

CHILD HEALTH	2
Strategic context	2
Definition	3
Demography	3
Demographic Status	5
Breast feeding	5
Low birthweight	6
Mortality	7
Infant Mortality	7
Avoidable Mortality	7
Morbidity	8
Hospitalisations	8
Notifiable Diseases	9
Pertussis (Whooping cough)	9
Meningococcal Disease	9
Oral Health	10
Missing and filled teeth score [MFT] at year 8.	10
Percentage of students caries free at year 8.	10
Hearing failure	11
Immunisation	11
Conclusion	12

CHILD HEALTH

Key Findings

All DHB Strategic Plan Child Health key indicators of performance show good improvement and progress towards targets.

- The overall number of children, and their proportion of the total population, is projected to decline.
- There are more children in the Wairarapa living in highest deprivation areas [NZDep2001 quintiles 4 & 5] than there are in New Zealand as a whole.
- Breastfeeding rates are consistently lower for Maori and Pacific people.
- The Wairarapa low birthweight rate is significantly below the national rate for the period 2000/01
- For infants and children under 14 years of age in the Wairarapa (and NZ overall) SIDS is the leading cause of avoidable death
- Ear nose and throat conditions make up the highest proportions of avoidable hospitalisations followed by respiratory infections and gastroenteritis.
- Ambulatory sensitive hospitalisation rates are higher than the national rate and declining at a slower rate.
- The rate of meningococcal disease was lower than the national rate in 2002/03.
- The percent of school entrants failing the hearing screening test is significantly lower than nationally.

Strategic context

Ensuring access to appropriate child health services, including well child and family health care, and immunisation is one of the 13 population health priorities highlighted in the New Zealand Health Strategy.

Child health can relate to almost all the key areas mentioned in the strategy, ranging from reducing smoking and improving oral health to improving Pacific peoples' health and improving the responsiveness of mental health services.

Achieving good health during childhood years contributes to improved health status throughout the entire life span of the individual. Adverse socio-economic factors such as unemployment, social isolation, family violence or poor housing will make children's health worse. Moreover, poor child health and development can have adverse and long-term impacts on broader health and social outcomes including sexual and reproductive health, mental health, violence, crime and unemployment.

The Wairarapa District Health Board has identified improving child family and youth health as one of its four strategic priorities. The outcomes sought are:

1. Strong cohesive families with the self esteem, confidence and skills to respond to their children's developmental needs

2. Healthy Lifestyles
3. Comprehensive well child services utilised by all families
4. Holistic and acceptable services for youth, and
5. Comprehensive, holistic services delivered seamlessly across agencies and sectors, accessed by and culturally appropriate for all groups.

The Wairarapa DHB Strategic Plan key indicators of performance for child health are set out in the table below. There has been good progress towards target on all indicators.

Key Indicator description	DSP	HSR 2005*	DSP Target June 2007	DSP Target June 2012
Full breast feeding rates at 6 weeks	55%	61%	65%	67%
Low Birth rate babies	8.3%	6%	7.0%	6.5%
Fully vaccinated by second birthday	65% [approx]	70% [@ 6 months]	92%	95%
Caries free at year 8	49%	51%	50%	51%
Mean missing/filled score at age 8	1.2	1.2	1.1	1.0

* The year used in the HSR this will vary according to the data available. Please refer to the appropriate section in the Report for greater detail.

Definition

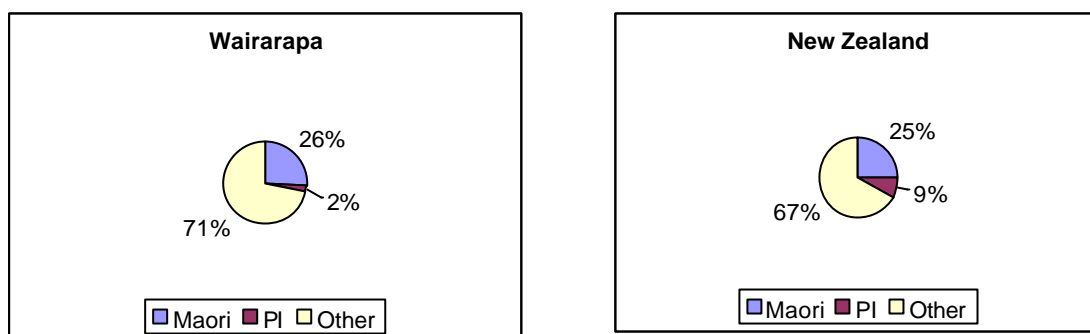
The definition of the child population, for the purposes of most of the data in this section, is any person between 0 to 14 years. This age span was chosen because it reflects the way that most of the data sources, including the key health indicators reported by PHI, are grouped.

Demography

As measured by the 2001 Census children between 0 and 14 years of age made up 23% of the total New Zealand population. In the Wairarapa there were 9005 children or 25% of the total population.

Figure 1 shows the ethnicity of children in the Wairarapa and New Zealand as a proportion of the total population (Health Needs Assessment, version 7.0-DBF, Ministry of Health).

Figure 1: Proportion of usual resident population, by ethnicity, 0-14 years of age, Census 2001

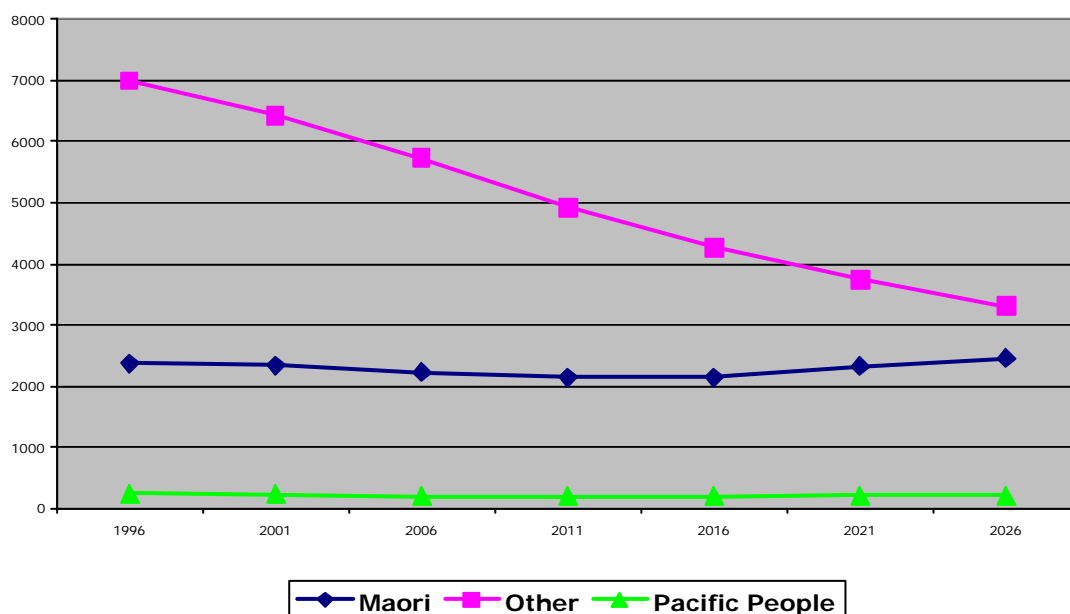


The number and proportion of children, in the population fell between the 1996 Census and 2001 Census and is projected to decline further. In 2016 the proportion of children in the population is projected to be 17% of the total population, a reduction of 8%.

As illustrated in the figure 57 below, while the overall number of children is projected to decline the number of Maori children is stable. According to the 2001 census there were 2350 Maori children under 15 years of age making up 40% of the total Maori population. The number of Maori children is projected to be 2330 in 2021. However, due to the aging of the Maori population this is projected to decline to 33% as a proportion of the total Maori population.

The numbers of Pacific people are too low in the Wairarapa to accurately project changes in the number of children.

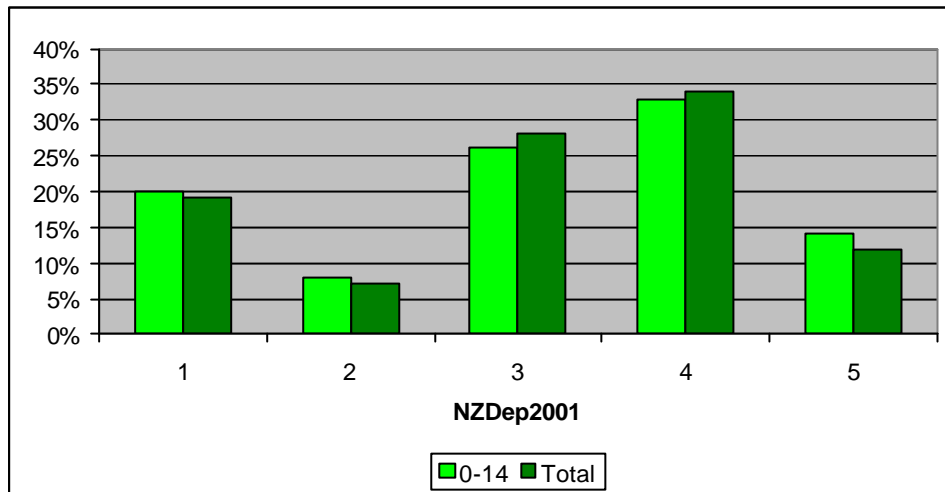
Figure 2: Usual resident population projection, 0-14 years of age



Demographic Status

The deprivation profile of children in the Wairarapa is similar to that of the total Wairarapa population. This means that there are more children in the Wairarapa living in areas of highest deprivation [NZDep2001 quintiles 4 & 5] than there are in New Zealand as a whole.

Figure 3: NZDep2001 Wairarapa, 0-14 years of age and total population



Breast feeding

Breastfeeding meets a term infant's nutritional needs for the first 4-6 months of life. In addition, it confers significant advantages in reducing the risk of diarrhoea, respiratory infections, otitis media, SIDS, diabetes, Chrons disease, and asthma. The World Health Organization recommends "infants should be fed exclusively on breast-milk from birth to 4-6 months of age..." (WHO 1995).

In line with WHO recommendations, in 2002 the Ministry of Health set the following breastfeeding targets for New Zealand (Ministry of Health 2002)¹:

1. increase breastfeeding (exclusive/fully) rate at 6 weeks to 74% by 2005 and to 90% by 2010
2. increase breastfeeding (exclusive/fully) rate at 3 months to 57% by 2005 and to 70% by 2010
3. increase breastfeeding (exclusive/fully) at 6 months to 21% by 2005 and to 27% by 2010.

While to date New Zealand's breastfeeding rates compare favourably with other OECD countries, they remain below the 2002 Ministry of Health targets, and are consistently lower for Maori and Pacific people.

In addition, the Plunket National Child Health Study found that while breastfeeding rates were high at birth they declined significantly thereafter. Barriers to meeting breastfeeding targets include paternal attitudes, socioeconomic factors, returning to work

and lack of workplace support, poor initiation of breastfeeding, and perceived inadequate milk supply.

At a DHB level one of the key initiatives to promote breastfeeding is the “Baby Friendly Hospital Initiative” which aims to encourage hospitals and health care facilities to adopt practises that fully protect, promote and support exclusive breastfeeding from birth.

The table below shows the percentage of babies being breastfed at 6 weeks, 3 and 6 months. In all ethnic groups the breast feeding rate is higher at 6 weeks and declines over the following months. Non-Maori, Non-Pacific infants have a breast feeding rate at all stages compared to Maori and Pacific infants.

In 2002/03 the Wairarapa Breast feeding rate for full breast feeding at three months was 43%, significantly lower than the national rate in 2002/03. However in 2004 this rate improved to 52%. There is no significance between the national and Wairarapa breast feeding rates for all population groups and periods shown in the table below.

Table 1: Breast feeding (exclusive and full), January 2004 – December 2004, rate per 100

	Maori			Pacific			Other			Total		
	6 Weeks	3 months	6 months	6 weeks	3 months	6 months	6 weeks	3 months	6 months	6 weeks	3 months	6 months
Wairarapa	55	41	13	83	67	0	61	55	16	61	52	15
NZ	60	47	18	59	50	20	69	59	27	67	56	24

Source: Royal New Zealand Plunket Society Inc. PCIS Statistics, March 2005

Low birthweight

Low birth weight is defined as a birth weight of less than 2500g and is linked to infant mortality and poor health outcomes.

Low birthweight is more common for younger or older mothers, and for first time mothers.

Other risk factors for low birthweight include low socioeconomic status, poor maternal nutrition, smoking and hypertension, and multiple births.

Nationally low birth weight rate has remained stable over the past five to six years. The Wairarapa low birthweight rate is significantly below the national rate for the period 2000/01.

Table 2: Low birth weight, 2000/01

	Count	Rate per 1000	SMR
Wairarapa	29	60.3	95.1

Source: New Zealand Health Information Service

Mortality

Infant Mortality

Infant mortality is defined as the death of a live born child prior to their first birthday. In New Zealand the four leading causes of infant mortality are perinatal conditions, sudden infant death syndrome (SIDS), congenital anomalies and pneumonia and influenza, which together account for over 80% of deaths in this age group. While infant mortality rates have declined significantly in New Zealand during the past two decades, Maori infant mortality remains higher than that of the rest of New Zealand.

The infant mortality rate in the Wairarapa is higher than nationally in 2000/01 but because of the small numbers involved this was not statistically significant.

Table 3: Infant mortality rate, 2000/01, rate per 1000

	Count	Rate per 1000	SMR
Wairarapa	4	-	118.7

Source: Public Health Intelligence, Ministry of Health

Avoidable Mortality

Nearly one third of the deaths in children younger than 15 are from causes classed as unavoidable mortality. SIDS is the leading cause of avoidable death for infants and children under 14 years of age in the Wairarapa (and NZ overall). Pacific people's numbers are too small locally to make comment. Over the last ten years SIDS rates have declined, however Maori rates are still higher than non-Maori. The high rate among Maori has been found to be based largely on the high prevalence in the Maori population of the major risk factors associated with SIDS.

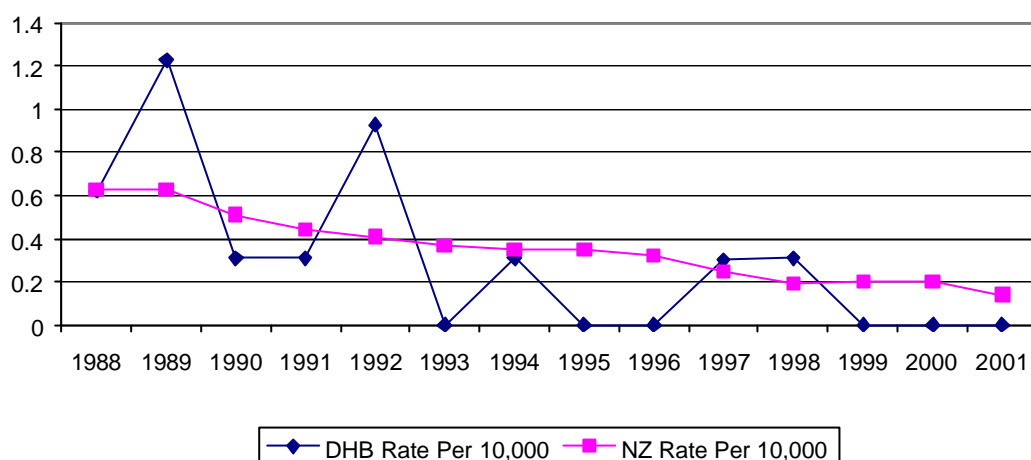
Table 4: Top five causes of avoidable mortality (1 Jan 1988 - 31 Dec 2001) for Ages 0-14 years

Condition	DHB Volume	% of DHB Total Volume	NZ % of NZ Total Volume
Unavoidable Mortality	31	31%	27.7%
SIDS	14	14.00%	17.70%
Low birth weight babies	13	13.00%	9.90%
Congenital anomalies	10	10.00%	10.00%
Birth trauma and asphyxia	6	6.00%	4.70%
Road traffic injury	6	6.00%	7.70%

Source: Technical Advisory Service

The graph below shows that the SIDS rate per 10,000 has followed the New Zealand downward trend over the period shown. The Wairarapa rate has been highly variable but for the period has been significantly higher than the national rate.

Figure 4: Wairarapa and New Zealand SIDS mortality rate, 1988-2001.



Morbidity

Hospital discharges and the communicable disease surveillance survey provide some information about illnesses in children. These do not however account for all illness amongst children, as many illnesses run their course without any interaction from health services or providers.

Therefore, the information presented this section can only provide a limited overview of child morbidity in the Wairarapa.

Hospitalisations

Ear nose and throat conditions make up the highest proportions of avoidable hospitalisations in this age group followed by respiratory infections and gastroenteritis.

Table 5: Top five causes of avoidable hospitalisation (1 Jan 1996 - 31 Dec 2003) for Ages 0-14 years

Condition	Volume	% of DHB Total	% of NZ Total
ENT infections	758	8.10%	6.90%
Respiratory infections	689	7.40%	5.30%
Gastroenteritis	451	4.80%	3.80%
Dental conditions	430	4.60%	3.40%
Asthma	408	4.40%	3.60%

Source: Technical Advisory Service

Ambulatory sensitive hospitalisations are those conditions which are responsive to treatment in the community. The Wairarapa hospitalisation rates in this age group are higher than the national rates and declining at a rate less than the national rate of decline.

Table 6: Ambulatory sensitive hospitalisations (1 Jan 1997 - 31 Dec 2003) for ages 0-14 years

Year	DHB Rate	NZ Rate
1997	498.09	382.13
1998	544.32	381.11
1999	467.45	414.76
2000	479.93	404.32
2001	470.81	391.85
2002	540.84	376.7
2003	499.23	372.76

Source: Technical Advisory Service

Notifiable Diseases

Pertussis (Whooping cough)

Pertussis is a notifiable disease. It is usually mild in adults and adolescents, consisting of a persistent cough; however they are able to transmit the disease to others, including those vulnerable infants under one year old.

For infants pertussis can be an extremely serious disease. They have a higher chance of complications including secondary bacterial infections, seizures and encephalopathy (brain damage). The best way to protect vulnerable infants is to make sure that they are vaccinated against pertussis. There is almost no maternal protection passed to the newborn against pertussis, either in utero or via breast milk.

The Wairarapa rate of pertussis in this age group is similar to the national rate.

Table 7: Rate of Pertussis, 2001 – 2003, ages 0-14 years

Year	DHB Rate	NZ Rate
2001	11.09	10.95
2002	5.61	8.86
2003	0	4.49

Source: Technical Advisory Service

Meningococcal Disease

Meningococcal disease is a bacterial illness. New Zealand has been experiencing an epidemic of a particular serogroup of meningococcal disease since 1991. The strain causing the epidemic is responsible for approximately 75% of meningococcal disease in New Zealand. Rates of meningococcal disease increased from 1991 to 1997, and have fluctuated since then at high levels.

The rate of meningococcal disease in the Wairarapa in this age group was lower than the national rate for the years 2002 and 2003.

The “MeNZB” vaccine has been developed against this specific meningococcus. The New Zealand meningococcal vaccine campaign aims to vaccinate 90% of people under 20 years of age.

Table 8: Rate of Meningococcal Disease, 2001 – 2003, ages 0-14 years

	Meningococcal disease	
Year	DHB Rate	NZ Rate
2001	7.76	4.91
2002	2.24	3.99
2003	2.27	3.54

Source: Technical Advisory Service

Oral Health

In New Zealand (and internationally), oral health is strongly correlated with socioeconomic status and the fluoridation of water supplies.

Two indicators are used to look at oral health among children:

Missing and filled teeth score [MFT] at year 8.

This is the sum of the number of teeth that are missing or filled because of decay.

Maori children have markedly higher average number of missing or filled teeth relative to non-Maori, non-Pacific children. Generally average numbers of missing or filled teeth are higher in non fluoridated areas compared with fluoridated areas. There is no significant difference between the Wairarapa and national MFT for the period.

Table 9: Average number of missing or filled teeth at year 8, by ethnicity and fluoridation of water supply, 2003.

	Maori		Pacific		Other	
	Fluoridated	Non Fluoridated	Fluoridated	Fluoridated	Non Fluoridated	Non Fluoridated
Wairarapa	2.08	2.13	1.69	1.27	1.11	0
NZ	1.89	2.66	1.70	1.27	1.59	2.51

Source: School Dental Service

Percentage of students caries free at year 8.

The percentage of year 8 students with no history of tooth decay) has gradually increased from very low levels in the 1970s to plateau in the mid-1990s in New Zealand. In 2002 44 percent of students had no tooth decay experience. Children living in fluoridated areas consistently had less tooth decay than children living in non-fluoridated areas.

In 2002, a lower percentage of Maori and Pacific students compared to European/Other students were caries free. Being exposed to a fluoridated water supply is normally associated with less experience of dental decay in all the ethnic groups.

Table 10: Percentage of year 8 school students who are caries free, 2002

	Maori		Pacific		Other	
	Fluoridated	Non Fluoridated	Fluoridated	Fluoridated	Non Fluoridated	Non Fluoridated
Wairarapa	26%	32%	46%	-	51%	51%
NZ						

Source: Ministry of Health

Hearing failure

Hearing loss in childhood can interfere with the development of speech and language and can affect education. Hearing loss in children is often caused by persistent otitis media with effusion, glue ear. Glue ear is linked to the common cold, exposure to second hand smoke, low rates of breastfeeding, overcrowding and attendance at childcare centres.

The percentage of school entrants who fail the hearing screening test is declined from 10.5% in 1991/92 to 8.4% in 2001/02. Maori and Pacific primary school entrants have a higher rate of failure than other school entrants.

The percentage of Wairarapa school entrants failing the hearing screening test is significantly lower than nationally.

Table 11: Hearing failure at five years, 2001/02

	Count	%
Wairarapa	16	2.8
NZ	4581	8.4

Source: National Audiology Centre

Immunisation

Until the National Immunisation Register is full implemented and has been collecting information for several years it is not possible to accurately document fully completed childhood immunisation status.

The table below shows the percentage of complete immunisations by ethnicity at 6 weeks, 3 months, 6 months of age. Complete immunisation is higher at 6 weeks than at 3 and 6 months. This is more marked in the Maori and Pacific populations.

There is no significant difference between the Wairarapa and national rates.

Table 12: Immunisation status (complete), January 2004 – December 2004, rate per 100

	Maori			Pacific			Other			Total		
	6 w ks	3 mths	6 mths	6 w ks	3 mths	6 mths	6 w ks	3 mths	6 mths	6 w ks	3 mths	6 mths
Wairarapa	100	77	56	95	81	74	100	0	67	96	88	70
NZ	90	68	63	92	78	91	87	76	72	91	75	73

Source: Royal New Zealand Plunket Society Inc. PCIS Statistics, March 2005

Conclusion

The total number of children is projected to decrease while the number of Maori children will be stable over the period 2001 to 2021.

Wairarapa children are at higher risk of poorer health status because higher proportions of Wairarapa children are from families with comparatively low socio-economic status.

Health and disability services can contribute to further health gain in these children. Although mortality is relatively low in this age group; further gains can be made, particularly if the incidence of SIDS can be reduced in population groups with comparatively high rates (high socio-economic deprivation and Maori, in particular).

A similar pattern, though with much higher numbers and rates, exists for avoidable morbidity (hospitalisations, infectious diseases and dental caries). There is potential for further health gain by:

- Increasing coverage of preventive services such as water fluoridation, and immunisation uptake.
- Ensuring primary health services are accessible and effective, particularly for groups with comparatively higher need such as children from families with high socio-economic deprivation, Maori whanau, and Pacific peoples.
- Working with other sectors and agencies to promote policies and services that reduce socio-economic disparity.

¹ Ministry of Health (2002). *Breastfeeding: A Guide to Action*. Wellington: Ministry of Health, p1-29.