HEALTH

All people have the opportunity to enjoy long and healthy lives. Avoidable deaths, diseases and injuries are prevented. People have the ability to function, participate and live independently in society.[1]

Why This is Important

Health is an important component of the well-being and quality of life of Christchurch residents. Health impacts on people's ability to be involved in community activities, their use of services and enjoyment of the City's environment. For example, poor health can restrict people's ability to work, to engage in and succeed at education, and to enjoy leisure and recreation activities.

Good health involves more than the absence of illness; it is a state of complete physical, mental, spiritual and social wellbeing.[2]

Factors Influencing Health

The quality of a person's health is closely related to a range of factors:

Age, sex and hereditary factors are key, but relatively unchangeable, contributors to our health.

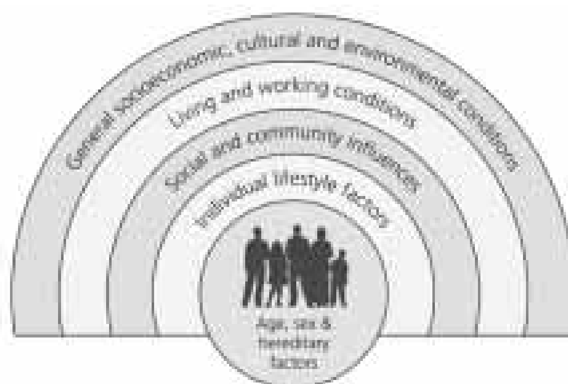
Access to health services is also key. However, research suggests that health services, including health promotion, mental health and disability support services only go part way to influencing health. It is estimated that access to services only contributes 10% to improvements in health outcomes.[3]

Individual lifestyle factors; for example, whether we smoke or exercise, how much alcohol we drink, our diet and whether we drink and drive are all factors influencing health.

Social and community influences and our place in the community, whether we belong to strong social networks, feel valued and empowered to participate in decision-making, influence our health.

Living and working conditions; whether we live in safe and appropriate housing, have decent working conditions, and environmental factors such as air quality, all influence our health.

General socio-economic, cultural and environmental conditions; our position in society, including income, education and employment, and our ability to participate in decision-making about these. The World Health Organisation has identified poverty as 'the greatest single killer'.[4]



Source: Dahlgren G and Whitehead M (1991) *Policies and Strategies to Promote Social Equity in Health.* Stockholm, Institute for Futures Studies

What do the Measures and Trends Tell Us?

This section summarises the findings from the review of measurements and trends.

Health Status

Although health goes beyond 'the absence of disease', for practical purposes health is frequently measured by health indicators derived from life expectancy, mortality and morbidity statistics. While this presents a limited picture, it is of value in describing population trends over time and making comparisons with other cities and countries.

Our findings suggest that many of these health indicators are improving, for example:

- Life expectancy is increasing and infant mortality is declining in Christchurch and New Zealand as a whole.
- A high proportion of Christchurch residents believe their quality of life is good and rate their overall quality of life as good. For example, respondents in the 2002 Christchurch City Annual Survey of Residents,[5] were asked how happy they feel and how well they rate their overall quality of life. 36% said they felt 'very happy', 60% felt 'happy' and 5% felt 'not very happy'. 40% of respondents said their quality of life was 'very good', 49% said it was 'good', while 9% said it was 'fair'.

However, our country's health is not improving as quickly as the health of many other similar countries. Compared to other OECD countries we have particularly high rates of cardiovascular disease, breast, and bowel cancer and respiratory disease.

Life Expectancy

Life expectancy has increased markedly in Christchurch City in the last few decades.

Life Expectancy at Birth

Year of Birth	Christchurch	New Zealand
1982-1986		
Male	71.2	70.9
Female	77.3	77.0
1987-1991		
Male	72.0	71.9
Female	77.9	77.9
1992-1996		
Male	73.5	73.6
Female	79.1	79.2

Source: Statistics New Zealand.

Females continue to have greater life expectancy but this gap is narrowing as male life expectancy increases at a faster rate. Biological factors provide part of the explanation for this difference, with females experiencing a survival advantage in all mammals. However, some of it also relates to the different roles and behaviours associated with gender.

Among OECD countries, New Zealand males were ranked higher (11th in 1998) than New Zealand females (17th) in life expectancy ratings.[6]

International Comparison of Life Expectancy at Birth (in Years) (Selected OECD Countries*)

Country	Year / Period	Male	Female	Difference
Japan	1996	77	83.6	6.6
France (1)	1996	74	81.9	7.9
Hong Kong (1)	1997	76.4	81.9	5.5
Switzerland (1)	1996	75.7	81.9	6.2
Canada (1)	1996	75.7	81.5	5.8
Sweden (1)	1996	76.5	91.5	5
Australia	1994-96	75.2	81.1	5.9
Norway	1996	75.1	81.1	6
Finland	1996	73	80.5	7.5
Netherlands	1996	74.7	80.4	5.7
Austria	1996	73.9	80.2	6.3

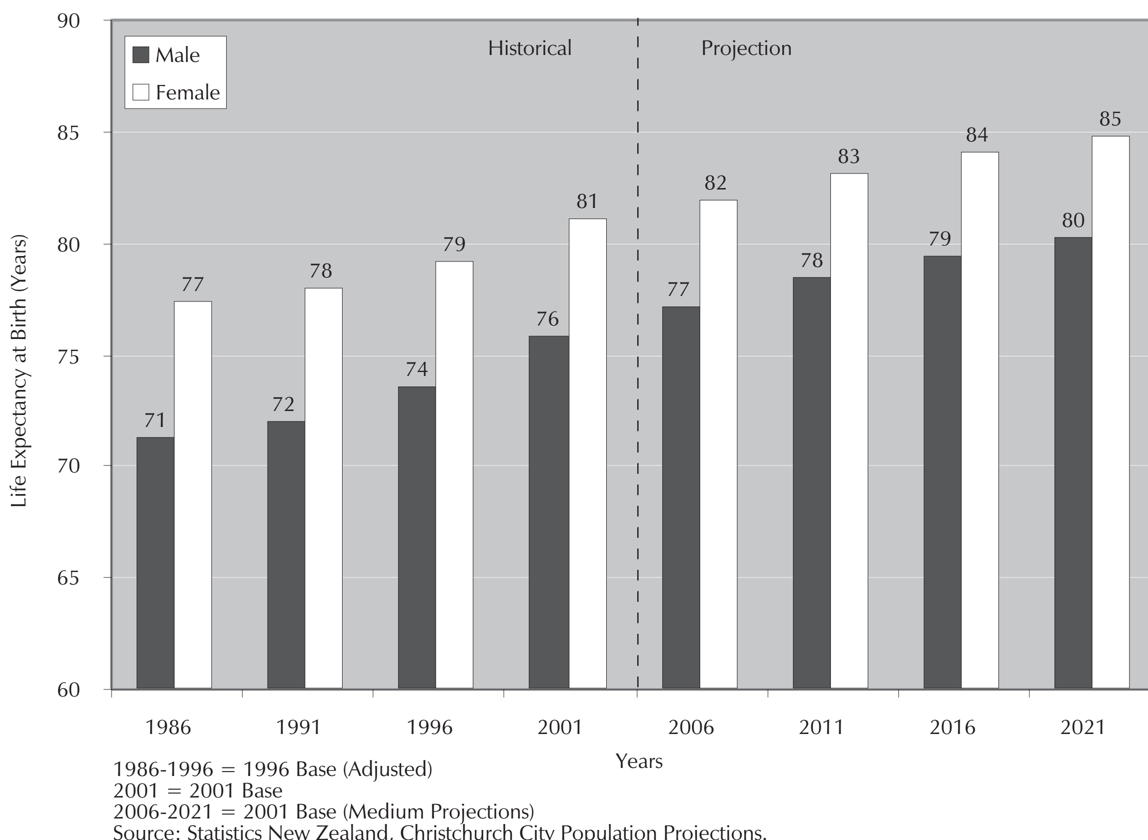
INTERNATIONAL COMPARISON OF LIFE EXPECTANCY AT BIRTH (IN YEARS) (SELECTED OECD COUNTRIES*) CONT...

Country	Year / Period	Male	Female	Difference
Germany (1)	199	73.3	79.8	6.5
England and Wales	1994-96	74.4	79.6	5.2
New Zealand	1995-97	74.3	79.6	5.3
United States (1)	1996	72.7	79.4	6.7
Northern Ireland	1994-96	73.3	78.7	5.4
Portugal (1)	1996	71	78.5	7.5
Denmark	1995-96	72.9	78	5.1
Scotland	1994-96	72.1	77.6	5.5

Organisation for Economic Co-operation and Development. Source: Statistics New Zealand.

Over the next 20 years the life expectancy of people born in Christchurch is expected to steadily increase. According to latest population projections, a male born in 2021 can expect to live about 80.2 years and a female to around 84.7 years. The driving forces behind this increase include improved standards of living, improved technology and medical advances which will culminate in increased longevity.

HISTORICAL AND PROJECTED LIFE EXPECTANCY AT BIRTH



1986-1996 = 1996 Base (Adjusted)
2001 = 2001 Base
2006-2021 = 2001 Base (Medium Projections)
Source: Statistics New Zealand, Christchurch City Population Projections.

Although life expectancy of all New Zealanders is increasing, the life expectancy of those in the higher socio-economic group is increasing the fastest, thereby exacerbating health disparities.

Life expectancy declines markedly as the socio-economic deprivation of the area of residence increases. The Ministry of Health (2002) reported a 9 year difference in life expectancy at birth for males between the least deprived and the most deprived areas of New Zealand society. For women this difference was smaller, but still more than 6.5 years.[7] This is closely related to poorer general health outcomes in lower socio-economic communities.

People with the lowest income and level of education

are more likely to suffer and die from just about every disease at every age than the more well-off. These diseases include cancers, heart disease, diabetes, and respiratory diseases. These health differences are also seen in incidence of illness, hospital stays, accidental injuries, mental health and well-being, family violence and child abuse.

The case linking socio-economic disadvantage to poorer health is particularly marked in the statistics for Māori. While death rates for Māori for almost all major causes have continued to decrease, Māori men and women experience an excess burden of mortality throughout life, including higher infant mortality rates (mainly due to SIDS). In all the main categories of causes of death, except bowel cancer, Māori death rates are higher than non Māori.

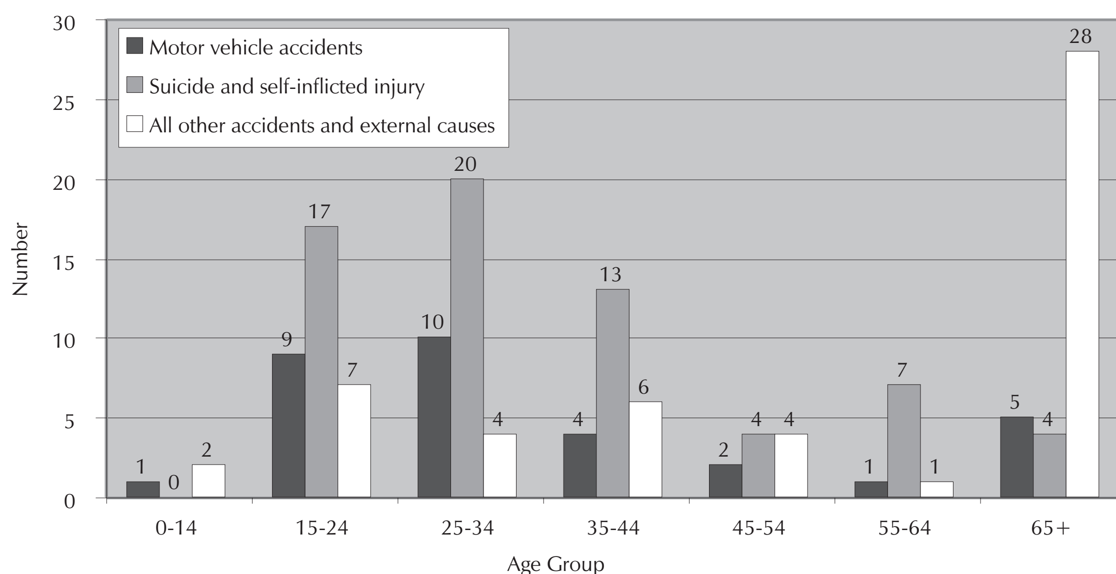
Major Causes of Death

The three leading causes of death in Christchurch, as in the rest of New Zealand, are malignant neoplasm (cancer) (26%), ischaemic heart disease (24%) and cerebrovascular disease (stroke) (10%). In 1997 these causes collectively accounted for almost 60% of all deaths in the city.

Apart from the increases in cancer deaths there has been little change in the causes of death since 1996.

However, each age group has its own characteristic health problems causing death. For eample, mortality statistics relating to Christchurch City show that death through motor vehicle accidents is higher for younger age groups, while the incidence of death from heart disease, cancer and strokes increases as people get older.

Deaths from Accidents and Suicide by Age, 1997



Source: Ministry of Health Information Service, Mortality Data.

Infant Mortality

Infant morality is a sensitive indicator of social and economic conditions. Infant mortality in New Zealand has nearly halved over the last 10 years. This is largely due to the significant decline in SIDS (Sudden Infant Death Syndrome), although the rate of SIDS for Māori infants remains twice that of the overall rate.

Infant mortality rates in Christchurch have declined in line with New Zealand as a whole. In 1997 the Christchurch infant death rate was 5.4 deaths per 1,000 live births, compared with 15.7 deaths per 1,000 live births recorded in 1988. The primary cause of death for children aged under 1 year (in both Christchurch and New Zealand) between 1988 and 1997 was SIDS, also known as 'cot death'. Despite being the major cause of infant death, the number of deaths per 1,000 live births due to SIDS generally declined during this period both in Christchurch and at a national level.

Death Rate per 1,000 Live Births of Children Aged Less than One Year, by Ethnicity

	1997			1998			1999		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Christchurch									
Māori	5.8	12.9	9.2	9.7	0.0	5.3	9.4	9.9	9.6
Pacific Islands	18.5	8.2	13.0	8.1	0.0	4.3	0.0	0.0	0.0
Other*	4.0	4.7	4.3	4.4	2.8	3.6	5.5	5.5	5.5
All Ethnic Groups	**4.9**	**5.9**	**5.4**	**5.4**	**2.3**	**3.9**	**5.8**	**5.8**	**5.8**
New Zealand									
Māori	11.8	9.6	10.7	10.2	6.0	8.2	10.8	6.5	8.7
Pacific Islands	10.3	7.7	9.0	8.3	6.2	7.3	6.7	5.8	6.3
Other*	5.6	4.9	5.2	4.6	3.0	3.8	4.8	3.7	4.3
All Ethnic Groups	**7.6**	**6.3**	**7.0**	**6.2**	**4.0**	**5.1**	**6.4**	**4.6**	**5.6**

Other includes European. Source: New Zealand Health Information Service, 2002.

New Zealand's infant mortality rate is not decreasing as quickly as in many other similar countries, and other countries that had higher infant mortality in the 1960s have had greater improvements. For example, in 1960 New Zealand ranked 11th among 29 OECD countries; by 1999 New Zealand was ranked 20th.[8]

International Comparisons of Infant Mortality (Selected OECD Countries*)

Country	Year	Infant Mortality Rate(1)
Finland	1996	4.0
Hong Kong (2)	1997	4.0
Norway	1996	4.0
Sweden	1996	4.0
Japan	1996	4.5
Switzerland(2)	1996	4.8
France	1996	5.0
Germany(2)	1996	5.0
Austria	1996	5.1
Netherlands(2)	1996	5.3
Denmark	1996	5.6
Northern Ireland(2)	1996	5.8
Canada	1995	6.1
England and Wales(2)	1996	6.1
Scotland(2)	1996	6.2
New Zealand	**1997**	**6.8**
Portugal	1996	6.9
United States	1996	7.2

* Organisation for Economic Co-operation and Development.

(1) Deaths of infants aged under one year per 1,000 live births.

(2) Provisional.

Source: Statistics New Zealand.

Child and Young Person Mortality

In 1997 the leading external causes of death for children and young people under 15 years were accidental suffocation and drowning and motor vehicle accidents. For young people aged between 15 and 24 years, 45% of deaths were due to motor vehicle accidents.

Morbidity

The cycle of poor health, unemployment and poverty compounds over a person's life. Thus, health in middle and old age depends on past circumstances as well as present circumstances.[9]

Place of residence plays a role in generating inequalities in health including access to health providers, availability of affordable healthy food options, recreational opportunities, degree of cohesiveness and quality of housing.[10]

Māori men and women experience an excess burden of morbidity throughout life, including higher infant mortality rates (mainly due to SIDS), higher rates of death and hospitalisation in infancy, childhood and youth (predominantly from injuries, asthma and respiratory infections) and higher mortality and hospitalisation rates in adulthood and older age (especially from injuries, cardiovascular disease, diabetes, respiratory disease and most cancers).

While much of the relatively poor health status of Māori can be attributed to poorer socio-economic status, even when deprivation is taken into account Māori have worse health than non-Māori; there are

other factors that lead to a health gap between Māori and non-Māori that go beyond socio-economic status.[11] The Health Funding Authority (2000) identified that there are cultural factors that selectively disadvantage Māori, affect uptake of health services and influence risk-taking behaviour. For example, the proportion of Māori women who smoke is considerably higher than for non-Māori regardless of socio-economic status.[12]

The health of Pacific peoples has improved over recent decades but they still experience a heavy burden of avoidable mortality and morbidity. Pacific people have higher national rates of meningococcal disease, rheumatic fever, rheumatic heart disease and obesity. Other important health problems include an increasing rate of SIDS, low immunisation, and high rates of diabetes, liver cancer in adults and hospitalisation in children, particularly for pneumonia, asthma and middle ear infections. There are also factors other than socio-economic status that are associated with ethnicity for Pacific people, for example, language barriers and cultural experiences.[13]

Refugee communities in Christchurch have a number of health issues, including mental health issues and difficulties in accessing health care due to language, cultural and economic barriers.

Hospitalisation

There were 70,648 publicly funded hospital discharges of Christchurch City residents in the year ended 31 December 2001, compared with 69,653 discharges in the same period of the previous year. This represents 215.9 discharges per thousand resident population in 2001 compared with 214.1 in 2000. Of the discharges in 2001, 9.9% were as a result of Complications of Pregnancy, Childbirth and the Puerperium while 9.3% were from Injury and Poisoning. This compares with discharges for New Zealand of 10.8% and 9.9% respectively.[14]

Cancer

Cancer is the leading cause of death and a major cause of hospitalisation in Canterbury and New Zealand. There is evidence that much can be done to reduce the impact of cancer. Lifestyle changes, such as improved nutrition, stopping smoking and increasing the level of physical activity will reduce the incidence of cancer. Early diagnosis and good care-management has been proven to reduce the burden and improve outcomes.

Heart Disease

Cardiovascular disease is the second leading cause of death and occurrence of disease in New Zealand and Christchurch.[15]

Diabetes

Diabetes is of epidemic proportions in New Zealand. Both Type 1 and Type 2 diabetes are increasing in incidence. It is Type 2 diabetes that is of greatest concern. Diabetes is about 3 times more common in Māori and Pacific people.

In next 20 years Māori are facing at least a 90% increase in the prevalence of diabetes and Pacific people face a 109% increase in prevalence. In comparison, Europeans face at least a 39% increase in prevalence.[16]

Type 2 diabetes occurs most often in adulthood, usually after the ages of 30-40 years. Increasingly though, teenagers and children are developing Type 2 diabetes. Type 2 diabetes is linked with increasing body weight and low levels of physical activity.

Health promotion, early detection, effective treatment and knowledge are all essential support for people with diabetes.

Asthma

Christchurch is one of the urban areas which has the highest age and ethnic standardised prevalence rates of asthma in New Zealand. Asthma is the most common cause of children's admission to hospital.[17]

Low Birth Weight Babies

A low birth weight baby weighs less than 2,500 grams. Babies who are born with a low birth weight have a greater risk of death during the first month of life and can be susceptible to illness, disability and health problems later in life. The birth weight of a baby is affected by the mother's overall health and environment. Smoking, alcohol consumption and poor nutrition can negatively impact on the birth weight of a baby. Access to, along with the quality and level of, pre-natal care can affect baby birth weights.

There seems to be no trend in birth weights since 1997. In 1999, the rate of low birth weights for the total population (all ethnic groups) in Christchurch City was 69, compared to 64 nationally. Differences exist between different ethnic groups. Māori had the highest rate of low birth weight babies of 74 births per 1,000 live births. This may reflect factors such as smoking during pregnancy, levels of deprivation, and access to pre-natal care and information.

Rate of Low Birth Weight Babies (Under 2,500 grams) per 1,000 Live Births where Birth Weight was Recorded, by Ethnicity

	1997			1998			1999		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Christchurch									
Māori	72.9	77.4	75.0	61.6	56.5	59.3	75.0	72.8	74.0
Pacific Islands	46.3	73.8	60.9	111.1	55.6	85.5	80.6	50.4	65.8
Other*	59.2	71.6	65.3	55.0	49.2	52.0	65.6	72.3	68.8
All Ethnic Groups	**60.6**	**72.5**	**66.4**	**59.0**	**50.3**	**54.6**	**67.6**	**71.2**	**69.3**
New Zealand									
Māori	66.8	82.5	74.4	66.3	75.7	70.9	66.9	76.6	71.6
Pacific Islands	41.4	48.2	44.7	37.6	57.3	47.1	51.3	52.5	51.9
Other*	56.3	66.4	61.3	56.4	67.6	61.8	58.9	66.6	62.7
All Ethnic Groups	**57.2**	**68.2**	**62.6**	**56.6**	**68.3**	**62.3**	**59.9**	**67.2**	**63.5**

Source: New Zealand Health Information Service, 2002.

Oral Health

Teeth and gum disease are common health problems and most are preventable. It has been shown that children in Christchurch have significantly poorer oral health than children living in fluoridated areas. For example, a recent comparison of the oral health of children from Canterbury and Wellington showed that decay levels were 30% lower in the fluoridated areas.[18]

While everyone is potentially susceptible to dental decay, children are particularly at risk. For children, oral health has implications beyond requiring fillings in deciduous and permanent teeth. Poor dental health causes pain and discomfort and can impact on children's dietary intake and therefore their physical and cognitive development.[19]

An increasing number of older people are retaining their natural teeth with a consequent increase in the complexity of oral care requirements for this group.[20] Old teeth carry a lifetime's burden of accumulated deterioration, and when the ability of an older person to carry out tasks like tooth cleaning is compromised through illness or disability, deterioration in their oral health can be rapid.

Older people suffer an increased risk of dental decay if their general health worsens.[21]

There are significant inequalities in oral health status between different population groups. In particular, Māori and Pacific children and adolescents have worse oral health than non-Māori and non-Pacific children.

Mental Health

Mental Illness

A high proportion of New Zealanders suffer from some form of mental illness. The New Zealand Mental Health Report identified that, based on prevalence surveys:

- Two thirds of New Zealanders are likely to have at least 1 period of impaired functioning as a result of a mental disorder over their lifetime.
- Around 3% of the New Zealand population has a serious, ongoing, and disabling mental illness which requires specialist care and treatment.
- 1 in 5 people suffer from a mental disorder that compromises the quality of their life and impairs their functioning.[22]
- Depression is a common disorder and of concern for both men and women, and particularly young people.
- Young people experience high rates of disorder, with major depressive disorders, alcohol dependence and phobias being the most common.
- Women tend to report mental health symptoms more often than men and seek help more readily for these.

The National Mental Health Strategy has set a target of service provision through mental health services to 3% of the population. In 2001 services in Canterbury

reportedly reached 2.2% for adults and 1.6% for children and youth (compared to the 3% benchmark).

Research suggests that poor mental health is associated with a number of other factors. For example, childhood sexual abuse and violence increases the risk of later mental illness and mental health problems. Early unstable and unsatisfactory childhood and adolescent family life experiences also predict poorer mental health later in life. The risk of mental illness is increased by experiences of social isolation and loneliness. Similarly, unemployment increases social isolation and psychological distress, leading to an increased risk of mental disorder. Lack of family support and disruptive personal relationships are linked to worse mental health and, in turn, poor mental health can disrupt personal relationships. Unsuitable housing, household crowding and housing affordability also influence mental health.

Education and employment have protective functions for mental health. Social integration and connectedness are also protective against mental disorder.

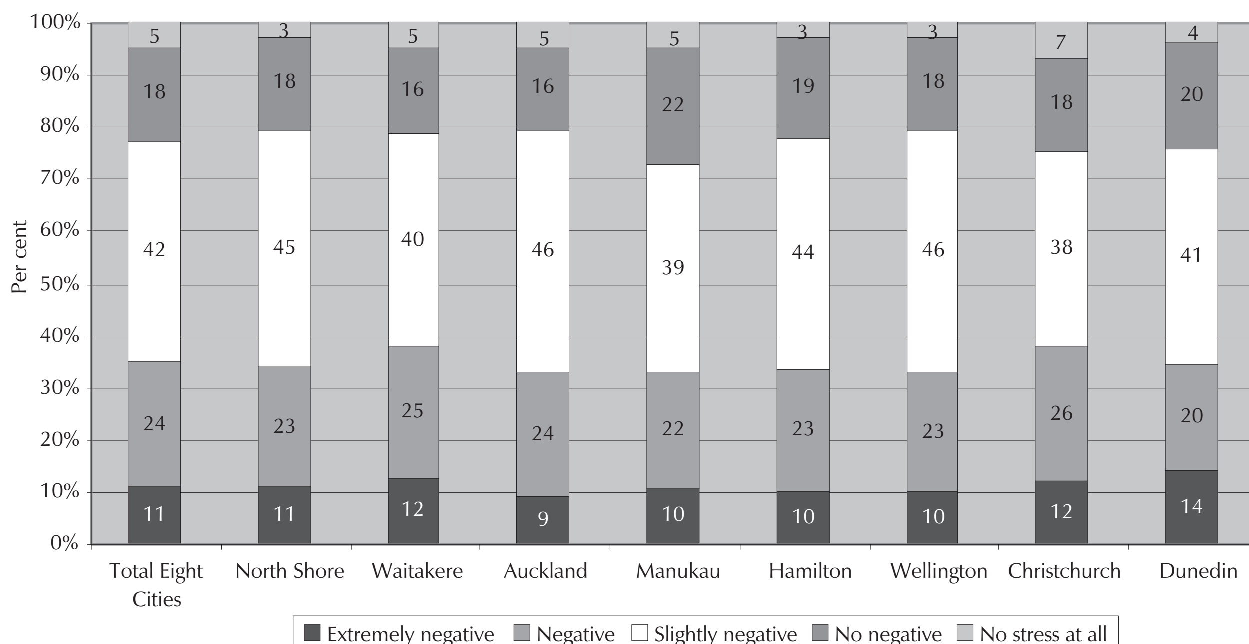
Emotional Wellbeing

The Eight Cities Quality of Life Survey 2003, asked a series of questions as proxy measures of emotional wellbeing among residents. Respondents were asked how often they felt happy, and how often they felt calm and peaceful (in the last 4 weeks) on a 6 point scale from *never* to *all of the time*. Approximately two thirds of respondents in each city stated that they felt happy all or most of the time, and half felt calm and peaceful all or most of the time.

Some people were significantly more likely than others to state that they feel happy and peaceful all of the time; these groups were males, people aged 55 years and over, and those living with their partner only. Those significantly less likely to feel happy or peaceful all of the time were females, those aged 18 to 34 years, and people living in larger size households and with dependants. These findings suggest that many residents in the 8 cities suffer stresses associated with raising families and living on lower incomes.

Respondents were also asked about the effects of stress on their lives in the previous 12 months.[23] The majority of people stated that they had experienced negative effects from stress and 11% stated that they had experienced an extremely negative effect. Only 5% of the sample stated that they had not experienced any stress in the previous 12 months.

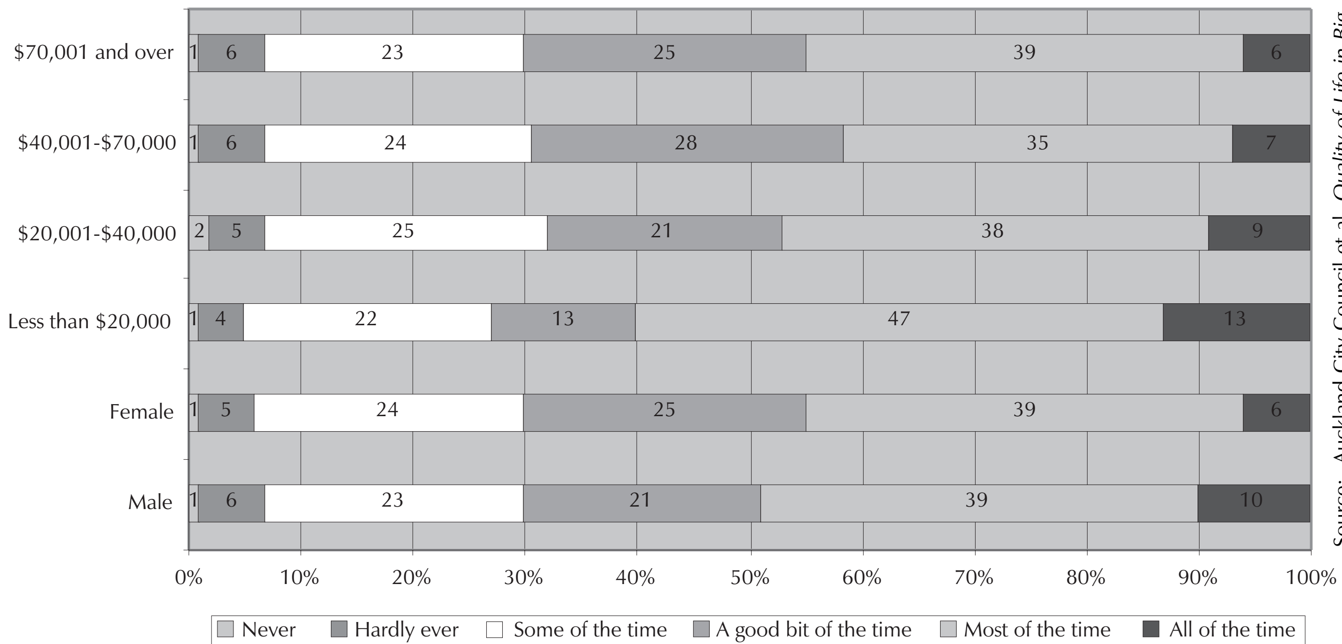
Affect Of Stress Over Last 12 Months In New Zealand's Eight Largest Cities Overall And By City



Source: ACNielsen (June 2003) *Quality of Life: New Zealand's Eight Largest City Councils*, ACNielsen, Auckland.

Groups significantly more likely to state that they had experienced stress that had an extremely negative effect on them included Europeans, females, people aged 45 to 54 years and people living on their own.

FREQUENCY OF FEELING CALM BY GENDER AND HOUSEHOLD INCOME (BEFORE TAX)



Source: Auckland City Council et al, *Quality of Life in Big Cities of New Zealand* (in print)

Respondents were not asked what caused their stress, but they were asked whether they felt that they had someone that they could turn to for support. Most of those who stated that they experienced some level of stress in the last 12 months felt that they had someone to turn to, at least some of the time. Those significantly less likely to feel that they have someone to rely on included Asian/ Indian/ Pacific Islands peoples, people living in Manukau and males (especially those aged 35 to 54 years).[24]

SUICIDE

Caution is required when reviewing data on suicide as the actual number of deaths confirmed as suicide in any year is low (and a change of 1 or 2 can cause fluctuations in overall rates). Suicide accounts for only 2% of all deaths in New Zealand.

NUMBER OF SUICIDE DEATHS AND ATTEMPTED SUICIDES*

Year	Suicide Deaths	Suicide Attempts*
1989	44	
1990	62	
1991	54	
1992	47	
1993	49	
1994	54	
1995	50	
1996	52	
1997	65	478
1998	50	605
1999	43	539

* Resulting in publicly funded hospitalisations.

Source: New Zealand Health Information Service, 2002.

As a very rough guide, New Zealand tends to have a high rate of suicide compared to other OECD countries.[25] In 1999, New Zealand's all-age rates for males and females were 4th highest among selected OECD countries. For youth aged 15-25 years, New Zealand has the highest rates of suicide for both males and females among selected OECD countries.[26] However, comparing international rates of suicide is inherently problematic as countries use different methods to classify suicide. There are some variations in regional suicide rates for the total population but no apparent trend.

YOUTH SUICIDE RATES (15-24 YEARS)
(SELECTED OECD COUNTRIES*)

	Year	Male	Female
New Zealand	1999	30.6	14.2
Australia	1997	30.0	6.6
Finland	1998	29.5	7.9
Canada	1997	22.4	4.5
Norway	1997	20.2	4.7
United States	1998	18.5	3.3
France	1997	13.4	4.3
Germany	1998	12.7	3.5
Sweden	1996	12.0	4.6
Netherlands	1997	11.3	4.4
Japan	1997	11.3	5.5
United Kingdom	1998	10.4	2.9

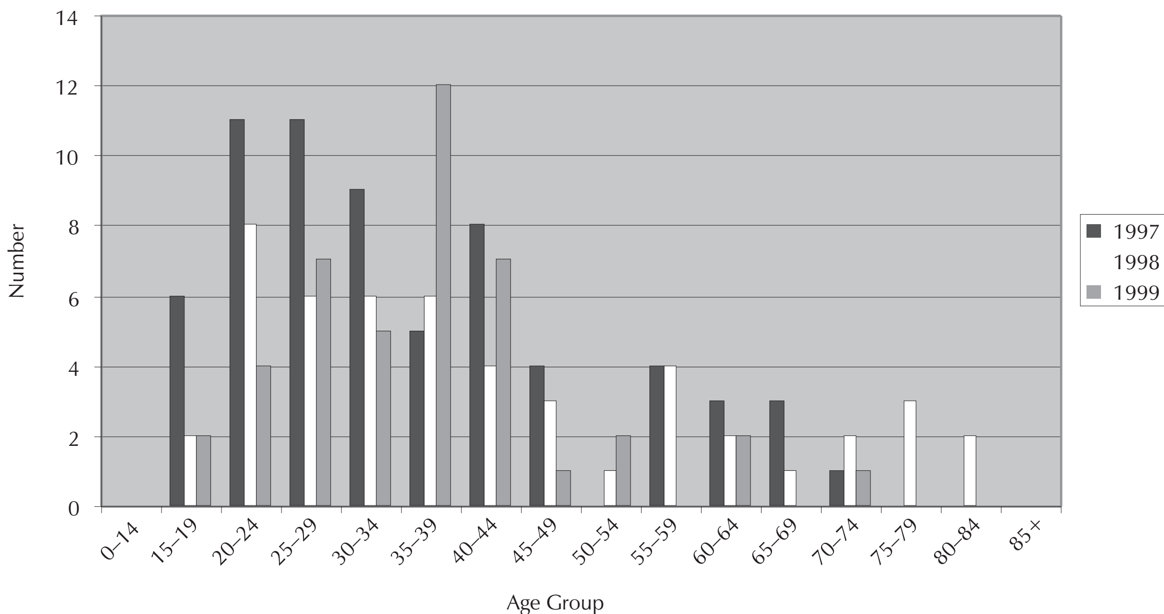
* Organisation for Economic Co-operation and Development.

Source: New Zealand Health Information Service.

Although males tend to have higher rates of suicide than females, with 34 deaths of males in 1999 in Christchurch compared to 9 female deaths, females have higher rates of non-fatal suicide attempt behaviour, evidenced by hospitalisation data. In 1999, there were 335 hospitalisations of females who had attempted suicide, compared to 204 attempts by males resulting in hospitalisations.

Adults aged 25-64 years account for 75% of all suicides. Of all suicides, 11.7% occur among those over 65 years; older males are particularly at risk. Recent data show a substantial reduction in youth suicide numbers in the last two and a half years. However, there still appears to be higher rates of hospitalisation as a result of attempted suicide.

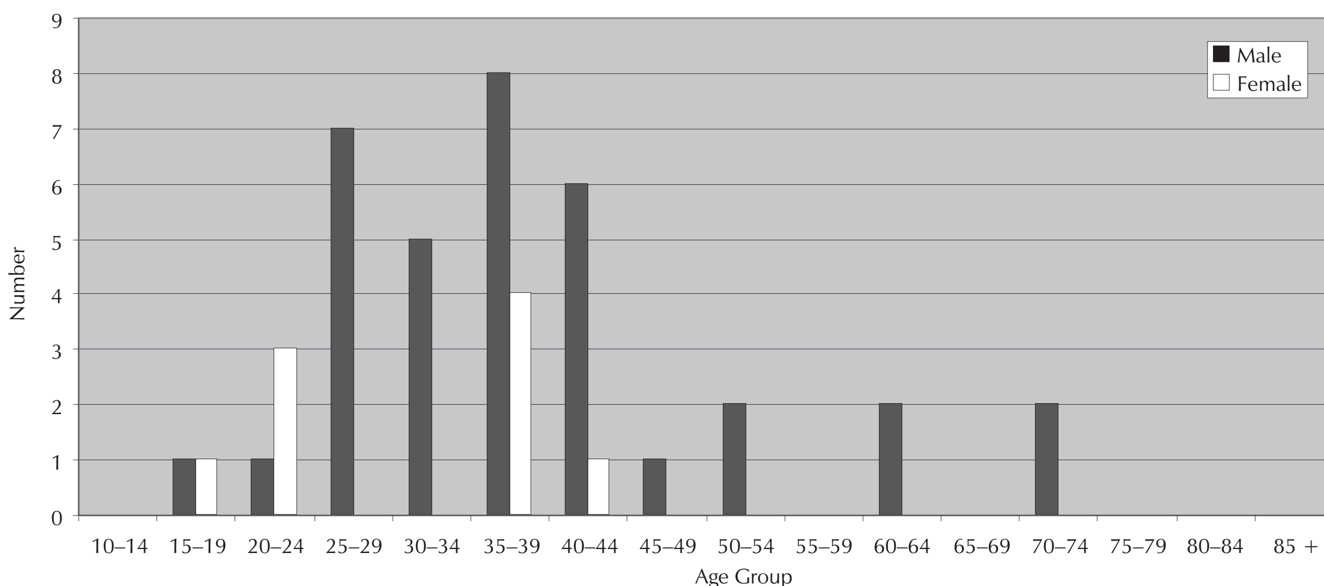
Suicide Deaths by Age Group



Source: New Zealand Health Information Services, 2002.

Youth suicide is not teen suicide; suicide is more common amongst older youth aged 20-24 years. The highest rates of suicide are among males 20-39 years old. Among females, those aged 15-19 years and 20-24 years have the highest rates.

Suicide Deaths by Gender, 1999



Source: New Zealand Health Information Services, 2002.

Suicide behaviour is the result of a complex array of longer term risk factors and stressful immediate events. However, the presence of mental health issues (including depression, substance abuse, alcohol, cannabis, other drugs and anti-social behaviours) are now recognised as the primary driver of suicide attempts.

The Christchurch Psycho Autopsy Study reported that between 92% and 98% of the suicide group had a diagnosable psychiatric disorder.[27] The main diagnoses were affective disorder (major depression), personality disorder, substance abuse, conduct disorders, adjustment disorders, and genetic and biological disorders. It also found that alcohol and cannabis use, mental disorders and sexual abuse all increase vulnerability to suicide.

To reduce the rate of suicides and suicide attempts, research suggests that a range of population-based and targeted approaches is required. These include initiatives that:

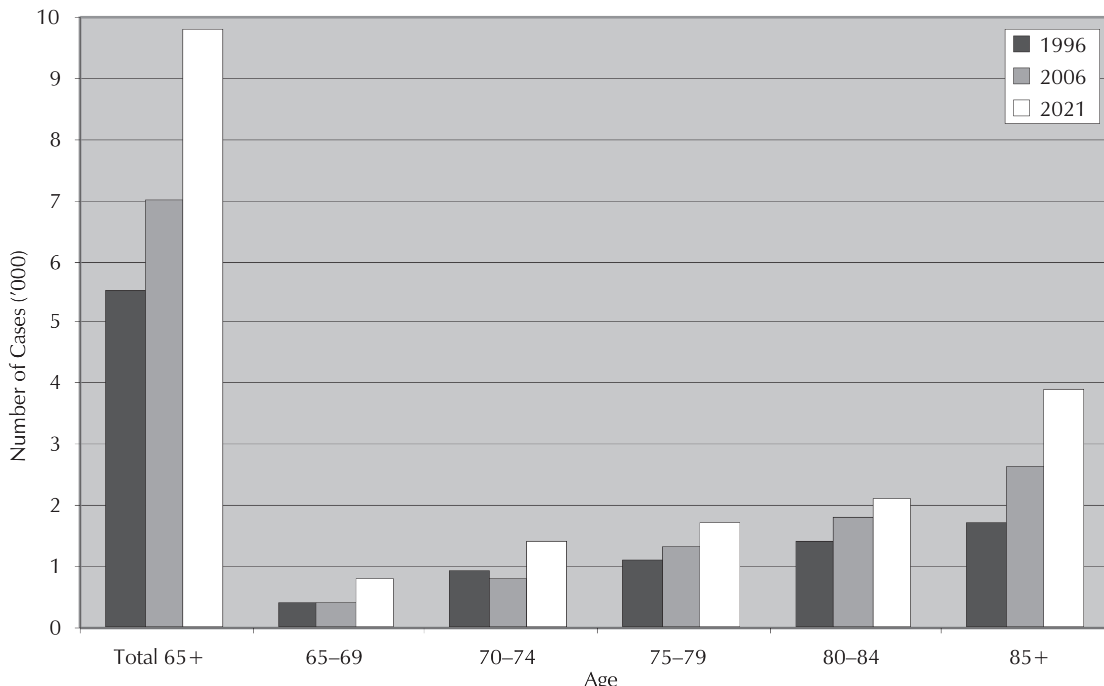
- reduce the development of risk factors common to suicide (including strengthening families and addressing childhood behavioural problems)
- strengthen resiliency/protective factors
- provide early identification of depression (including training for teachers, counsellors, social workers and others to recognise symptoms of depression)
- support and treat those who have risk factors or are suicidal
- provide support after a suicide
- restrict access to lethal means of suicide
- encourage the 'safe' portrayal of suicide in the media[28]
- destigmatise mental illness

Dementias[29]

Dementia is a problem that affects a substantial number of people and has major social and economic implications.

- Dementia affects people's physical, emotional and intellectual capacity; they suffer social, material and personal losses, lose self esteem, social skills and personhood, become depressed, and, with severe neurological impairment, may also develop physical illness.[30]
- 38,000 people in New Zealand suffer from dementia, and that number is expected to double in the next 20 years. Accurate data on the prevalence of dementia within Christchurch is unavailable, but figures are expected to be similar to those identified in national trends because, like the national population, the Christchurch population is also ageing.
- Older people are more likely to be affected by dementia as they pass the age of 65 years. For example, approximately 3.8% of those aged between 65 and 74 years suffer from dementia, a proportion which increases significantly to 40.4% of those aged 90 years and above. The overall prevalence of dementia among older people is therefore typically around 7.7%.[31]

Prevalence of Psychiatric Disorders in Elderly (pooled overseas data) – Dementia in Canterbury, 1996–2021



Source: LinkAge (20o2) *Health Needs Assessment of People Aged 65 and Over* in the Canterbury District Health Board

- While many of the dementias are incurable, to some extent their complications may be preventable or reduced.[32] Social factors such as the amount of support given, social stimulation or isolation and anxiety or depression can all influence the impact of dementia.[33]
- Planning for the needs of people with dementia requires baseline information about the number of people affected, their present and likely future circumstances, what health needs they have, and how effective different service options are in meeting these needs.[34]
- All the dementias have complications that reach beyond the sufferer; families, friends and neighbours are also affected, and their needs must also be recognised and provided for.[35]

Disability

Approximately 1 in 5 New Zealanders report that they experience some level of disability. Half of all adults with disabilities require assistance and 1 in 8 have an unmet need for special equipment. Because disability rises with age, demographic trends suggest that the overall disability rate will increase as the population ages. In all age groups under 65, the rates of disability are consistently higher for Māori than for other ethnic groups.

The number of people receiving the Invalids Benefit has doubled in the last 10 years and the number receiving a Sickness Benefit has increased by over 50%. Around half of this rise can be explained by policy changes and demographic trends, but the rest is not easily explained.

- About 1 in 5 Christchurch residents have a disability resulting in functional or role limitation, and about 11% of residents need assistance either intermittently or continuously.
  - People with disabilities are a diverse group. Disabilities may be associated with physical, sensory, or intellectual disabilities or mental health conditions that people were born with or have developed. They may be related to age or injury. The New Zealand disability community consists of the following:
    - 64% of people with disabilities have a **physical** disability
    - 42% of people with disabilities have a **sensory** disability
    - 15% of people with disabilities have a **mental health** condition
    - 5% of people with disabilities have an **intellectual** disability
    - 39% of people with disabilities have another disability
- The vast majority (96%) of people with disabilities live in households and only 4% live in residential facilities.
- In addition to facing social and environmental barriers to participation in community life, people with disabilities are also highly likely to face economic disadvantage. As a group, people with disabilities are likely to have lower incomes and fewer financial and family resources than the general population. This economic disadvantage is compounded by the additional financial costs associated with a disability.[36]

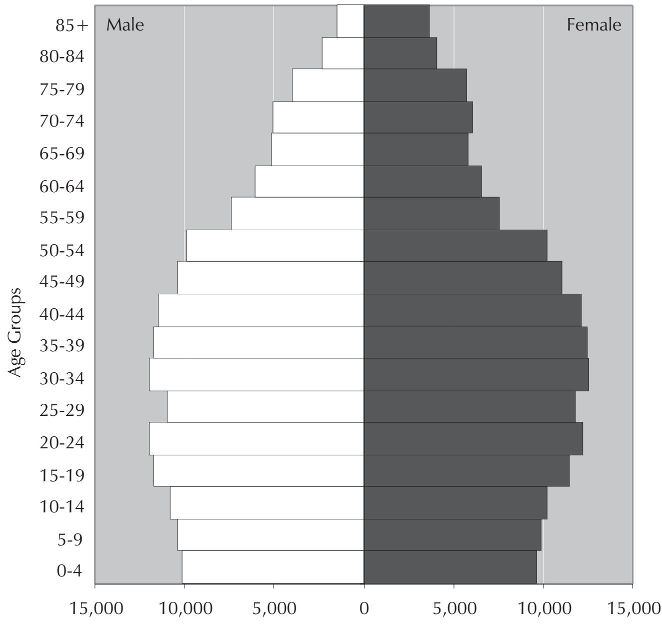
Older People's Health

Christchurch City, more so than many other New Zealand cities, will have a greater proportion of its population in the over 65 years age group in the years ahead. By 2021, the population aged over 65 years will make up 19% of the city's population.

Older people consume considerably more health care resources than those in younger age groups and this is particularly marked for those aged 75 years and over, which may in future mean a large increase in government health expenditure.[37] The future experience of illness and disability will depend on trends in a number of chronic disease that become more common with increasing age; these include coronary heart disease, stroke, cancers, arthritis, dementia and visual and hearing impairments. Some international research suggests that levels of disability will decline in the future in the 65-84 age group and will become increasingly compressed into the 85+ age group.[38]

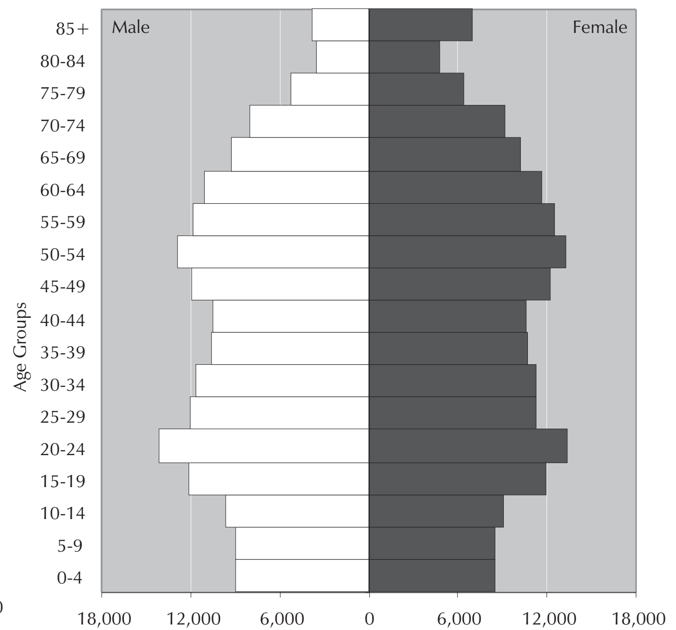
There has been an increased demand for home care/support services as a result of the United Nations Principles for Older Persons (United Nations 1991), which encourages older people to remain active, independent and living at home for as long as possible.[39] Support for older people in the community can impact on the community in terms of care giver morbidity.[40] Care-giving can cause morbidity in others and there is a considerable literature on carer burden, carer stress and elder abuse.[41] In New Zealand the majority of older disabled New Zealanders live in the community, either in their home or with family members.[42]

Age and Sex, Total Population, 2001



Source: Statistics New Zealand, 2001 Census of Population and Dwellings.

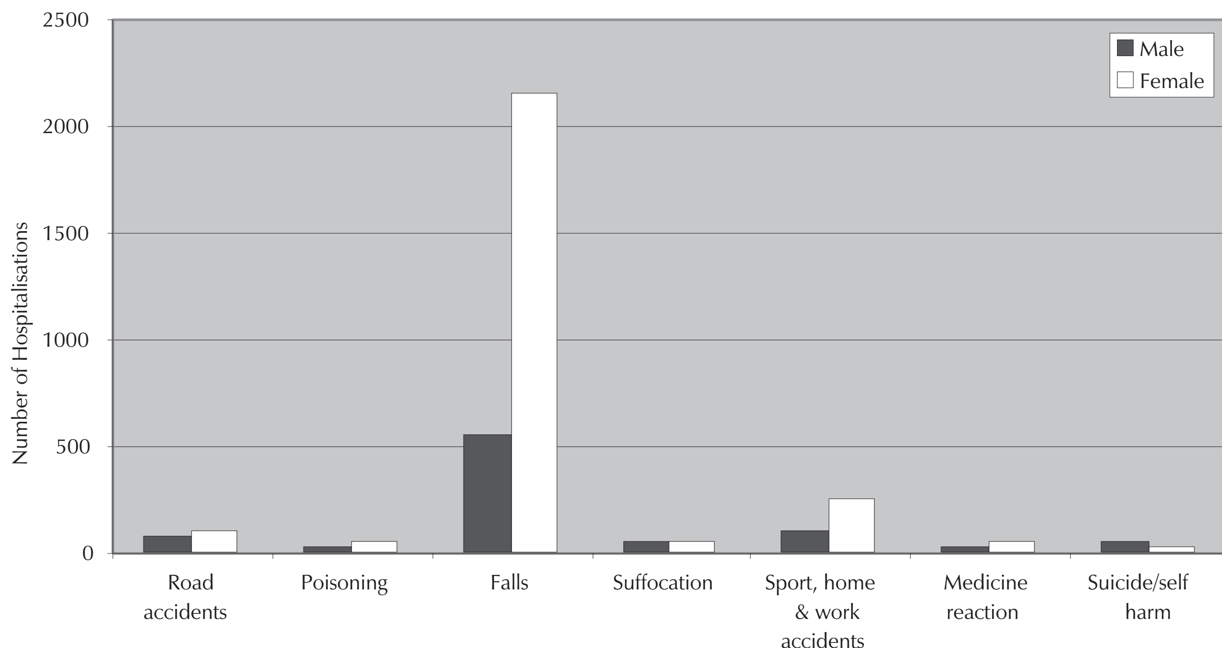
Projected Age and Sex, Total Population, 2021



Source: Statistics New Zealand, 2001 Census of Population and Dwellings.

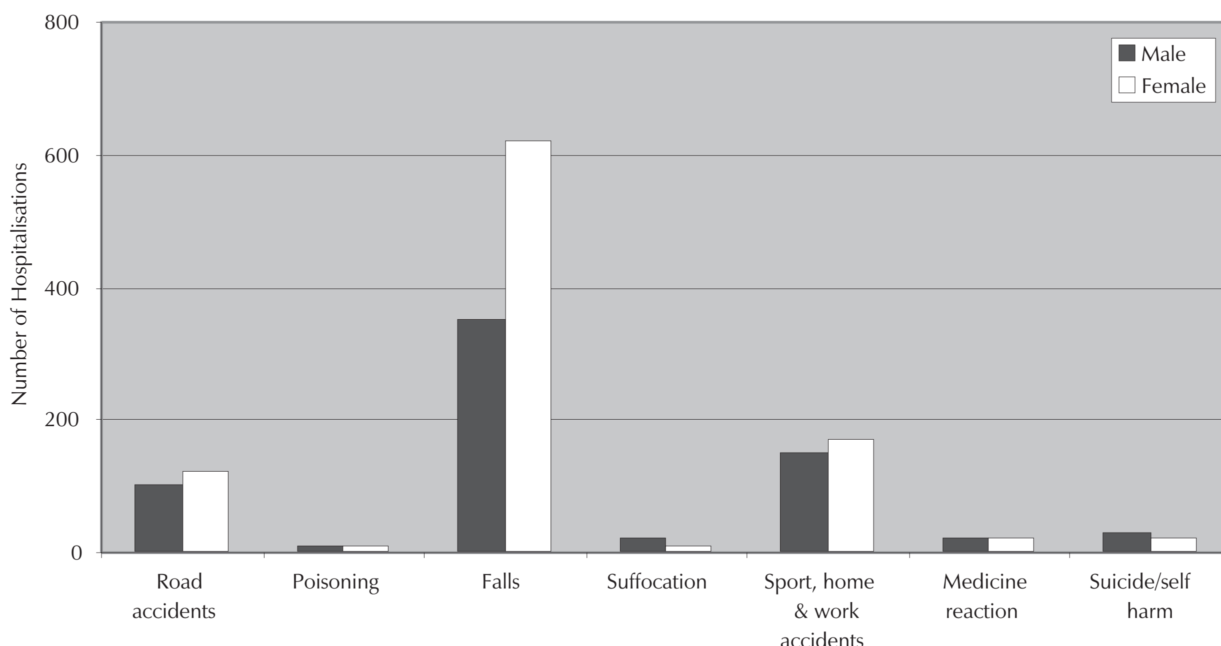
Falls are the most common cause of injury for older people and also a major cause of hospitalisation. Even if there are no injuries, falls may result in loss of confidence, and/or loss of independence and quality of life. A third of older people living in private homes, and about half of those in institutions, will fall each year. Several of these risk factors can be reduced by appropriate interventions, including addressing reduced muscle strength, impaired balance and gait, overuse of psychotropic drugs, neurological disorders, impaired vision, foot problems, depression, lack of social support, home safety, and the effects of winter conditions and low temperatures. Mobility is important in enabling older people to remain healthy and active. Affordable and accessible public transport is also important.

Reasons for Injury Hospitalisations 1995-1999 - People aged 75+



Source: LinkAge (20o2) *Health Needs Assessment of People Aged 65 and Over* in the Canterbury District Health Board

Reasons for Injury Hospitalisations 1995-1999 - People aged 60–74



Source: LinkAge (20o2) *Health Needs Assessment of People Aged 65 and Over* in the Canterbury District Health Board

Lifestyle Factors

While many people are living healthy lifestyles there are still areas of concern.

Tobacco Smoking

Tobacco smoking is the major cause of preventable death in Christchurch and New Zealand. 1 in 5 deaths can still be attributed to tobacco smoking[43] . Smokers have a 1 in 2 chance of dying from smoking related diseases.[44]

Tobacco causes, or exacerbates, about 40 different medical conditions.[45] The Canterbury District Health Board has identified that reducing the rate of smoking would reduce health costs in the short and long term.[46]

Tobacco products released for consumption per adult decreased between 1996 and 1998. Since 1990, total tobacco released for consumption have fallen by one-third. [47]

- Tobacco smoking among New Zealanders over 15 years has declined since the mid 1980s. AC Nielson data shows that 26% of New Zealand's total population smoked cigarettes in 1999.
- However, smoking tobacco is more common in some age groups, for example, Ministry of Health reported that 51% of Māori smoke and 30% of Pacific people smoke. 14% to 16% of 15 year olds are daily smokers and 37% of 14 – 15 year old Māori girls are daily smokers. Māori rates are 39% and Pacific peoples 26%. Almost half of all Māori women between the ages of 20 and 24 years smoke. Ethnicity trends for Christchurch are not available.
- Lung cancer deaths in Māori women have risen and are 5 times the rate for non-Māori women since 1996 (in most categories, including all causes of death, Māori death rates have fallen).
- Parental tobacco smoke and environmental tobacco smoke are related to several conditions (for example, sudden infant death syndrome, SIDS and the childhood risk of croup, pneumonia and asthma).
- The younger the age at which a person starts smoking, the greater the likelihood of negative health outcomes if they continue to smoke. Action on Smoking and Health (ASH) carried out a survey on the number of 4th form students who smoke in the Crown Public Heath District Board (Canterbury) between 1999 and 2001. Of the 12,439 4th formers who were surveyed, 29% smoked daily and 63% had never smoked.

Smoking Among Fourth Form Students within the Canterbury District Health Board Area, 1999-2001

	Girls (%)	Boys (%)
Smoker		
Daily	14.9	14.0
Weekly	8.6	5.4
Monthly	7.4	6.2
Less Often	14.5	15.6
Non-Smoker		
Previously Smoked	23.0	27.4
Never Smoked	31.7	31.4

Source: ASH, Tobacco Smoking Behaviour and Health Knowledge Survey, 2001

After the Smoke-Free Environment Act 1990, smokers reduced consumption more rapidly than before, even in years without any real price increase. Non–price related factors which were identified as influential included the legislated ban on smoking in shared offices, increased social pressure not to smoke and the reduction of tobacco advertising.[48]

Physical Activity

Increasing peoples' physical activity participation has emerged in the last decade as a key international and national goal to ensure health. The Ministry of Health (2001) has determined that the health burden created by physical inactivity is second only to that created by smoking.[49]

People who are active are healthier.[50] Lack of regular physical activity is a modifiable risk factor for:

- cardiovascular disease,
- type II diabetes, which is predicted to rise by 81% by 2011[51]
- stroke
- osteoporosis
- some cancers including cancer of the colon and breast
- feeling of anxiety and depression
- falls in the elderly

Active lifestyles reduce the risk of high blood pressure, obesity and osteoporosis. Globally, one third of deaths are due to cardiovascular disease and 20% of the adults in the world suffer from hypertension[52] . This is similar to the 41% of deaths in New Zealanders in 1997 being due to cardiovascular disease.[53] Cancer, heart disease and stroke were the main causes of death in Christchurch in 1997.[54]

The physical activity guidelines for New Zealanders are that we should all undertake thirty minutes of moderate intensity physical activity on most, if not all, days of the week in order to gain health benefits.[55] This guideline mirrors the physical activity guidelines recommended in the US Surgeon General's Report.[56] Moderate intensity means activity undertaken to the level of a brisk walk.

In 2002, 92% of respondents to the Annual Survey of Residents 2002 had taken part in some form of physical activity or exercise during the previous 4 weeks.

Proportion of Respondents* who have Participated in Certain Physical Activities (%)

	Physical activity exercise in the last four weeks	Physical activity away from home in last 12 months	Involved in sports club or association in last 12 months
1998		74	35
1999		73	34
2000	91	74	32
2002	92	74	35

* Respondents aged 18 years and over.

Source: Christchurch City Council, Annual Survey of Residents, 2002.

Respondents to the 2002 Annual Survey of Residents were also asked whether they had participated in any particular activities during the 4 weeks prior to the survey. Gardening was the most common physical activity with 59% of respondents, followed by walking for more than 30 minutes, and then walking for less than 30 minutes. Respondents were also asked on how many days during the past 4 weeks had they done their specified activity for a period of 30 minutes or more. Exercising at home was carried out the most often, with those who exercised at home (21%) saying they had on averaged, exercised at home on 13 different days during the previous 4 weeks.

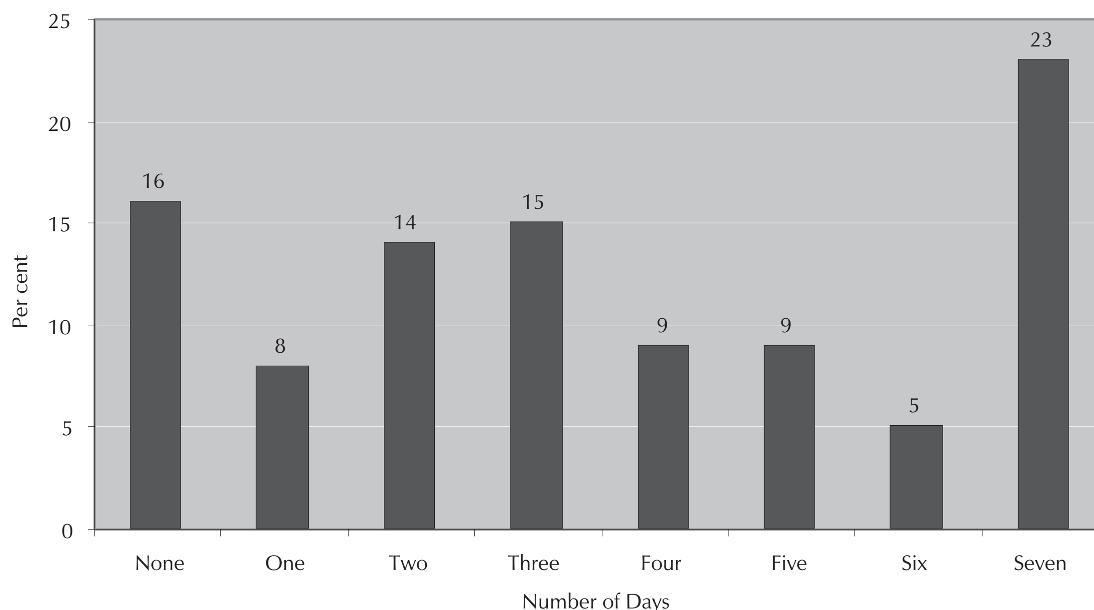
Top Ten Physical Activities or Exercise Respondents Have Taken Part in During the Last Four Weeks, 2002

Activity	Per cent of total respondents	Average number of days
Gardening	59	7
Walking +30 minutes	47	11
Walking 10-30 minutes	43	12
Exercising at home	21	13
Swimming	19	4
Cycling	17	10
Golf	16	4
Running / jogging / marathon / cross-country	14	8
Exercise classes / gym / weight training	12	9
Fishing	9	3

Source: Christchurch City Council, Annual Survey of Residents, 2002.

Respondents were also asked on how many different days had they taken part in a sport or physical activity during the previous 7 days for a period of 30 minutes or more. Over 60% of people had participated in sport or physical activity on 3 or more different days. Nearly a quarter (23%) of respondents had participated in sport or physical activity on all 7 days. The average number of days that respondents participated in a sport or physical activity for a period of 30 minutes of more was 3.6, while 16% of respondents had done no physical activity during the 7 days.

Number of Days Respondents Took Part in Sport or Physical Activity* During the Last Seven Days, 2002

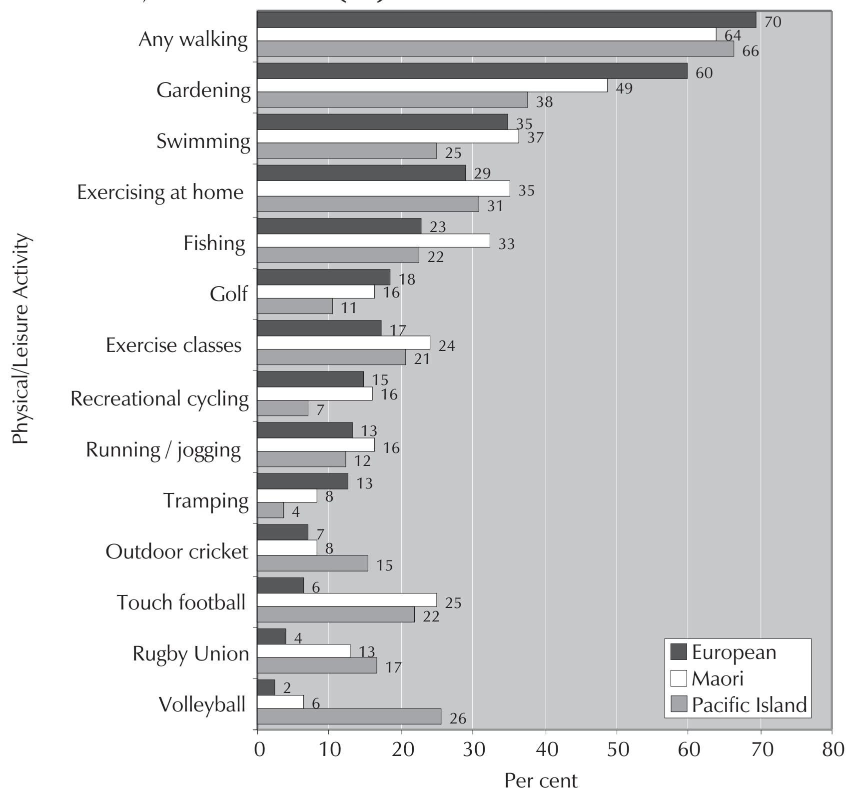


* For at least 30 minutes over the day. Source: Christchurch City Council, Annual Survey of Residents, 2002

Information on the participation in physical activities by males and females and between ethnic groups is not available at a city level. National information is available from the SPARC combined Sport and Physical Activity Surveys, which can provide an insight into variations in participation levels between the two genders. According to data covering the period 1997-2001:

- 68% of New Zealand adults meet the recommended physical activity guidelines (2.5 hours of active recreation/ sport per week). This compares to 67% in 1997/98.
- 70% of Canterbury/ Westland adults meet the guidelines, compared to 68% of all New Zealanders over the period 1997 – 2001.
- As expected, males and females have differing participation rates with different activities. More females than males were involved in walking and gardening, while more than twice as many males than females were involved in fishing. A similar difference is seen in golf, with 28% of men and 10% of women participating in this sport. More females than males were involved in aerobics and netball.
- The non-participation rates of males and females were very similar at 2.2% of males and 2.3% of females not involved in any physical or leisure activity during the 12 month period.
- The Pacific Islands and Māori ethnic groups are more likely than Europeans to participate in team sports. Activities which are dominated by Europeans include gardening, golf, recreational cycling and tramping. These activities have low levels of participation by Pacific Islands people.
- Pacific groups and those from ‘other’ ethnic cultures including Asian groups are less active than Māori and New Zealand European.

Estimated Participation* in Selected Physical and Leisure Activities Among Adults1 During the Last 12 Months by Ethnicity, New Zealand (%)



* People can participate in more than one activity. 1 Adults aged 18 years and over. Note: This data is an estimate only, based on a survey carried out by SPARC (Sport and Recreation New Zealand) throughout the years of 1997, 1998 and 2000.

Source: SPARC, Combined Sport and Physical Activity Surveys, 1997, 1998 and 2000.

Adult Non-Participation Rate in Any Physical and Leisure Activities During the Last 12 Months, New Zealand (%)[57]

European	1.8
Māori	3.3
Pacific Island	1.9
Other	7.6
Total Population	**2.3**

Source: SPARC, Combined Sport and Physical Activity Surveys, 1997, 1998 and 2000.

The Eight Cities Quality of Life Survey 2002, identified the frequency of physical activity by respondents aged 18 years and over. The survey asked respondents how often they take part in physical activity (defined in the survey as any activity such as sport, brisk walking, running or gardening that increases their heart rate or breathing for 30 minutes or more).[58] Overall, the majority of respondents stated that they undertake physical activity at least 2 to 4 times a week, with one third to one half indicating that they undertake activity every day, or nearly every day (this varied across cities). Those significantly more likely to never exercise included females, those aged 65 years and over, people living in a household with 1 or 2 members, and people on incomes of less than $20,000 per year.

SPARC reported a decline in physical activity by children / young people:

- a decline in physical activity (from 69%) over the period 1997-2001 in children/young people 5-17 years old nationally
- this decline was particularly prevalent for 5-8 and 13-15 years olds, and for Māori and Pacific young people
- there was also a rise in the numbers of sedentary young people (those who not had undertaken any physical activity)
- these trends support the findings of a Christchurch study[59] that found that the fitness levels of the children 10-14 year old decreased over the a 9 year period from 1991 to 2000
- declining numbers of New Zealand children, including Christchurch children, walk or cycle to school[60]

A 5% increase in physical activity nationally, has conservatively been estimated to save $25m per

annum in direct health costs.[61] The 1992/03 Health Survey also found an inverse relationship between participating in vigorous activity and both income and education status.[62] .

Nutritional Intake

- Diet is associated with health outcomes. New Zealand adults eat enough nutrients but consume too much saturated fat. The Canterbury District Health Board suggests Christchurch people's nutritional intake is similar to New Zealand as a whole.
- Nutrition is suggested as having a role in around a third of all cancers[63] and plays a major role in heart disease.
- A significant number of New Zealanders, especially Māori and Pacific households, report running out of food or being unable to eat properly because of a lack of money.[64]
- Breastfeeding is identified as a factor in improved health outcomes for babies and young children. Breastfeeding rates are slightly higher in Canterbury than in the rest of New Zealand; the Canterbury District Health Board estimated that 67% of Canterbury babies (and 65% for the rest of New Zealand) are fully breastfed at 6 weeks and at 3 months 55% (51% for the rest of New Zealand) continue to be breastfed.

Obesity

- Obesity is one of the most important avoidable risk factors for a number of life-threatening diseases and for serious morbidity, including heart disease, diabetes, stroke, high blood pressure and some cancers.
- 35% of all New Zealand adults are overweight and, nationally, 15% of males and 19% of females are obese.
- Obesity is becoming more common with a 50% increase in adult obesity (15% of males and 19% of females were obese in 1997 compared to 10% of males and 13% of females in 1989).
- Obesity problems are greater for Māori (28%) and Pacific peoples (47%).
- The prevalence of childhood obesity in New Zealand is not clear. The first comprehensive survey, the New Zealand Children's Nutrition Survey, surveyed 4,500 5 to 14 year olds in 2002. The findings of this report are due to be released later in 2003.
- A study of intermediate school children in Christchurch indicated that during the 1990s there was a general decline in fitness and increase in body weight in pre-teen and early teenage children. This appears to be a national trend.
- These trends support the findings of a Christchurch study by Dawson, Hamlin, Ross and Duffy (2001) that 10-14 year olds' weight increased 2.9 kg for girls and 2.1 kg for boys over the 9 year period from 1991; the proportion of overweight and obese girls increased at least five-fold and for boys it almost doubled.[65]

Alcohol and Illicit Drugs

- In New Zealand the excessive consumption of alcohol is a major personal and public health tissue.
- Heavy drinking over a long period of time has been linked to a number of health problems, particularly liver and heart damage, hypertension and some cancers.
- In 1997, alcohol was also a contributing factor in 27.1% of fatal road traffic crashes and 17.4% of casualties involving motor vehicle-related injuries.[66]
- Alcohol abuse also significantly contributes to drowning, suicide, assaults and domestic violence.
- The New Zealand Health Survey, 1996/97 found that one-sixth of adults display drinking patterns that put them at risk of future negative physical or mental effects.[67]
- Young people aged between 15 and 24 years, especially men, were more likely to fall into this group. According to the survey, while more Māori and Pacific people report never drinking alcohol, those who do drink consume more on a typical drinking occasion than European and Pakeha and illustrate hazardous patterns of drinking (more than six drinks on occasion).[68]
- Canterbury has a serious illicit opioid drug problem.[69]
- Christchurch has the largest methadone programme in the country. This does not necessarily equate to a large problem in Christchurch, as it could be that more people are receiving treatment here, having come from other places.
- Of particular concern is the risk to public health

from the transmission of blood-borne viruses through the sharing of needles and syringes.

- Needle exchange programme and other initiatives have been successful in reducing HIV.[70] New Zealand has experienced a peak and rapid decline of HIV incidence.

Violence

Violence is recognised as a key public health issue. Child abuse, sexual violence, family violence, school bullying and elder abuse are all preventable forms of harm and social disruption (see Safety and Security Section).

Immunisation

There is no national immunisation database. Research indicates that 50% of children are immunised. Children who have received vaccination are usually up to date with all their immunisations.[71]

Teenage Pregnancies

Teenage pregnancy (girls becoming pregnant between the ages of 13 and 17 years) can lead to significant health and social problems for the mother, child and society more generally. Health risks associated with teenage pregnancy include increased risk of hypertension and anaemia during pregnancy, likely risk of exposure to sexually transmitted disease, risk of cephlopelvic disproportion[72] and risk of future difficulties in maintaining a healthy body weight.

The future prospects of teenage mothers can be greatly compromised as they often have to leave school to care for their child. Teenage mothers can become trapped in a poverty cycle in which limited or no educational attainment, along with parenting demands, leads to reduced ability to participate in paid work and therefore limited income, with its consequent impact on poor quality of life outcomes. Teenage mothers often end up as single parents and may end up dependent on a benefit, which can be a major contributing factor to child poverty.

In 1996, Christchurch births to teenage mothers accounted for 2.2% (93) of all births, compared to 2.5% nationally. In the 5 years since then, Christchurch teenage births have dropped to 1.5% (62) of all total births in 2001.

Teenage pregnancy rates are higher for some ethnic groups. Young Māori and Pacific women have the highest rates of teenage pregnancies. Nationally, as a proportion of the total number of women aged 13 to 17 within each ethnic group, 2.4% of Māori women and 1.4% of Pacific women gave birth in 2001.

Live Births to Teenage Mothers (Aged 13-17 Years) by Ethnic Group (Total Responses*), 2001

	Total Teenage Births	Total Number of Teenage Females	Percent Teenagers giving Birth
Christchurch			
European	52	8,682	0.6
Māori	12	1,149	1.0
Pacific Island	4	417	1.0
Asian	2	981	0.2
Other	0	126	0.0
Not Stated	0	222	0.0
Total	**62**	**10,539**	**0.6**
New Zealand			
European	643	97,359	0.7
Māori	669	27,330	2.4
Pacific Island	155	11,286	1.4
Asian	23	10,965	0.2
Other	7	1,251	0.6
Not Stated	3	3,858	0.1
Total	**1,169**	**133,290**	**0.9**

Includes all the people who stated each ethnic group, whether as their only ethnic groups or as one of several ethnic groups. Where a person reported more than one ethnic group, they have been counted in each applicable group.

Source: Statistics New Zealand, Births, Deaths and Marriages Register (Internal Affairs), 2001.

Self Reported Health

Self reported health is a global measure of health. It is subjective and complements the findings from more objective and direct health outcome measures. This indicator has two measures, both of which are from the Eight Cities Quality of Life Survey 2002:

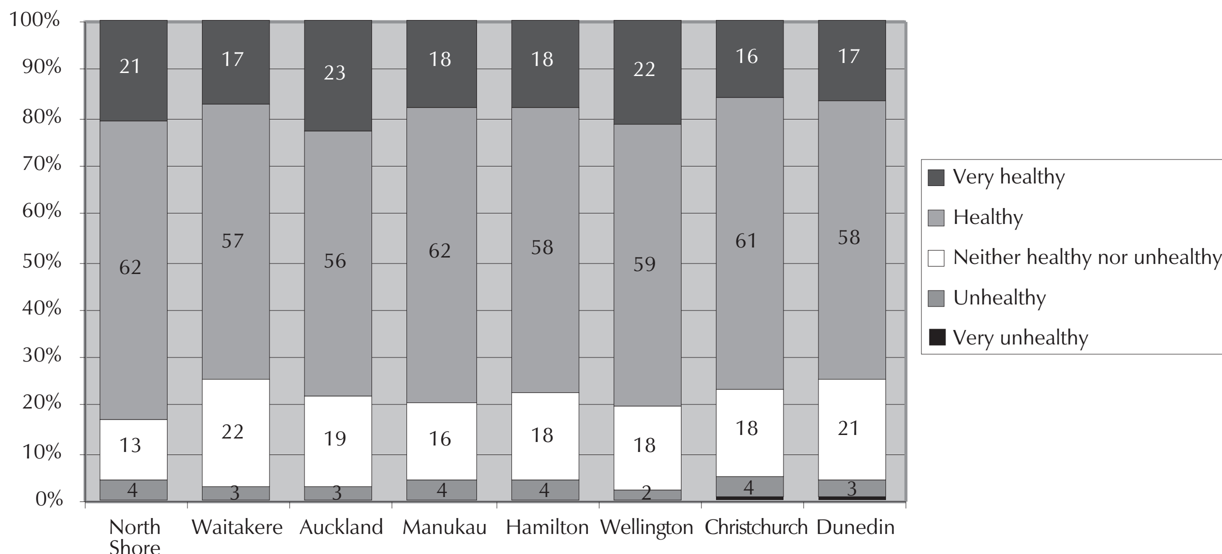
- self reported health status
- self reported health of lifestyle.

The majority of Christchurch respondents stated that their health was ‘good’ or ‘extremely good’ overall. A small percentage (6%) stated that their health was ‘poor’. Some people were significantly more likely than others to state that their health was ‘poor’ or ‘very poor’; these were females, people living in single person households or non-family households, those

living in a household that earns less than $20,000 per year, and those not employed.

Similar to findings for self reported health, the majority of survey respondents also stated that their lifestyle was 'healthy' or 'very healthy'. Very few respondents rated their lifestyle as 'unhealthy' (5%). Those significantly more likely to state that their lifestyle was 'unhealthy' or 'very unhealthy' were people aged 18 to 25 years (especially young men), those living in a household with more than 5 members, those living in a household that earns less than $20,000 per year, and those on a personal income of less than $20,000 per year.

Rating of healthy lifestyle by residents (percentage) (2002)

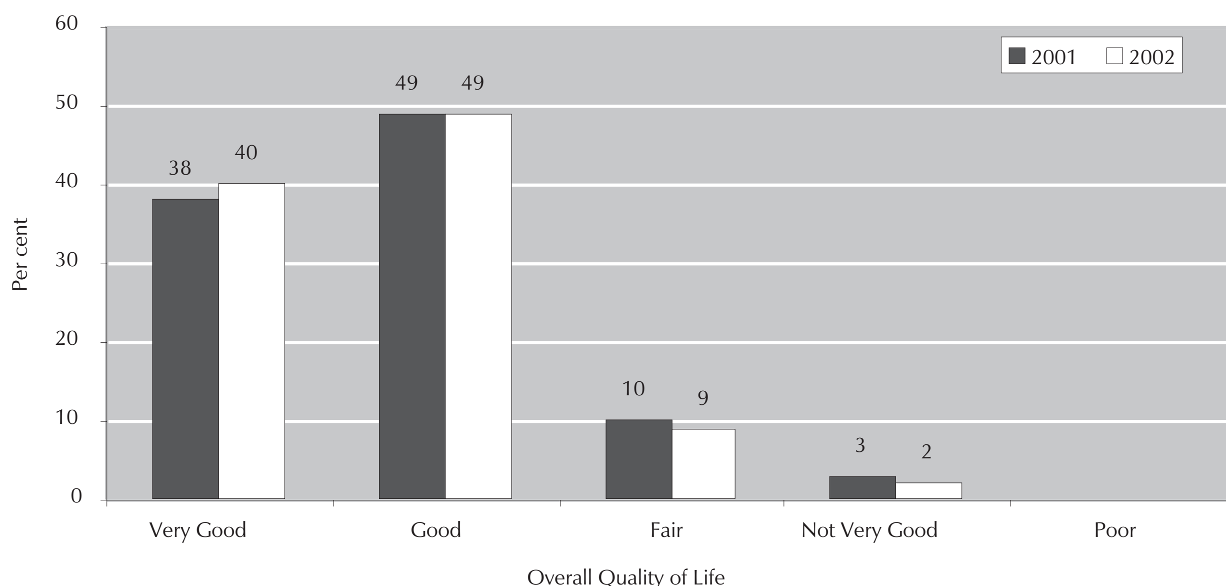


Source: ACNielsen (June 2003) *Quality of Life: New Zealand's Eight Largest City Councils*, ACNielsen, Auckland.

Self Reported Wellbeing

Quality of life, happiness and general well-being are facets of good health. Respondents in the 2002 Christchurch City Annual Survey of Residents, were asked how happy they feel and how well they rated their overall quality of life. 36% said they felt 'very happy', 60% felt 'happy' and 5% felt 'not very happy'. Respondents were also asked to rate their overall quality of life. 40% said their quality of life was 'very good', 49% said it was 'good', while 9% said it was 'fair'.

Overall Quality Of Health



Source: Christchurch City Council Annual Survey of Residents 2002: Prepared By National Research Bureau Limited, Christchurch City Council, Christchurch.

Importance of social support networks and having people to talk to about and seek support for stressful life events. Respondents in the 2001 Annual Survey of Residents were asked if there was someone respondents felt they could turn to in times of stress. The majority of residents said there was someone they could turn to turning times of stress, with 63% saying 'always' and 24% saying 'most of the time'.

What did People Tell Us about Health

This section describes the responses to issues of health by representatives from the community provider sector, government agency frontline staff and managers, local government agency staff, local councillors and Community Board members, local Members of Parliament, Ngai Tahu and iwi/ Māori organisations, key intersectoral networks and other key stakeholders. Respondents discussed the common themes outlined in the introduction to this section.

- Quality and commitment of staff was identified as critical to the achievement of positive outcomes, as was the importance of appropriately trained and/ or qualified staff and adequate levels of staffing. There is great difficulty in recruiting skilled Māori staff;
- Consultation and collaboration across and between sectors was viewed as essential in achieving positive outcomes;
- Relationship building was also considered a key factor contributing to positive outcomes;
- A "case management" approach was identified as a key contributor to positive outcomes, particularly for clients with complex needs;
- Resource/funding limitations were viewed as barriers to achieving positive outcomes.

Specific feedback about health is summarised below.

Local consultation reports indicate that respondents would like to see an improvement in the health outcomes for the city. They suggest that some additional health services, such as "barefoot doctors service" and free dental services for adults are required, but also that attention should be paid to the factors affecting the overall health of people (such as air and water quality, support for children and young people and health education).

A number of respondents were concerned about the health services for young people in particular parts of the city and health services for those experiencing mental health problems and for people with disabilities.

Respondents from all sectors were concerned about the disparities in health and wellbeing which exist between different groups, for example between socio-economic groups, and between Māori and Pacific peoples and the general population:

> *To improve the health of people in Christchurch we need to address disparities. An increase in effort is needed to address the low health status of Māori and Pacific peoples and refugees.*

Respondents suggested that given the limited resources for health care services there should be a greater focus on preventive health care programmes. For example, some stakeholder interviews identified that there are growing concerns within the community in relation to the health sector; these include affordability, barriers to access, quality of care issues, as well as issues with the overall management and funding of health care. The community workshops identified that there are several factors that place greater pressure on the provision of health care services including the ageing population and a trend towards increasing expectations of better health care services.

Concerns relating to the ageing population and the needs of older persons were raised during the consultation process. These included references to the provision of appropriate care and the impact of the changing urban environment on older people's confidence and ability to live independently. For example, government agency fieldworkers identified a need for greater integration among services for older peoples' health and local government stakeholders. Similarly, community providers raised concerns as to whether the city was planning adequately for an increasing number of older people. The issues associated with caring for people with dementia were also discussed by government, local government and community respondents.

Respondents identified a number of gaps in mental health services. The gaps, which were consistently identified, were:

- non-specialist care for children and young people with mental health issues.
- mental health services especially alcohol and drug services for young people with drug, alcohol and mental health issues.
- respite care for carers of people with mental illness
- specialist skills such as psychiatrists who are trained in working with children and young people.
- appropriate care and support for people with dementia.

> *Improvements are needed in all mental health services, but there should be an emphasis on improving mental health services for children and young people, older people, Māori and Pacific peoples.*

Conclusions

This section discusses some of the key themes that have emerged in the trends, consultation and review of current service provision. It attempts to draw some conclusions from the information gathered.

Key Challenges

The key challenges emerging from the mapping were

- ageing population
- children's health
- mental health
- inequalities of health outcomes
- lifestyle factors

Health Services

Having access to a range of high quality health and care services is vital to help people to cope with illness and disease. Ensuring the planning, development and provision of these services is largely the responsibility of the Canterbury District Health Board in partnership with a range of other private and community health care providers. These agencies are facing the ongoing challenge of ensuring best possible provision from finite resources. These agencies also face the challenge of ensuring that service provision is responsive to local needs.

The integration of services also continues to be a challenge, particularly in the areas of child health services and older health services.

Ageing Population

Most old people are fit and healthy. However, the ageing of the population creates challenges and pressures on district and national public health care, urban design and facility planning and support services.

Children's health

Child health is the foundation of adult health. Poor health can affect children's development and educational achievement. Immunisation plays a key role in the prevention of disease. Low immunisation rates contribute to the cyclic occurrence of measles and whooping cough epidemics. [73]

Research shows that unhealthy behaviours adopted in childhood (for example smoking, alcohol and drug abuse and lack of exercise), have a negative impact on health in later life, particularly where the behaviours are carried on into adulthood. Therefore priority should be given to ensuring that children and young people develop healthy behaviours.

Child abuse and family violence continues to have an impact on many children's health and wellbeing. Reduction in family violence is a ongoing challenge.

Mental Health

The consultation and data available suggested that mental illness is a major challenge facing health services and the community as a whole. Mental health status and protective factors for mental disorders have links with most other outcomes areas. For example, social integration and connectedness are protective factors for mental disorder. Social isolation and loneliness tend to increase the risk of mental disorder. Unemployment increases social isolation and psychological distress, leading to increased risk of mental disorder. Lack of family support and disruptive personal relationships are linked to worse mental health. Poor housing, overcrowding and housing affordability influence mental health. Education has a protective function for mental health. Mental illness may also be linked to alcohol and drug consumption.

Connected, supportive communities that value diversity; are open and inclusive and provide opportunities for everyone to participate in community life, will have better mental health outcomes.

It would be useful to have reliable data at a regional and city level on the prevalence of mental illness.

Inequalities of health outcomes

The trend data and the consultation highlighted the significant inequalities in health between groups, in particular between people with low income and low education levels in comparison to the broader population, between Māori and the broader community and between Pacific people and the broader community.

Ill health and lower than average life expectancy are closely and consistently associated with social and economic disadvantage. This correlation holds for death rates, disease rates, health service use, hospital admission and self-rated health. Inequalities in the distribution of, and access to, material resources such as income, education, employment and housing, are the primary causes of health inequalities. Individual behaviours, such as smoking and diet, only partly explain this relationship and such behaviours themselves are strongly related to social economic factors.[74]

Poorer people tend to use primary health services less than their ill health requires, have lower uptake of screening and preventative programmes and are admitted to hospital more than average for almost every diagnosis.

Tackling health inequalities continues to be a major challenge for the city and country as a whole.

Lifestyle Factors

Health promotion has a vital part to play in improving health and tackling health inequalities. Research and trend data indicate that people's lifestyles influence their health and how long they live. People's ability to pursue good health is influenced by their skills, information and economic means.

Tobacco smoking, alcohol abuse, drug use and violence are health issues of concern in Christchurch and that have an impact on a number of other outcome areas, including education and safety and security. There is growing concern about the level of gambling problem in Christchurch and New Zealand. However, more information is needed regarding the extent of the serious gambling problems in Christchurch.

It is a matter of concern that campaigns to promote and improve health are taken up least by those who need them most. The development of health-promoting activities by working in partnership with employers, schools, iwi/Māori organisations, community agencies and a range of community settings can create environments that support people making health lifestyle choices.

Determinants of health

Some of the prime concerns for the health system at present are largely preventable or controllable through social and economic interventions. To improve health we need to address socio-economic determinants that contribute to poor health. Fundamental socio-economic determinants include income, employment, housing, education and social connectedness. These require intervention at the macro policy as well as the local level. Such interventions require intersectoral collaboration.

Environmental Determinants

Utilities such as water and sewage reticulation historically contributed towards large improvements in population health in New Zealand and cross-developed countries. Maintenance of these services and continuing infrastructure development is essential to protecting population health. User charges for these services have significant implications for health.

Transport, recreation and community facilities are also important to improving and protecting health. Ensuring such facilities are accessible and affordable is an ongoing challenge.

Winter air quality continues to be a major challenge for the city.

Possible Responses

Common themes within the health section suggest the following possible responses:

- collaboration and intersectoral approach
- reliable data
- focus on lifestyle factors, including physical activity
- increased mental health services for children and adolescents

A greater emphasis on joint approaches and co-ordination will maximise the impact on health of existing agencies, structures and initiatives.

Collaboration and Intersectoral Approach

The consultation highlighted the importance of collaboration and intersectoral approaches. Research confirms that achieving full health potential does not depend solely on the provision of health services. Many other factors and, therefore, many other individuals, groups, institutions and public and private bodies have a part to play in the effort to improve health in the broader sense.

The Community Mapping Project has highlighted that a large number of agencies and government departments are involved in promoting good health and treating and supporting those who suffer ill-health

or who have a disability. As well, a number of government agencies and organisations have been identified as dealing with clients with tobacco smoking, alcohol abuse, drug use and violence issues. Some of these community agencies and government departments have a very direct and clear function in the area of health. In addition, many community agencies and government departments whose role may appear more peripheral or indirect do also have a vital contribution to make in achieving an integrated strategic approach to promoting and improving the health of the whole population. The consultation confirmed an increased emphasis on collaboration in the development of wrap around and holistic services was necessary.

There are examples of good intersectoral collaboration already. For example, respondents identified Canterbury Strengthening Families, Healthy Christchurch, Eldercare Canterbury and Road Safety campaigns. However, it also suggested that some fragmentation and lack of co-ordination still remains.

Appropriately targeted

Research suggests that interventions should be gender-appropriate, culturally appropriate and address the relevant domains of influence, such as family, schools, peers etc. Interventions should address multiple factors, since many causal factors are inter-related.

The development of appropriate and common intersectoral assessment tools, intersectoral best practice standards and intersectoral evaluation methods could be useful. For example, trends and research indicates that suicide prevention activities need to focus on young adults rather than solely on school aged youth, and there is evidence that some interventions work better than others.

These trends signal a need for a balance between targeted and universal approaches to funding and delivery of health services. Targeting of services helps close the gap, while universal approaches maintain and improve overall health.[75]

Lifestyle Factors

With the appropriate information and support, people can control many factors which influence their health and take greater personal responsibility for their own health and well-being, in order to improve physical wellbeing and reduce obesity. This suggests that the health system and wider community should focus on providing individuals with the information and support they need to make informed health choices.

Foundations for healthy and fulfilling life (particularly old age) are laid very early in life – therefore it is important to encourage people to make lifestyle changes throughout the lifecycle.

Physical activity

Physical activity includes active leisure (e.g. informal physical recreation like walking, swimming and cycling, dance, sport as well as formal exercise), active transportation (e.g. walking to and from work or school) and activity undertaken during paid or unpaid domestic work, and for children, activity undertaken during their schooling (Ross, 2000). The domains of transportation, urban design (including suburb layout, street, walkway, cycle way and parks), facility design, leisure and recreation provision, and environmental health, including air and water quality, all have an impact on the physical activity of the citizens of the city and the planning for such services should recognise ad factor in these considerations.

In addition, the links and relationships between the city and its stakeholders in, for example, health and education are vital to enhance the impact of any intervention.[76]

Smoking Cessation

Smoking is the biggest cause of the difference in death rates between rich and poor. It reduces birth weight in pregnancy and contributes to perinatal mortality. The expansion of smoking cessation services and nicotine replacement options should be explored.

Nutrition

People of all ages would benefit from eating more fibre, vegetables, legumes and fruit, and eating less fat. Public facilities, particularly community and recreation facilities, should provide a choice of foods which are conducive to good health. Food outlets servicing educational, learning and training facilities should do likewise. Local and central government departments could take a leadership role in ensuring that catered events also provide a choice of foods which are conducive to good health.

Oral health

Water fluoridation is the single most effective tool for the prevention of tooth decay within a population. Despite this, water fluoridation continues to be debated vigorously and there is a level of public concern. However, focusing on water fluoridation may have the effect of losing sight of the goal –

improving oral health. While water fluoridation is currently the best-proved method of improving oral health, it is not the only potential option. Other options include delivery of fluoride through milks, toothpaste, gels, mouth rinses, tablets and drops; environmental health interventions; and health promotion initiatives.

Community participation

Social isolation and lack of participation in community life have been found to impact negatively on mental health and wellbeing. Alternatively there is general acceptance that the major factors influencing mental health include having access to social networks, engaging in a variety of social and physical activities and a valued social position. Thus, development of organisations and activities which encourage participation and inclusion is vital to the development and maintenance of mental health and well-being at an individual and community level.

Community sector respondents suggested that community organisations could try to 'deepen' and 'diversify' participation. They suggested that more people could be encouraged to take on new roles such as coaching, teaching or being part of a board or organising committee. This would provide opportunities to develop new skills and deepen their role within the organisation.

Education

Education is a key determinant of health. Adequate education is one of the keys to enable people to take up various health promotion messages. Access to education and keeping people connected to education is a key to improving health (see Knowledge and Skills section for further information on related challenges and responses).

Mental health services for children and adolescents

Mental health service provision for children and adolescents (including drug and alcohol service provision) continues to provide a high level of community interest and concern. There appears to be opportunity to consider innovative approaches to the improved management of service demand, including training and support to workers across a variety of sectors that engage with clients with children and young people with low to medium mental health issues. There is a clear need to have cross-sectoral input in to the planning, development and delivery of such services. Finally, incentives for mental health services that work pro-actively and collaboratively with other agencies and services should also be considered.

[1] Ministry of Social Policy (2001) *The Social Report 2001*, Ministry of Social Policy, Wellington.

[2] World Health Organisation (1981) *Global Strategy for Health for All by the Year 2000*, World Health Organisation, Geneva.

[3] Beaglehole, R. and Bonita, R. (1997) *Public Health at the Crossroads- Achievements and Prospects,* Cambridge University Press, Cambridge.

[4] World Health Organization Regional Office for Europe (1995) *Targets for Health For All*, World Health Organization, Copenhagen. Beaglehole, R. and Bonita, R. (1997) *Public Health at the Crossroads- Achievements and Prospects,* Cambridge University Press, Cambridge.

[5] For more information on the Annual Survey of Residents visit the Christchurch City website www.ccc.govt.nz/ResidentsSurvey/2002/.

[6] OECD (2003b) *OECD Health Data 2003: Table 1 Life Expectancy (in Years),* www.oecd.org/statisticsChannelList0,2711,en_2825_499502_1_1_1_1_1,00.html, OECD, Washington.

[7] Ministry of Health (2001a) *Life Expectancy and Small Area Deprivation in New Zealand*, Ministry of Health, Wellington.

[8] OECD (2003a) *Health Data 2003: Table 2 Infant Mortality, Deaths per 1000 Live Births,* www.oecd.org/statisticsChannelList0,2711,en_2825_499502_1_1_1_1_1,00.html, OECD, Washington.

[9] Davey-Smith G., Hart, C., Montgomery, S. (1997) Lifetime Socio-economic Position and Mortality: Prospective Observational Epidemiology in *British Medical Journal 314: 547-2*.

[10] Ministry of Health (2002d) *Reducing Heath Inequalities*, Ministry of Health, Wellington.

[11] Health Funding Agency (August 2000) *Striking a Better Balance,* Health Funding Authority, Wellington.

[12] Ibid.

[13] Ibid.

[14] Statistics New Zealand (June 2003) *Christchurch Quarterly Review June 2003,* www.stats.govt.nz, Statistics New Zealand, Wellington.

[15] Coronary heart disease is the leading single cause of death, but when all forms of cancer are grouped together cancer is the leading cause.

[16] Canterbury District Health Board (2001) *Strategic Plan 2001*, Canterbury District Health Board, Christchurch.

[17] Canterbury District Health Board (October 2001) *Health Needs Assessment for Canterbury Part A*, Canterbury District Health Board, Christchurch.

[18] Canterbury District Health Board (2003) *Oral Health Strategy: Part B*, Canterbury District Health Board, Christchurch.

[19] Elderly people suffer an increased risk of dental decay if their general health worsens. Elderly people in poor health may change their diets which result in further causes complications. Certain members of society, as a result of either physical or intellectual disability, are unable to look after their teeth and require regular extensive dental treatments. Due to their disabilities these treatments quite often require the use of general anaesthesia, which is never without risk. There is a small but significant mortality (death-rate) associated with dental treatment carried out under general anaesthesia.

[20] People are also living longer. Historically older New Zealanders had none of their own teeth and dental problems largely revolved around denture problems.

[21] Many drugs commonly prescribed for elderly individuals have the side effect of causing a dry mouth. When there is reduced salivary function, the concentration of acid produced by bacteria on the teeth rises, increasing the risk of decay. Older people in poor health may change their diets to include a greater proportion of processed foods usually containing sugar that further increases the risk (Canterbury District Health Board (2003) *Oral Health Strategy: Part B*, Canterbury District Health Board, Christchurch).

[22] It is likely that the numbers of people presenting to the mental health services for treatment will increase in the coming years, due in part to the modernisation of the services and the reduction in the stigma associated with their use. The ageing population and the increasing incidence of social problems, such as drug abuse and family breakdown, are also likely to contribute to increasing demands on the services in the future.

[23] It was recognised when designing this survey that people's stress levels differ and that ability to function efficiently under stress will also differ from person to person.

[24] Auckland City Council, Christchurch City Council, Dunedin City Council, Hamilton City Council, Manukau City Council, North Shore City Council, Waitakere City Council, Wellington City Council (In Print) *Quality of Life in Big Cities of New Zealand,* www.bigcities.govt.nz

[25] Ministry of Health (2000a) *Suicide Facts: Provisional 1999 Statistics (All Ages)*, Ministry of Health, Wellington.

[26] Ibid.

[27] This is consistent with other reports; most studies report that at least 85% have a psychiatric disorder. Gunnell, D. and Stephen F. (May 1994) Prevention of Suicide: Aspirations and Evidence in *British Medical Journal Vol 308*. Beautrais, A. et al (1996) Prevalence and Co morbidity of Mental Disorder I Persons Making Serious Suicide Attempts: A Case-Control Study in *American Journal of Psychiatry 153: August 1996.* Beautrais, A. (2000) *Restricting Access to Means of Suicide in New Zealand: A Report Prepared for the Ministry of Health on Methods of Suicide in New Zealand*, Ministry of Health, Wellington.

[28] Minster of Health (2000). *New Zealand Heath Strategy*.

[29] Dementia is not a specific disease but a syndrome with many possible causes. The definition of dementia is the clinical syndrome characterised by progressive losses of cognitive and emotional abilities severe enough to interfere with daily functioning and quality of life. It includes more than 55 illnesses, some of which are non-progressive (Sainsbury, R, Harrisson, J., Collins, C., Haydon, R., Gaynor, D., Wilkinson, T. (1997), *Guideines for the Support and Management of People with Dementia*, National Health Committee and ADARDS, New Zealand). Although the large majority of new cases will be older people, younger people may also be affected by dementia, such as AIDS dementia complex, Huntington's disease, Pick's disease, alcohol related dementia and hereditary pre-senile dementia (Sainsbury, R, Harrisson, J., Collins, C., Haydon, R., Gaynor, D., Wilkinson, T. (1997), *Guideines for the Support and Management of People with Dementia*, National Health Committee and ADARDS, New Zealand). Other diseases that may be associated with dementia include multiple sclerosis, brain tumours, infections of the brain, and dementia following certain types of head injuries. The prevalence of dementia increases markedly with age so the number of people affected is projected to rise rapidly in the next few decades.

[30] Sainsbury, R., Harrisson, J., Collins, C., Haydon, R., Gaynor, D., Wilkinson, T. (1997), *Guideines for the Support and Management of People with Dementia*, National Health Committee and ADARDS, New Zealand.

[31] Ellis, P.M. and Collings, S.C.D. (October 1997) Mental Health in New Zealand from a Public Health Perspective in *Public Health Report No. 3: 3-16*

[32] Sainsbury, R, Harrisson, J., Collins, C., Haydon, R., Gaynor, D., Wilkinson, T. (1997), *Guideines for the Support and Management of People with Dementia*, National Health Committee and ADARDS, New Zealand.

[33] Ibid. Ellis, P.M. and Collings, S.C.D. (October 1997) Mental Health in New Zealand from a Public Health Perspective in *Public Health Report No. 3: 3-16*.

[34] Ellis, P.M. and Collings, S.C.D. (October 1997) Mental Health in New Zealand from a Public Health Perspective in *Public Health Report No. 3: 11*.

[35] Ibid, p.12.

[36] Ministry of Health (2000b) *Making a World of Difference Whakanui Oranga: The New Zealand Disability Strategy Discussion Document*, Ministry of Health, Wellington.

[37] Older people are high users of primary and secondary health and disability support services. Per capita, public health expenditure for people aged 65-74 years is estimated to be $3,261 and $6,144 for people aged 75-84 years. This compares with $849 for people aged 15 years and under and $1,190 for people aged 15-64 years. In New Zealand, two thirds of people aged 75 and over and almost half of those aged 65-74 years live with some degree of disability, compared with a quarter of people aged 45-64 years (Ministry of Health (2001d) *The Burden of Disease and Injury in New Zealand*, Ministry of Health, Wellington).

[38] Ministry of Social Development (2001b) Statement of Government Intentions for an Improved Community: Government Relationship, Ministry of Social Development, Wellington.

[39] Home care/support (such as, help with personal care, household tasks, social problems and treatments) includes a wide range of health and social services that could assist a person to live independently at home.

[40] Ellis, P. and Collings, S. ed. (1997) Mental Health in New Zealand from a Public Health Perspective, Ministry of Health, Wellington.

[41] Ellis, P. and Collings, S. ed. (1997) Mental Health in New Zealand from a Public Health Perspective, Ministry of Health, Wellington.

[42] Ministry of Health (1997) Taking the Pulse, Ministry of Health, Wellington.

[43] Statistics New Zealand (2001b) *Smoking and Alcohol, www.stats.govt.nz/domino/external/web/ProfileNZ.nsf/htmldosc/8.4*, Statistics New Zealand, Wellington.

[44] Cancer Society (1998) *Policy Statement: Tobacco*, Cancer Society, Wellington.

[45] Canterbury District Health Board (October 2001) *Health Needs Assessment for Canterbury Part A*, Canterbury District Health Board, Christchurch.

[46] Based on Australian data and excluding the cost of passive smoking, the most recent estimate for the total cost of smoking is $22.5 billion for the 1990 year Cancer Society (1998) *Policy Statement: Tobacco*, Cancer Society, Wellington.

[47] Statistics New Zealand (2001b) *Smoking and Alcohol,* www.stats.govt.nz/domino/external/web/ProfileNZ.nsf/htmldosc/8.4, Statistics New Zealand, Wellington.

[48] Ministry of Health and Cancer Society (1996) *Tobacco Statistics 1996*, Ministry of Health and Cancer Society, Wellington.

[49] Ministry of Health (2001c) *New Zealand Health Strategy DHB Toolkit: Physical Activity*, Ministry of Health, Wellington.

[50] Ministry of Health (1997) *Taking the* Pulse, Ministry of Health, Wellington. US Department of Health and Human Services (1996) *United States Surgeon General s Report on Physical Activity and Health*, US Department of Health and Human Services, Washington. National Health Committee (1996) *New Zealand's National Health Committee's Report: Active for Life: A Call for Action*, National Health Committee, Wellington. Ministerial Taskforce on Sport, Fitness and Leisure (2001) *Getting Set for and Active Nation*, Minister of Sport, Fitness and Leisure, Wellington.

[51] Ministry of Health (2001d) *The Burden of Disease and Injury in New Zealand*, Ministry of Health, Wellington.

[52] World Health Organisation (2001) *Promoting Physical Activity for Health and Wellbeing: An Achievable Collective Challenge*, World Health Organisation, Geneva.

[53] Ministry of Health (2001d) *The Burden of Disease and Injury in New Zealand*, Ministry of Health, Wellington.

[54] Christchurch City Council (2003) *Christchurch City Social Trends Report 2003*, Christchurch City Council, Christchurch.

[55] Hillary Commission (2001) *Movement = Health: Guidelines for Promoting Physical Activity*, Hillary Commission, Wellington.

[56] US Department of Health and Human Services (1996) *Physical Activity and Health: A Report of the US Surgeon General*, US Department of Health and Human Services, Atlanta.

[57] Adults aged 18 years and over. Note: This data is an estimate only, based on a survey carried out by SPARC (Sport and Recreation New Zealand) throughout the years of 1997, 1998 and 2000.

[58] Within New Zealand, SPARC's 'Push Play' campaign recommends at least 30 minutes of moderate intensity physical activity on most, if not all, days of the week. Moderate intensity physical activity is defined as activity that will cause a slight but not noticeable increase in breathing and heart rate (for example, a brisk walk).

[59] Dawson, K., Hamlin, M., Ross, J. and Duffy, D. (2001) Trends in Health-Related Fitness of 10-14 year old New Zealand Children in *Journal of Physical Education New Zealand, 43: 26-39*.

[60] Christchurch City Council (2000) *Cycle Strategy for Christchurch City*, Christchurch City Council, Christchurch. Land Transport Safety Authority (2000) *Travel Survey*, Land Transport Safety Authority, Wellington.

[61] Contrasting this, diabetes and related conditions cost more than $170m per annum in New Zealand (Ministry of Health (2001d) *The Burden of Disease and Injury in New Zealand*, Ministry of Health, Wellington).

[62] Ministry of Health (1997) *Taking the* Pulse, Ministry of Health, Wellington.

[63] Cancer Society (November 1997) *Policy Statement: Nutrition and Physical Activity*, Cancer Society, Wellington.

[64] Ministry of Health (1999a) Our Health, Our Future: Hauora Pakari, Koiora Roa The Health of New Zealanders 1999, Ministry of Health, Wellington.

[65] Dawson, K., Hamlin, M., Ross, J. and Duffy, D. (2001) Trends in Health-Related Fitness of 10-14 year old New Zealand Children in Journal of Physical Education New Zealand, 43: 26-39.

[66] Statistics New Zealand (2003) *Smoking and Alcohol,* www.stats.govt.nz/domino/external/Web/nzstories.nsf/1167b2c70ca821cb4c2568080081e089/27ff39f6c46a3a46cc256b1e007deb69?OpenDocument, Statistics New Zealand, Wellington.

[67] Ibid

[68] Ibid.

[69] Canterbury District Health Board (October 2001) *Health Needs Assessment for Canterbury Part A*, Canterbury District Health Board, Christchurch.

[70] The AIDS epidemic in New Zealand started later than in United States and United Kingdom, thereby enabling an earlier response to the epidemic. By the time the first case of AIDS was reported in New Zealand, the gay community and some medical specialists were well informed about AIDS. In 1983 an AIDS task force was established. In 1984 the gay community set up the AIDS Support Network (later to become the AIDS Foundation), which was funded by government to carry out prevention programmes. Homosexual acts and possession of needles and syringes were decriminalised in 1986 and 1987 respectively. A needle exchange scheme was established in 1988. Screening of blood supply and blood products were introduced in 1985. The Department of Health conducted AIDS awareness campaigns from 1985 to 1989 and has continued to produce educational resources.

[71] Melville, L. (2003) *New Zealand: A Profile of Our Children and Young People: The Statistics and Trend in Critical Issues affecting them in New Zealand Today,* Fair Centre of Barnardos, Wellington.

[72] Cephlopelvic disproportion is a condition in which the baby's head cannot pass safely through the mother's pelvis because the fit is too tight. This may be given as a reason for a caesarean birth.

[73] Canterbury District Health Board (October 2002) *Strategic Plan: Towards a Healthier Canterbury: Directions 2006: Document 2*, Canterbury District Health Boards, Christchurch.

[74] Ministry of Health (2002d) *Reducing Heath Inequalities*, Ministry of Health, Wellington.

[75] Health Funding Agency (August 2000) *Striking a Better Balance,* Health Funding Authority, Wellington.

[76] Ross, J (2003) Background Paper for Physical Activity Strategy