

Children in New Zealand

Report on Cross-Sectoral Outcome Measures and Targets

2000

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Summary list of measures and targets

Table 1: Output/outcome measures and targets for children aged 0–6 years

	Output/outcome Measure	Agency	Baseline	Target (year)	Current Level
Deaths	Infant mortality rate (per 1000 live births)	Health	6.7 (1995)	5 (2000) 4 (2010)	5.4 (1998)
	*** Under-five mortality rate (per 1000 live births)	Health	8.3 (1995)	7 (2000) 5 (2010)	6.8 (1998)
Illness and injury	Hospital injury discharge rate, 0–4 years (per 100,000 population)	Health	2,401 (1994)	2,040 (2000) 1,680 (2010)	1744 (1999)
Abuse	Death rate (0–14 years) from injuries inflicted by other persons (per 100,000 population)	Health	1.23 (1988–92)	1.0 (2000) 0.8 (2010)	1.1 1996–98
Abuse and neglect	Number and proportion of re-notifications ¹ , 0–6 years	DCYFS		Not set	Ranged between 2120–2660 (between 8% and 10%) for 17 years and under ²
	Number and proportion of recurrence ³ , 0–6 years	DCYFS		Not set	8% for 17 years and under ⁴
Care and protection	Out of family care and protection services, 0–16 years (volume of bednights, including within 28 days)	DCYFS	375,000 bednights (1995/96)	95% of the baseline (2000) 75% of the baseline (2010)	859,267 bednights ⁵
Reproductive health	Birth weight less than 2500 grams (per 1000 live births)	Health	59 (1993)	57 (2000) 55 (2010)	65 (1999)
Development measures	Hearing loss at school entry (percentage of children at school entry with hearing loss)	Health	8.3% (1994/95)	5% (2000) 4% (2010)	7.7% (1998/99)
Participation	Immunisation completed by 2 years of age (percentage of children aged 2 years with completed immunisations)	Health	56% (1992)	95% (2000) 95% (2010)	63% (1996)
	*** 3-year-olds in early childhood education (percentage)	Education	80% (1995)	84% (2000) 90% (2010)	90% (1999)

Priority Targets indicated by ***

¹ Number and proportion of notifications for children and young people who had had a prior notification within the previous 12 months, 0–6 years.

² The Department of Children, Youth and Family Services is unable to derive the number and proportion of re-notification by the specific age groupings 0–6 years.

³ Number and proportion of substantiated abuse and neglect or problem behaviour notifications that are for children and young people who have had a prior substantiated abuse, neglect or problem behaviour finding within the previous 12 month period

⁴ The Department of Children, Youth and Family Services is unable to derive the number and proportion of recurrence by the specific age groupings 0–6 years.

⁵ The demand for care services, as measured by the number of children in care at any one time, has been rising significantly since 1996. Demand for care has increased on average at a rate of 9.6 percent per annum in the period from June 1996–June 2000. This demand was not anticipated when the 375,000 target was set in 1995–96.

Table 2: Output/outcome measures and targets for young people aged 5–24 years

	Output/outcome Measure	Agency	Baseline	Target (year)	Current level
Deaths	Road traffic death rate, 15–19 years (per 100,000 population)	Health	31 (1994–96)	25 (2000) Awaiting Target from LTSA for (2010)	26.4 (1999)
	Youth suicide death rate, 15–24 years (per 100,000 population)	Health	38.9 (males) 6.3 (females) (1990–92)	33 males 5.4 females (2000) 29 males 4.7 females (2010)	26.1 Total 38.5 males 13.3 females (1998)
Illness and injuries	Hospital injury discharge rate, 15–19 years (per 100,000 population)	Health	2,517 (1994)	2,100 (2000) 1,770 (2010)	1897 (1999)
Abuse and neglect	Number and proportion of re-notifications ⁶ , 7-16 years	DCYFS		Not set	Ranged between 2120–2660 (between 8% and 10%), for 17 years and under ⁷
	Number and proportion of recurrence ⁸ , 7-16	DCYFS		Not set	2120 (8%) for 17 years and under ⁹
Development/behaviour measures	Tobacco smoking, 18–24 years (percentage)	Health	34.2 (1993)	22% (2000) 19% (2010)	36.1% (1999)
	Drug and alcohol risk behaviour, 15–19 year olds Heavier drinking (6 standard drinks for males and 4 standard drinks for females) among 14–17 years olds Heavier drinking (6 standard drinks for males and 4 standard drinks for females) among 18–19 years olds Current users of cannabis (in the form of marijuana) among 15–17 years old male female 18–19 years olds male female	Health	18% male 7% female (1995) 36% male 28% female (1995)	15% males 5% females (2003) 36% males 28% females (2003)	20% male 15% female (1998) 49% males 36% females (1998)

⁶ Number and proportion of notifications for children and young people who had had a prior notification within the previous 12 months, 7-16 years.

⁷ The Department of Children, Youth and Family Services is unable to derive the number and proportion of re-notification by the specific age group 7-16 years.

⁸ Number and proportion of substantiated abuse and neglect or problem behaviour notifications that are for children and young people who have had a prior substantiated abuse, neglect or problem behaviour finding within the previous 12 month period.

⁹ The Department of Children, Youth and Family Services is unable to derive the number and proportion of recurrence by the specific age group 7-16 years.

	Output/outcome Measure	Agency	Baseline	Target (year)	Current level
	Incidence of repeat and serious reoffending cases referred to CYPFS, 10–16 years (per 1000 population)	DCYFS	13.76 (1997)	80% of the baseline (2000) 65% of the baseline (2010)	19.2 (1999/2000)
	*** School leavers with a formal qualification (percentage)	Education	81.9% (1995)	84% (2000) 90% (2010)	83% (1999)
	Offenders aged 16 or under dealt with by the Police	Justice	44,654 police contacts (1997)	Not set	43,386 (1999)
	Cases involving the prosecution of offenders aged 16 or under	Justice	4,798 cases (1997)	Not set	4618 (1999)

Priority Targets indicated by ***

Note: the age range has been expanded to 24 years for selected targets.

Summary list of selected outcome measures for Māori

Table 3: Current level of selected output/outcome measures for Māori children aged 0–6 years

	Output/outcome Measure	Agency	Current Level
Deaths	Infant mortality rate (per 1000 live births)	Health	7.2 (1998)
	*** Under-five mortality rate (per 1000 live births)	Health	9.3 (1998)
Illness and injury	Hospital injury discharge rate, 0–4 years (per 100,000 population)	Health	Male 1979 Female 1575 (1999)
Abuse	Death rate (0-14 years) from injuries inflicted by other persons (per 100,000 population)	Health	1.13 (1998)
Reproductive health	Birth weight less than 2500 grams (per 1000 live births)	Health	75.4 (1999)
Development measures	Hearing loss at school entry (percentage of children at school entry with hearing loss)	Health	13.8% (1998/99)
Participation	*** 3-year-olds in early childhood education (percentage)	Education	63% (1999)

Priority targets indicated by ***

Table 4: Current level of output/outcome measures for Māori young people aged 5–24 years

	Output/outcome Measure	Agency	Current level
Deaths	Road traffic death rate, 15–19 years (per 100,000 population)	Health, based on Land Transport Safety Authority (LTSA)	42.6 (1998)
	Youth suicide death rate, 15–24 years (per 100,000 population)	Health	54.3 males 24.4 females (1998)
Illness and injuries	Hospital injury discharge rate, 15–19 years (per 100,000 population)	Health	1837 (1999)
Reproductive health	*** Teenage fertility rate, 13–17 years, (livebirths per 1000 females)	MsocP	24.7 (1999)
Development/behaviour measures	Tobacco smoking, 18–24 years (percentage)	Health	55.6% (1999)

INTRODUCTION

This report, like the previous Strengthening Families Outcome Measures and Targets Reports, focuses exclusively on monitoring progress toward specified targets. This report updates outcome measures and targets in the 1999 report with data available from 1999 and 2000. The 1999 report contained a section on social context indicators. Information relating to these indicators is not included in this report as it is only provided at five-yearly intervals based on census data.

The Strengthening Families Initiative is a multi-sector approach with lead roles from the Ministry of Social Policy, Ministry of Education and Ministry of Health. The other contributing agencies to this report are the Ministry of Justice, the Department of Children, Youth and Family Services, the Ministry of Māori Affairs, the Ministry of Pacific Island Affairs, and Ministry of Women's Affairs. The Strengthening Families Initiative has developed co-ordinated services to improve the wellbeing of children, young people and their families who are at risk of poor life outcomes. Families at risk are defined as 'families who are experiencing multiple and persistent disadvantages which compromise family functioning and increase the chances that their children may have poor long-term outcomes'.

In 1998, the Ministry of Social Policy was the lead agency into producing the 1998 annual report. The Ministry of Education was responsible for producing the 1999 report, while this year it is the responsibility of the Ministry of Health. These reports are published on the Web at <http://www.strengtheningfamilies.govt.nz>.

The outcome measures

A set of outcome measures has been selected to reflect the key considerations that have led to the development of the Strengthening Families Initiative in 1997. They may broadly be grouped into health, welfare, and education outcome measures. Health outcome measures include mortality, illness and injury, health prevention, and development/behaviour measures. An update on these outcome measures is provided by Ministry of Health except for the outcome measure 'teenage pregnancy' which was updated by the Ministry of Social Policy. Welfare measures include abuse and neglect, and care and protection, are updated by the Department of Children, Youth and Family Services and the Ministry of Justice. Education measures include participation in early childhood education and school leaving qualification rates. The Ministry of Education provides an update on these outcome measures. The summary of individual outcome measures and targets is listed on pages 7–10 on this report.

Target setting

Targets were set in 1997 for most of the outcome measures. Each respective sector takes the lead for targets where the strategies for achieving them are predominantly within their responsibility. The criteria for setting targets were:

- achievement of the target would have a significant impact on future outcomes for children and for young people from families/whānau at risk
- there are known interventions in respect of the particular issue
- the intervention would contribute to improving equality of opportunity for children, and in particular, reduce disparities between Māori and non-Māori
- the intervention would enhance the capacity and self-reliance of families and whānau in their role of raising healthy and capable children.

No targets have been set for three outcome measures related to child welfare. Two measures are justice-related outcome measures: number of offenders aged 16 or under apprehended by the Police and Cases involving the prosecution of offenders aged 16 years or under. The third one is child abuse

and neglect re-notifications and recurrence. For measures such as crime and child abuse, the figures represent 'reported' incidence only, and actual incidence is not known. Figures are, therefore, confounded by the levels of reporting, and it is not appropriate to set targets to reduce figures for reported incidence when there is under-reporting and a higher level of reporting is desired.

Changes to the outcome measures and targets

The reporting approach has attempted to avoid ad hoc changes to the measures and targets agreed in 1997, to ensure consistency and to enable comparison across the years. However, as a result of clarifying the concepts behind some of the measures and improved understanding of issues and approaches relating to data capture, definitions to some of the outcome measures have been modified and interpretation of the data and trends qualified. Where unavoidable changes have been made, they are noted throughout the report.

Re-notifications and recurrence

In 1999 it was agreed that re-notification measure should be refined and considered in conjunction with recurrence data. The Department of Child, Youth and Family Services began to collect information on the level of re-notifications and recurrence of notifications from 1 July 1999 to monitor overall trends. In particular, information against the following two definitions was collected:

- the number and proportion of notifications for children and young people who had a prior notification within the previous 12 calendar month period (re-notification)
- the number and proportion of substantiated abuse or neglect or problem behaviour notifications that are for children and young people who have had a prior substantiated abuse, neglect or problem behaviour finding within the previous 12 month period (recurrence).

The number and proportion of re-notification and recurrence are included in this report.

Drug and alcohol risk behaviour

Inclusion of an indicator of drug and alcohol risk behaviour was agreed in 1997. Drug and alcohol risk behaviour may be indicated by alcohol consumption and use of drugs. Specific measures on alcohol and drug use were reported in the 1999 report but targets were not set.

The aim of establishing alcohol consumption and use of drug targets is to reduce the prevalence of alcohol and other harmful drinking patterns and drug use among young people, including young Māori and Pacific peoples. The Alcohol Advisory Council has set targets for alcohol consumption for all people in New Zealand. The Ministry of Health adopted targets on alcohol consumption for young people aged 14–17 and 18–19 years for the first time this year as these targets are most relevant to the Strengthening Families strategy.

Discussions regarding the establishment of targets on drug use are still in progress. It is likely that these targets will be provided in the future reports.

Targets need to be changed in the following outcome measures:

- teenage pregnancy
- injury hospitalisation
- youth suicide.

Teenage pregnancy

The teenage pregnancy rate has been revised to livebirths per 1000 females (previously 100,000). The baseline year has been changed from 1996 to 1995 due to the revision of population estimates used in the calculation of fertility rates, which changed the previously established historical levels. The number of births in the age group 13–17 years also appears to be fewer in the recent years and

these changes resulted in the actual current teenage pregnancy rate being lower than the targets set previously. Hence the teenage pregnancy target needs to be reset.

Injury hospitalisation

Targets on the hospitalisation rates due to injuries for under-five-year-olds and 15–19-year-olds also need to be revised due to changes in hospital admission policies, accepted treatment practices, recording systems and case-mix presentation.

Youth suicide

It was noted in the previous report that the suicide rate for 15–24-year-olds is not indicative of recent trends in the under-20 age group, at which monitoring is generally targeted. The age range of 15–19 years was suggested, however, as no target has been set for 15–19-year-olds, the working group agreed to present the trend for 15–24-year-olds as usual but also report statistics for 15–19-year-olds wherever possible.

Targets of these measures will be revised in the future as at present the Ministry of Health is working towards a list of health indicators and their respective targets.

Data

The National Minimum Data Sets (mortality and morbidity) are used to monitor selected health indicators such as mortality, injuries, child abuse, and motor vehicle accidents. Hospitalisation data, as a measure of morbidity, are a count of public hospital events, not of individual persons. Hospitalisations include both inpatient and day patient events, while outpatients are generally not admitted and are not counted. Changes in hospital admission policies, accepted treatment practices, recording systems or case-mix presentation may affect the consistency of reporting over time. Accordingly the hospitalisation data are refined by using a robust filtration technique¹⁰ (Ministry of Health 1999). Hospitalisation rates are calculated using this filtered data.

There is still lack of data for the following outcome measures.

- In absence of the completed immunisation coverage data for children at age two years by ethnicity, this report presents national coverage for DTPH3, HepB3, and OPV3 vaccines at five months of age. These data are based on the Immunisation Coverage Surveillance Using Benefit Claim Data. This data set contains the most up-to-date data available at present but contains a data recording error, hence these figures need to be interpreted cautiously (McNicholas and Perks 2000). Beginning from early next year, an improved data set will be available when immunisation coverage for children at age two years can be analysed by vaccine, geographic area, and ethnicity.
- Previous reports have presented regional statistics on smoking during pregnancy. This information is based on survey data and at present information is not available on this outcome measure and has therefore not been included in this present report.
- In absence of national data on cannabis use by 15–19-year-olds, some information is provided using the recently available regional data on cannabis use by 13–17-year-olds. The data come from the Needs Assessment Survey undertaken by Regional Public Health, Hutt Valley Health, to ascertain the usage of cannabis by young people in Kapiti and Wairarapa areas in 1999.

Outcome measures and targets for Māori

No progress has been made toward the inclusion of targets for Māori and Pacific peoples as the issues surrounding targets for Māori have not yet been fully debated in the respective agencies concerned or in the wider public sector. Hence targets are not yet available to include in this report.

¹⁰ The filtered data are adjusted for hospital transfers, patients whose normal residence is outside New Zealand, inconsistent stays and so forth. For details about the data filtration process, refer to Ministry of Health 1999.

However, updates on outcome measures specific to Māori and Pacific peoples are presented on charts and discussions are provided wherever possible.

Monitoring and reporting on targets

Like in the previous reports, this report also provides the following descriptions for each outcome measure:

- a short statement about why the outcome measure is important as an indicator of life outcomes for children and young people
- a graph showing important facts about trends or subgroups for each outcome measure
- highlights of what has been happening with each outcome measure, with important differences by population subgroups noted.

The links between activities and programmes in the Strengthening Families Initiative and some of the outcome measures is not a direct one. Outcomes are the result of complex interrelationships between the individual, the family, and a range of social, cultural and economic factors. The Strengthening Families Initiative focuses foremost on family functioning as a primary axis of care, control and support that profoundly influences outcomes for children. It is not possible to draw conclusions about its impact from the measures presented.

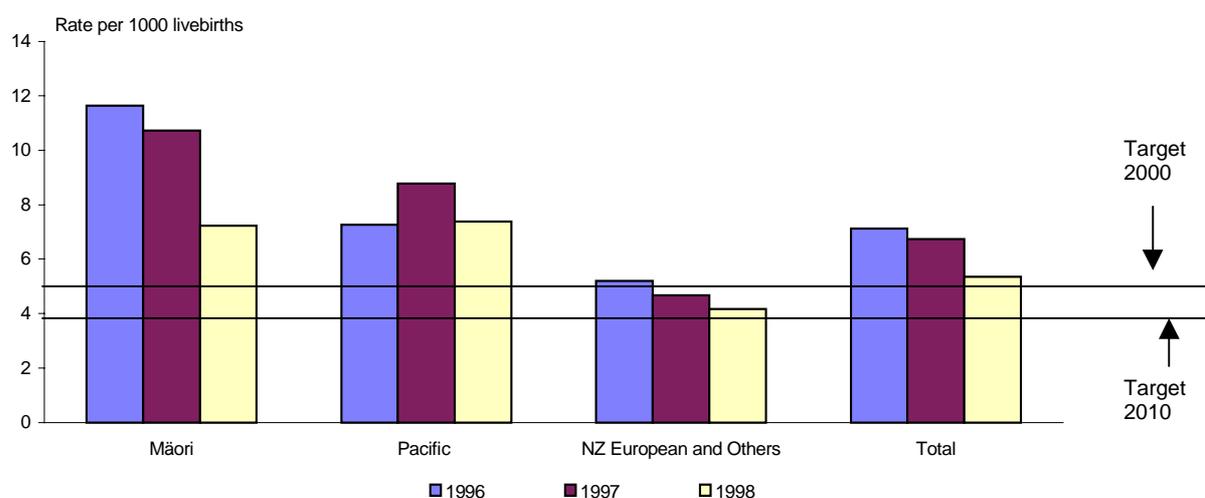
REPORT ON EACH OUTCOME MEASURE AND TARGET

Infant mortality

Targets: To reduce infant mortality from 6.7 per 1000 livebirths in 1995 to 5 per 1000 livebirths in the year 2000, and to 4 per 1000 livebirths in the year 2010.

An infant death is defined as a liveborn infant dying before the first year of life is completed (WHO 1975). The infant mortality rate is an important measure of wellbeing, associated with maternal health, quality and access to health services, socioeconomic conditions, and public health practice (Public Health Commission 1994). In 1998 the leading causes of infant mortality were congenital anomalies (24 percent), sudden infant death syndrome (SIDS) (20 percent), and conditions originating in the perinatal period (35 percent).

Figure 1: Infant mortality, by ethnicity, 1996–98



Source: New Zealand Health Information Service—1998 data are provisional

Technical note: Ethnic-specific rates before and after 1995 are *not* comparable hence data are shown only from 1996 onward. Classification of ethnicity in vital and health statistics changed in 1995. There was a substantial decrease in both number of deaths and mortality rates in 1998. Furthermore because birth data for 1998 are incomplete, the 1997 birth data are used to calculate the rates.

- In 1998, 309 infants died before the first year of life, 80 deaths (21 percent) fewer than in 1997. The infant mortality rate dropped by almost half from 10.2 per 1000 livebirths in 1989 to 5.4 per 1000 livebirths in 1998.
- During the period 1989–98, the infant mortality rate decreased by an annual average rate of 6.9 percent. If this trend has continued, the targets set for the years 2000 and 2010 are likely to be achieved.
- In 1998, 118 Māori and 42 Pacific infants died in New Zealand. The Māori infant death rate (7.2 per 1000 livebirths) was slightly lower than the Pacific infant rate (7.4 per 1000 livebirths) but still higher than the rate for the New Zealand European and Other ethnic group (4.2 per 1000 livebirths).
- The gap in infant mortality rates between Māori and the New Zealand European and Other ethnic group narrowed down considerably from a ratio of 2.3 in 1997 to 1.7 in 1998.
- The significant reduction in the number of Māori infant deaths may in part be associated with the significant decrease in SIDS. In 1998 there were 39 deaths of Māori infants due to SIDS compared with 56 in 1997.

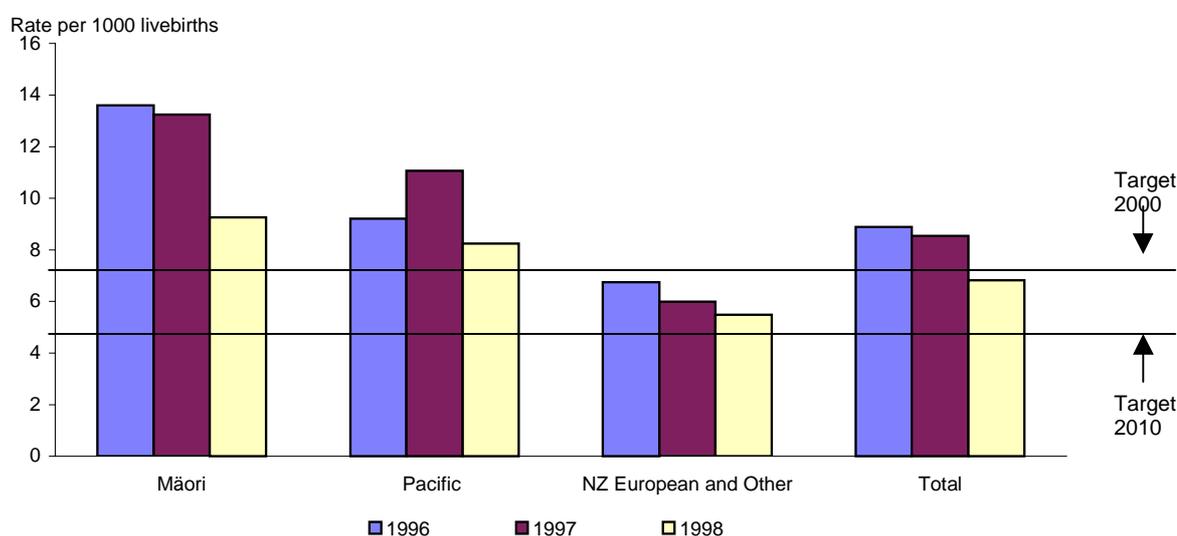
Under-five mortality (priority target)

Targets: To reduce the under-five mortality rate from 8.3 per 1000 livebirths in 1995 to 7 per 1000 livebirths in the year 2000, and to 5 per 1000 livebirths in the year 2010.

The under-five mortality rate is used by UNICEF as the principal indicator of child wellbeing for a number of reasons (UNICEF 1996). Firstly, the under-five mortality rate measures an outcome of the developmental process rather than inputs to the process, such as school enrolment, caloric availability or number of general practitioners per child. Secondly, the under-five mortality rate is dependent upon a wide variety of inputs: the nutritional health and the health knowledge of mothers; the level of immunisation; the availability of maternal and child health services (including prenatal care); safe sanitation; income and food availability in the family; and the overall safety of the child's environment. Thirdly, the under-five mortality rate is less susceptible to the 'fallacy of the average' where indicators may be skewed by a wealthy minority, such as average household income.

The under-five mortality rate is presented here for all children less than five years of age per 1000 livebirths and mortality rate for children aged 1–4 per 100,000 population respectively although no target has been set for this indicator.

Figure 2: Under-five mortality, by ethnicity, 1996–98



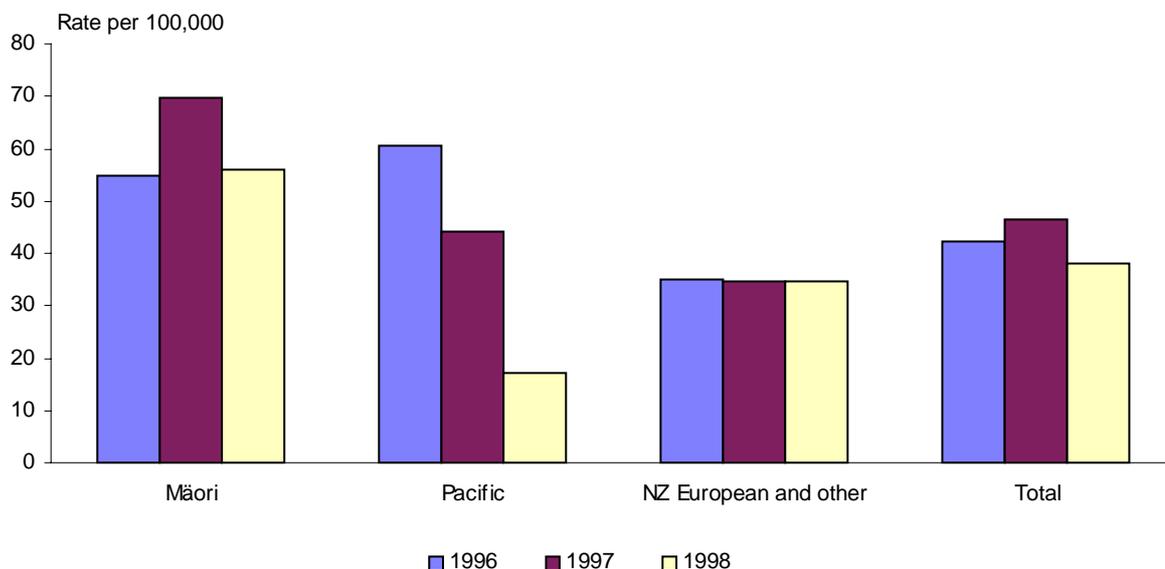
Source: New Zealand Health Information Service—1998 data are provisional

Technical note: Ethnic-specific rates before and after 1995 are *not* comparable hence are the data are shown from 1996 onward only. Classification of ethnicity in vital and health statistics changed in 1995. There were 394 deaths for children under five years of age in 1998, a substantial decrease from the level of 493 deaths in 1997. The under-five mortality rate was 6.8 per 1000 livebirths in 1998, which is just under the target of 7 per 1000 livebirths for the year 2000.

- There were 394 deaths for children under five years of age in 1998, a substantial decrease from the level of 493 deaths in 1997. The under-five mortality rate was 6.8 per 1000 livebirths in 1998, which is just under the target of 7 per 1000 livebirths for the year 2000.
- There was a notable decrease in the number of deaths among Māori children aged under-five-years. In 1998 151 Māori children died, compared with 216 in 1997. This decrease was mostly among Māori infants.
- The under-five Māori mortality rate in 1998 was 9.3 per 1000 livebirths, a substantial decrease from the rate of 13.2 per 1000 livebirths in 1997.
- The 1998 data showed that the gap in under-five mortality rates between Māori and the New Zealand European and Other children has narrowed considerably from a rate ratio of 2.2 in 1997 to 1.7 in 1998.
- At present the Māori under-five mortality rate is 69 percent higher than the rate for the New Zealand European and Other group.
- In 1998 there were 47 deaths among Pacific children, showing a rate of 8.3 per 1000 livebirths. The under-five mortality rate for Pacific children fluctuates because of small numbers.

- The major causes of under-five mortality include perinatal conditions (28 percent), congenital anomalies (22 percent), SIDS (17 percent), and poisoning and injuries (16 percent).
- In New Zealand, the under-five mortality rate is dominated by infant deaths as 78 percent of all under-five deaths occur in this group. Therefore, mortality rates for children aged 1–4 years are examined separately.

Figure 3: Mortality for ages 1–4 years, by ethnicity, 1996–98



Source: New Zealand Health Information Service—1998 data are provisional

Note: No target has been set for 1–4 years mortality.

Ethnic-specific rates before and after 1995 are *not* comparable hence data are shown only from 1996 onward. Classification of ethnicity in vital and health statistics changed in 1995.

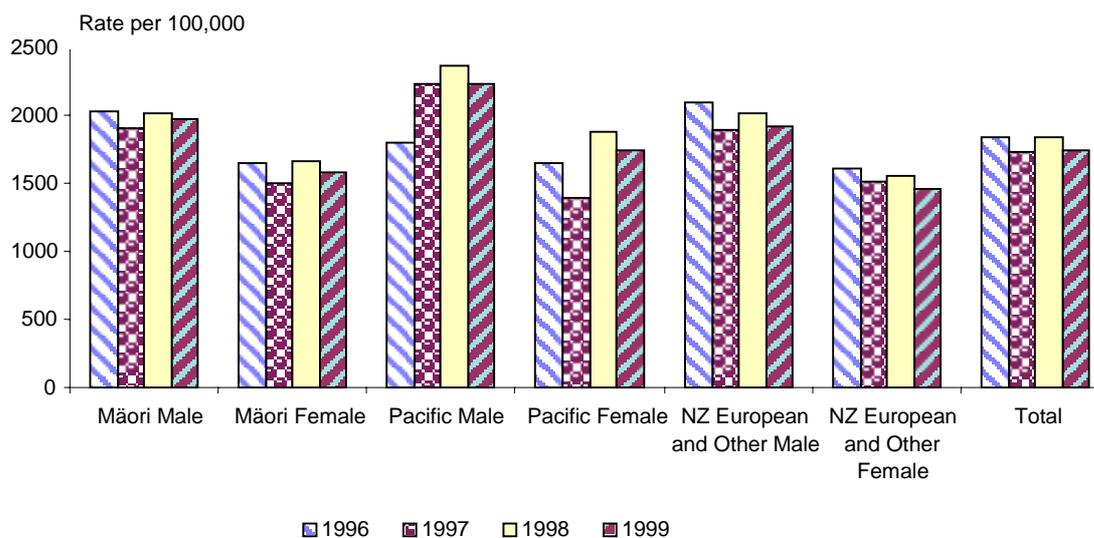
- There were 85 deaths for children aged 1–4 in 1998, a decrease from the 104 deaths recorded in 1997.
- The mortality rate for children aged 1–4 years in 1998 was 38.0 per 100,000, a decrease of 33 percent since 1988 (56.4 per 100,000).
- The ethnic differentials for 1–4 years mortality are generally narrower than for infant mortality. The rates for Māori children decreased to 56.1 per 100,000 from 69.8 in 1997. This brings the gap between Māori and non-Māori much closer from a ratio of 2.0 in 1997 to 1.6 in 1998.
- In 1998, there were only 5 deaths of Pacific children in this age group, which is too small a number to interpret as a rate.
- In 1998, the major causes of death of children aged 1–4 years were both intentional and unintentional injuries (39 percent), cancers (14 percent) and congenital anomalies (21 percent). Among those who died of injuries about half (17 children) were involved in road traffic accidents.
- Of those 17 children who died in traffic accident 10 were Māori, which accounted for one-third of all deaths of Māori children aged 1–4.

Injury hospitalisation rate, 0–4 years

Targets: To reduce the hospitalisation rate of children aged 0–4 years due to injury from 2401 per 100,000 in 1994 to 2040 per 100,000 in the year 2000, and to 1680 per 100,000 in the year 2010.¹¹

Injury is a leading cause of both morbidity and mortality in New Zealand (Public Health Commission 1994). Injuries requiring hospital admission include burns, poisoning, drowning, traffic accidents, falls, and other intentional and unintentional injuries. Injuries continue to have a major impact on the health of New Zealanders. In 1998, 6 percent of all deaths among 0–4-year-olds were injury-related.

Figure 4: Injury hospitalisation rates, ages 0–4 years, by sex and ethnicity, 1996–99



Source: New Zealand Health Information Service

Technical note: Injuries are classified according to ICD-9 External Cause Codes E800–999, omitting codes E870–879 and E930–949 which refer to medical misadventure, complications of care etc. Targets are not shown in the chart as they need to be revised. Classification of ethnicity in vital and health statistics changed in 1995.

- Hospitalisation events for injuries totalled 4929 in 1999 for ages 0–4 years. The rate was 1744 per 100,000 population.
- There were 2842 males hospitalised for injuries in 1999, reflecting a rate of 1960 per 100,000. The corresponding figures for females were 2085, a rate of 1516 per 100,000. Two cases were unidentified.
- Rates of hospitalisation for Māori and Pacific children exceed the rates for the New Zealand European and Other group. Females from the New Zealand European and Other group have the lowest hospitalisation rate for injuries (1458 per 100,000) compared with Māori females (1575 per 100,000) and Pacific females (1749 per 100,000).
- Pacific males had the highest rates (2226 per 100,000) of injury hospitalisation in 1999.
- Major causes of injury hospitalisation in 1999 include falls (39 percent), motor vehicle traffic injuries (4 percent and poisoning (3 percent).
- During 1996–99, the total hospitalisation rate for injuries decreased approximately by 1.7 percent annually. It would require approximately less than 1 percent annual decrease to attain the target rate of 1680 per 100,000, set for the year 2010.

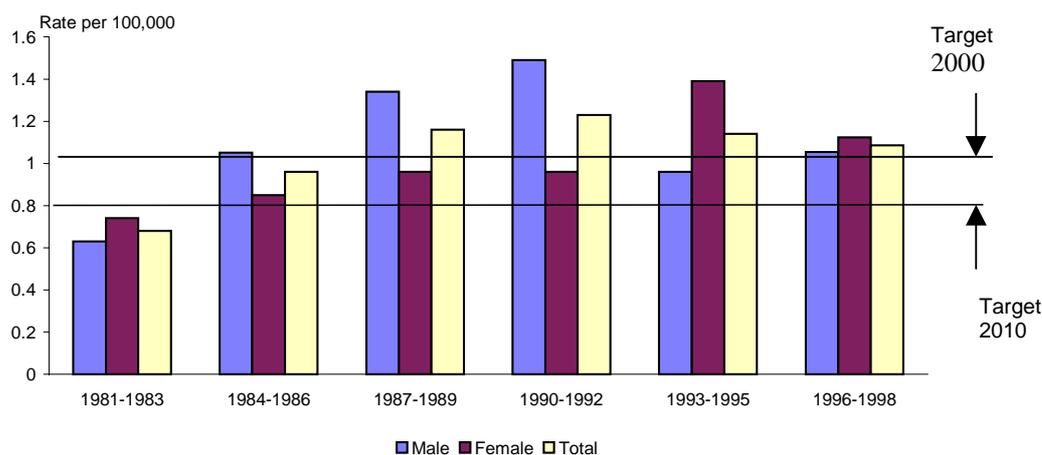
¹¹ Changes in hospital admission policies, accepted treatment practices, recording systems and case-mix presentation may affect consistency of reporting over time. Considering these differences and using improved methods of data analysis, the original target appeared to be lower. The target needs to be revised accordingly.

Child abuse, 0–14 years

Targets: To reduce the mortality rate among children aged 0–14 years from injuries inflicted by other persons from 1.23 per 100,000 for the period 1988–92 to 1.00 per 100,000 in the year 2000, and to 0.80 per 100,000 in the year 2010.

In its broadest sense, child abuse involves one or more of the following: deprivation, such as being inadequately fed, clothed and housed; emotional harm; sexual harm; and physical harm. Most of these abuses will not receive medical attention and will not be recorded (Kotch et al 1993; Coggan et al 1995). The mortality rates for 'injuries inflicted by others' represent both homicide and child abuse.

Figure 5: Mortality from injuries inflicted by other people, ages 0–14 years, 1981–98



Source: New Zealand Health Information Service

Note: Data for 1998 are provisional. The presented age-specific rates for 0–14 years are three-year averages.

- Ten children aged less than 15 years (three female and seven male) died of injuries inflicted by other persons while five children died of child battering or maltreatment in 1998.
- During the three-year period 1996–98, there were 7, 11 and 10 deaths due to injuries inflicted by other persons.
- In 1998 deaths related to injuries inflicted by others accounted for 1.9 percent of all the deaths of children in this age group (N=523), an increase from the level of 1.4 percent recorded in 1997.
- The three-year average for 1996–98 shows similar mortality rates for both females (1.1 per 100,000) and males (1.05 per 100,000).
- In 1999, 188 children aged between 0–14 years were hospitalised for injuries inflicted by other persons. Of these, about half (N=91) were directly coded as being hospitalised due to child battering or maltreatment and two-thirds of these children were aged less than five years (N=61).
- The three-year (1996–98) Māori death rate due to injuries inflicted by other persons was higher than the non-Māori rate (1.13 versus 0.71 per 100,000).
- It is unlikely that the year 2000 target will have been met given the current rate of child death due to injuries inflicted by other persons.

Abuse and neglect re-notifications and recurrence 0–16 years

To reduce abuse and neglect re-notification and recurrence for children and young people

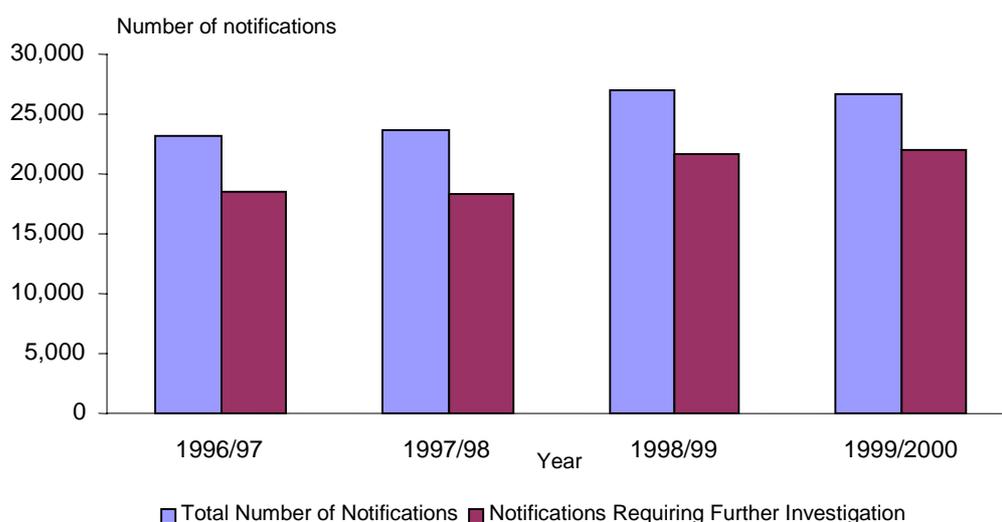
- the number and proportion of notifications for children and young people who had a prior notification within the previous 12 calendar month period (re-notification)
- the number and proportion of substantiated abuse or neglect or problem behaviour notifications that are for children and young people who have had a prior substantiated abuse, neglect or problem behaviour finding within the previous 12 month period (recurrence).

Abuse and neglect notifications

In the 1999/2000 year, the Department of Child, Youth and Family Services received 26,588 notifications involving children and young people under the age of 17 years.¹² Of these notifications, 21,983 cases required further investigation.

The number of notifications and the number of notifications requiring further investigation has shown a gradual increase over the past four years. It is significant to note that the proportion of notifications requiring further investigation has risen to 83 percent, after reaching 81 percent in the previous year.

Figure 6: Notifications and notifications requiring further investigation, 1996/97–1999/2000



Source: Department of Child, Youth and Family Services

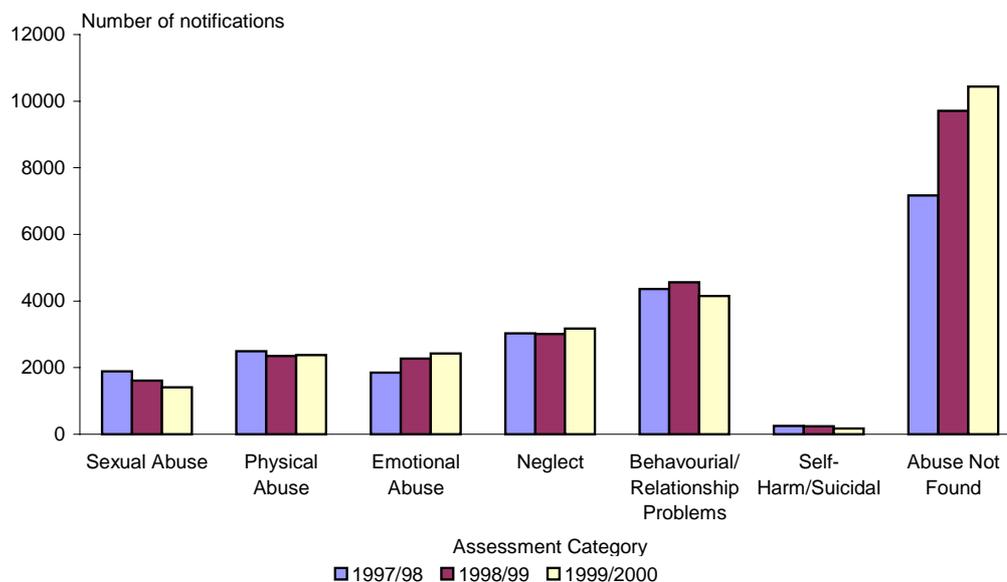
- During the year 1999/2000 approximately 45 percent of children and young people who came to the attention of the Department of Child, Youth and Family Services with substantiated findings of abuse and neglect were Māori, 35 percent NZ European and 11 percent Pacific.
- From the 21,983 cases requiring further investigation by the Department of Child, Youth and Family Services, 50 percent of completed investigations (N=10,992) were found to involve substantiated abuse, neglect or problem behaviour assessment outcomes. The rate is 10.6 per 1000 for the population aged 17 years and under

¹² The 1999/2000 year end results include results from the period including 1 July to 30 September 1999 (relating to the former Children, Young Persons and Their Families Agency) and for the nine month period beginning 1 October 1999 to 30 June 2000 (relating to the Department of Child, Youth and Family Services).

(population level at 1,035,640) (Statistics New Zealand 1999).

- The Department of Child, Youth and Family Services is unable to derive a rate per 1000 population for substantiated abuse and neglect by the specific age groups for 0– 6 and 7–16 years.

Figure 7: Investigation findings by assessment category 1997/98–1999/2000



Re-notifications and recurrence

The Department of Child, Youth and Family Services began to collect information on the level of re-notifications and recurrence of notifications from 1 July 1999 to monitor overall trends. In particular, information against the following two definitions was collected:

- the number and proportion of notifications for children and young people who had a prior notification within the previous 12 calendar month period (re-notification).
 - the number and proportion of substantiated abuse or neglect or problem behaviour notifications that are for children and young people who have had a prior substantiated abuse, neglect or problem behaviour finding within the previous 12 month period (recurrence).
- During the year 1999/2000, 12,500 (47 percent) of the 26,588 children and young people aged 17 years and under who came to the attention of the Department of Child, Youth and Family Services were first time notifications.
 - Between 2,120 and 2,660 children and young people aged 17 years and under who came to the Department's attention in 1999/2000 had a prior notification within the previous 12 calendar month period. Accordingly, the rate of re-notifications for 1999/2000 was between 8 and 10 percent.
 - The remaining 11,420 (43 percent) children and young people aged 17 years and under who came to the Department's attention during 1999/2000 had notifications prior to 1999 (i.e. not within the previous 12 calendar months).
 - The Department of Child, Youth and Family Services had 2,120 notifications for children and young persons who have had a prior substantiated abuse, neglect or problem behaviour in 1999/2000. This gives a recurrence rate of 8 percent.

Out of family care and protection services, 0–16 years

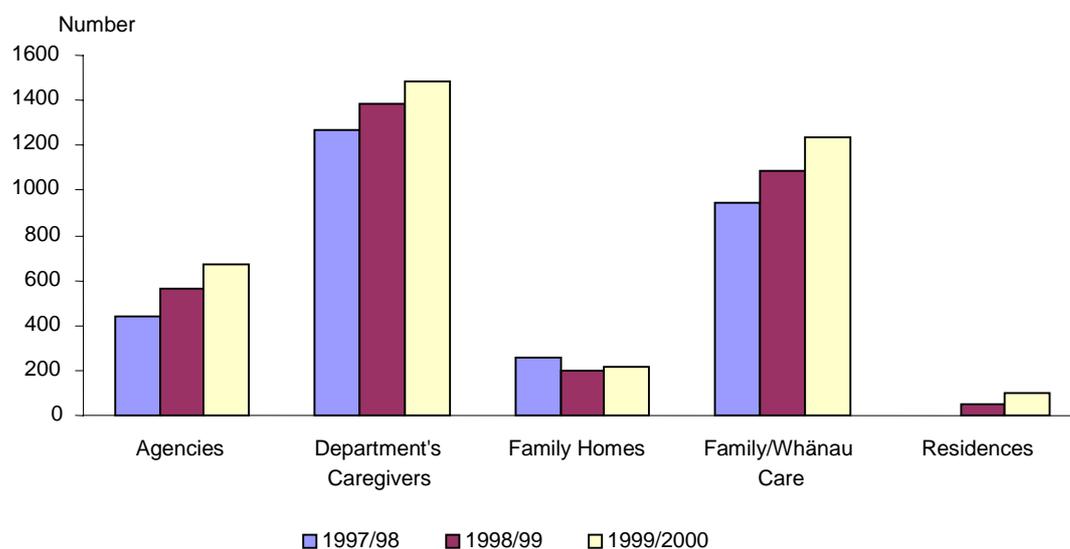
To reduce the volume of out-of-family Care and Protection bednights for children and young people aged between 0–16 years.

The Department of Child, Youth and Family Services provides or purchases care services for children and young people who are in the care or custody of the Chief Executive by Court order or agreement and for children and young people who are in care or custody of a Director of a Child and Family Service or an Iwi Social Service after a Family Group Conference has been held.

There are two main placement options used in New Zealand for children and young people requiring out-of-family care. These are either based in a home (foster home, family home, special purpose family home, specialist home or group home) or an institution (for a short or long term in either a local or national residence).

Assessing the number of children and young people in care is not straightforward because care is a dynamic process with a considerable movement of children in and out of care. One way of measuring care demand is to assess the number of children and young people in care at any point in time, usually at the end of a month.

Figure 8: Number of children and young people in care at the end of June, 1997/98–1999/2000



Source: Department of Child, Youth and Family Services

- Many children have more than one care experience. In the year to July 2000, there were a total of 12,391 placements, which means that each child had on average 1.63 placements per year.
- It should be noted that formally recording the number of young people placed in care with the Department of Child, Youth and Family Services's Residences began part-way through 1998/99.
- New analysis undertaken shows that over the last five years the proportion of children in care who are having a second or subsequent care episode has increased significantly. In 1996 approximately half of the care population were having their first care experience compared with only one-quarter presently.¹³
- Māori represented 43 percent of the total care population 0–16 years, which is a significant over-representation of this group.¹⁴

¹³ Department of Child, Youth and Family Services Care Review, November 2000.

¹⁴ Ibid.

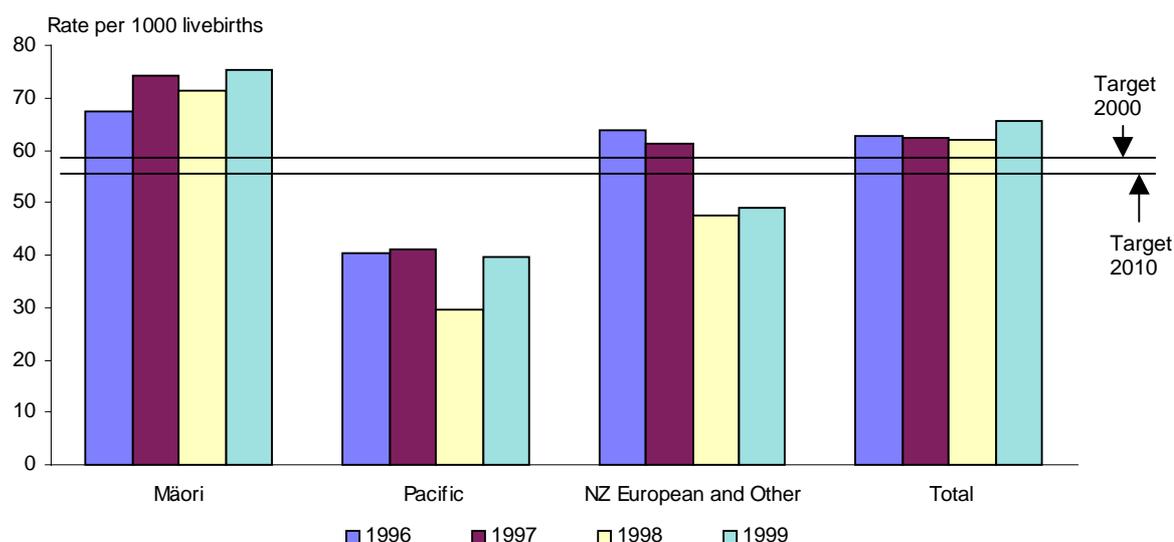
- In 1999/2000 a total of 1,281,341 bednights were provided for children and young people in care. This included 859,267 bednights provided for “out-of-family” care and 422,074 bednights provided in ‘family/whānau’ care placements. This can be compared with 1,234,470 total bednights used in 1998/99, of which 846,954 were ‘out-of-family’ placements and 1,104,654 total bednights used in 1997/98, 782,306 of which were ‘out of family’ placements.
- The demand for care services, as measured by the number of children in care at any one time, has been rising significantly since 1996. Demand for care has increased on average at a rate of 9.6 percent per annum in the period from June 1996 to June 2000. This demand was not anticipated when the 375,000 baseline was set in 1995/96.

Low birthweight

Targets: To reduce the rate of infants born weighing less than 2500 grams from 59 per 1000 livebirths in 1993 to 57 per 1000 livebirths in the year 2000, and to 55 per 1000 livebirths in the year 2010.

Low birthweight infants (infants born weighing less than 2500 grams) have been shown to be more susceptible to serious illness during infancy, early childhood and also later in life than are infants of normal birthweight. Infants have low birthweight because of being premature, being small for their gestational age, or a combination of the two factors. Important epidemiological associations include: maternal smoking; young mothers; low maternal educational status; low maternal socioeconomic status; and single mothers and mothers in de facto relationships (Silva and Stanton 1996).

Figure 9: Low birth weight (less than 2500 grams), by ethnicity, 1996–99



Source: Statistics New Zealand (1999 data are unpublished)

Technical note: Ethnic-specific rates before and after 1995 are *not* comparable and the data are shown from 1996 onward.

Classification of ethnicity in vital and health statistics changed in 1995. The 1999 low birth weight rate is calculated using the live births as of 31 December 1998.

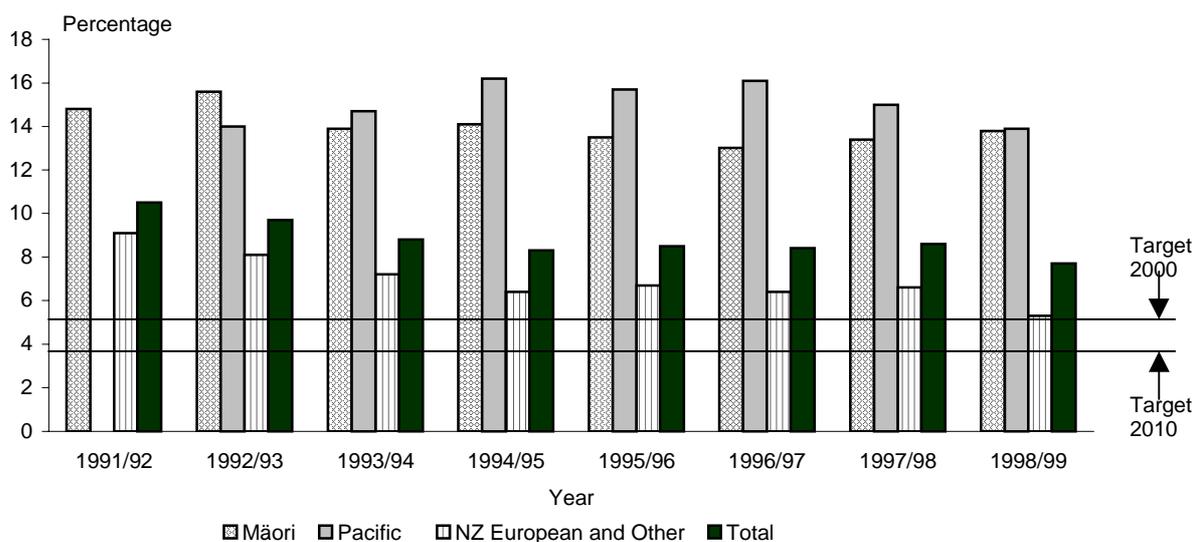
- In 1999 there were 3631 live infants born weighing less than 2500 grams, an increase from the level of 3437 infants in 1998.
- The trend for 1993–99 shows a gradual increase in the low birthweight rate from 59 in 1993 to 65 per 1000 livebirths in 1999.
- Māori infants (N=1149) born with low birth weight accounted for one-third (32 percent) of all low birthweight infants in 1999. This represents a rate of 75.4 per 1000 live births. The low birthweight rate for Māori has been consistently higher than the average for all ethnic groups.
- In 1999, 292 Pacific infants were born with low birthweight, a rate of 39.6 per 1000 live births, much higher than the rate of 30 per 1000 in 1998.
- The fluctuation in low birthweight rates for different ethnic groups may be explained partly in terms of the denominator used, which may involve double counting of infants due to multiple coding of ethnicity.
- To achieve the target set for the year 2000, it would require an annual decrease in infants born with low birthweight by 13 percent during 2000, which is unlikely to be have been met. An average of around 1.5 percent annual decrease is required to achieve the year 2010 target.

Hearing loss at school entry

Targets: To reduce hearing loss in children at school entry from 8.3 percent for 1994–95 to 5 percent in the year 2000, and to 4 percent in the year 2010.

Hearing loss in early childhood has a significant effect on emotional, social and educational development. Its early detection is essential to ensure optimal development of speech and language and to minimise the longer-term effects on educational performance (Public Health Commission 1995). With nearly 100 percent coverage of new school entrants, the data collected on this age group is most reliable, reflecting accurately on the prevalence of hearing disorders in children (National Audiology Centre 2000).

Figure 10: Percentage of new school entrants failing hearing tests, by ethnicity, 1991/92–1998/99



Source: National Audiology Centre, 1999

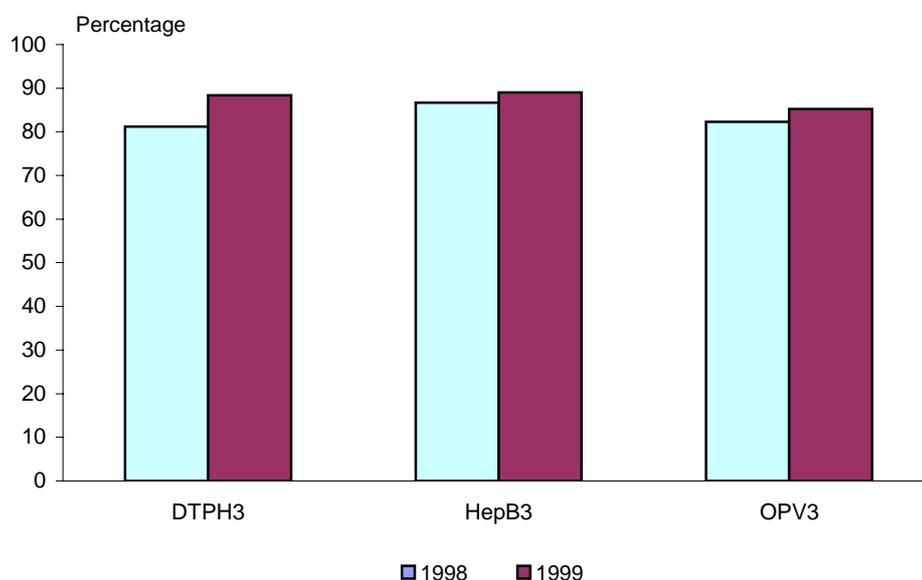
- In 1998/99 the national prevalence of new school entrants hearing failure rate was 7.7 percent, down from 8.6 percent in 1997/98. The 1998/99 rate was the lowest reported in the last decade, but was still far from the year 2000 target.
- In 1998/99 the new entrant hearing failure rate for Māori children increased slightly to 13.8 percent from 13.4 percent in 1997/98. But the rate for the Pacific children decreased to 13.9 percent from 15 percent in the previous year.
- These rates are more than twice the rate for children from NZ European and Other ethnic backgrounds for whom the rate decreased to 5.3 percent in 1998/99 from 6.6 percent in 1997/98. The trend for smaller decreases in the hearing failure rate, or slight increases, over the years 1991/92 – 1997/98 appears to indicate that the overall hearing failure rate is reaching a plateau. However, a further reduction of 1 percent in the overall new entrant hearing failure rate was observed in 1998/99.
- These data clearly confirm the need to target Māori and Pacific children as being at higher risk for chronic otitis media with effusion (glue ear) and hearing disorders.
- Targeted ear health education and improved access to appropriate health services for Māori and Pacific children are needed in order to lower their hearing failure rates.
- The year 2010 target of 4 percent may be achieved with an average annual reduction of 6 percent for the period 1999–2010.

Immunisation completed at two years of age

Targets: To increase the proportion of New Zealand children with completed early childhood immunisation by the time they are two years old from 56 percent in 1992 to 95 percent in the year 2000, and also to 95 percent in the year 2010.

Immunisation has contributed significantly to the control of a number of important infectious diseases in New Zealand, including polio, diphtheria, tetanus, *Haemophilus influenzae* type b (Hib) disease, congenital rubella, and hepatitis B (Ministry of Health 1997a). Recently the World Health Organization declared the Western Pacific, including New Zealand, to be polio free. Unfortunately, there is still lack of completed immunisation coverage data by ethnicity, hence only the national coverage for DTPH3, HepB3, and OPV3 vaccines at 5 months of age are provided here. These data are based on the Immunisation Coverage Surveillance Using Benefit Claim Data, which contain a data-recording error used by a number of general practitioners (for details refer to McNicholas and Perks 2000). Hence the figures need to be interpreted cautiously. Beginning from early 2001, an improved data set will be available and the immunisation coverage for children at two years of age will be analysed by vaccine, geographic area, and ethnicity.

Figure 11: National vaccine coverage for DTPH3, HepB3, and OPV3, 1998–1999



Source: Institute of Environmental Science & Research Limited 2000

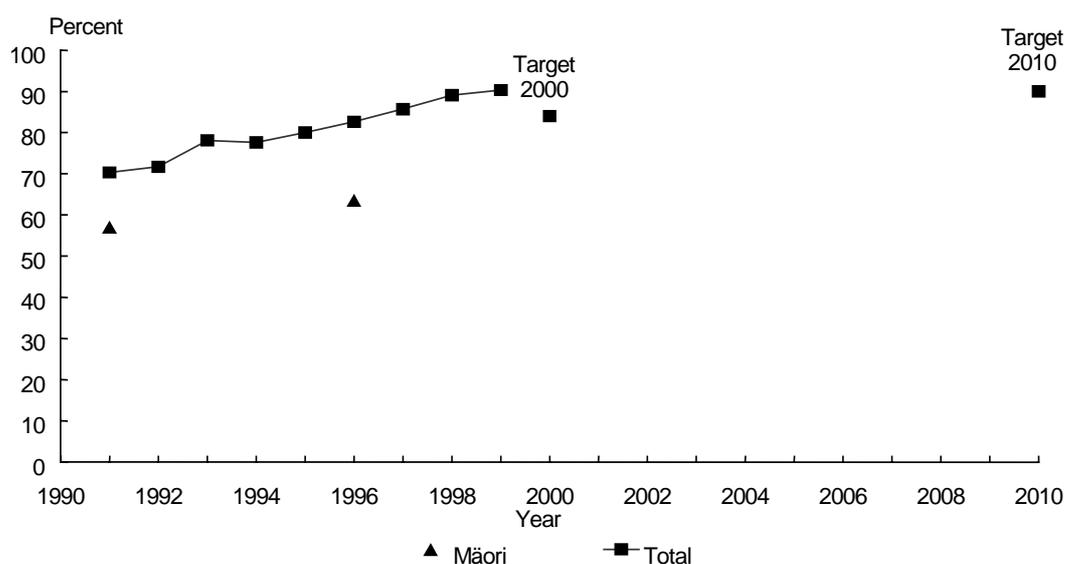
- National immunisation coverage levels — indicative of completion of the first year of immunisation schedule (DTPH3, HepB3, and PPV3) — were all slightly higher in 1999 than in 1998. These rates however remain lower than the coverage levels in 1996 and 1997 (McNicholas and Perks 2000).
- The coverage levels were 88 percent for DTPH3, 89 percent for HepB3 and 85 percent for OPV3 in 1999. The differences in coverage between immunisations may be attributed to data error as they are given at the same time.
- Because the calculated MMR1 coverage level at 77.4 percent is assumed to be incorrect as it is expected to be similar to the DTPH4 (82 percent), since these immunisations are administered at the same time. Hence the coverage level for MMR1 is not reported here.

Participation of three-year-olds in early childhood education (priority target)

Targets: To increase the apparent participation rates of three-year-olds in early childhood education from 80 percent in 1995 to 84 percent in the year 2000, and to 90 percent in the year 2010.

The importance of early childhood education in forming the foundation for success in future education is widely acknowledged. Participation in an early childhood programme enhances the total development of the child, prepares the child for school and eases transition, and provides support for parents (Wylie et al 1996).

Figure 12: Apparent participation rates of three-year-olds in early childhood education, 1991–99



Source: Ministry of Education

Technical notes

1. It is likely that a number of children are enrolled concurrently in more than one type of service, so rates of participation can only be considered 'apparent' and may be inflated.
2. The population figures used in the calculation of participation rates are from Statistics New Zealand and are for the estimated New Zealand resident population. As similar estimates are not available for the Māori population, participation rates for Māori are given for census years only and are based on Māori resident population figures from the Census of Population 1991 and 1996.
3. The time series of apparent participation rates was revised in 1999 and the figures presented here may differ slightly from those previously published.

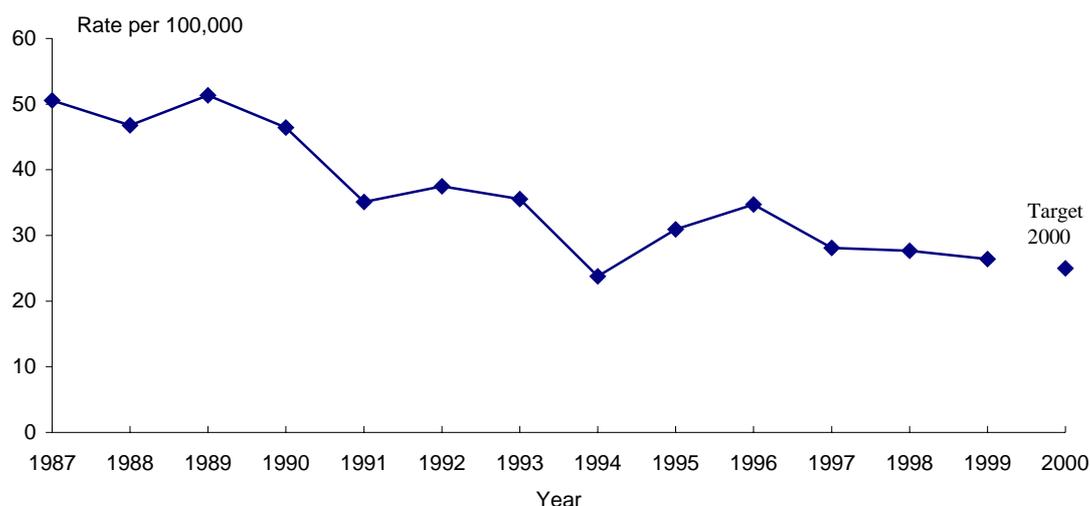
- The participation rate for three-year-olds in early childhood education has increased from 70 percent in 1991 to 90 percent in 1999, an increase of 20 percentage points. The target of 84 percent set for the year 2000 has been exceeded.
- In 1999 Māori children were concentrated in Te Kohanga Reo (38 percent), education and care centres (26 percent) and kindergartens (22 percent).
- Between 1991 and 1996, the participation rate for Māori three-year-olds increased from 57 to 63 percent, compared with the increase for the total three-year-old population in the same period of 70 to 83 percent, indicating that Māori participation rates remained substantially lower than the overall participation rate.
- Most enrolments of Pacific children in 1999 were in education and care centres (33 percent), kindergartens (31 percent), and Pacific early childhood groups (27 percent).
- These figures compare with the overall proportions of children who attended education and care centres (40 percent), kindergartens (27 percent), licence-exempt Early Childhood Development (ECD) funded playgroups (10 percent), playcentres (9 percent), Te Kohanga Reo (7 percent), homebased services (5 percent), ECD Pacific Islands early childhood groups (2 percent), and the Correspondence School (1 percent) in 1999.

Road traffic death rate, 15–19 years

Targets: To reduce the mortality rate due to motor vehicle crashes for young people aged 15–19 years from 31 per 100,000 in 1994–96 to 25 per 100,000 in the year 2000. The target level for year 2010 is awaiting advice from Land Transport Safety Authority on their target for all ages.

The total number of people killed in road crashes is a principal indicator of progress in road safety in New Zealand. In 1999, a total of 509 people died in road traffic accidents, a preventable cause of death. Fourteen percent of people who died due to motor vehicle accidents in 1998 were aged 15–19 years. A recent study in New Zealand found unsafe road traffic practices, especially among males, were high (Begg and Langley 1999).

Figure 13: Mortality due to road traffic accidents, ages 15–19 years, 1987–99



Source: Land Transport Safety Authority

Note: Ethnic-specific information is not collected by Land Transport Safety Authority

- According to Land Transport Safety Authority the age-specific road traffic death rate among young people 15–19 years was 26.4 per 100,000 in 1999, slightly down from 27.7 per 100,000 in 1998. The 1999 rate was close to the year 2000 target of 25 per 100,000.
- Speeding, drinking driving and seatbelt non-compliance continue to be the problem areas (Begg and Langley 1999) preventing in meeting the target.
- As in the previous years males aged 15–19 years were more likely than females to be killed in a motor vehicle accident for 1998 according to NZHIS.
- In 1998 the Māori death rate was 1.7 times of that of non-Māori rate according to NZHIS. The sex differential is seen for all ethnic groups.
- In 1999, there were 4454 hospitalisations for 15–19-year-olds due to motor vehicle traffic accidents. Males were almost twice as likely as females to be hospitalised.
- Māori were 26 percent less likely than non-Māori to be hospitalised, though the rate for Māori may be underestimated due to inaccurate recording of ethnicity in hospital statistics.
- To achieve the year 2000 target, the road traffic death rate among 15–19-year-olds needs to be reduced by 5 percent during 2000.

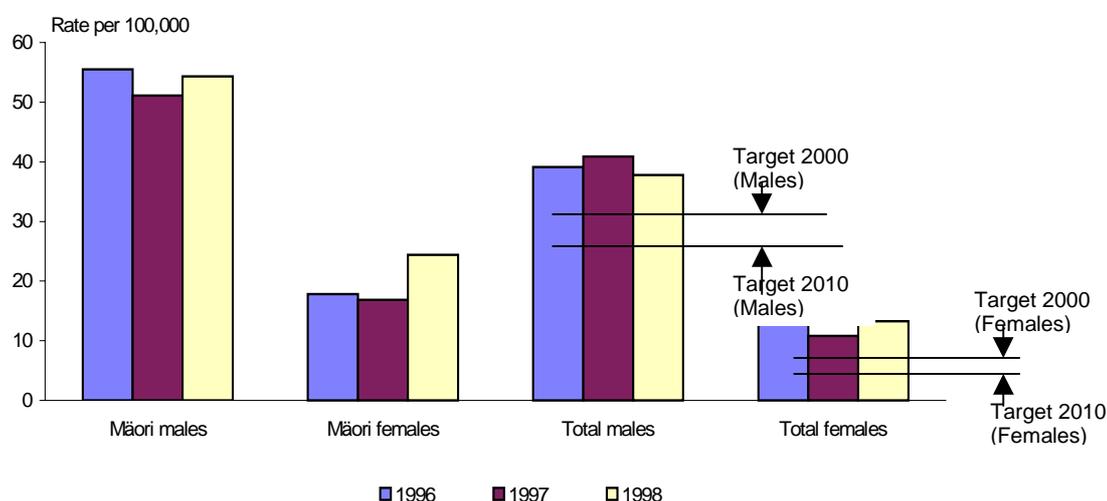
Youth suicide, 15–24 years

Targets: To reduce the suicide rate among males from 38.9 per 100,000 for the period 1990–92 to 33 per 100,000 in the year 2000, and to 29 per 100,000 in the year 2010.

To reduce the suicide rate among females from 6.3 per 100,000 for the period 1990–92 to 5.4 per 100,000 in the year 2000, and to 4.7 per 100,000 in the year 2010.

Suicide in the 15–24 year age group is an important public health and social issue, particularly for males, among whom it accounted for an average of 111 deaths per year during 1994–1998. The gender ratio is 3 male suicides to every female suicide. The causes of suicide are multifactorial. Risk factors include experiencing some underlying psychological distress or mental illness; behavioural disorder; a history of recent suicide attempts; a disturbed or unhappy family background; and experiencing severe distress immediately prior to the suicide such as a break-up of a significant relationship or recent bereavement. Psychiatric disorder appears to be particularly important, with approximately 90 percent of young people who die by suicide having one or more diagnosable mental disorder (Appleby et al 1999, Beautrais et al 1998, Ministry of Health 1997b).

Figure 14: Suicide rate, ages 15–24 years, by sex and ethnicity, 1996–98



Source: New Zealand Health Information Service

Technical note: Ethnic-specific rates are shown with a break in the time series before and after 1995 since they are *not* comparable due to a change in classification of ethnicity in vital and health statistics in 1995.

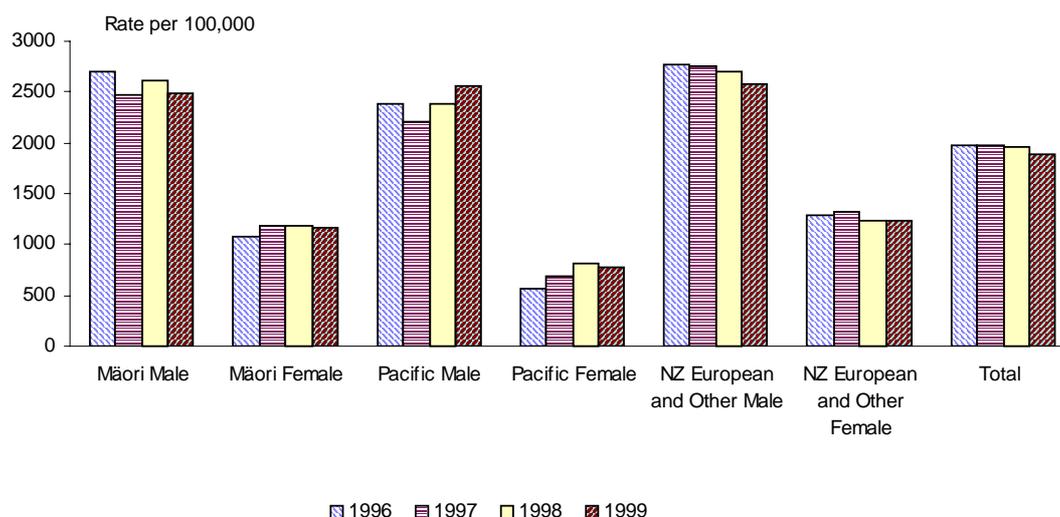
- In 1998 a total of 574 people died by suicide, of which 140 were in the age group 15–24 years (26.1 per 100,000). Suicide continues to be the second most common cause of death in this age group. Of the 140 deaths, 66 were in the age group 15–19 years.
- The age-specific male and female suicide death rates were 38.5 and 13.3 per 100,000 respectively.
- During 1994–98, the female rate increased on an average by 8 percent annually while the male rate decreased by little over 1 percent. The year 2000 and 2010 targets are unlikely to be achieved if the current trends continue. It will require an average annual reduction of 2.3 percent for males and 8.3 percent for females to attain the year 2010 target.
- In 1998 the Māori suicide death rate (40.3 per 100,000) was much higher than the non-Māori rate (22.6 per 100,000). The death rate for Māori males was highest (54.3 per 100,000) among all in the age group 15–24 year.
- In 1999, 887 (males 292 and females 595) of 15–24-year-olds were hospitalised due to self-inflicted injuries. Of these over half (54 percent) were among people aged 15–19 years. The hospitalisation rate for 15–19-year-olds (177.0 per 100,000) was higher than that of 20–24 years (154.4 per 100,000).
- Among males, the hospitalisation rate was higher for Māori than non-Māori (134.3 versus 100.3 per 100,000). While among females, non-Māori rate exceeded the Māori rate (236.8 versus 191.7 per 100,000).

Injury hospitalisation rate, 15–19 years

Targets: To reduce the injury hospitalisation rate from public hospitals of those aged 15–19 years due to injury from 2517 per 100,000 for 1994 to 2100 per 100,000 in the year 2000, and to 1770 per 100,000 in the year 2010¹⁵.

Injury is a leading cause of both morbidity and mortality in New Zealand. In 1998, injury (intentional and unintentional) accounted for more than two thirds of all deaths in the age group 15–19 years. Motor vehicle traffic accidents and suicides were the main causes of death in this age group.

Figure 15: Injury hospitalisation rates, ages 15–19 years, by sex and ethnicity, 1996–99



Source: New Zealand Health Information Service.

Technical note: Injuries are classified according to ICD-9 External Cause Codes E800–999, omitting codes E870–879 and E930–949 which refer to medical misadventure, complications of care etc. Targets are not shown in the chart as they need to be revised. Classification of ethnicity in vital and health statistics changed in 1995.

- Hospitalisation events for injuries totalled 5152 in 1999 for ages 15–19 years (1897 per 100,000 population), under the target level for the year 2000.
- For that group, motor vehicle traffic accidents were a major cause of hospitalisation (20 percent), followed by falls (14 percent), and self-inflicted injuries (10 percent).
- In 1999, males aged 15–19 years were more than twice as likely as females to be hospitalised for injuries consistent with previous years.
- The hospitalisation rates varied only slightly among males. Males from the New Zealand European and Other group had a rate of 2583 per 100,000 followed by the rates for Māori males (2486 per 100,000) and Pacific males (2562 per 100,000).
- Injury hospitalisation rate for Pacific females was the lowest (774 per 100,000) compared to the female rates for other ethnic backgrounds.
- While the total injury hospitalisation rate shows a decreasing trend since 1996, the rates for Pacific peoples appear to be slightly increasing.
- To achieve the target set for the year 2010, an average of less than 2 percent decrease in injury hospitalisation rate is required each year during the period 1999–2010.

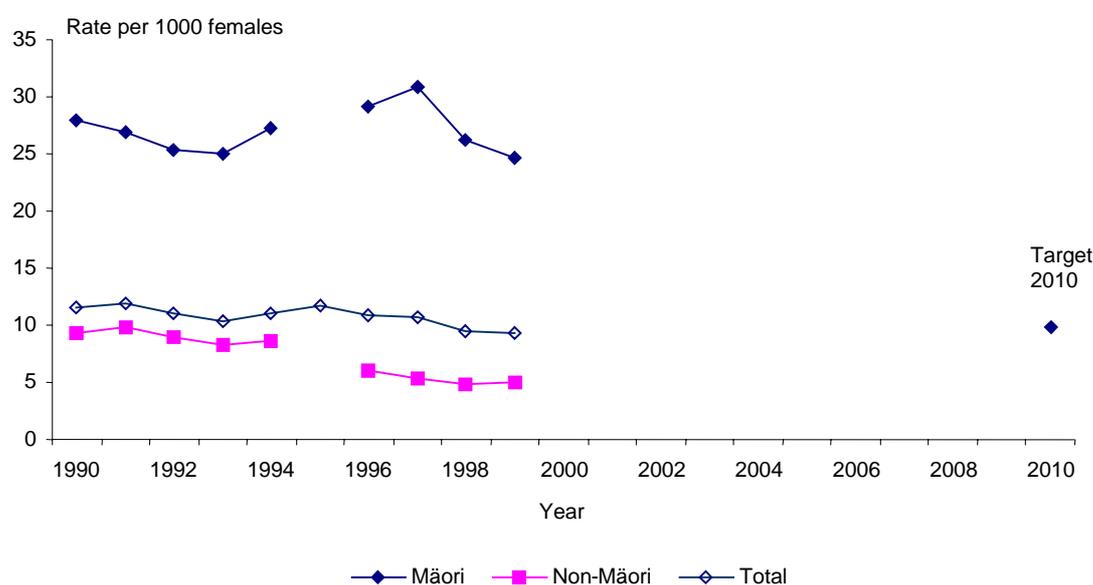
¹⁵ Changes in hospital admission policies, accepted treatment practices, recording systems and case-mix presentation may affect consistency of reporting over time. Because of differences in data coding and using improved method of data analysis, the new rates appear to be lower than that it was thought in 1994 when the target was set. The target level needs to be revised.

Teenage fertility rate (priority target), 13–17 years

Targets: To reduce the fertility rate for females aged 13–17 years from 11.8 live births per 1000 females in 1995 to 10.9 live births per 1000 in the year 2000, and to 9.8 live births in the year 2010.

International research suggests that childbearing during adolescence is associated with long-term difficulties for the mother, the child, and society. These outcomes have been attributed to the poverty and other adverse socio-economic circumstances that frequently accompany early childbearing. Compared with babies born to older mothers, babies born to adolescent mothers are at a higher risk of low birthweight and infant mortality, and are more likely to grow up in homes that offer lower levels of emotional support and cognitive stimulation. For the mothers, giving birth during adolescence is associated with limited educational attainment, which in turn can reduce employment prospects and earnings potential. The indicator of adolescent childbearing used is the fertility rate for young women aged 13 to 17 years.

Figure 16: Fertility rate for females ages 13–17 years, 1990–99



Source: Statistics New Zealand.

Technical notes:

1. Ethnic-specific rates before and after 1995 are *not* comparable and are shown with a break in the time series. Classification of ethnicity in vital and health statistics changed in 1995.
2. A change in the processing of birth registration forms from 1 Jan 1998 resulted in lower than expected births for that year, so the figures for 1998 should be regarded with caution.
3. Changes in the processing of birth registration, hospital admission policy, recording systems and case-mix presentation may affect consistency of reporting data over time. Using improved data showed the target set in 1994 to be lower than the targets set for 2000 and is close to the target for 2010. Hence the target levels for teenage fertility needs to be revised.

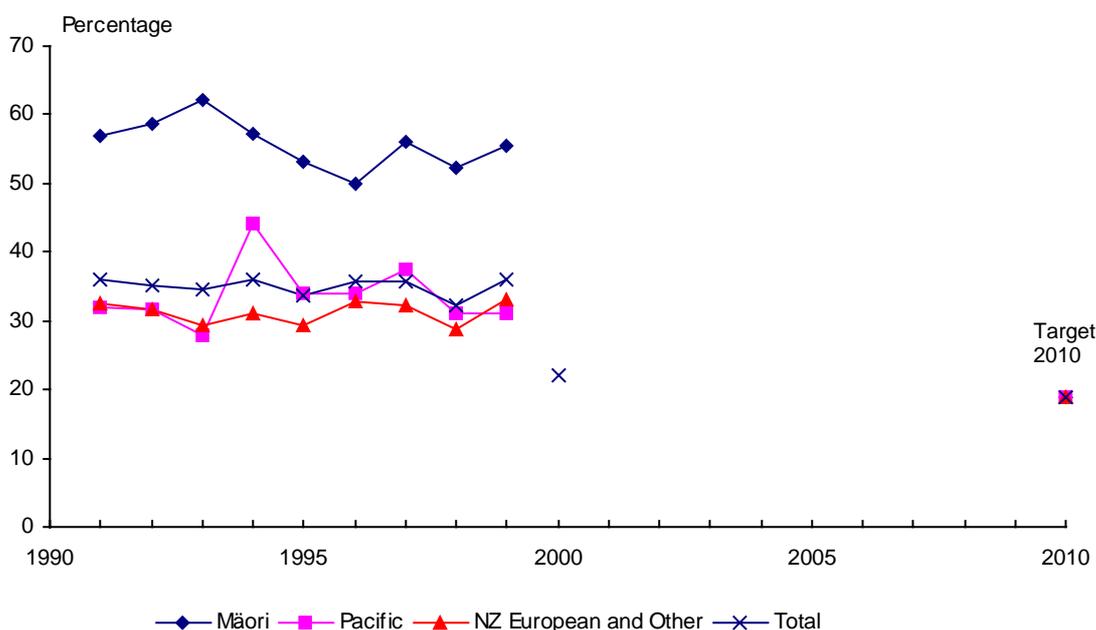
- In 1999, there were 1224 live births to mothers aged less than 18 years (a rate of 9.3 per 1000 females aged 13–17 years). This rate surpasses the target for 2000 and is lower than the target set for 2010 (9.8 per 1000). Births to females under 18 made up 2.1 percent of all live births in 1999.
- In 1999, the fertility rate for Māori females aged 13–17 years was 24.7 per 1000, slightly lower than the previous year's figure of 26.2 but five times that of non-Māori (4.9 per 1000).
- Age-specific fertility rates for Pacific women are produced by Statistics New Zealand for census years only. In 1996, the fertility rate for Pacific females aged 13–17 years was 17.0 per 1000, nearly twice the average rate.
- In 1999, there were 1,252 abortions to females aged less than 18 years, representing 8.1 percent of all abortions (an abortion rate of 9.5 per 1000 females aged 13–17 years).
- For 1995–96 and using information for females aged 15–19 years, Māori and European females had comparable abortion rates (21.2 and 20.7 per 1,000, respectively), while the rate for Pacific females was approximately 30 percent higher, at 27.2 per 1,000 (Abortion Supervisory Committee 1997).

Tobacco smoking, 18–24 years

Targets: To reduce the percentage of young people aged 18–24 years smoking any type of cigarette from 34.2 percent in 1993 to 22 percent in the year 2000, and to 19 percent in the year 2010.

Smoking has serious long-term consequences, including the risk of smoking-related diseases, increased health care costs associated with treating these illnesses, and the risk of premature death (Winstanley et al 1995). Many adults who today are addicted to tobacco began smoking as adolescents. These consequences underscore the importance of studying patterns of smoking among adolescents. Data are collected for ages 18 years and over, where 18 years of age is the lowest age group to whom shop owners can legally sell tobacco products. Any impact of interventions targeted to young people aged less than 18 years would be seen in the years following the intervention when the targeted cohort move into the 18–24 year age group.

Figure 17: Percentage of youth smokers, ages 18–24 years, by ethnicity, 1991–99



Source: AC Nielsen Spectrum

- For 1999, an estimated 36.1 percent of those aged 18–24 years were cigarette smokers, increased from 32.3 percent in 1998, much greater than in the base year 1993. Given the current rate, it is highly unlikely that the target for the 2000 will have been achieved.
- Estimates of cigarette smoking for males and females were identical in 1999 as in the previous year. For both sexes, the rates have increased in 1999. For males, the rate increased from 31.2 percent in 1998 to 35.5 percent, while for females it increased from 33.5 percent in 1998 to 36.7 percent in 1999.
- The increase appears to be greater between New Zealand European and Other youths than for Māori and Pacific youths. The Māori rate of youth smoking increased to 55.6 percent from 52.3 percent in 1998, while the rate increased to 33 percent in 1999 from 28.9 percent in 1998 among the New Zealand European and Other group. Pacific youth have a smoking rate of 31 percent in 1999, the same rate as in 1998.
- To achieve the target set for the year 2010, an annual reduction of 6 percent is required during the next decade.
- International studies show a recent trend of an earlier age of initiation and rising smoking prevalence rates among children and adolescents (Warren et al 2000).

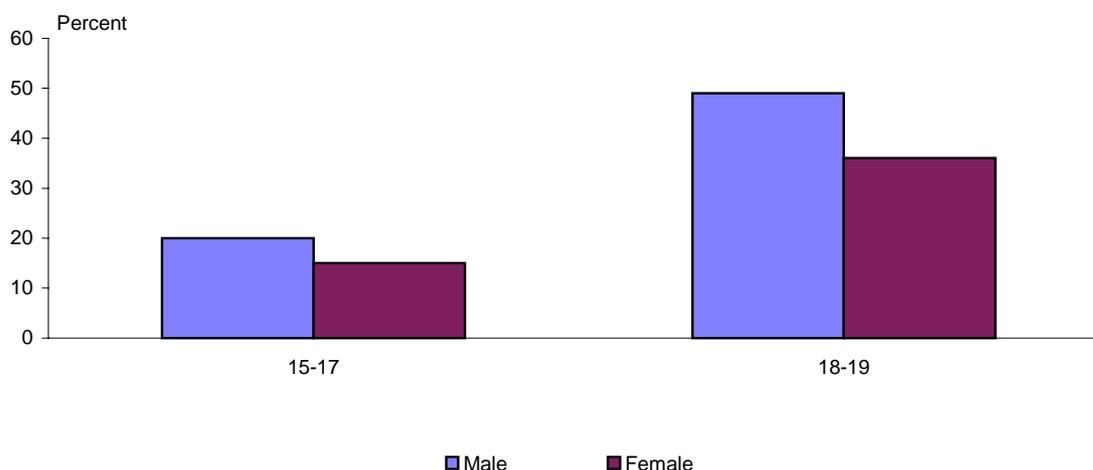
Drug and alcohol risk behaviour, 14–19 years¹⁶

Targets: To decrease the prevalence of heavy drinking among young people aged 14–17 years from 18 percent to 15 percent for males; and from 7 percent to 5 percent for females by the year 2003.

To decrease the prevalence of heavy drinking among young people aged 18–19 years from 36 percent to 30 percent for males; and from 28 percent to 25 percent for females by the year 2003.

Research indicates that drug and alcohol abuse by adolescents can have immediate as well as long-term health and social consequences. Alcohol abuse by adolescents is associated with motor vehicle accidents, injuries and deaths, problems in school and in the workplace, fighting and crime (Fergusson et al 1994; American Academy of Paediatrics 1995). Chronic marijuana abuse poses both health risks, particularly for damage to respiratory functions, and cognitive risks, where this age group have a special vulnerability to the effects of cannabis on educational performance (Hall 1995, Hall and Solowij 1998). Possession and/or use of illegal drugs can lead to a variety of penalties and a permanent criminal record.

Figure 18: Percentage of young people aged 15–19 years who reported drinking alcohol heavily, by gender, 1998



Source: Drugs in New Zealand National Survey 1998

Note: Heavy drinking is referred as those drinkers who exceed maximum responsible drinking levels: 6 standard drinks for males and 4 standard drinks for females on an occasion at least weekly.

- Targets are set for the year 2003 using the 1995 National Alcohol survey which showed a baseline data for heavy drinking among 18–19-year-olds at 36 percent and 28 percent for males and females respectively (Alcohol Advisory Council 2000).
- According to the Drugs in New Zealand National Survey 1998, heavy drinking among 18–19-year-olds was 49 percent for males and 36 percent for females (Field and Casswell 1999). It appears that

the prevalence of heavy drinking has increased for both males and females in 1999 compared with the baseline data of 1995 and is well above the target set for the year 2003.

- Among Māori aged 14 to 29 years, 30 percent of males and 14 percent of females stated that they drink in excess of the maximum responsible drinking levels at least once weekly (Field and Casswell 1999).

¹⁶ Targets for drug use need to be set.

- Forty-one percent of males aged 18–19 years reported consumption of alcohol enough to feel drunk at least once per week. The corresponding figure for females was 24 percent (Field and Casswell 1999).
- A ‘current user’ is a respondent who had used cannabis in the last 12 months and said he/she had not stopped using it. The percentage of current users also was highest among 18–19-year-olds. In this age group, 34 percent of males and 19 percent of females were current users. The approximate figures for 15–17-year-olds were 18 and 10 percent for males and females respectively (Field and Casswell 1999).
- In 1999, 30 percent of respondents (sample size of 2020 in the Wairarapa, 1968 in the Kapiti region) aged 13–17 years have tried cannabis. About 11 percent in the Wairarapa and 13 percent in the Kapiti region were current users of cannabis (Regional Public Health 2000).
- Current cannabis use for Māori in the 13–17-year-olds is higher than for any other ethnic group. Seventy percent of those who identified themselves as Māori or Māori/European are current users of cannabis. The corresponding proportion among Pacific peoples is 14 percent, slightly higher than the 12 percent average for the whole sample (Regional Public Health 2000).
- Use of cannabis on more than 10 occasions in the last month was also most common among males aged 18–19 years (11 percent). The corresponding figure for females was much lower at 2 percent (Field and Casswell 1999).
- About 14 percent of cannabis users in the Wairarapa and 12 percent in Kapiti among 13–17 years of age had used cannabis 10 times or more in the preceding four weeks.

Incidence of repeat and serious re-offending cases referred to the Department of Child, Youth and Family Services, 10–16 years

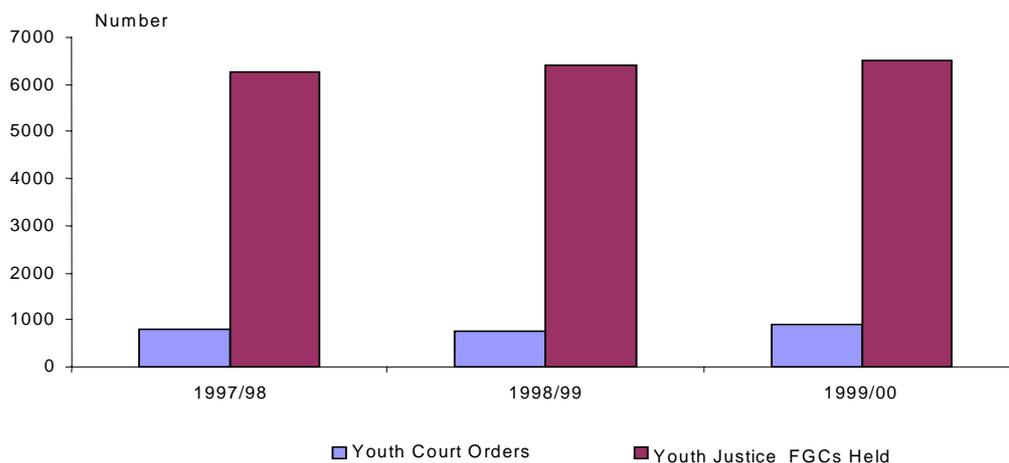
To reduce the incidence of repeat and serious re-offending cases involving youth offenders aged 10–16 years referred to the Department of Child, Youth and Family Services.

About 8000 young people in the 12–16 year age group come to the notice of the Department of Child, Youth and Family Services each year and are provided with a range of services depending on their circumstances. About 2–3 percent of these young people are at such high risk of poor life outcomes that they need intensive levels of individual attention to avert a life-cycle of persistent offending, behavioural problems and mental health illness including drug and alcohol abuse.

For the purposes of this report, the Department of Child, Youth and Family Services has defined a repeat offender as a child or young person aged 10–16 years whose offending, after one or more previous interventions, is persistent and/or escalating. Two measures have been selected as indicators of either an increase or a decrease in repeat and serious re-offending. These are:

- Youth Court Orders
- The ratio of Youth Court Orders to Youth Justice Family Group Conferences (FGCs) held.

Figure 19: Number of Youth Court Orders and Youth Justice FGCs held, 1997/98–1999/2000

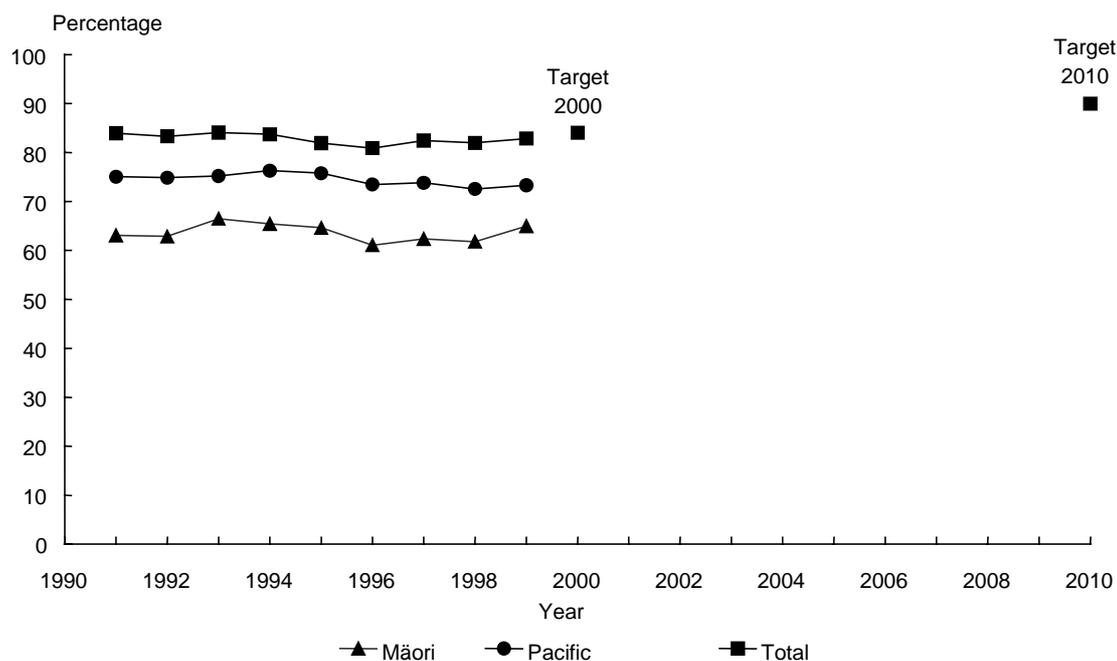


- In 1999/2000 the Department of Child, Youth and Family Services received Youth Court Final Orders for 895 distinct clients and held a total of 6520 Youth Justice Family Group Conferences. The rate is 19.2 per 1000 population.
- In 1998, the Government made funding available for Child, Youth and Family's Youth Services Strategy, following a review of youth services and the youth justice provisions of the Children, Young Persons and Their Families Act 1989. The strategy aims to provide better ways of recognising and meeting the needs of high-risk young people with conduct disorders or behavioural problems and those who have offended and are at risk of re-offending.
- In 1997/98 the ratio of Youth Court Orders to the number of Youth Justice FGCs was 1 to 7.9. This increased in 1998/99 to achieve a ratio of 1 to 8.2. The 1999/2000 results show a decrease as the ratio of Youth Court Orders to Youth Justice FGCs reached a level of 1 to 7.3.
- The Youth Services Strategy complements other strategies such as the Residential Services Strategy and seeks to extend the continuum of care options for high-risk young people.

School leavers with a formal qualification (priority target)

A formal school qualification is a measure of the extent to which young adults have completed a basic prerequisite for higher education and many entry level jobs. Educational qualifications are linked to labour force status and income. They improve life chances for the individual and enhance general social wellbeing.

Figure 20: Percentage of school leavers with formal qualifications, by ethnicity, 1991–99



Source: Ministry of Education

Note: A formal qualification is defined as one School Certificate subject irrespective of grade awarded (or national qualifications framework equivalent), or better.

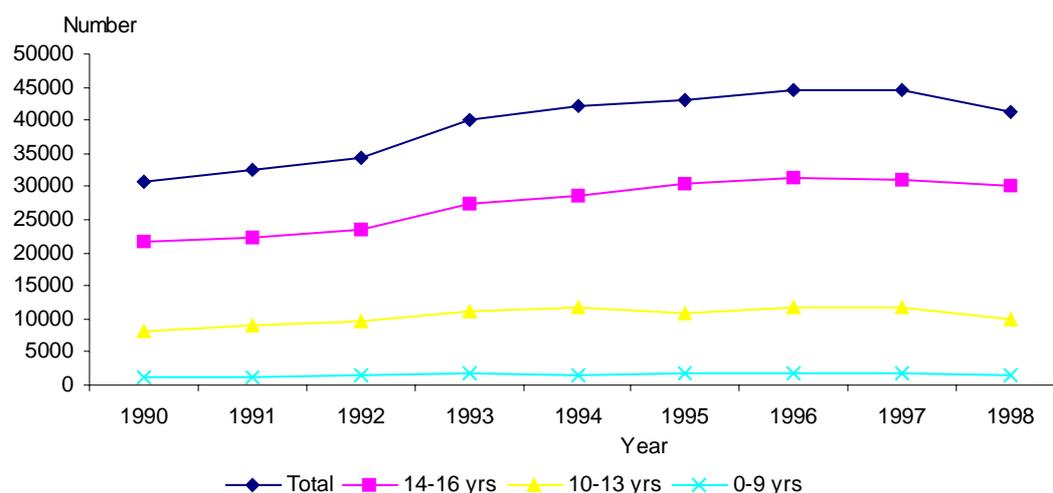
- The proportion of all students leaving school with a formal qualification fell from 84 to 81 percent between 1991 and 1996. In subsequent years it increased again to 82 percent in 1997 and 83 percent in 1999.
- The decrease in the proportion of students leaving school with formal qualifications may have been related to improvements in the labour market for unskilled school leavers.
- Students who leave school without a formal qualification may have the opportunity to return to education and training through Training Opportunities.
- The year 1996 was also a low point in the proportion of Māori and Pacific peoples school leavers with a formal qualification. In subsequent years the Māori rate has increased again, while the Pacific rate has not shown any clear improvement.
- Māori and Pacific peoples have consistently had a lower proportion of students leaving school with a formal qualification. In 1999, 65 percent of Māori and 73 percent of Pacific peoples school leavers had gained one School Certificate subject or better before leaving school, compared with 83 percent of all school leavers.
- Regions with the lowest proportion of students leaving school in 1999 with formal qualifications were the West Coast (70 percent), Gisborne (74 percent) and Northland (78 percent).

Number of offenders aged 16 or under apprehended by the Police

To reduce the number of alleged offenders aged 16 or under apprehended by the Police.

- The focus of this indicator is the numbers of young persons apprehended by the Police. Context is important when interpreting the data. For example, possible changes in policing practices, reporting and/or recording practices would need to be considered when examining variations in apprehension rates.¹⁷

Figure 21: Number of alleged offenders, by age, 1990–99



Source: New Zealand Police, data for years ending 31 December
 Technical note: Apprehensions for traffic offences are not included.

- There was a total of 43,386 apprehensions of offenders aged 16 or under in 1999, up 41 percent on the number for 1990. (This is not equivalent to 43,386 individual offenders as many offenders are apprehended for multiple offences.) The apprehensions were for any of seven major offence categories: violence, sexual, drugs and anti-social, dishonesty, property damage, property abuses, and administrative (predominantly offences against justice).
- The dishonesty offence category (which includes burglary, vehicle taking, theft, receiving stolen property and fraud) accounted for over half (54 percent) of apprehensions involving offenders aged 16 or under in 1999.
- In 1999, nearly four out of five apprehensions involving offenders aged 16 or under were of males.
- The number of offenders recorded as being Māori and the number from other ethnic groups (ie, all other ethnic groups combined) has increased at a similar rate over the past few years.
- Apprehensions for three major offence categories – administrative, property damage and violence – involving offenders aged 16 or under more than doubled between 1990 and 1999.

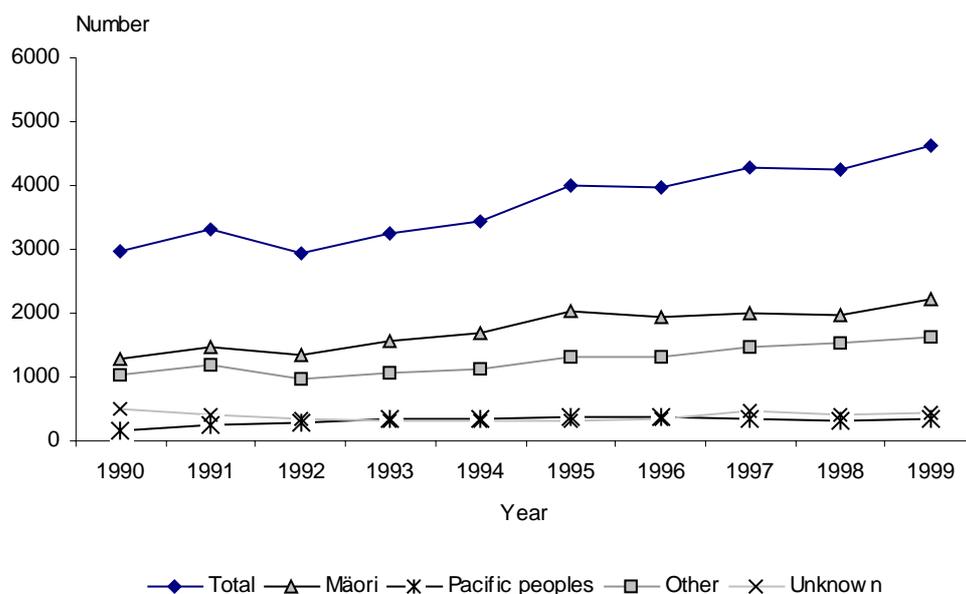
¹⁷ An understanding of the limitations in respect to the Police data on offenders is also important. Two key limitations are:
 1. the data do not contain unique numbers. Since the data is collected in relation to reported offences, and many offences involve multiple charges or multiple offenders, it is impossible to give an accurate count of **individual** offenders
 2. the statistics only relate to those offenders apprehended by Police in relation to **reported** offences.

Cases involving the prosecution of offenders aged 16 or underⁱ

To reduce the number of cases involving the prosecution of offenders aged 16 or under.

There are a number of potential outcomes for young persons who have been apprehended by the Police. These are: discretionary cautionsⁱⁱ; warningsⁱⁱⁱ; Family Group Conferences^{iv}; Police Youth Aid section referral for further action; Youth Court prosecution^v; or District or High Court prosecution^{vi}.

Figure 22: Cases involving the prosecution of offenders aged 16 years or under by ethnicity, 1990–99



Source: Ministry of Justice

Technical note: The transition from Police data to Courts data requires a change of unit of measure from offences to cases. The number of prosecuted offences is considerably higher than the number of prosecuted cases as more than one offence can be prosecuted by one court case. The data presented above include cases prosecuted for any offence category, including traffic offences. In addition, a significant change has been made to the way charges are formed into cases. Identifiers for non-traffic and traffic offences have been linked. This means that the number of cases in a year will be less using the new method, as traffic and non-traffic charges committed by a single offender at the same time are joined into one case rather than two. Case-based data were formed using the new method for the entire 10-year period 1990 to 1999 so that a consistent series of data are presented here.

- In 1999, 4618 cases involved the prosecution of offenders aged 16 or under, up 56 percent since 1990.
- In 1990 about one in four cases resulted in a conviction in the District or High Courts; by 1999, the ratio had reduced to about one in seven. The trend was slightly reversed for cases resulting in an outcome of 'Youth Court proved'. Twenty-nine percent of cases resulted in this outcome in 1990 compared with 30 percent in 1999.
- Forty-five percent of cases involving the prosecution of young offenders in 1999 had a property offence as the major offence, 20 percent had a traffic offence as the major offence, and 20 percent had a violence offence as the major offence.
- In over four in five cases, the offenders aged 16 or under who were prosecuted in 1999 were males.

- Young Māori are over-represented among cases in which offenders aged 16 or under are prosecuted. In 1999, 2216 (48 percent) cases involved the prosecution of Māori offenders, 356 (8 percent) involved the prosecution of Pacific peoples offenders, and 1623 (35 percent) of cases involved the prosecution of offenders of all other ethnic groups combined. (Ethnicity data was not available for 423 (9 percent) of cases.
- In 1999, the prosecution rates for 10 to 16 year-olds were 2.6 percent for Māori, 1.1 per 100 for Pacific peoples, and 0.6 per 100 for all other ethnic groups combined.

Figure 23: Cases involving the prosecution of male offenders aged 16 years or under by ethnicity, 1990-99

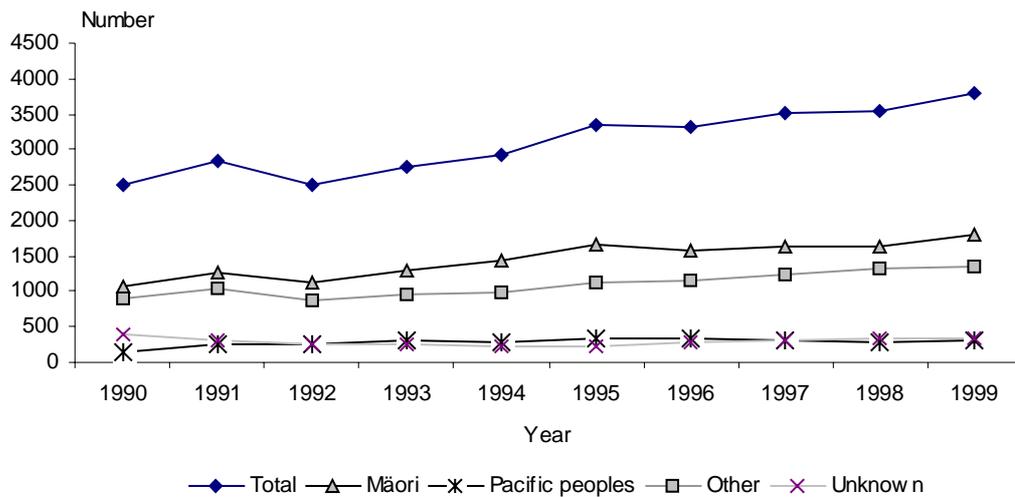
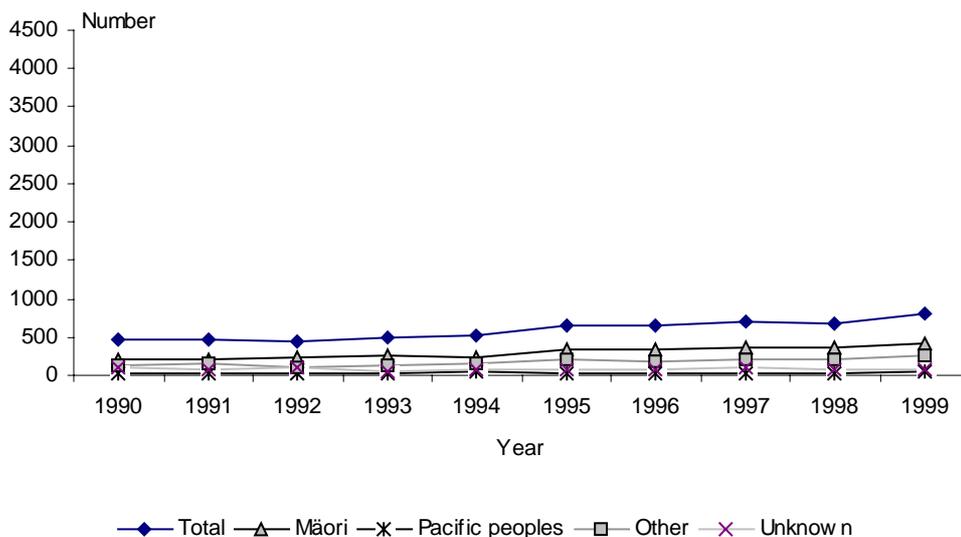


Figure 24: Cases involving the prosecution of female offenders aged 16 years or under by ethnicity, 1990-99



REFERENCES

- Abortion Supervisory Committee. 1997. *Report of the Abortion Supervisory Committee for 1997*. Wellington: Abortion Supervisory Committee.
- Alcohol Advisory Council. 2000. *National Alcohol Strategy 2000-2003*. Wellington: Alcohol Advisory Council of New Zealand.
- American Academy of Paediatrics. 1995. Alcohol use and abuse: A pediatric concern. *Paediatrics* 95:439–42.
- Appleby L, Shaw J, Amos T et al. 1999. Suicide within 12 months of contact with mental health services: national clinical survey. *British Medical Journal* 318:1235–9.
- Begg DJ and Langley JD. 1999. Road traffic practices among a cohort of young adults in New Zealand. *New Zealand Medical Journal* 112:9–12.
- Beautrais AL, Joyce PR, Mulder RT, et al. 1998. Youth suicide attempts: a social and demographic profile. 1998. *Australian and New Zealand Journal of Psychiatry* 32:349–57.
- Coggan C, Fanslow J, Norton R. 1995. *Intentional Injury in New Zealand*. Wellington: New Zealand.
- Fergusson DM, Lynskey MT, Horwood LJ. 1994. Alcohol consumption and associated problems in a birth cohort of 15-years-olds. *NZ Med J* 107: 167–70.
- Field, A and Casswell S. 1999. *Drugs in New Zealand National Survey, 1998*. Alcohol & Public Health Research Unit, Runanga, Wananga, Hauora me te Paekaka, University of Auckland.
- Kotch JB, Chalmers DJ, Fanslow JL, et al. 1993. Morbidity and death due to child abuse in New Zealand. *Child Abuse & Neglect* 17: 233–47.
- Hall W. 1995. The public health significance of cannabis use in Australia. *Aust J Public Health* 19: 235–42.
- Hall W and Solowij M. 1998. Adverse effects of cannabis. *The Lancet* 352:1611–15.
- McNicholas A. and Perks M. 2000. *Immunisation Coverage Surveillance Using Benefit Claim Data January–December 1999*. Wellington: Institute of Environmental Science & Research Ltd.
- Ministry of Health 1997a. *Progress on Health Outcome Targets: Te Haere Whakamua Ki Nga Whainganga Hua Mo Te Hauora. The state of public health 1997*. Wellington: Ministry of Health.
- Ministry of Health. 1997b. *Mental Health in New Zealand from a Public Health Perspective*. Wellington: Ministry of Health.
- Ministry of Health. 1999. *Hospital Throughput 1997/98*. Wellington. Ministry of Health.
- National Audiology Centre. 2000. *New Zealand Hearing Screening Statistics July 1998–June 1999; New Zealand Hearing Screening Statistics 2000*. Auckland: National Audiology Centre.
- Public Health Commission. 1994. *Our Health, Our Future: Hauora Pakari, Koiora Roa. The state of the public health in New Zealand 1994*. Wellington: Public Health Commission.
- Public Health Commission. 1995. *Preventing Child Hearing Loss: Guidelines for public health services*. Wellington: Public Health Commission.
- Regional Public Health. 2000. *Cannabis and Youth*. A report on cannabis and youth in Kapiti and the Wairarapa. Hutt Valley Health.
- Silva PA, Stanton WR. 1996. *From Child to Adult: The Dunedin Multidisciplinary Health and Development Study*. New Zealand: Oxford University Press.

Statistics New Zealand. 1999. *Demographic Trends*. Wellington, New Zealand.

UNICEF. 1996. *The State of the World's Children 1996*. Oxford and New York: Oxford University Press for UNICEF.

Warren CW, Riley L, Asma S et al. 2000 Tobacco use by youth: a surveillance report from the Global Youth Tobacco Survey project. *Bulletin of the World Health Organisation*. 2000 78:868–75

Winstanley M, Woodward S, Walker N. 1995. *Tobacco in Australia: Facts and issues*. 2nd ed. Australia: Quit Victoria.

World Health Organization. (WHO) 1975. *International Classification of Diseases (vol1) 1975 revision*.

Wylie C, Thompson J, Kerslake Hendricks A. 1996. *Competent Children at Five: Families and early education*. Wellington: National Council for Educational Research.

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- ⁱ Aged '16 or under' predominantly refers to young persons aged 14-16 years of age, but also includes 17-19-year-olds who had their first appearance for the case in the Youth Court (presumably they were aged under 17 at the time they offended). Children aged 10-13 years of age can only be prosecuted for murder or manslaughter.
- ⁱⁱ The reporting officer issues a caution to the apprehended offender having determined that the nature of the offence only warrants a caution and no further action is required.
- ⁱⁱⁱ A warning is given to a child or young person for the commission of an offence by an investigating officer or his/her supervisor, without the matter being referred further.
- ^{iv} The offender is not prosecuted; instead the offence is cleared by means of a Family Group Conference held under the Youth Justice provisions of the Children, Young Persons and Their Families Act 1989.
- ^v The young person is prosecuted in the Youth Court, either as a result of an arrest or by summons following a Family Group Conference, under the Youth Justice provisions of the Children, Young Persons and Their Families Act 1989. If the case is proved, it is referred to as Youth Court Proved. No criminal conviction is entered.
- ^{vi} The alleged offender is prosecuted in either a High Court or District Court, either as a result of an arrest or by summons. If the case is proved, a criminal conviction is entered.