monitor indicator set was finalised in September 2009, with **Appendix 9** providing an overview of the methodology used. The Monitor currently comprises 5 Economic and 5 Health and Wellbeing Indicators:

Economic Indicators:	Gross Domestic Product
	Income Inequality
	Child Poverty
	Unemployment Rates
	Children Reliant on Benefit Recipients
Health and Wellbeing Indicators:	Hospital Admissions with a Social Gradient
	Mortality with a Social Gradient

[1] The Paediatric Society of New Zealand, the Population Child Health Special Interest Group of the Royal Australasian College of Physicians, the New Zealand Child and Youth Epidemiology Service, TAHA (the Well Pacific Mother and Infant Service), the Maori SIDS Program, the Kia Mataara Well Child Consortium, the New Zealand Council of Christian Social Services, and academics from the Universities of Auckland and Otago

Infant Mortality

Hospital Admissions and Mortality from Injuries Arising from the Assault, Neglect or Maltreatment of Children

Ambulatory Sensitive Hospitalisations (forthcoming)

It is hoped that this indictor set will be expanded and further refined over time. In the meantime, the NZ Child and Youth Epidemiology Service intends to monitor this core minimum indicator set on an annual basis, until the economic position of New Zealand children improves appreciably. It is also hoped that further adaptations to this indicator set will be made, so that it can also be used in the Australian context.

Rationale for Monitoring Child Health During a Recession

In addition to considering each of the individual indicators in the Children's Social Health Monitor, it is worthwhile reviewing the impact of previous economic crises on child health and wellbeing overseas, and the potential pathways via which these effects might have occurred. In addition, it is important to consider the extent to which New Zealand children were exposed to low family incomes during the last major recession (the 1990s) and the effects this had on their living standards. Such reviews are valuable, as they provide insights into the possible impacts the current downturn will have on child health and wellbeing during the next 2-5 years.

Cross Sectional Associations Between Family Resources and Child Wellbeing

In New Zealand, children and young people living in more deprived areas experience significantly worse health outcomes across a range of measures (e.g. infant mortality, hospital admissions for infectious and respiratory diseases, non-accidental injuries) [1]. Growing up in a low income family also increases the risk of longer term negative outcomes, such as leaving school without formal qualifications and economic inactivity. While adjusting for baseline family characteristics (e.g. maternal age, parental education, sole parent status) weakens these associations somewhat, they do not disappear completely [3]. The relationship between low family income and adverse outcomes also varies with the duration of family poverty, as well as the child's age when the family is poor. In addition, the presence of social safety nets (e.g. free education and healthcare, unemployment benefits and others forms of income support) may buffer the effects of low family income, with social gradients in health being much less marked in countries with robust social security provisions [4].

Yet while a large body of evidence supports the cross-sectional associations between reduced socioeconomic resources and poor childhood outcomes, the potential health consequences of a large increase in the number of low income families (e.g. via rising unemployment in the context of a significant recession) are much less well understood. This is because more enduring measures of family socioeconomic position (e.g. parental education, occupation, access to cultural resources), often remain constant during the course of a typical recession, as do the social safety nets which potentially buffer the impacts of worsening economic conditions on child wellbeing [5].

The literature however, does provide some plausible pathways via which reductions in family income might lead to adverse outcomes for children. In the late 1980s, McLyod [6] noted that a number of studies had linked sudden economic loss (e.g. unemployment) to negative psychological outcomes, although it was often the effects of ongoing chronic poverty (e.g. difficulty paying bills, worrying about money) that had the greatest impact. In her view, the greater the adaptations required to make ends meet (e.g. to reduce consumption, sell possessions, apply for loans, withdraw savings to pay bills), the greater the psychological distress produced. Further, the making of such difficult choices within the context of inadequate resources often fuelled spousal conflict, which often then spilled over into parenting, with anger against a spouse often being displaced onto a child(ren), particularly if the child aligned themselves with one of the parents (typically the mother) [6].

Similarly in Finland during the 1990s, a severe recession saw unemployment rise from 3.4% in 1990 to 18% in 1994. A study of child mental health during this period found that a quarter of families cut back on children's clothes, while a third cut back on trips, amusements and extra food (e.g. pizzas, hamburgers). Perhaps as a result of Finland's robust social security system however, only 2% cut back on basic food and only 3% moved to cheaper accommodation. Despite this, increased economic pressure was associated with a cascade of associations which linked declines in parental mental health → hostile and non-supportive marital interaction → compromised parenting → children's internalising (e.g. withdrawal, anxiety, depression) and externalising (e.g. aggressive or delinquent behaviour, substance abuse) behaviour [7].

The Impact of Economic Crises on Child Wellbeing: Longitudinal Studies

While such studies provide plausible pathways linking reductions in family income to adverse outcomes for children, the evidence that an increase in the number of low income families in a society leads to population level shifts in child health outcomes is more mixed. In Sweden, a country with a particularly robust social safety net, a significant recession during the early-mid 1990s saw the proportion of children (0-6 years) living in low income families rise from 7.5% in 1991 to 20% in 1996. Despite this, there were no significant increases in infant mortality, low birth weight, abortions or childhood hospital admissions for infectious and respiratory diseases, with the authors concluding that the maintenance of investments in education, social insurance, and universal access to free health care may have mitigated the impacts of the recession on children during this period [5].

In contrast, in Peru an economic crisis during the late 1980s saw GDP fall by almost 30% during 1987-1990, with real wages in Lima falling by 80%. During this period, infant mortality increased by 2.5%, an increase which equated to an additional 17,000 infant deaths. While food purchasing behaviour did not change, families' spending on medicines, healthcare and durable items (e.g. cars) fell dramatically. In addition, public health care expenditure declined by 58%, and while the authors were unable to determine whether it was these cuts, or families' inability to afford co-payments that caused large declines in health service utilisation during this period, they concluded that from a policy perspective increases, rather than decreases, in social expenditure during future economic crises would be the most useful in minimising the impact of recessions on child wellbeing [8].

Paradoxically, in the USA, one study suggested that rising unemployment may actually lead to improvements low birth weight and infant mortality, via its impacts on lowered fertility, cigarette and alcohol consumption, and attendance at antenatal care. The authors noted that less educated single black women tended to opt out of fertility during periods of high unemployment, and that those who became pregnant tended to drink and smoke less, and to attend antenatal care more frequently. For white women however, the pattern was reversed, with fertility for less-educated white women increasing during periods of high unemployment [9]. To add further complexity, studies of child health during other economic crises have found either no differences (e.g. in the USSR during the 1990s there were large increases in adult mortality (particularly from suicide and alcohol) but no increases in child mortality [10]; or a modest deterioration (e.g. a 1.4% increase in infant mortality during Indonesia's 1998 financial crisis [11].

Potential Impacts of Recessions on Children: Lessons from New Zealand's Past

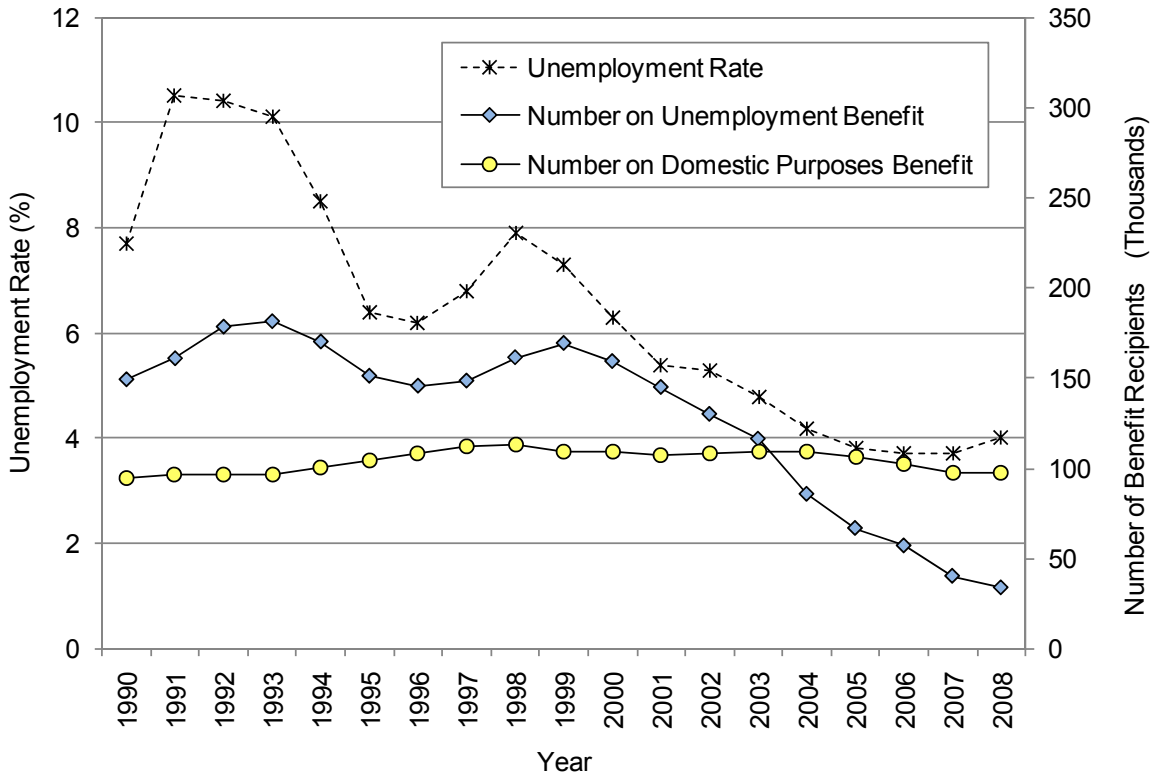
The research above suggests that the impacts of economic crises on child wellbeing may vary, depending on the length and severity of the crisis, the adaptations families make to reduced resources, the availability of social safety nets, and the extent to which Governments preserve, or cut social spending during the course of a recession. For New Zealand, it thus remains unclear what impact the current economic downturn will have on child wellbeing, as while New Zealand's social safety nets are not as comprehensive as those of Finland or Sweden, access to basic health services is unlikely to break down, as it did in Peru during the 1980s. Further, it is difficult to determine whether families positive adaptations to the recession (e.g. cutting back on takeaways, alcohol, and cigarettes), will outweigh more negative behaviours (e.g. cutting back on clothing, shoes, heating and doctor's visits). Despite this uncertainty it is still possible, using existing research, to

estimate the number of New Zealand children who may be exposed to low family incomes, should unemployment reach the levels seen during the mid-1990s, as well as the impact this exposure may have on their living standards.

In terms of the number of children likely to be exposed to low family incomes, one recent study followed the entire cohort of New Zealand children born in 1993 (n=58,866), through to age 7 in 2000 (during this period unemployment was in the 6-8% range, as is expected during the current downturn). Using benefit reliance as a proxy for low household income, the authors found that 53.9% of children had lived with a caregiver who was reliant on a benefit at some point during their first 7 years, with 24.5% having their first contact with a benefit at birth, and 38.7% by one year of age. Of the birth cohort, 20.8% had spent 5+ of their first 7 years with a caregiver reliant on a benefit, with the risk of prolonged benefit contact being increased if the child was reliant on: a benefit recipient from birth; a sole parent; a benefit recipient who was female, Māori, <20 years of age, or on the Domestic Purposes Benefit (DPB). Of those reliant on a benefit from birth, ≈ ¾ remained on a benefit after their 1st year, ≈ ½ remained at 3 years and ≈ ¼ remained for the entire 7 years (6.1% of the entire 1993 cohort spent all of their first 7 years reliant on a benefit recipient) [12].

In interpreting these figures however, it must be remembered that not all children in this cohort were reliant on a beneficiary as the result of prevailing macroeconomic conditions. As **Figure 1** suggests, while the number of people receiving unemployment benefits during this period fluctuated in line with headline unemployment, the number receiving the domestic purposes benefit (DPB) was much less responsive to labour market changes. Thus even in 2007, when seasonally adjusted unemployment rates were at their lowest (range 3.5-3.8%) [13], 15.1% of New Zealand children <18 years remained reliant on a DPB recipient [1]. Such figures potentially suggest that in the context of the current recession, New Zealand is already starting from a relatively high baseline, in terms of the number of children exposed to low family incomes during their crucial early years.

Figure 1. Seasonally Adjusted Unemployment Rates vs. Numbers of Unemployment and Domestic Purposes Benefit Recipients, New Zealand 1990-2008



Source: Seasonally Adjusted Unemployment Rates: Household Labour Force Survey (Quarter 2); Benefit Recipients: Ministry of Social Development for Years Ending June (via Statistics NZ)

In terms of the living standards likely to be experienced by children who become reliant on benefit recipients during the next few years, the New Zealand Living Standards Surveys provide some valuable insights. The 2000 Living Standards Survey, found that even once the level of family income was taken into account, families whose main source of income was Government benefits were more likely to be living in severe or significant hardship and as a consequence, more likely to buy cheaper cuts of meat, go without fruit and vegetables, put up with feeling cold to save on heating costs, make do without enough bedrooms, have children share a bed, postpone a child's visit to the doctor or dentist, go without a computer or internet access and limit their child's involvement in school trips, sports and extracurricular activities [14]. The 2004 Living Standards Survey, while replicating many of the findings of the 2000 Survey, suggested that the picture may have worsened during 2000-2004, with the proportion of benefit dependent families living in severe or significant hardship increasing from 39% to 58% [15].

Thus while it is difficult to predict with any certainty the impact the current recession will have on child health outcomes, the available evidence would suggest that one in five New Zealand children are already exposed to low family incomes as a result of their parent's benefit status, and that if unemployment reaches the levels seen during the 1990s, a similar number will spend at least 5 of their first 7 years of life reliant on a beneficiary. Further, the Living Standards surveys suggest that New Zealand's current benefit provisions will be unable to protect these children from severe or significant hardship, and that some of the adaptations families make in response to their inadequate resources, may have detrimental health consequences for their children.

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