

# Executive Summary

---

Children and young people make up a third of the Wairarapa population and collectively represent a taonga or treasure, whose health and wellbeing need to be safeguarded to ensure the future prosperity of the region. This report is the third on the health of Wairarapa children and young people produced by the NZ Child and Youth Epidemiology Service, and the first to utilise the recently developed NZ Child and Youth Indicator Framework. Due to its large size, the report is presented as reference manual, which begins with a set of instructions outlining how the information contained within it might be used to inform planning in child and youth health. The report is divided into 3 sections as follows:

- 1. Introduction and Guide to Using the Indicator Framework:** This section introduces the NZ Child and Youth Indicator Framework, with its four hierarchically arranged domains and the indicators contained within them. It also provides a brief overview of the indicator grading system used in this report, which ranks each indicator on its ability to capture the issue it was designed to measure, as well as the quality of its data source(s).
- 2. Wairarapa Child and Youth Health Statistics:** This section serves as a catalogue for all of indicators in the NZ Child and Youth Indicator Framework. In addition to providing national level data, each section (data permitting) provides an analysis of how the Wairarapa's rates compare with the New Zealand average, as well as the extent to which ethnic disparities are evident within the region.
- 3. Demography and Appendices:** This section provides an overview of the Wairarapa child and youth population at the 2006 Census, as well as births in the region by ethnicity and NZDep decile. The section concludes with a series of Appendices outlining the datasets used to prepare the report and some of the limitations associated with each.

## **Introduction and Guide to Using the Indicator Framework**

The NZ Child and Youth Indicator Framework was developed to assist those working in the health sector to consider all of the issues which need to be taken into account when planning services and strategies to improve child and youth health. The framework is based on a model which considers the causal pathways linking the wider social and political environment → health outcomes at the population level, and assigns each of the indicators in this report to one of four hierarchically arranged domains, which intersect with a horizontal life course dimension as follows:

### **Domain 1: The Historical, Economic and Policy Context**

This Domain focuses on the factors which shape the underlying determinants of health including: 1) Historical Factors and in particular the role New Zealand's colonial history has played in creating health disparities for Maori children and young people; 2) Policy Factors including the role Government policies play in shaping the resources available to families; 3) Macroeconomic Factors including the role economic factors (e.g. unemployment rates, interest rates) play in determining a family's economic wellbeing.

### **Domain 2: Socioeconomic and Cultural Determinants**

This Domain focuses on the role socioeconomic factors play in shaping child and youth health outcomes, as well as the ways in which cultural identity influences their wellbeing. The domain includes indicators spanning a range of areas including educational attainment, household crowding and the number of children and young people reliant on benefits.



### **Domain 3: Risk and Protective Factors**

This Domain focuses on how risk and protective factors shape health outcomes for children and young people (e.g. second hand cigarette smoke → hospital admissions for respiratory infections). The domain contains a range of indicators including nutrition, exposure to second hand cigarette smoke and breastfeeding.

### **Domain 4: Individual and Whanau Health and Wellbeing**

This domain provides information on a large number of child and youth health outcomes and is divided into 12 key streams including: Total Morbidity and Mortality; Whanau Wellbeing; Perinatal / Infancy; Well Health; Safety; Injury; Infectious Disease; Respiratory Disease; Chronic Conditions; Disability; Mental Health; Sexual and Reproductive Health.

### **The Life Course Dimension**

The potential impact of each of the indicators in these domains needs also to be considered within the context of the life course (which within this framework spans 0 → 24 years). While the de-identified nature of the data used means it is impossible to track the trajectory of an individual child as they progress from birth to early adulthood, it is important to consider the serial consequences that negative exposures have as a child passes from birth → 24 years and the manner in which the wider socioeconomic determinants of health shape the likelihood that it will be the same child who is e.g. born with low birth weight → exposed to second hand smoke during infancy → admitted to hospital with pneumonia → fails school entry hearing screening → does poorly at school and leaves without formal qualifications.

### **Limitations of Current Indicators & Data Quality Issues**

During the course of indicator framework development it became apparent that adequate data was available for only a fraction of the issues that those working in the health sector considered important to child and youth health. To prevent issues for which data was available from taking precedence over those for which data was lacking, a set of criteria were developed which awarded a high priority to public health importance. Where an issue met these criteria but where routine data sources were lacking, “non-traditional” data sources were used, to ensure the issue did not fall below the public health radar. Such an approach however, meant that many indicators may not have met the stricter data quality criteria utilised by other Government agencies. In order to highlight the impacts such data quality issues may have on the interpretability of the data, each indicator in this report has been graded on the degree to which it captures the issue it was designed to measure, as well as the quality of its data source:

1. Ideal Indicators which measure the total extent of an issue.
2. Proxy Indicators: While it is not always possible to measure the full extent of an issue, it is possible to monitor attendances at publicly funded services for its management (e.g. while injury admissions do not reflect all injuries occurring in a community, they are nevertheless useful for assessing the workload injuries create for secondary services).
3. Bookmark Indicators: In many cases there was a need for indicators in areas where no data existed (e.g. disability prevalence). While more traditional approaches might have excluded such issues from the monitoring framework until high quality data sources could be developed, such approaches may also have resulted in the needs of children and young people with these conditions slipping below the public health radar. Thus a number of “Bookmark Indicators” were created to highlight particular issues until such time as more appropriate data sources could be developed.

In addition, each of the indicators in the report has been assessed on the quality of its data source and graded as to whether this was Excellent (A), Adequate (B), or whether Further Work (C) was required to ensure the indicator could be interpreted in an



appropriate manner. A more detailed review of the data sources used is included in a series of Appendices at the back of this report and the reader is urged to be aware of the contents of these Appendices when reading the information contained in this report. The most important of these issues however, are highlighted in the text box below.

#### **Data Constraints and the Use of Statistical Significance in this Report**

##### Statistical Significance Testing

Because of the fragmented nature of NZ's national datasets, and the lack of population denominators in electronic format, in undertaking this analysis, the majority of rate calculations had to be undertaken manually in EXCEL. This meant that in allocation of resources to undertake this report, a choice needed to be made between providing information on as broad a range of indicators as possible, or providing a more detailed analysis (including relative risks, 95% confidence intervals and standardisation for ethnicity and NZDep) on a much more limited selection. Because this report forms the first in a cycle, in the first instance it was thought necessary to provide as broad as possible overview on the health status of children and young people in the region, and resources have thus been allocated to this end. Thus in interpreting the findings of this report, none of the comparisons made imply statistical or non-statistical significance (unless accompanied by tables containing confidence intervals) and thus the reader must take into account both the magnitude of the difference in regional and NZ rates, as well as the consistency of these on a year to year basis. For the majority of indicators contained in this report, a review of trends over time, particularly if they consistently exceed or are lower than the NZ average, will provide sufficient information for funding and planning purposes. In instances however where time series information is unavailable, or where numbers are small (e.g. infant mortality rates) and DHB figures deviate unexpectedly from the NZ average, DHB staff may wish to request more detailed statistical analysis on a case by case basis.

##### Changes in the Way in Which Emergency Admissions Have Been Coded Over Time

Appendix 1 outlines a number of issues with data quality in the Hospital Admission Dataset, and in particular how changes in the way in which emergency department cases have been uploaded to the national minimum dataset over time can profoundly affect time series data for a number of conditions commonly dealt with in the emergency department setting (e.g. injuries, asthma, gastroenteritis). This issue is complex and the reader is strongly urged to read Appendix 1 before considering any of the time series information contained in this report (this problem is of particular importance in the Auckland region).

##### Small Number Reporting

Many of the causes of morbidity and mortality analysed in this report, while being of significant importance to child and youth health, are nevertheless only present in small numbers. In order to prevent, as far as possible, the identification of individual cases in the sections of the report that follow, in all tables the causes of morbidity / mortality have been aggregated up so that the smallest number reported is 5. For graphs, deaths are reported as rates per 100,000 rather than as individual numbers, and where very small numbers per year are involved, these are discussed only in the text. Where DHB staff feel they require more detailed information on particular causes of morbidity and mortality, additional (de-identified) information is available on request.

## **Wairarapa Child and Youth Health Statistics**

The tables which follow provide a brief overview of each of the indicators contained in this report, including their distribution nationally and (data permitting), within the Wairarapa region. While it is possible to consider each of these issues individually, when considering the best way forward for the Wairarapa as a whole, a number of possible approaches to prioritising child and youth health needs are possible:

**A Comparative Approach:** When considering which issues should be awarded the highest priority in future strategy development, one potential approach would be to consider those areas where the Wairarapa differs from the New Zealand average. Such an approach needs to take into account the demographic profile of the Wairarapa region, which at the time of the 2006 Census had a higher proportion of European children and young people than the New Zealand average and a lower proportion of Pacific and Asian / Indian children and young people. In addition, the majority of Wairarapa children and young people resided in the affluent-mid ranges of the NZDep distribution, with a lower proportion in the most deprived (NZDep decile 10) areas. This demographic profile would potentially suggest that the Wairarapa might as a result,



have a lower rates for conditions for which disparities for Pacific and Asian / Indian children and young people were most marked (e.g. TB, rheumatic fever), as well as average / lower than average rates for conditions for which socioeconomic disparities were most marked (e.g. serious skin infections, lower respiratory infections). A brief perusal of the tables which follow however suggests a mixed picture, with admissions for some outcomes (e.g. serious skin infections in children) being lower than the NZ average, some (e.g. gastroenteritis) being similar, and rates for some (e.g. teenage births) being higher, making a comparative approach more difficult in this context.

**An Absolute Approach:** An alternative approach to prioritising health need would be to consider those issues which, irrespective of their position with respect to the national average, made the greatest contribution to hospital admissions and mortality in the region. In the Wairarapa during the past 5 years, injury was the leading cause of mortality for both children and young people. In terms of hospital admissions, injuries again made a significant contribution to morbidity for both children and young people, although infectious and respiratory conditions were also prominent for children, and reproductive health issues (particularly admissions for labour and delivery) were prominent for young people. An absolute approach would thus place injuries, and infectious / respiratory conditions towards the top of the priority list for children, and injuries and reproductive health issues towards the top of the priority list for young people, even in the context where Wairarapa's rates for some of these conditions were similar to, or lower than the New Zealand average during the past 5-6 years.

**Consideration of Areas of Unmet Need:** Finally, it is important to remember that hospital admission and mortality data does not fully capture all of the issues experienced by children and young people in the Wairarapa. In particular, there is a paucity of information on children and young people with disabilities and mental health issues. The available evidence nationally however would suggest that there may be considerable unmet need in these areas, particularly with respect to respite care for the families of children with disabilities and for services for children and young people with ongoing mental health issues. Thus in addition to the approaches outlined above, it is also necessary to consider whether similar areas of unmet need exist within the Wairarapa region and if so, to consider the needs of these children and young people when allocating resources for future program development. (Note: Although the issue of a paucity of local data may also apply to issues such as nutrition, physical activity and overweight / obesity in children / young people, the health sector as a whole already appears to have awarded these issues a high priority in recent years).

## **Conclusions**

It is hoped that this report will provide those planning health services in the Wairarapa with an understanding of the health needs of the children and young people within their region, as well as some insights into why these needs might conform to, or deviate from, the national average. This report however, makes no attempt to prioritise the health needs presented in sections which follow, or to offer any evidence based solutions to the many issues which are raised. Rather it is hoped that the report will provide DHB staff with sufficient information, so that such decisions can be made locally, taking into account some, or all of the suggested approaches outlined above. For those requiring more direction on evidence based solutions to some of the issues raised, the MOH's Child and Youth Health Toolkit (available on the MOH website) may provide a logical starting place, as it provides an overview of the MOH's suggested starting points in many of these areas.



Table 1. Overview of the Health of Children and Young People in Wairarapa Report

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Historical, Economic and Policy Context			
Historical Context	Guest Editorial (Bookmark B)	From a Māori worldview all objects, both living and nonliving have their own mauri or life force. Through this energy and the connections that exist between objects, there are interactions and reactions. The health of Māori children today is a reflection of previous and current interactions. Events that have occurred in the past affect the wellbeing of Māori children today. Looking at the past, the health of Māori children was affected by the wellbeing of their whanau, hapu, iwi and the interactions that took place between tribal groups prior to European contact and events that have taken place since.	
Macro-economic and Policy Environment	Guest Editorial (Bookmark B)	A large body of evidence now suggests that the socioeconomic environments in which children live significantly influence their health and wellbeing. Yet only recently has the health inequalities debate begun to focus on the underlying forces which shape the distribution of socioeconomic resources at a population level. In New Zealand there are 3 aspects of the economic / policy environment which shape the socioeconomic environments in which children live: 1. The effects of New Zealand's major reforms and adjustments to global economic conditions which began in the 1980s. 2. The potential for a future economic downturn, which would create fallout directly affecting children's health and wellbeing. 3. A changing policy context, which has increasingly placed work as the central element of welfare.	
Socioeconomic and Cultural Determinants			
Cultural Identity	Enrolments in Kura Kaupapa Māori (Bookmark C)	Cultural identity is a critical component of positive Māori development and has been positively linked with health, educational achievement and emotional and social adjustment. In New Zealand, kura kaupapa Māori are total immersion schools which follow a curriculum that validates Māori knowledge, learning styles and practices and are key to revitalising the Māori language. Since 1992, there has been a 5.7-fold increase in the number of kura kaupapa Māori and kura teina, with the number of children enrolled increasing from 4,964 in 2000 to 6,160 in 2006.	In the Wairarapa during 2007, there was 1 kura kaupapa Māori, which enrolled a total of 102 students.

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Economic Standard of Living	Children in Families with Restricted Socioeconomic Resources (Bookmark B)	During 1988-2004, New Zealand saw large increases in the number of children and young people living below the poverty line and while improvements have occurred during the past decade, the proportion living below the poverty line has not yet recovered to its 1987-1988 levels. In addition, Māori and Pacific children, those living in sole parent families and those in families reliant on income tested benefits are much more likely to be growing up with restricted socioeconomic resources. While family resources in turn have a profound influence on many of the health outcomes highlighted in this report, the distribution of resources available to families is also profoundly influenced by the historical, economic and policy factors discussed in the sections above.	
	Children Reliant on Benefit Recipients (Ideal B-C)	During 2000-2007, the proportion of all New Zealand children <18 years who were dependent on a benefit recipient fell from 27.0% in 2000 → 19.3% in 2007. A large proportion of this decrease was due to a fall in the number relying on unemployment benefit recipients. While the proportion of children reliant on DPB recipients also fell, more rapid declines in those reliant on unemployment benefits saw the proportion of benefit dependent children relying on DPB recipients actually increasing during this period.	In April 2007, there were 1,869 children <18 years reliant on beneficiaries who received their benefits from Service Centres in the Wairarapa. Of these, the majority were reliant on DPB recipients, with a smaller % reliant on unemployment, sickness and invalid's benefits and other income supports.
	Household Crowding (Ideal B)	The associations between substandard housing and poor health have been known for several centuries, with reports from as early as the 1830s attributing high rates of infectious disease to overcrowded, damp, and poorly ventilated housing. In New Zealand, crowding is strongly correlated with meningococcal disease, while overseas reports also demonstrate correlations with a number of infectious diseases and mental health issues.	In the Wairarapa during 2006, 9.8% of children and young people lived in crowded households vs. 16.5% nationally. There were ethnic and socioeconomic differences in household crowding in the Wairarapa, with 19.0% of Māori children and young people living in crowded households vs. 5.6% of European children and young people. Similarly crowding rates increased from 3.5% for those in the most affluent areas, to 27.2% for those in the most deprived areas. While similar disparities were seen nationally, at nearly every level of deprivation, crowding in the Wairarapa was lower than the NZ average.

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Economic Standard of Living	Young People Reliant on Benefits (Ideal B-C)	<p>While adolescence is for many young people, a time for investing in learning and acquiring new skills, it is also a time of vulnerability. While the majority of young people successfully complete their years of secondary education and continue on to further training and employment, a significant minority are unable to support themselves financially for a variety of reasons.</p> <p>In New Zealand during 2000-2007, there was a rapid decline in the number of young people receiving unemployment benefits, although the numbers receiving the DPB declined more slowly and the numbers receiving sickness and invalid's benefits increased. Thus while in 2000, unemployment benefits were the most frequent form of income support received by NZ young people, by 2007 the DPB was the most common type of benefit received.</p>	<p>In the Wairarapa during 2000-07, there was a rapid decline in the number of young people on unemployment benefits, although the numbers on domestic purposes benefits declined more slowly and the numbers on sickness benefits increased. Thus while in 2000, unemployment benefits were the most frequent form of income support received by Wairarapa young people, by 2007 domestic purposes benefits were the predominant benefit type in the region.</p>
Education: Knowledge and Skills	Prior Participation in Early Childhood Education (Proxy C)	<p>Research suggests that participation in high quality early childhood education (ECE) has significant long term benefits. In New Zealand during 1990-2006, the number of children enrolled in ECE increased by 55.8%, with the largest increases being in Education and Care Services, Home Based Services and License Exempt Playgroups. In addition, during 1997-2006 the number of hours children spent in ECE increased for all Service types, with the exception of Playcentres and Te Kohanga Reo. In New Zealand during 2000-2006 the proportion of new entrants reporting prior participation in ECE increased from 91.0% to 94.5% and while rates remained higher for European &gt; Asian / Indian &gt; Māori &gt; Pacific children and those attending affluent schools, in absolute terms rates increased most rapidly for Pacific children.</p>	<p>In the Wairarapa during 2000-06, rates of prior participation in ECE remained relatively static, and were similar to the NZ average. When broken down by ethnicity, prior participation rates were generally higher for Wairarapa European children.</p>
	Educational Attainment at School Leaving (Ideal B)	<p>In New Zealand during the past decade, educational attainment at school leaving has fluctuated, in part as a result of changes in prevailing labour force conditions and the availability of alternative forms of tertiary education. While there have been marked increases in the proportion of students achieving a University Entrance Standard since the introduction of the NCEA, care must be taken when interpreting these trends, as the old and new qualification structures may not be strictly comparable.</p>	<p>In the Wairarapa during 1995-06, the % of young people leaving school with little or no formal attainment was similar to / lower than the NZ average, while the % leaving with a UE Standard was similar. A higher % of Māori young people left school with little or no formal attainment, while a higher % of European young people left with a UE standard.</p>

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Education: Knowledge and Skills	Senior Secondary School Retention (Ideal C)	While school retention rates for NZ young people have fluctuated in the past decade, socioeconomic and ethnic disparities have remained, with retention rates being lower for Māori students and those attending schools in the most deprived areas. These ethnic differences need to be viewed in the context of alternative educational opportunities available to students however. In NZ during 1998-05, there were large increases in tertiary participation rates, particularly for Māori students taking Certificate Level 1-3 courses. There were also longer term increases in Māori students participating in bachelor level study during 1994-05. While the majority of these increases were in the 25+ age group, such figures suggest that for many, participation in education does not cease at school leaving, although the income premiums achieved by various types of study need also to be taken into account in this context..	In the Wairarapa during 2002-06, school retention rates at 16 and 17 years were similar to / lower than the NZ average. Once broken down by ethnicity, ethnic differences were evident, with retention rates at both 16 and 17 years being lower for Māori than for European students. Retention rates for both ethnic groups however, were very similar to their respective NZ ethnic specific averages.
	Stand-downs, Suspensions, Exclusions and Expulsions (Proxy B)	In NZ during 2000-06, the number of suspensions, exclusions and expulsions declined, while the number of stand-downs increased. The main reasons for suspensions and exclusions were continual disobedience, physical assaults on other students or staff and drug use, with higher rates being reported amongst secondary school students, those aged 13-15 years, males and Māori students. In part, some of the decline in suspension rates during 2000-06 may be due to the Suspension Reduction Initiative, operating since 2001 in a number of secondary schools with historically high suspension rates.	In the Wairarapa during 2000-06, while stand-downs and exclusions were similar to the NZ average, suspension rates were higher. Once broken down by ethnic group, suspension rates were higher for Wairarapa Māori students.
Primary Health Care Provision and Utilisation	Primary Health Care Provision and Utilisation (Bookmark C)	<p><b>Primary Care:</b> In NZ, PHOs are the primary vehicle through which first-level health services are accessed. In 2006, 98% of children and 93% of young people were enrolled with a PHO, with the lowest enrolment rates being in children &lt;1 year and Asian/Indian young people 15-24 years. Survey data also suggest that up to 13% of children and 20% of young people experience problems accessing a GP, with the commonest barrier being cost.</p> <p><b>Well Child:</b> At present no register of Well Child visits exists and thus the % of NZ children attending Well Child visits is unknown. Plunket enrolls &gt;90% of births in NZ and of those enrolled who turned 1 in 2006, 98% attended at least 2 Core Visits, and 77% attended 4-5 of the 5 Core visits scheduled for their first year. Māori &amp; Pacific children &amp; those in the more deprived areas were less likely to attend core visits although those in the most deprived areas attended more additional visits, thus on average receiving a greater total number of Well Child visits than those in more affluent areas.</p>	

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Risk and Protective Factors			
Nutrition, Growth and Physical Activity	Breastfeeding (Proxy C)	<p>Breastfeeding meets a term infant's nutritional needs for the first 4-6 months of life, as well as providing protection against a wide range of infections and non-infectious diseases. In New Zealand during 1999-2006, while the % of babies who were exclusively / fully breastfed at &lt; 6 weeks remained relatively static, there were small increases in the % of babies still breastfed at 3 and 6 months. During 2006, breastfeeding rates at &lt;6 weeks were highest amongst European / Other women and lowest amongst Asian women. At 3 and 6 months however, breastfeeding rates were highest for European / Other women and lowest for Māori women, with a marked tapering off in exclusive / full breastfeeding rates for all ethnic groups as infants age increased. There were also marked socioeconomic differences in the % of babies exclusively or fully breastfed during this period, with rates at all three ages being higher for babies living in the most affluent areas.</p>	<p>During 2005-06, breastfeeding rates at 6 weeks, 3 months and 6 months in the Wairarapa were higher for European women, although rates for both Maori and European women were similar to NZ ethnic specific averages. Thus during 2005-06, none of the Wairarapa's largest ethnic groups achieved the MOH's 2005 targets of 74% at 6 weeks, although European women achieved the targets of 57% at 3 months and 21% at 6 months.</p>
	Overweight and Obesity (Bookmark B)	<p>While no regional data was available, a review of the available New Zealand data on overweight and obesity suggested:</p> <ol style="list-style-type: none"> <li>1. <b>Prevalence:</b> While estimates vary, NZ data collected since 2000 suggests that ≈ 20% of NZ children are overweight and ≈10% are obese.</li> <li>2. <b>Trends over Time:</b> Of the 2 studies tracking the pace of the obesity epidemic amongst NZ children, both suggest that it is progressing relatively rapidly, with the proportion who are overweight or obese increasing 2-3 fold over the past decade.</li> <li>3. <b>Ethnic Disparities:</b> All of the NZ studies reviewed noted higher rates of overweight and obesity for Pacific &gt; Māori &gt; European children and adolescents. These findings must be viewed in the context of an earlier average age of puberty for Pacific and Māori girls, as well as ethnic differences in the ability of BMI to approximate total body fat composition.</li> <li>4. <b>Socioeconomic Disparities:</b> The NZ Children's Nutrition Survey suggests that obesity may exhibit a modest socioeconomic gradient, with rates being higher amongst those in the most deprived areas.</li> </ol> <p>These findings suggest that the current levels of overweight and obesity amongst NZ children are a significant public health concern and that unless sound policies and strategies are put in place to address this issue, the socioeconomic and ethnic disparities seen will lead to disparities in chronic diseases such as diabetes and CVD as this generation reaches maturity.</p>	

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Nutrition, Growth & Physical Activity	Nutrition (Bookmark B)	<p>The Children’s Nutrition Survey provided a number of insights into the nutritional intake of NZ children. These included:</p> <ol style="list-style-type: none"> <li>1. Total energy intake, when broken down by ethnicity and socioeconomic status, did not mirror current disparities in obesity, with Māori children having higher total caloric intakes than European children, yet Pacific children having the highest obesity rates. In addition, while socioeconomic gradients in obesity were prominent, socioeconomic gradients in total caloric intake were not. In contrast, the % of daily intake derived from fat did correspond more closely with ethnic and socioeconomic gradients in obesity, with Pacific and Māori children and females in the most deprived areas having a higher % of their daily intake derived from fat.</li> <li>2. While the majority of children brought the food they ate at school from home, this declined as children grew older. In addition, a higher % of Pacific &gt; Māori &gt; European / Other children and those in the most deprived areas relied on school canteens or local food outlets.</li> <li>3. Food security remained an issue for larger families, those in the most deprived areas &amp; for Pacific &amp; Māori families, with many saying that they could not always afford to eat properly, and that they often or sometimes ran out of food.</li> </ol>	
	Physical Activity (Bookmark C)	<p>Physical activity remains one of the mainstays of NZ’s current Healthy Eating, Healthy Action Strategy and understanding its determinants is of value in identifying intervention points for the current obesity epidemic. The NZ Children’s Nutrition Survey provides limited information on physical activity in children, while the NZ Sport &amp; Physical Activity Surveys have monitored participation in active sport and leisure since 1997. While methodological differences prevent direct comparisons, a number of themes emerge:</p> <ol style="list-style-type: none"> <li>1. Approximately 32% of NZ children 5-17 years are inactive.</li> <li>2. Girls are more likely to be inactive than boys.</li> <li>3. The % of inactive children and young people increases with age.</li> <li>4. The physical activity levels of children and young people are influenced by the activity levels of their parents.</li> <li>5. During 1997-2001, the overall physical activity levels of NZ children and young people may have declined.</li> </ol> <p>Ethnic differences in physical inactivity levels however were more difficult to interpret due to methodological differences between these two surveys.</p>	

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Substance Use	Exposure to Cigarette Smoke in the Home (Proxy B)	<p><b>ASH Data:</b> In NZ during 2006, ASH Surveys suggested that 39.9% of Year 10 students had a parent who smoked and that parental smoking rates were higher for Māori &gt; Pacific &gt; European / Other &gt; Asian students and those attending schools in the most deprived areas. While socioeconomic and ethnic disparities were also observed for exposure to smoke in the home, exposures were lower than parental smoking rates might predict, potentially suggesting the presence of in-house non-smoking policies among families of all socioeconomic and ethnic groups. <b>Census Data:</b> Data from the 2006 Census suggested that 35.3% of New Zealand children 0-14 years lived in a household with a smoker, with exposures being higher for Māori &gt; Pacific &gt; European &gt; Asian / Indian children and those in the most deprived NZDep areas.</p>	<p><b>ASH Data:</b> In the Wairarapa during 2001-06, the % of Year 10 students with parents who smoked remained relatively static (48.6% in 2001→ 45.7% in 2006), while the % living in homes where people smoked inside declined (41.7% in 2001→ 30.4% in 2006). Rates for both outcomes were higher than the NZ average and trends were consistent with those nationally. <b>Census Data:</b> During 2006, 42.5% of Wairarapa children lived in a household with a smoker, with rates being higher for Maori children and those in the most deprived areas. In addition, at each level of NZDep deprivation, the % of children living in a household with a smoker was higher than the NZ average.</p>
	Tobacco Use in Young People (Ideal B)	<p><b>ASH Data:</b> ASH Surveys suggest that in NZ during 1999-06, daily smoking rates among Year 10 students were highest amongst females, Māori &gt; Pacific &gt; European / Other &gt; Asian young people, those in the most deprived areas and those for whom one or both parents smoked. During 1999-2006, daily smoking rates declined for all ethnic and socioeconomic groups, although declines were less rapid for students attending schools in the more deprived areas and for those for whom both parents smoked. <b>Census Data:</b> Data from the 2006 Census suggested that 21.8% of young people (15-24 yrs) were regular smokers, with rates being higher for Maori &gt; &gt; Pacific and European &gt; Asian / Indian young people and those in the most deprived areas.</p>	<p><b>ASH Data:</b> In the Wairarapa during 1999-06, the % of Year 10 students who were daily smokers declined, from 18.8% in 1999→ 6.2% in 2006, while the % who had never smoked increased, from 27.2% in 1999→ 46.0% in 2006. During this period, smoking rates in the Wairarapa were similar to / higher than the NZ average, while the % who had never smoked was lower. <b>Census Data:</b> During 2006, 27.1% of Wairarapa young people were regular smokers, with rates being higher for Māori young people and those in the most deprived areas.</p>

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
	Alcohol Related Harm (Bookmark C)	In NZ during 2002-06, alcohol related hospital admissions were highest for those in their late teens / early 20s, for Māori young people and those in the most deprived areas. Reasons for admission included acute intoxication, mental health issues and injuries, with the latter commonly arising from episodes of self harm, assault or motor vehicle accidents. Significant methodological constraints must be taken into consideration when interpreting these findings, as with the removal of emergency department cases, these figures reflect the more severe end of the spectrum.	
Individual and Whanau Health and Wellbeing			
Individual and Whanau Health and Wellbeing	Most Frequent Causes of Hospital Admission (Proxy B-C)  Mortality (Ideal B)		In the Wairarapa during 2000-04, injuries were the leading cause of death for both children and young people. For Wairarapa children during 2002-06, the most frequent reasons for acute admissions were injuries and gastroenteritis; for arranged admissions they were dental conditions and cancer / chemotherapy; and for waiting list admissions they were for grommets and dental procedures. For Wairarapa young people, pregnancy and childbirth were the leading causes of admission. In terms of other admissions, injuries and mental health issues were the leading causes of acute admissions, while injuries and cancer / chemotherapy were the leading reasons for arranged admission. Surgery on the skin and procedures on the tonsils and adenoids were the leading causes of waiting list admissions for those 15-24 years.

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
	Family Composition (Proxy C)	In NZ during the past 25 years, there has been a marked shift away from two-parent families, with the proportion of single parent families increasing from 10.4% in 1976 to 29.2% in 2001. During 2006, while the proportion living in sole parent households increased with increasing NZDep deprivation for each of New Zealand's largest ethnic groups, at nearly every level of deprivation, ethnic differences remained, with the proportion living in sole parent households being higher for Māori > European and Pacific ≥ Asian / Indian children.	In the Wairarapa during 2006, 23.9% of children lived in a sole parent household vs. 25.2% nationally. There were ethnic and socioeconomic differences in the Wairarapa during this period, with 37.0% of Māori children living in sole parent households vs. 18.7% of European children. Similarly, rates rose from 6.7% for those in the most affluent areas, to 48.2% for those living in the most deprived areas.
Perinatal and Infancy	Low Birth Weight: SGA and Preterm Birth (Ideal B-C)	Low Birth Weight (a birth weight <2,500g), is determined by two factors, the duration of gestation and fetal growth. Babies are born LBW either because they are preterm (<37 weeks) or because they have failed to grow adequately in utero. In NZ during 1980-06, rates of preterm birth increased and then reached a plateau, while rates of small for gestational age (SGA) declined. During 1996-06, rates of preterm birth were higher for Māori babies, males and those in the most deprived areas, while rates of SGA were higher for Asian / Indian and Māori babies and those in the most deprived areas. While low birth weight infants have higher mortality and morbidity, it is difficult to determine whether NZ's recent rise in preterm birth will have detrimental impacts, as it is unclear whether they are due to increasing obstetric intervention or whether they reflect a true rise in spontaneous preterm birth.	In the Wairarapa during 1980-06 small numbers made precise interpretation of trends difficult, although rates of SGA were generally lower than the NZ average and declined in a manner consistent with New Zealand wide trends.
	Infant Mortality (Ideal B)	In NZ during 1988-04, mortality from SIDS & congenital anomalies continued to decline, while mortality from extreme prematurity & other perinatal conditions increased during the past 3-4 years. During 2000-04, the most frequent causes of neonatal mortality were extreme prematurity and congenital anomalies, with mortality being highest during the first week of life. In contrast, the most frequent causes of post-neonatal mortality were SIDS, followed by congenital anomalies. In addition, a large number of babies died from suffocation in bed, although it is possible that some of these deaths may have been coded as SIDS in previous years. Mortality was greatest during the first 6 months of life, with progressively fewer deaths occurring as infants approached 1 year of age. Risk of SIDS was significantly higher for Māori and Pacific infants and those in the most deprived NZDep areas.	In the Wairarapa during this 1988-04, while small numbers made precise interpretation of trends difficult, in general total and post-neonatal mortality rates declined. While rates of post-neonatal mortality were similar to the NZ average, small numbers made differences in total and neonatal mortality difficult to interpret.

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Well Health	Immunisation (Proxy B-C)	Immunisation is among the most successful and cost-effective public health interventions and access to immunisation is a priority population objective of the NZ Health Strategy. Immunisation coverage rates have increased in recent years, with the % of children fully immunised at 2 years increasing from <60% in 1991/92 to 77% in 2005. Immunisation programme initiatives including the formation of immunisation outreach services and the implementation of the National Immunisation Register are likely to result in continued improvements and are necessary, if the Ministry of Health's target of 95% of children fully immunised at 2 years is to be achieved.	During the second quarter of 2007, 65.7% of Wairarapa children were fully immunised at 6 months of age, as compared to 59.3% for NZ as a whole. Similarly 86.8% of Wairarapa children were fully immunised at 12 months, and 66.7% at 18 months, as compared to national coverage rates of 81.0% and 63.7% respectively.
Well Health	Hearing Screening (Ideal C)	Hearing in infants and young children is essential for speech and language development and its loss during early life may lead to disability, the extent of which depending on the severity and timing of the loss. While there has been a gradual decline in the % of New Zealand children failing their school entry audiometry tests during the past 14 years, large ethnic disparities remain, with failure rates being higher for Pacific and Maori children.	In the Wairarapa during 1993-06, large year to year fluctuations made regional hearing screening data difficult to interpret.
	Oral Health (Ideal C)		In the Wairarapa during 2000-06, the % children caries free at 5 years was lower than the NZ average for those living in areas with fluoridated water supplies, while mean DMFT scores at 12 years were similar. In non-fluoridated areas the percentage of children caries free at 5 years was similar to the NZ average, while mean DMFT scores at 12 years were lower. However, only children who have been assessed, completed treatment, and who are still 5 yrs or 12 of age at the end of their treatment contribute data to this analysis. In 2006, coverage in the Wairarapa was 74.0% at 5 years and 86.4% at 12 years, potentially suggesting that the numbers of children with poorer oral health outcomes may be underestimated in this analysis.

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Safety	Total and Unintentional Injuries (Admissions Proxy C Mortality Ideal B)	<p><u>All Injuries:</u> In NZ during 2000-04, vehicle occupant accidents were the leading cause of injury related mortality for those 0-24 years, although suicide deaths were of prominent for those 15-24 years and accidental threats to breathing were prominent for those &lt;1 year. <u>Unintentional Non-Transport Injury</u> (e.g. falls, mechanical forces, drowning, burns, poisoning) admissions were highest for those 1-2 years, with males being overrepresented in both admissions and mortality, particularly during their late teens and early 20s. When broken down by cause, admissions for falls peaked at 5 years, while accidental poisoning, inanimate mechanical forces and exposure to electricity / fire / burns were highest for those 1-2 years. Admissions were also higher for Pacific and Māori children and young people, males and those in the more deprived areas. <u>Land Transport Accidents:</u> During 2002-06, the majority of admissions for vehicle occupant injuries were traffic related (90.7%), in contrast to only 67.3% of pedestrian injuries, 43.9% of cyclist injuries and 37.1% of motorbike injuries. Admissions increased throughout childhood, reaching a peak in the late teens / early twenties and thereafter declined. With the exception of the first 2 years of life, admissions were higher for males. Mortality was also higher for those in their late teens / early 20s and males.</p>	<p><u>All Injuries:</u> In the Wairarapa during 2002-06 falls, followed by inanimate mechanical forces were the leading causes of hospital admissions in children. Falls followed by injuries sustained while young people were the occupants of a vehicle however, were the leading causes of admissions young people.</p> <p><u>Unintentional Non-Transport Injuries:</u> In the Wairarapa during 1990-04, 10 children and young people died as the result of a non-transport related injury.</p> <p><u>Land Transport Accidents:</u> In the Wairarapa during 1990-04, 48 children and young people died as the result of a land transport accident.</p>
	Injuries Arising from Assault (Admissions Proxy C) (Mortality Ideal B)	<p><u>Children 0-14 Years:</u> Research suggests that 4-10% of NZ children experience physical abuse and 11-20% experience sexual abuse during childhood and that the long term consequences are significant. In NZ during 2002-06, hospital admissions for the assault, neglect or maltreatment of children exhibited a U-shaped distribution, with rates being highest for those &lt; 2 years and those &gt; 11 years of age. In contrast, mortality was highest amongst children &lt; 1 year. While the gender balance was relatively even during infancy and early childhood, admissions for males became more prominent as adolescence approached. Admissions were also higher for males, Māori and Pacific children, and those in the most deprived areas.</p> <p><u>Young People 15-24 Years:</u> In NZ during 2002-06, hospital admissions for assault in young men increased with age, reaching a peak in the mid-late teens and thereafter declining. In contrast, admissions for young women varied less with age and in addition, were lower than for males at all ages from 15-24 years. Hospital admissions were also higher for Māori and Pacific young people and those in the most deprived areas.</p>	<p><u>Children 0-14 Years:</u> In the Wairarapa during 1990-06, admissions for the assault, neglect or maltreatment of children fluctuated markedly. For the majority of this period, admissions in the Wairarapa were similar to the NZ average. During 1990-04, 11 Wairarapa children died as the result of an assault.</p> <p><u>Young People 15-24 Years:</u> In the Wairarapa during 1990-06, admissions for assault in young people remained relatively static. For the majority of this period, rates in the Wairarapa were higher than the NZ average. During 1990-04, 4 Wairarapa young people died as the result of an assault.</p>

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Safety	CYF Notifications (Proxy C)	<p>During the 1990s New Zealand ranked 3<sup>rd</sup> highest amongst rich nations for its child maltreatment death rates. In New Zealand, the agency with the statutory responsibility for protecting children from recurrent abuse is Child Youth and Family (CYF), who receive notifications from a variety of sources including the police, the education and health sectors, families / whanau and the general public. Since 2001, notifications recorded by CYF have doubled and while it is often assumed that this reflects an increase in the rate of child abuse, recent research suggests that changes in the behaviour of the child protection system itself may also have played a role.</p>	<p>In the Wairarapa during 2006 there were 982 notifications recorded by CYF Offices, with 53.8% requiring further investigation. While this reflects an increase since 2001, when 611 notifications were recorded, the % requiring further investigation declined (88.2% required further investigation in 2001). Of notifications investigated further during 2001-06, a large % resulted in no abuse being found. Nevertheless, evidence suggests that only 20% of avoidable child deaths in NZ are known to CYF and it is likely that many of the victims of child abuse presenting to health care settings each year remain undetected.</p>
	Family Violence (Proxy C)	<p>For children, exposure to family violence is of concern, not only because of the long term consequences such exposures have for psychological wellbeing, but also because of the potential overlaps between child abuse and partner abuse in families. In NZ during 2006, children were present at 51.5% of the family violence incidents attended by Police. In 50% of cases, the victim was the spouse / partner of the offender, with a further 23% having been in a previous relationship and in 15% of cases the conflict was between a parent and child. Overall, 39% of victims were Māori, 38% were Caucasian, 10% were Pacific and 2% were Asian and Indian respectively. While in 82% of cases injuries were not reported, in 526 cases (0.85%) a hospital attendance was required and in 23 cases (0.04%) the incident resulted in a death.</p>	<p>While it is difficult to use Police data to comment on trends in the prevalence of family violence due to changes in the way in which the Police have recognised and recorded family violence over time, what Police data does suggest is that a large number of family violence incidents are occurring in the Wairarapa region each year and that children are likely to be present at a large proportion of these.</p>

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Infectious Diseases	Serious Bacterial Infections Admissions (Proxy B) Mortality (Ideal B)	In NZ during 1990-06, there were large increases in the number of children and young people admitted to hospital with serious bacterial infections. In absolute terms, much of this increase was due to a large rise in admissions for serious skin infections, with admissions for all other causes either remaining static or increasing (with the exceptions of meningococcal disease and meningitis, which both exhibited a downward trend during the early-mid 2000s). During 2002-06, admissions for serious bacterial infections also varied with age, with admissions for meningitis being highest <1 year, admissions for osteomyelitis being more common during the childhood years and admissions for septic arthritis and mastoiditis being more common <5 years of age. Admissions were also higher for Pacific > Māori > European > Asian / Indian children and young people, males and those living in the most deprived areas.	In the Wairarapa during 1990-06, hospital admissions for serious bacterial infections increased in a manner consistent with NZ trends. Throughout this period however, admissions in the Wairarapa were lower than the NZ average.
	Meningococcal Disease Admissions (Proxy B) Mortality (Ideal B)	During the 1990s NZ experienced a large increase in the number of hospital admissions and deaths from meningococcal disease, although numbers have tapered off markedly since 2002-03. During 1996-06, while admissions for meningococcal disease declined for all ethnic groups, in absolute terms reductions were greatest for Pacific children and young people. Despite this, during 2002-06 hospital admissions for meningococcal disease were higher for Pacific and Māori children and young people, males and those in the most deprived areas. In addition, admissions and mortality were also higher amongst children <5 years of age, although a smaller peak also occurred amongst those in their mid to late teens.	In the Wairarapa, meningococcal disease admissions increased rapidly during the early 1990s, reached a peak in 2000-01 and then declined. Admissions during 2006 were the lowest since 1990. During 1990-04, 1 Wairarapa child / young person died from meningococcal disease.
	Rheumatic Fever Admissions (Proxy B) Mortality (Ideal B)	In NZ during the past decade, hospital admissions for rheumatic fever and rheumatic heart disease remained relatively static, while mortality averaged 1-3 cases per year. During 2002-06, rheumatic fever admissions peaked in late childhood / early adolescence, while rheumatic heart disease admissions were relatively constant >5 years of age. In contrast, deaths due to acute rheumatic fever and rheumatic heart disease were most frequent during the teenage years. Admissions for rheumatic fever were also higher for Pacific and Māori children and young people, males and those in the most deprived areas.	In the Wairarapa during 1990-06 small numbers meant data on hospital admissions for acute rheumatic fever and rheumatic heart disease were difficult to interpret. During 1990-04 no children or young people in the Wairarapa died as the result of rheumatic fever or heart disease.

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Infectious Diseases	Skin Infections Admiss (Proxy B-C) Mortality (Ideal B)	During the past decade, New Zealand's hospital admission rates for serious skin infection have risen progressively, with the most rapid increases occurring during the mid-late 1990s. During this period however, only one death was attributed to a serious skin infection in this age group. During 2002-2006, hospital admissions for serious skin infection had a bi-modal distribution, with the highest rates occurring amongst children <5 years, followed by young people in their late teens and early 20s. Rates were also higher for Māori and Pacific children and young people, males and those in the most deprived areas.	In the Wairarapa during 1990-06, admissions for skin infections increased for both children and young people, although rates for children were lower than the NZ average for the majority of this period. During 1996-06, while admissions increased for both Māori and European children and young people, rates remained higher for Māori children and young people.
	Tuberculosis Admiss (Proxy B-C) Mortality (Ideal B)	In NZ during the late 1990s-early 2000s, hospital admissions for TB gradually increased, although more recently they have begun to taper off. In addition, during 1990-04, 3 NZ children / young people died from TB. During 2002-06, TB admissions were higher for young people in their late teens / early 20s, those in the most deprived areas, females and non-Europeans.	In the Wairarapa during 1990-06, TB admissions fluctuated markedly. During 1990-04 there were no deaths from TB in Wairarapa children and young people.
	Gastroenteritis Admissions (Proxy C) Mortality (Ideal B)	In NZ hospital admissions for gastroenteritis in children and young people have increased in recent years, while deaths have remained static at ~1-2 cases per year. During 2002-06, admissions for gastroenteritis were highest for children during their first year, while mortality during 2000-04 followed a similar pattern. Admissions for children 0-14 years were also higher for those in the most deprived areas & Pacific and Asian / Indian children, with hospital admissions for those 0-24 years increasing for all ethnic groups in 1996-06.	During 1990-06, while gastroenteritis admissions in Wairarapa children and young people increased, rates for both age groups were similar to / slightly higher than the NZ average. Despite this, there were no gastroenteritis deaths in the Wairarapa during 1990-04. During 1996-06 admissions increased for both Māori and European children and young people, with few differences being evident between the two ethnic groups.
Respiratory Diseases	Lower Respiratory Morbidity & Mortality Admiss (Proxy B-C) Mortality (Ideal B)	In NZ, a large burden of morbidity and mortality during childhood is attributable to respiratory diseases. During 2002-06, asthma and bronchiolitis were the leading causes of lower respiratory admissions in NZ children, accounting for 65.7% of lower respiratory admissions in this period. In contrast, pneumonia accounted for 63.6% of lower respiratory deaths during 2000-04. During 2002-06 admissions for lower respiratory conditions in NZ were higher for those <5 years, Pacific & Māori children and those in the most deprived areas.	In the Wairarapa during 1990-06, while asthma admissions declined, admissions for lower respiratory infections increased rapidly during the 1990s, reached a peak in 1998-99 and then declined.

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Respiratory Diseases	Bronchiolitis Admiss (Proxy B-C) Mortality (Ideal B)	In NZ, hospital admissions for bronchiolitis in infants <1 year rose steadily during the 1990s and early 2000s, although data for 2004-06 suggest that rates may be beginning to taper off. In contrast mortality, which initially decreased during the early 1990s, has remained relatively static at 1-2 deaths per year, during the last 12 years for which data was available. Bronchiolitis is predominantly a disease of infancy, with the majority of hospital admissions and deaths occurring during the first year of life. In addition to young age, hospital admissions for bronchiolitis are higher for Pacific and Māori infants, males and those living in the most deprived areas.	In the Wairarapa during the 1990s, bronchiolitis admissions increased, peaking in 2000-01 and then declining. While rates in the late 1990s were higher than the NZ average, rates were similar in the last 3 years. During 1990-04, there were no bronchiolitis deaths in the Wairarapa. During 1996-06, admissions were higher for Māori infants..
	Pertussis Admiss (Proxy B-C) Mortality (Ideal B)	During the past 17 years, pertussis epidemics have occurred in NZ at regular 3-5 year intervals, with hospital admissions for children <1 year following a similar pattern. In addition, during the past 5 years for which data was available, a total of 4 deaths were attributed to pertussis. While pertussis may affect any age group, it is among children <1 year of age that the disease is most severe, with the majority of hospital admissions and all recent deaths occurring in this age group. In addition, during 2002-06 admissions for pertussis were highest for Pacific and Māori infants and those in the most deprived areas.	During 1990-06, while Wairarapa experienced episodic outbreaks of pertussis, which occurred both in conjunction with, and outside of larger national epidemics, in this period only 15 infants were admitted to hospital with pertussis. During 1990-04 there were no pertussis deaths in the Wairarapa.
	Pneumonia Admiss (Proxy B-C) Mortality (Ideal B)	In NZ during the past 16 years, both pneumonia admissions and mortality have remained relatively static. During 2002-06, pneumonia admissions were highest for infants and children 1-2 years of age, Pacific and Māori children, males and those in the most deprived areas. Mortality was highest for those <1 year of age.	In the Wairarapa, pneumonia admissions in children increased during the 1990s, reached a peak in 1998-99 and then declined. Admissions for young people remained relatively static. During 1990-04 there were 3 pneumonia deaths in Wairarapa children and young people. During 1996-06, while admissions declined for both European and Māori children & young people, rates remained higher for Māori children & young people.
	Bronchiectasis Admiss (Proxy B-C) Mortality (Ideal B)	In NZ hospital admissions for bronchiectasis have increased dramatically during the past decade, while deaths have remained more static. Care must be taken when interpreting these trends, as it remains unclear whether they represent an increase in the underlying burden of disease, or an increase in the use of High Resolution CT to diagnose bronchiectasis in this population. During 2002-06, hospital admissions were highest for children 0-14 years, Pacific & Māori children & young people and those in the most deprived areas.	During 1990-06, bronchiectasis admissions for children and young people in the Wairarapa remained relatively static. In addition, during 1990-04 there were no bronchiectasis deaths amongst children and young people in the Wairarapa.

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Respiratory Diseases	Asthma Admiss (Proxy B-C) Mortality (Ideal B)	In NZ during the past decade asthma admissions amongst children and young people have gradually declined, although 2004-06 saw an increase in admissions amongst children 0-14 years. In contrast, mortality remained relatively static during this period. While hospital admissions during 2002-06 were highest amongst children <5 years of age, mortality during 2000-04 was highest amongst adolescents and those in their early 20s. Hospital admissions were also higher for children in the most deprived areas, males and Pacific, Māori and Asian / Indian children.	In the Wairarapa during 1990-06, asthma admissions in children and young people declined. During this period, admissions were similar to the NZ average. During 1990-04, there was 1 asthma death in Wairarapa children and young people. During 1996-06, asthma admissions were higher for Māori children and young people.
Chronic Conditions	Diabetes & Epilepsy (Bookmark C)	Type 1 diabetes and epilepsy are two conditions which impact significantly on the health and wellbeing of children and young people. They also have significant implications for health care resourcing. In NZ during the past two decades, the incidence of Type 1 diabetes has increased, and while less time series information is available for epilepsy, analysis of mortality data during 2000-04 suggests that it a significant cause of mortality in this age group.	During 2002-06, the most common reason for an epilepsy admission in the Wairarapa was for unspecified epilepsy, while for diabetes the most common reason was for Type 1 (Insulin Dependant) diabetes.
	Cancer (Ideal B)	Cancer in NZ children is relatively rare, with just over 1/3 of cases being attributed to leukaemia. Other types, in descending order of frequency are brain, bone and connective tissue, non-Hodgkin's lymphoma and kidney. These 5 sites account for >80% of childhood cancer registrations and >70% of childhood cancer deaths. From a population health point of view, while further research is necessary before evidence based primary prevention strategies can be developed to address the incidence of childhood cancer, ensuring the equitable access to specialist services, family support and the reimbursement of travel / associated costs remains of considerable importance in reducing the burden cancer places on the families of children and young people.	In the Wairarapa during 2000-04, small numbers precluded a more detailed analysis of cancer registrations or mortality.
Disability	Disability Prevalence (Bookmark B-C)	In 2001, the Household Disability Survey estimated that 11% of NZ children (0-14 yrs) had a disability. While little information was available on the precise nature of these disabilities, in general terms they included chronic health problems, sensory impairments, psychological problems, intellectual disabilities, speech, learning and developmental problems and the need for special education or technical equipment. Of those with a disability, 41% had existed from birth, 33% were caused by an illness and 3% resulted from injury.	

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Disability	Congenital Anomalies Evident at Birth (Proxy B-C)	In NZ the number of children born with Down Syndrome has remained relatively static during the past 25 years, while the number with Neural Tube Defects has declined dramatically. In reality, both trends reflect the complex interplay between opposing factors including access to prenatal diagnosis and the selective termination of pregnancy, the personal choices of parents and population level shifts in known (e.g. maternal age) and unknown risk factors.	In the Wairarapa during the past 10 years, on average one baby per year was identified as having Down Syndrome at the time of birth.
	Blindness and Low Vision (Ideal B-C)	While it is difficult to precisely estimate the number of NZ children and young people with visual impairments, the Vision Education Agency suggests that in 2006 1,323 children and young people in NZ required educational support as a result of a visual impairment. These students had a variety of impairments, ranging from low vision → blindness → deaf-blindness → cortical visual impairments and used a variety of communication modalities (e.g. large print, visual aids, Braille and signing systems). In addition, 60.4% had other disabilities which had minor → major impacts on their functional ability.	In the Wairarapa, while no DHB specific data were available, a total of 76 children and young people were enrolled at the Palmerston North Visual Resource Centre, with 20 being involved in early childhood education, 40 being at primary school and 16 attending schools at the secondary level.
	Permanent Hearing Loss (Ideal C)	Hearing loss during the early years is of significant concern, as delays in intervention may lead to impaired language development and long term, may impact negatively on cognitive development, academic performance and subsequent career choice. In NZ each year, approximately 120 children meet the inclusion criteria for the Deafness Notification Database and 20 are admitted to hospital for cochlear implant surgery. Evidence would suggest however, that NZ's current high risk approach to detection is resulting in significant delays, with the average age of detection of moderate or greater loss in 2004 being 45.3 months. It is hoped that the roll out of the Universal Newborn Hearing Programme will lead to a reduction in the age at first detection of hearing loss and better outcomes for these children.	In the Manawatu Region during 1998-04, approximately 9 children per year met the inclusion criteria for the Deafness Notification Database, although as notifications were not broken down by DHB, precisely estimating of the number of children with permanent hearing loss by DHB is difficult.
Mental Health	Issues Experienced by Callers to Telephone Counselling Services (Bookmark / Proxy C)	In New Zealand, the need for child and youth mental health services can be seen as spanning a continuum, with the types of issues being dealt with by child and youth telephone counselling services, at one end reflecting the everyday issues and concerns experienced by many New Zealand children and young people. Analysis of the calls received by the 0800WHATSUP telephone counselling service and Youthline's Youth Help Line Service during 2006 suggests that many of these concerns relate to issues with peer relationships and bullying, although relationships with family and partners (girlfriends and boyfriends) also feature prominently. The large number of calls which were unable to be answered also potentially suggests that there may be a large amount of unmet need in this area.	

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Mental Health	Mental Health Inpatient Admissions (Bookmark / Proxy C)	In NZ during 2002-06, the most common reasons for hospital admissions with mental health issues in young people were for schizophrenia, followed by depression and bipolar affective disorder. The risk factor profiles for these inpatient mental health diagnoses varied markedly, and while the majority of admissions were higher for those in the most deprived areas, admissions for schizophrenia were also higher for males and Māori and Pacific young people. In contrast, admissions for depression were higher for females and European young people, while admissions for bipolar affective disorder were higher for Māori and European young people. Hospital admissions for eating disorders however, while being higher for females and European young people, were significantly lower for those in the most deprived areas.	In the Wairarapa during 2002-06, the most common reason for an inpatient admission with a mental health issue was for issues arising from alcohol and drug use, followed by schizotypal / delusional disorders. While rates for a number of these categories appear to be higher than the NZ average, such figures are difficult to interpret, as many mental health services in NZ are offered on an outpatient basis, and thus access to inpatient mental health services may fail to accurately reflect the true burden of disease, or access to such services in an ambulatory care setting.
	Self Harm and Suicide (Admiss Proxy B-C) (Mortality Ideal B)	Suicide rates for NZ young people increased during the early 1990s, reached a peak in 1996, and thereafter began to decline. During 2004 however, there was again an increase in suicide mortality in this age group. While suicide rates during 2000-04 were highest for young men in their early 20s, hospital admissions for self-inflicted injuries during 2002-06 were highest for young women in their mid to late teens. In addition, self inflicted injury admissions were also higher for European and Māori young people, females and those in the more deprived areas. In contrast, during 2000-04 suicide mortality was higher for Māori young people, males and those in the more deprived areas.	During 1990-06, while hospital admissions for self inflicted injury in the Wairarapa fluctuated markedly, rates were consistently higher than the NZ average. Small numbers meant trends in suicide mortality were more difficult to interpret, although 17 Wairarapa young people (aged 15-24 years) died as the result of suicide during 1990-04.
Sexual and Reproductive Health	Teenage Pregnancy (Ideal B)	Teenage pregnancy encompasses births, terminations and miscarriages amongst women <20 years. While NZ's teenage birth rates declined during 1980-04, teenage pregnancies did not, with a gradual increase in the number of teenagers seeking an abortion. Thus by 2003, for every teenage birth, there was one corresponding therapeutic abortion. During 2002-06, teenage births in NZ were highest for Māori and Pacific women and those in the most deprived areas. Higher teenage birth rates for Māori and Pacific women resulted from both a shift to the left in the maternal age distribution, as well as from higher overall fertility for Māori and Pacific women.	In the Wairarapa during 1990-06, teenage birth rates were higher than the NZ average. During 1996-06, teenage birth rates were higher for Māori women, although teenage birth rates for both Māori and European women were similar to NZ ethnic specific averages.

Stream	Current Indicators: Type & Data Quality	New Zealand Level Distribution and Trends	Wairarapa Distribution and Trends
Sexual and Reproductive Health	Sexually Transmitted Infections (Bookmark C)	National laboratory based surveillance during 2001-06 suggested that chlamydia and gonorrhoea were both relatively common infections amongst those aged <25 years and that rates for both conditions were exhibiting a general upward trend.	While no rate data was able to be extrapolated from Sexual Health and Family Planning Clinic data during this period, notifications from these clinics also suggested that chlamydia, gonorrhoea, genital warts and genital herpes were relatively common amongst the Wairarapa youth population.

