

**The Social, Cultural and Economic  
Determinants of Health in New Zealand:  
Action to Improve Health**

**A Report from the National Advisory Committee  
on Health and Disability  
(National Health Committee)**

**June 1998**

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## Committee foreword

The National Advisory Committee on Health and Disability (National Health Committee) advises the Minister of Health on the “kinds and relative priorities of personal health, disability support and public health services that should, in the Committee’s opinion, be publicly funded”. In addition to advising on health and disability support service priorities, the Health and Disability Services Act (1993), as amended in 1995, states that the National Health Committee is also to advise the Minister of Health on:

“ Other matters relating to public health, including -  
(i) Personal health matters relating to public health; and  
(ii) Regulatory matters relating to public health; ...”

The National Health Committee interprets “Other matters relating to public health” as a requirement to consider, among other things, the wide range of factors that affect health, including factors that may lie outside the health sector. This interpretation was supported by participants at a Committee consultation workshop on public health in June 1996, who identified as a high priority the need to ‘state explicitly what are the major determinants of health, communicate the determinants of health in New Zealand and examine strategies to address them.’ In response, the Committee commenced a programme of work on the social, cultural and economic determinants of health in April 1997. The overall purpose of the programme is to provide advice to the Minister of Health on practical strategies that will improve the health of New Zealanders and reduce socioeconomic inequalities in health. Such strategies may be policies, population-based interventions, or programmes targeted to specific groups or individuals.

The initial step in the work programme was the establishment of a health determinants advisory group. The group’s eight members come from a range of backgrounds including public health, economics, Māori community health, ethics and social sciences research. Two background papers were commissioned and they are major background references for this report (Howden-Chapman and Cram 1998; Woodward et al. 1998). The papers are available from the National Health Committee on request.

Drawing partly on the work of the two background papers, the members of the advisory group compiled this report which has been adopted by the National Health Committee as the basis for its own advice to the Minister of Health. In addition to summarising the evidence on social, cultural and economic determinants of health in New Zealand, the report examines strategies for intervening to reduce socioeconomic inequalities in health and makes specific recommendations for action to the Minister of Health.

The principal findings of this report are:

- social, cultural and economic factors are the main determinants of health
- there are persisting health inequalities as a result of socioeconomic factors in New Zealand and some evidence that these may be worsening
- current trends in many socioeconomic factors in New Zealand are likely to widen health inequalities further
- there are good reasons for intervening to reduce socioeconomic inequalities in health
- there are evidence-based interventions for reducing these inequalities.

Action to reduce inequalities in health resulting from social, cultural and economic determinants requires a comprehensive approach involving strategies both within and outside the health sector. This is not an easy task. It requires broad acknowledgement of the important role of social, cultural and economic factors that determine health and of socioeconomic inequalities in health. It also requires a long term commitment to confirm that interventions are improving the health of low socioeconomic groups.

**Areas that lie beyond the responsibility of the Minister of Health have very important effects on health. Therefore, the recommendations - which are to the Minister of Health - do not cover all the areas discussed in this report, including a number of areas of concern which are highlighted. The emphasis is on strategies where there is good reason to believe that action by the Minister of Health will lead to improved population health and a reduction in socioeconomic inequalities in health. In other areas of concern, the National Health Committee hopes that this report will extend the debate about social, cultural and economic determinants and health inequalities beyond the health sector to a wider audience.**

Our understanding of the exact nature and extent of the problem of socioeconomic inequalities in health, as well as the most effective strategies to deal with them, is still imperfect but there is sufficient evidence to make a start. The National Health Committee will continue to do work in this area to identify further effective strategies to reduce socioeconomic inequalities in health. However, action can and should be taken now. The Committee urges the Minister of Health to act on our recommendations.



Gae Griffiths  
Acting Chairperson  
National Health Committee

Further copies of this report and copies of the two background papers are available from the National Health Committee at the address below. We welcome your feedback on this report and ideas for future work by the Committee in this area. You are invited to send comments to:

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[Alf Kirk, a consultant of Wellington, is also a member of the group but was unable to contribute to the writing of this report].

Ashley Bloomfield provided National Health Committee secretariat support to the Health Determinants Advisory Group

## Acknowledgements

Members of both the National Health Committee and the Health Determinants Advisory Group wish to acknowledge the authors commissioned to write the two background papers. In the first, Philippa Howden-Chapman and Fiona Cram summarised the determinants of health in New Zealand, incorporating the latest international and national evidence. The second paper, by Alistair Woodward and Ichiro Kawachi discussed in some detail the rationale for acting to reduce socioeconomic inequalities in health. The latter paper forms the basis for chapter four of this report.

A number of people provided helpful comments on earlier drafts of this report and others were consulted over the types of interventions that are identified in the recommendations. The Committee would like to thank these people for their very useful contributions.

The National Health Committee also acknowledges the efforts of individual members of the Health Determinants Advisory Group who contributed chapters to this report. In particular, the considerable commitment by the Chairperson of the Advisory Group, Professor Robert Beaglehole, is gratefully acknowledged.

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## Summary

This report:

- summarises the **major social, cultural and economic determinants of health** and recent trends in these determinants in New Zealand, and outlines the ways in which these determinants might affect health and give rise to inequalities in health
- provides a **rationale** for acting on the determinants of health in order **to improve population health and reduce health inequalities**
- outlines **possible interventions** that act on these determinants **to improve population health and reduce socioeconomic inequalities in health**
- identifies specific **areas for action** and recommends appropriate strategies for intervening.

## Social, cultural and economic determinants of health

- In order to improve population health status and reduce health inequalities, it is important to identify and understand the main factors that protect and promote good health. These factors are known as the determinants of health.
- The social and economic factors that have been shown in a variety of settings to have the greatest influence on health are income and poverty, employment and occupation, education, housing, and culture and ethnicity. Social cohesion or social connectedness are of increasing interest and are also discussed.
- There is now good evidence that social, cultural and economic factors are the most important determinants of good health.

## Income

- Income is the single most important modifiable determinant of health and is strongly related to health and well-being.
- On average, after-tax household income in New Zealand declined between 1981 and 1993, with single parent, Māori and Pacific households experiencing the greatest income reductions.
- The link between poverty and ill health is clear; with few exceptions, the financially worst-off experience the highest rates of illness and premature death.
- Greater income inequality within society may also be associated with increased overall mortality.
- Both poverty and income inequalities increased in New Zealand over the past decade.

## Employment

- The main factor determining adequate income is participation in paid employment, particularly full-time employment.
- Employment also enhances social status and improves self-esteem, provides social contact and a way of participating in community life, and enhances opportunities for regular activity, which all help to enhance individual health and well-being.
- Unemployment is detrimental to both physical and mental health and unemployed people in New Zealand report poorer health status than people who are employed.

- Māori, Pacific people and young adults have much higher rates of unemployment than the general population.
- In March 1998, 7.1% of the workforce were officially unemployed.
- The average duration of unemployment has increased in recent years.
- While employment is important for good health, some occupations carry risks to health such as injury.
- In 1986 there were 20,652 children under five years with no parents in the paid workforce. By 1996, there were 53,547 children in this position.

### **Education**

- Education is critical in determining people's social and economic position and thus their health.
- A low level of education is associated with poor health status.
- The average length of stay at secondary school in New Zealand increased from 3.6 years in 1976 to 4.4 years in 1996; most of this increase occurred between 1986 and 1996.
- In 1996, 39% of Māori and 27% of Pacific students left school with no qualification, compared with 14% of students from all other ethnic groups.
- The percentage of students leaving secondary school with no qualification has not changed significantly since 1990.
- Around 20% of New Zealand adults have very poor literacy skills.
- Over 60% of Māori, Pacific people and members of other minority ethnic groups are functioning below the level of literacy required to effectively meet the demands of everyday life.
- In 1996, 93% of four year olds and 83% of three year olds were enrolled in early childhood education in New Zealand.

### **Housing**

- Overcrowding, damp and cold have direct detrimental effects on physical and mental health.
- There was an increase in serious housing need in New Zealand between the late 1980s and mid 1990s.
- High housing costs leave less money for other budget items essential to good health including nutritious food, education, and access to health services.
- Housing rental costs have increased significantly over the last decade in New Zealand and at a much higher rate than other goods and services; this increase reflects in part a move to market rentals for State housing.
- Many families, especially low income families, are now spending a much greater proportion of household income on housing costs than they were a decade ago.
- Increased housing costs and a shortage of rural housing have led to the sharing of accommodation with subsequent overcrowding, as well as people living in substandard 'temporary' accommodation.
- Over recent years, there has also been an increase in hospital admissions from childhood diseases that are known to be associated with overcrowding, including meningococcal disease and respiratory infections.

## **Culture and Ethnicity**

- Cultural factors can have both a positive and a negative influence on health.
- Ethnicity in New Zealand is strongly associated with underlying socioeconomic status.
- Health inequalities within ethnic groups are as important as health inequalities between different ethnic groups.
- It is unclear how much cultural and ethnic factors contribute to population health inequalities, but New Zealand evidence suggests that ethnic and cultural inequalities in health can in large part be attributed to inequalities in the underlying socioeconomic determinants of health.

## **Population-based services and facilities**

- Utilities such as water and sewerage reticulation contributed historically towards large improvements in population health in New Zealand.
- Maintenance of these services, which should not be taken for granted, is essential to protecting population health and should be a high priority.
- The funding and provision of these basic utilities has changed in the past few years in New Zealand and issues of maintenance, infrastructure development and user charges have implications for health.
- Transport, recreational facilities and environmental protection are also important for improving and protecting health.
- Public transport and recreational facilities are absent or missing in some new residential areas in New Zealand.

## **Social cohesion**

- People with strong family, cultural and community ties have better health than people who are socially isolated.
- Social cohesion or ‘connectedness’ is related to the health of individuals and communities.
- Single parent families, people with mental illness, people with disabilities, people living alone and older people are particularly vulnerable to social isolation.
- There are generally high levels of access to telephones and motor vehicles in New Zealand but access for some groups is poor.
- Features of New Zealand society that may tend to reduce social connectedness are unemployment, frequent change of residence (high mobility), and an increase in single parent and one person households over the past decade.

## **Health Status in New Zealand**

- The main causes of death in New Zealand are cardiovascular disease and cancer.
- Compared to other OECD countries, New Zealand has high rates of cardiovascular disease, respiratory diseases, breast and bowel cancer, motor vehicle injuries and suicide.
- The major causes of premature death and ill health in New Zealand – cancer, ischaemic heart disease and motor vehicle crashes – are in many cases preventable.

### **Infant mortality and birthweight**

- Deaths in infancy are a sensitive indicator of social and economic conditions and the adequacy of health services.
- The infant mortality rate (IMR) in New Zealand declined steadily until 1992 but has levelled off since.
- IMR has not improved in New Zealand at the same rate as in other developed countries. In 1960, New Zealand's IMR ranked 6<sup>th</sup> out of 21 OECD countries, but in 1995 our IMR ranked 15<sup>th</sup> of 21 OECD countries.
- The Māori IMR has declined but remains higher than that of non-Māori.
- The gap between Māori and non-Māori IMRs has widened since the mid-1980s.
- Low birthweight is a risk factor for increased infant mortality and increased health problems in later life.
- Between 1980 and 1993 the proportion of low birthweight infants increased.
- The Māori rate of low birthweight is considerably higher than the European rate, partly due to higher rates of smoking among Māori.

### **Life expectancy**

- Life expectancy in New Zealand has increased considerably over the past 100 years.
- Women now live on average 5½ years longer than men.
- Since 1960, life expectancy in New Zealand has not increased as fast as in many other OECD countries.
- The gap between Māori and non-Māori life expectancy closed significantly between 1950 and 1990.
- Since 1990, Māori life expectancy has not increased while non-Māori life expectancy has continued to increase.

### **Māori health**

- Māori health has improved significantly over the past four decades yet there is still significant premature morbidity and mortality among Māori.
- Māori experience an excess burden of mortality and morbidity throughout life, starting with a higher infant mortality rate (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).
- The relatively poor health status of Māori results from a number of factors but it is mostly due to poorer socioeconomic circumstances than non-Māori.
- Intra-ethnic health inequalities are also important for Māori.

### **Pacific people**

- The health of Pacific people in New Zealand has improved over recent decades, but they still experience a heavy burden of avoidable morbidity and mortality.
- Pacific people living in New Zealand have the highest national rates of meningococcal disease, rheumatic fever, rheumatic heart disease and obesity. Other important health

problems are an increasing rate of SIDS, low immunisation rates, high rates of hospitalisation in children, particularly for pneumonia, asthma and middle ear infections, and high rates of diabetes, tuberculosis and liver cancer in adults.

- The low socioeconomic status of Pacific people explains much of their comparatively poor health status.

### **Disability**

- One in five New Zealanders is limited in daily activities because of the long-term effects of disability.
- Disabilities will become more common in New Zealand as the population ages.
- People with disabilities are commonly socioeconomically disadvantaged, partly because of limited employment opportunities.

### **Socioeconomic inequalities in health status**

- People in the lowest socioeconomic groups consistently have the poorest health status.
- There are persistent socioeconomic inequalities in health status in New Zealand as measured by mortality, hospitalisation and self-rated health.
- Despite an overall improvement in population health status, socioeconomic inequalities in health have not decreased over the past two decades and may even be increasing.

### **Pathways from socioeconomic factors to health and health inequalities**

- Understanding the causal pathways by which socioeconomic conditions affect health will enable us to identify the most effective interventions for improving population health.
- Poor health may lead to socioeconomic deprivation because it impacts on people's chances of education and employment and their access to housing and other goods and services.
- The relationship between socioeconomic conditions and health operates in both directions but primarily it is deprivation that leads to poor health rather than vice versa.
- Knowledge of health risks is, by itself, not enough to change people's behaviour.
- Socioeconomic status affects health mainly through family income, housing, work conditions and unemployment.
- Disintegration of social networks, which is more likely to occur in areas of socioeconomic deprivation, has detrimental effects on health that potentially spread to involve all members of society.
- Conventions of family and social life, such as social support, promote health.
- Māori cultural conventions, such as those related to a secure Māori identity, are associated with health.
- Religious beliefs can have both positive and negative effects on health through a variety of mechanisms.
- Gender roles of men and women influence the health of both groups.

## **Rationale for acting on the socioeconomic determinants of health to reduce health inequalities**

This paper presents four arguments supporting interventions to reduce socioeconomic inequalities in health.

1. Socioeconomic inequalities in health are reducible. International and New Zealand evidence suggests that as health inequalities vary over time and by region it is possible to reduce them.
2. Reducing socioeconomic inequalities in health is equitable (fair) because people have limited control over the socioeconomic factors that are detrimental to their health. In addition, good health underlies a person's freedom to pursue their own goals and capability to succeed in life. From a libertarian perspective, reducing socioeconomic inequalities in health will improve an individual's choices in life.
3. Reducing socioeconomic inequalities in health benefits wider society, not just people who are direct recipients of the health gains that reduce inequalities. Benefits include reductions in communicable diseases which can affect everyone, such as tuberculosis. There are other important examples: reducing alcohol abuse, mental illness and violence is of great value to all members of society.
4. Reducing avoidable disease and premature death by addressing socioeconomic factors has economic benefits. Success in a modern global economy requires a workforce that is healthy as well as highly skilled. Reducing the burden of ill health reduces unnecessary expenditure on treatment services - the 'ambulance at the bottom of the cliff' - thus freeing up resources for other uses. Some interventions to reduce health inequalities are probably highly cost-effective, for example interventions to reduce smoking, fluoridation of water supplies and the provision of safe drinking water.

## **Effective interventions to improve health and reduce socioeconomic inequalities in health**

From a policy perspective, there are four possible areas for intervening to reduce socioeconomic inequalities in health:

1. Fundamental socioeconomic factors, for example by improving employment opportunities.
2. Intermediary factors between socioeconomic determinants and health, for example by increasing physical activity.
3. Factors that tend to push people who do become ill down the socioeconomic ladder, for example by providing adequate income maintenance for people who become ill (reverse causality).
4. Targeting health services to people in low socioeconomic groups who have poor health, for example by reducing cost and other barriers, such as cultural barriers, to primary care.

There are advantages and disadvantages in intervening at each of these areas.

There have been several reviews of interventions to reduce health inequalities. These reviews have found that some, but not all, of the interventions have been effective. Some types of intervention are difficult or impossible to evaluate for their effect on health and health inequalities. This applies especially to broad social policies. Yet there are good

reasons for expecting that such interventions will improve population health and reduce socioeconomic inequalities in health.

Five types of interventions are reviewed.

### **Health sector interventions**

- Health sector interventions may reduce the health impact of socioeconomic disadvantage but can have only a limited effect on socioeconomic inequalities in health.
- There is good evidence for the effectiveness of some health sector interventions.
- Health education is most effective when coupled with personal support and structural changes that make “healthy choices the easy choices”.
- Isolated health education has limited potential to improve health, particularly among low socioeconomic groups.

### **Macroeconomic and social policies**

- Intervention at the level of macroeconomic and social policy can reduce socioeconomic inequalities in health significantly.
- Such interventions require intersectoral collaboration.
- The potential impact of social and economic policies on the health of the population should be an integral part of the policy development process.
- Several countries are taking measures to reduce socioeconomic inequalities in health by addressing underlying socioeconomic determinants.

### **Population-based programmes and environmental measures**

- Population-based and environmental measures, such as safe water supplies, have been important historically in reducing socioeconomic inequalities in health.
- Many of these measures are now an accepted part of the living environment and the issue for health is the maintenance and improvement of existing services
- Transport and recreational facilities contribute to maintaining population health.

### **Community development projects**

- Community development usually comprises a range of different activities and strategies with a view to empowering the local community and building skills and social networks.
- Improvements in health often accompany community development initiatives that may not specifically set out to improve health.

### **Intersectoral initiatives**

- By including a number of collaborating agencies, intersectoral health programmes are able to improve health where single agencies might have limited effect.
- “Healthy Cities and Communities” provides a framework for broad community health promotion.

- New Zealand programmes such as “Early Start” and “Strengthening Families” are existing intersectoral initiatives to improve health and other outcomes for disadvantaged children.

## Recommendations

The recommendations in this report are made to the Minister of Health. They are also intended for a wider audience. The recommendations do not cover all possible strategies for reducing socioeconomic inequalities in health. Rather, the emphasis is on strategies that address areas of concern and where there is good reason to believe that action by the Minister of Health will lead to improved population health and a reduction in socioeconomic inequalities in health.

Recommendations are made under the following headings:

- Leadership
- Health sector interventions
- Macroeconomic and social policies
- Population-based programmes and environmental measures
- Community development and intersectoral initiatives.

All interventions should incorporate adequate evaluation so that effectiveness and cost-effectiveness can be assessed and progress towards reducing socioeconomic inequalities in health can be monitored.

## Leadership

The National Health Committee recommends:

- The Minister of Health seek a report from the Ministry of Health on the current mechanisms for co-operation between health policy agencies, such as the Ministry of Health, Te Puni Kokiri, the Ministry of Pacific Island Affairs, the National Health Committee and the Health Funding Authority, and other government agencies such as housing, education, social welfare, employment and transport. The report should examine:
  - the effectiveness of the current processes
  - how the current processes could be improved
  - how the agencies can co-operate better to improve population health and reduce health inequalities
  - what steps should be taken over the next three to five years to achieve this.
- The Minister of Health require the Ministry of Health and Health Funding Authority to work with other social policy agencies and departments to develop and implement further intersectoral programmes that will improve health, particularly the health of disadvantaged groups; high priority areas include housing, early childhood services and promoting physical activity.
- The Minister of Health require the Ministry of Health to review its current opportunities for input into the policies of other sectors and obtain Ministerial approval for prioritising this work, collecting evidence and producing high quality advice from a health perspective.

## Health sector interventions

The National Health Committee recommends:

- The Minister of Health require the Health Funding Authority to reduce inequities in access to health services as a high priority and to monitor equity of access to health care according to need in different localities and populations and report on progress towards improved equity of access.
- The Minister of Health require the Health Funding Authority to target the dissemination of clear information about access to publicly-funded primary and preventive care services so that low socioeconomic groups are better informed about their entitlements.
- The Minister of Health seek an amendment to the Smoke-free Environments Act to make **all** workplaces smoke free.

For pregnant women, the National Health Committee recommends:

- The Minister of Health require the Health Funding Authority to fund the development and implementation of culturally-appropriate smoking cessation programmes for all pregnant women who smoke.

For children, the National Health Committee recommends:

- The Minister of Health require the Health Funding Authority to fund a national programme to increase the uptake of childhood immunisation, particularly among Māori, Pacific children, and children from low socioeconomic groups.
- The Minister of Health seek further advice on the effectiveness of existing home visiting programmes in New Zealand to ensure that they are reaching groups who would benefit most.
- The Minister of Health work with the Ministers of Māori Development, Education, and Social Welfare to identify further interagency initiatives to improve health and developmental outcomes in children in disadvantaged circumstances.

For teenagers and young adults, the National Health Committee recommends:

- The Minister of Health require the Health Funding Authority to fund further services providing specialised contraception and advice for teenagers, in particular additional school-based services and 'one stop shop' initiatives.
- The Minister of Health require the Health Funding Authority to fund specialised antenatal services for pregnant teenagers which include advice and support for smoking cessation, including appropriate programmes for Māori and Pacific youth.
- The Minister of Health require the Health Funding Authority to pilot and evaluate programmes to reduce smoking rates in teenagers, both by preventing smoking in the first place and by helping teenagers who do smoke to quit.

For middle-aged and older adults, the National Health Committee recommends:

- The Minister of Health require the Ministry of Health to develop specific policy advice on the implementation of those interventions identified in the Committee's advice on physical activity which are particularly effective in middle-aged adults from low socioeconomic groups and Māori adults, including expanding green prescriptions and marae-based activities for Māori.
- The Minister of Health require the Health Funding Authority to fund smoking cessation programmes for middle-aged adults and older adults, especially Māori.
- The Minister of Health require the Ministry of Health to develop specific policy advice on those interventions identified in the Committee's advice on physical activity which are effective in older adults.

### **Macroeconomic and social policy**

The National Health Committee recommends:

- The Minister of Health require the Ministry of Health to collect data to monitor systematically the health effects of current macroeconomic and social policies, particularly the effects on vulnerable population groups and groups with the worst health: children, people with disabilities, older people, Māori and Pacific people.
- The Minister of Health set up an interagency group, led by the health sector, to formally assess the effects of poverty on health in New Zealand with a view to guiding policy and subsequent action both to alleviate poverty and to mitigate the adverse effects of poverty on health, the priority being child poverty.
- The Minister of Health require the Ministry of Health, in conjunction with other health and social policy agencies, to develop an explicit process for assessing the likely health impact of proposed changes to macroeconomic and social policy affecting income.
- The Minister of Health work with the Minister of Social Welfare to establish whether current levels of income maintenance for low-income pregnant women are adequate for women at high risk of an adverse birth outcome.

In the area of employment, the National Health Committee recommends:

- The Minister of Health urge the Minister of Employment to implement initiatives that improve the employment prospects of Māori, Pacific people and young people.
- The Minister of Health recommend to the Minister of Employment that initiatives to increase employment among these groups should be piloted and evaluated appropriately in the first instance.

In the area of housing, the National Health Committee recommends:

- The Minister of Health urge the Minister of Housing to include health considerations explicitly in government housing policy.
- The Ministers of Health and Housing commission a thorough assessment of serious housing need, given the implications for health. This assessment should incorporate issues of affordability, overcrowding and the physical condition of housing. The first priority is to identify households with serious overcrowding where children are at increased risk of poor health.
- The Minister of Health make representations to the Ministers of Housing, Education and Social Welfare on the desirability of including the Ministry of Housing within the *Strengthening Families* initiative.
- The Minister of Health make representations to the Minister of Housing on the need for developing and evaluating strategies to remedy the rural housing shortage.
- The Minister of Health work with the Ministers of Housing and Social Welfare to pilot and evaluate local initiatives that bring together health, housing and community agencies to improve accessibility and quality of housing for low income families.
- The Minister of Health urge the Minister of Social Welfare to examine strategies to assist low income families with purchasing heaters and with payment for the running costs.

### **Population-based services and environmental measures**

The National Health Committee recommends:

- The Minister of Health require the Ministry of Health to examine the effect of changes in the funding and provision of basic utilities such as water, sewerage and electricity on the health of the population, especially lower socioeconomic groups, and continue to monitor further changes.
- The Minister of Health ensure that health considerations influence central government policy on the funding and provision of these basic utilities.
- The Minister of Health urge local authorities to ensure that when decisions are made about the fluoridation of water supplies, the needs of children and disadvantaged groups are the first priority.
- The Minister of Health urge local authorities to consider explicitly the health impact of changes to the provision of recreational and environmental services, especially the effect on low-income groups.

### **Community development and intersectoral initiatives**

The National Health Committee recommends:

- The Minister of Health require the Ministry of Health and Health Funding Authority to systematically document and widely publicise evaluations of successful community development projects, including Māori community development projects.
- The Minister of Health require the Health Funding Authority to examine further opportunities for effective collaboration with local authorities within programmes such as Healthy Cities and Healthy Communities.

## 1. Introduction

### 1.1 Background

In January 1996, the National Health Committee (NHC) assumed responsibility for providing independent advice to the Minister of Health on ‘the kinds and relative priorities of public health services that should be publicly funded’ and ‘other matters relating to public health’. In this context, public health refers to society’s overall efforts to prevent disease and injury, protect and promote health and reduce health inequalities. The emphasis is on collective responsibility and action to improve the health status of the population. The NHC defines ‘public health services’ in the broad sense to include all programmes, interventions, policies and activities that improve and protect the health of individuals and the community. In order to avoid confusing ‘public health’ with ‘publicly-funded health services’, this report uses the term ‘population health’ instead of public health where possible.

The NHC work programme on social, cultural and economic determinants of health is highly topical both nationally and internationally. In New Zealand, a recent study by North Health (now the northern office of the Health Funding Authority) examined socioeconomic inequalities in health care in the northern region (Jackson et al. 1998). At a national level, the Ministry of Health’s *Strategic Direction* for public health identifies focusing on the determinants of health as one of four cross-cutting themes (MoH 1997c). The Ministry of Health is undertaking currently a major review of socioeconomic determinants and health status in New Zealand as part of a five-yearly reporting cycle.

Internationally, the effect of socioeconomic factors on health is, or is rapidly becoming, a mainstream health issue in the World Health Organization and individual countries. The Declaration of the World Health Assembly in May 1998 confirmed that a reduction in socioeconomic inequalities in health is a priority for all countries, and attention needs to be paid to the socioeconomic determinants of health. Individual countries, including Australia, Great Britain, the Netherlands, Sweden and other European countries, have acknowledged that simply addressing disease and lifestyle is insufficient to improve overall health status. The first part of a comprehensive strategy for better health is to counter the life circumstances that give rise to poor health and foster those that generate good health (Scottish Office, UK Department of Health 1998). There is also broad agreement that socioeconomic factors are a valid concern of the health sector, especially at a time when rising health care costs are a universal problem.

### 1.2 Purpose of this report

Three themes are central to this report. The first is that there are social and economic arguments for improving the length and quality of life of everyone and that it is a worthwhile goal of government policy to do this. The second theme is that it is possible and desirable to minimise inequalities in health status between social groups. Third, society should work systematically to reduce these inequalities.

In order to improve population health status and reduce health inequalities, it is important to identify and understand the main factors that protect and promote good health. These factors are known as the determinants of health. This report:

- summarises the **major social, cultural and economic determinants of health** and recent trends in these determinants in New Zealand, and outlines the ways in which these determinants might affect health and give rise to inequalities in health
- provides a **rationale** for acting on the determinants of health in order **to improve population health and reduce health inequalities**
- outlines **possible interventions** that act on these determinants **to improve population health and reduce socioeconomic inequalities in health**
- identifies specific **areas for action** and recommends appropriate strategies for intervening.

While previous documents have reviewed the impact of social and economic factors on health in New Zealand (PHA 1992; PHC 1993; PHC 1994b), the intention of this report and the associated background papers is to move beyond documenting health determinants and inequalities to recommending appropriate action.

### **1.3 Health and health determinants**

#### **1.3.1 Defining health**

From a population health perspective, health is defined quite broadly. The World Health Organization (WHO) has, rather ambitiously, defined good health as not merely the absence of disease, but a state of complete physical, mental and social well-being (WHO 1981). Good health enables people to participate fully in society and provides the “means by which people can pursue their goals in life” (Seedhouse 1993: 69). Our own health and the health of our family and friends is one of the things that underlies our ability to enjoy life to the full.

There are also different cultural interpretations of health, although the same view is not necessarily held by all members of a particular ethnic group. The Māori word ‘Hauora’ has a broader meaning than physical well-being, and includes wairua (spiritual), whanau (family) and hinengaro (mental) aspects, as well as important cultural elements such as land, environment, language and extended family (Durie 1994). Many Pacific people also believe that spiritual well-being is essential to health. Other cultures value the various aspects of good health differently.

#### **1.3.2 Measuring health**

Health is difficult to measure, especially if a broad view of health is assumed as in the WHO definition. Two more limited measures of health status, infant mortality rate and life expectancy at birth, are used internationally to compare countries and examine trends in “health” over time. This report includes trends in these two measures and also refers to several other indicators and measures of health: birthweight, self-rated health, and mortality rates.

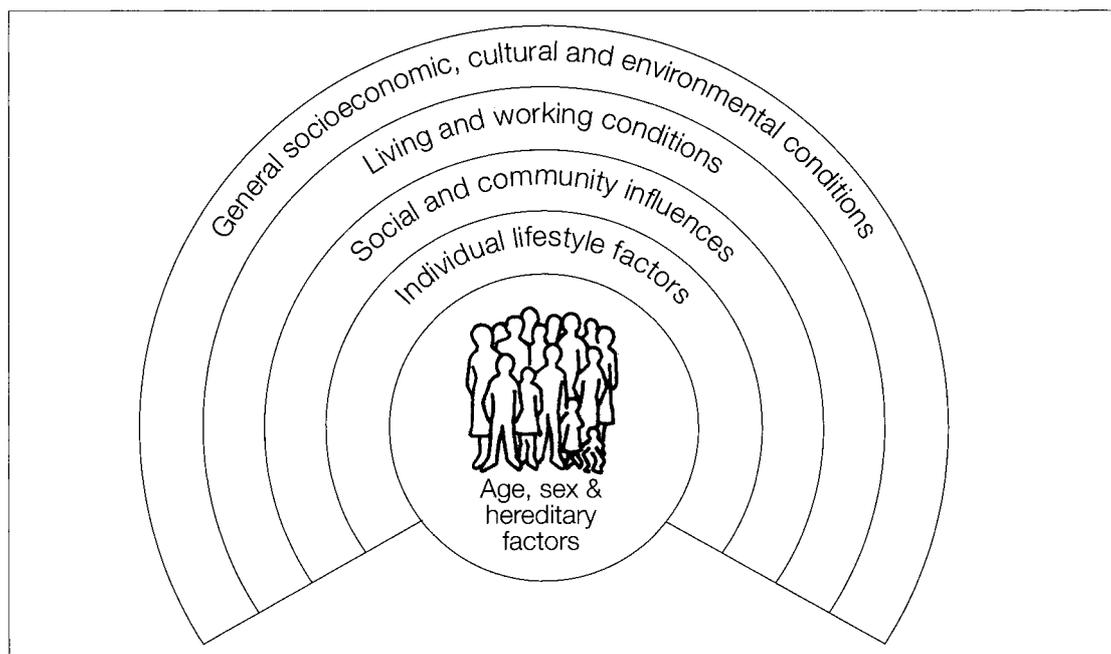
Where possible, the report compares measures between different ethnic groups. Such comparisons are limited to the available data which usually compare Māori with non-Māori. Some data also include Pacific people, in which case three groups are defined: Māori, Pacific people and 'other'. The latter includes all other ethnic groups and consists predominantly of New Zealanders of European origin. In each case the report is clear about the groups being compared and the term ethnicity describes broad ethnic identity rather than a narrow biological definition based on genetic make-up.

### 1.3.3 Health determinants

The causes of poor health are complex. Figure 1 shows one model of the various determinants that affect our health. A society's understanding of the determinants of health has an important influence on the strategies it uses to maintain and improve the health of its population (Mustard 1996).

Age, sex and hereditary (genetic) factors are central but not modifiable. At the other extreme, there are global factors that affect our health. The health status of New Zealanders has been influenced by historical events; world wars and economic depressions are two examples. The effect on the socioeconomic position of Māori of historical decisions and actions, such as breaches of the Treaty of Waitangi and land confiscation, remains important for Māori health even today (Durie 1994). The globalisation of world trade ensures that the health of the New Zealand population is still influenced by economic crises and marketing decisions in other parts of the world. Global environmental changes, such as the thinning ozone layer and global warming, may be already affecting health in New Zealand and this effect is likely to increase (McMichael and Haines 1997). New Zealand has been prominent in campaigning against nuclear weapons which are a major threat to health. Global factors that affect health require action from many countries and international agencies. Hence, they are outside the scope of this report.

**Figure 1. The main determinants of health.**



Source: Dahlgren and Whitehead (1991)

Demographic changes also affect population health. Predicted demographic trends, such as the increase in one-parent families, an ageing population and people starting a family later in life, will influence both the nature of New Zealand's social and economic environment and the health status of the population.

Individual lifestyle factors such as diet, smoking and alcohol, physical activity and sexual behaviour are also important. Many population health interventions target these lifestyle factors and health gains have been made as a result.

Affordable and appropriate health and disability support services are also important, particularly in the treatment of established disease. Improvements in health services have contributed to improving and maintaining health in New Zealand, particularly in the second half of this century.

However, health is also affected by social and community influences, living and working conditions and broad socioeconomic, cultural and environmental conditions. A clean and safe environment, adequate income, meaningful roles in society, good housing, population-based services and utilities, affordable nutritious food, education and social support within communities all contribute towards good health. The general improvement in health in New Zealand and other developed countries over the last century stems primarily from improvements in these factors. These broad determinants of health are often beyond the control of the individual but society can act collectively on them to improve the health of the community. It is these wider factors - the outer three circles of Figure 1 - with which this report is concerned. Collectively, this report refers to these factors as the social, cultural and economic determinants of health.

## **2. Social, cultural and economic health determinants and their relationship to health inequalities**

Many social, cultural and economic factors affect health. This chapter concentrates on those determinants that have been shown in a variety of settings to have the greatest influence: income and poverty, employment and occupation, education, housing, population-based services, social cohesion and culture and ethnicity. A recent survey in Porirua confirmed that the wider community considers these factors, among others, to be important determinants of health (Porirua Health Partnership 1998).

Where possible, information on trends in these determinants is summarised in this chapter. In general, the collection of data on the major determinants of health in New Zealand has been limited and data that are collected seldom consider health outcomes or impact.

### **2.1 Determinants of health**

#### **2.1.1 Income and poverty**

##### **2.1.1.1 Income**

Income is the single most important determinant of health. There is a persistent correlation world-wide between low income and poor health. With few exceptions, the financially worst-off experience the highest rates of illness and death. This applies when different measures of health are considered: death rates, disease rates, health service use and hospital admissions, and self-rated health. Adequate income is a prerequisite for many other determinants of health, for example, adequate housing, a nutritious diet and educational opportunities.

There is only limited research on income trends in New Zealand. One study based on household expenditure and income survey data showed that, in the year to March 1993, gross (i.e. pre-tax) mean household income was on average 15 percent lower than it was in the March 1982 year, while disposable (i.e. post-tax) mean household income fell by 10 percent over the same period (Mowbray and Dayal 1994). This was due in part to a decrease in average household size. After adjusting for household size, households with children, particularly sole parent, Māori and Pacific Islands households, have been most severely affected by these changes. In the year to March 1992, 79 percent of one adult households with children were in the lowest income quintile group compared with 36 percent in the year to March 1988. Over the same period, the proportion of total Māori households in the lowest quintile increased markedly from 26 to 43 percent, as did the proportion of total Pacific Islands households from 28 to 40 percent (Mowbray and Dayal 1994). This is due in large part to the rise in unemployment during the period which affected Māori and Pacific people disproportionately.

The gap between the average incomes of Māori and non-Māori households has widened over the past decade. In 1987 Māori households received 22% less than non-Māori households; a decade later the discrepancy was 26% (Te Puni Kokiri 1998). While the disparity reflects in part the younger age structure of the Māori population, this does not explain the increase in the size of the gap between Māori and non-Māori.

### 2.1.1.2 Poverty

Poverty has long been recognised as an important determinant of ill health (Calman 1997). People who are poor have worse self-reported health, higher rates of disability, and higher rates of death, disease and injury. Children from poor families have higher rates of illness, injury and death than other children.

The issue of poverty in New Zealand has been a topic of public discussion and debate over recent years. Some people think of 'poverty' as the state of extreme poverty arising from appalling living conditions seen in many developing countries. As such conditions are rarely seen in New Zealand, such people may conclude that poverty does not really exist in this country.

However, if people live in a relatively wealthy country, the basic necessities of everyday life - food, shelter and warmth - will be more expensive than in poorer countries and beyond the means of some people who may be forced to live in very deprived conditions. So it is possible to live in a developed country but still experience absolute poverty.

However, in developed countries, poverty is probably best understood in relative terms. Relative poverty, as distinct from absolute poverty, is measured by comparing individuals or groups and relating them to some norm, defined locally, nationally or internationally. It identifies a gap between what is and what might be, and thus the potential for improvement (Calman 1997). Like absolute poverty, relative poverty is associated with poor health. It is widely accepted that relative poverty exists in all developed countries, including New Zealand (Cornia 1990; Hewlett 1993; OECD 1997; United Nations Development Project 1997).

Different measures of poverty result in different findings about who is and who is not "poor" (Krishnan 1995). New Zealand has no official poverty measure and it is not the purpose of this report to debate the relative merits of different measures of poverty. However, there is good evidence that there has been an increase in the number of people living in poverty in this country over the past decade, whatever measure is used (Easton 1995; Krishnan 1995; Waldegrave et al. 1995). There was an increase in relative poverty among children through the 1980s in most OECD countries (OECD 1997).

The increase in the number of people living in poverty in New Zealand can be seen in many ways, for example in the rise in the number of people using foodbanks in the early 1990s (Waldegrave 1996). For example, in 1994 the Auckland metropolitan area had 130 foodbanks compared with only 16 at the end of 1989 (Mackay 1995). Several pieces of research have documented the reasons for this increase in the use of foodbanks. The most common reason is a decline in disposable income after accommodation costs so that people are simply unable to afford sufficient food. (Jamieson 1998).

One feature of this increase in poverty in New Zealand is the feminisation of poverty and low income. Sole parents, most of whom are women, have been most affected by benefit cuts and the decline in full-time employment. Families with children have also been among the hardest hit (Easton 1995; Jamieson 1998).

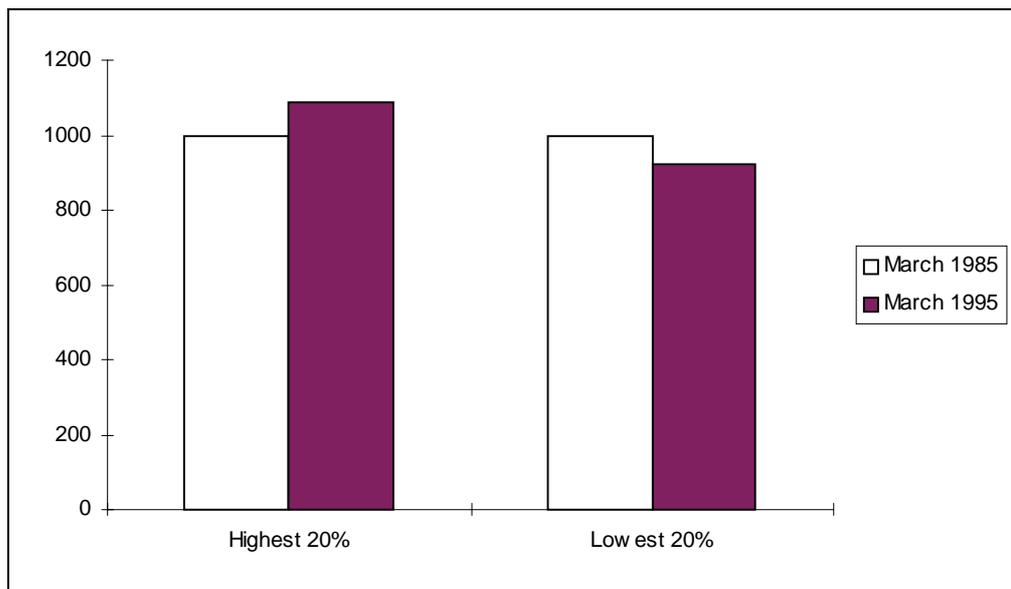
In all countries, poverty excludes people socially and materially from full participation in the life of their community. The surest way to alleviate the effects of poverty on health is to alleviate poverty itself (Black 1993).

### 2.1.1.3 Income distribution

The extent of relative poverty is reflected in the degree of inequality in income and wealth distribution within a country. Recent research suggests that greater income inequality is associated with increased mortality (Kaplan et al. 1996; Kennedy et al. 1996) (see section 3.2.4).

A number of studies have assessed trends in the distribution of individual income in New Zealand.<sup>1</sup> The overall pattern is that of reduced income inequality from 1951 to the mid 1980s with increasing income inequality in subsequent years. Real disposable income (RDI)<sup>2</sup> for wage and salary earners at the bottom end of the income scale has declined since the early 1980s. Between March 1981 and March 1994, the RDI for the lowest 20% of wage and salary earners declined by 7.5% while that of the top 20% of wage and salary earners increased 8.6% (Figure 2) (Department of Statistics 1981-1994).

**Figure 2. Real disposable income indexes for full-time wage and salary earners\***



\* people working 30 or more hours per week whose principal source of income is wages and/or salaries

This pattern of increasing income inequality also occurred within most other OECD countries through the 1980s and 1990s (OECD 1997). However, New Zealand experienced the fastest increase of any country for which data are available (Hills 1995). The effect of this growing income inequality is an increase in relative poverty.

<sup>1</sup> For example, Income Distribution Group 1990, Department of Statistics 1990 and 1991, Chatterjee and Tobison 1995, Dunn 1995, Gottschalk and Smeeding 1995, Barker 1996, Buurman and Chatterjee 1997.

<sup>2</sup> RDI is income adjusted for income tax liability and inflation, as measured by the Consumers' Price index (CPI).

### Summary

- Income is the single most important modifiable determinant of health and is strongly related to health and well-being.
- After-tax household income in New Zealand declined between 1981 and 1993, with single parents, Māori and Pacific people experiencing the greatest income reductions.
- The link between poverty and ill health is clear; with few exceptions, the financially worst-off experience the highest rates of illness and premature death.
- Greater income inequality within society may also be associated with increased overall mortality.
- Both poverty and income inequalities increased in New Zealand over the past decade.

### 2.1.2 Employment and occupation

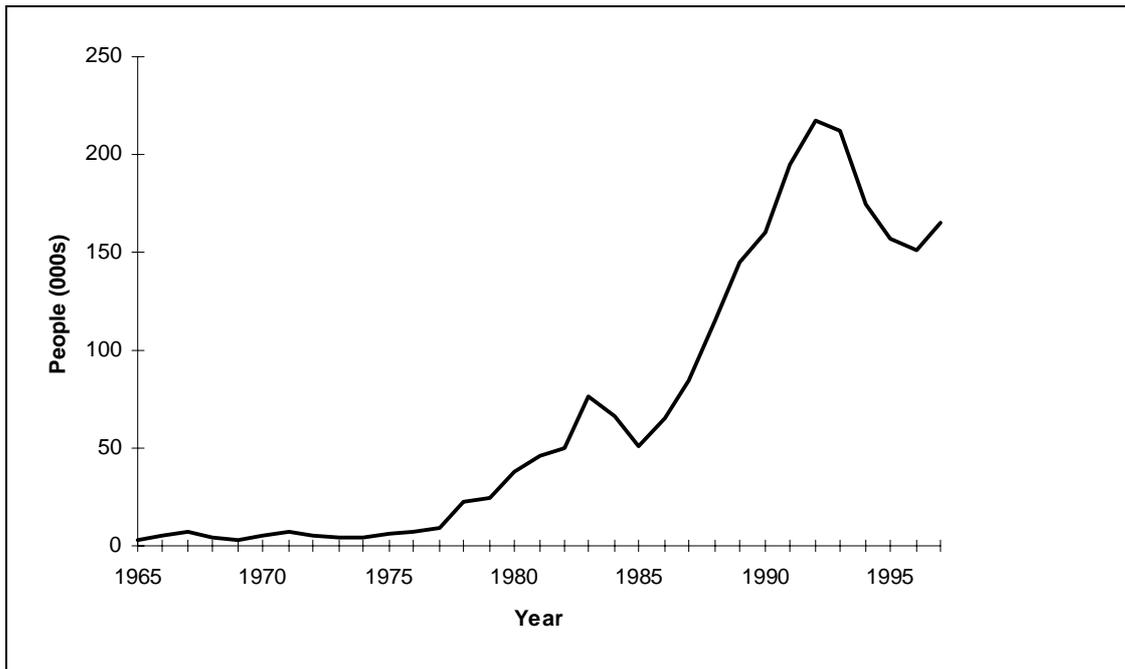
The main factor determining adequate income is participation in paid employment. (Department of Statistics 1991). As such, employment is an important determinant of health. In addition to providing income, employment enhances social status and improves self-esteem, provides social contact and a way of participating in community life, and enhances opportunities for regular activity, which all help to enhance individual health and well-being.

There is also good evidence that unemployment is detrimental to both physical and mental health (Bartley 1994; Barnett et al. 1995; Mathers and Schofield 1998; Morrell et al. 1998). Unemployed people in New Zealand report poorer health status than people who are employed (Department of Labour 1984; Statistics New Zealand 1993) and the health of the long-term unemployed and unemployed youth is at greatest risk (PHC 1993; Morrell et al. 1998). The mechanisms by which unemployment affects health are discussed in section 3.2.2.

Unemployment has been a permanent feature of economic life in New Zealand since the 1970s. There are three main measures of unemployment: registered unemployed, census data and the Household Labour Force Survey (HLFS). All three measures tend to underestimate true unemployment, for example by excluding people who have given up job-seeking (discouraged workers). 'Official' unemployment, which is calculated from data collected for the HLFS, was around 129,000 people - 7.1% of the labour force - in March 1998, compared to 108,000 (6.0%) in the year ended December 1996.

The number of registered unemployed is higher than official unemployment: it includes all people unemployed, seeking full-time work and who have enrolled with the New Zealand Employment Service. Registered unemployment in New Zealand was negligible from the 1950s until the mid-1970s but rose steadily to a peak in 1992 (Statistics NZ 1997a). Registered unemployment dropped between 1992 and 1996, but since 1996 has begun to increase again (Figure 3). In March 1998, there were 187,582 registered unemployed people.

**Figure 3 Registered Unemployment in New Zealand, 1965-1997**



Source: New Zealand Employment Service

Much of the drop in registered unemployment, since the peak in 1992, can be attributed to an increase in part-time employment. Census data confirm this increase in part-time work: between 1986 and 1996, the number of working age people employed full-time (30 hours or more per week) declined by 2% while the number employed part-time increased by 71%. Around 70% of people employed part-time are female. The average duration of unemployment has also increased steadily in recent years, largely due to a big increase in the proportion of 'long-term unemployed' (Statistics NZ 1997a). In January 1998, there were 72,205 registered unemployed people - 38.5% of the total - who had been looking for work for a year or more. There has also been a big increase in the number of 'work-poor' households and the number of children living in households where no person is working. In 1986 there were 20,652 children under five years with no parents in the paid workforce; by 1996, there were 53,547 children in this position (Callister 1997).

There are large geographic, ethnic and age differences in unemployment rates. The highest levels of unemployment are in the Northland and East Cape regions of the North Island. At the 1996 census, the unemployment rate among people of European ethnicity was 5%, that for Māori 16%, and Pacific people 17%. People aged 15 to 24 comprised 14.8% of the population in 1996 yet they made up 40% of people unemployed and actively seeking work.

An unsatisfactory job may not always be better than no job at all and it is also important that work is safe, secure, satisfying and appropriately remunerated (Barnett et al. 1995). Some jobs carry significant risks to mental and physical health, and work-related injuries and occupational diseases are important causes of death and ill-health in New Zealand (PHC 1993). In 1997, the rate of accidental work-related deaths was 2.4 per 100,000 employees, the lowest since 1993. However, there has been a sharp increase in the

number of work-related accidental deaths in New Zealand in 1998, with 46 deaths between January and April compared with 41 in the whole of 1997 (W Bignall, Occupational Safety and Health, personal communication, May 1998). Workplace restructuring and job insecurity, which have been a prominent feature of the working environment in New Zealand over the past decade, have also been shown to have detrimental effects on health (Ferrie et al. 1998).

### Summary

- The main factor determining adequate income is participation in paid employment, particularly full-time employment.
- Employment also enhances social status and improves self-esteem, provides social contact and a way of participating in community life, and enhances opportunities for regular activity, which all help to enhance individual health and well-being.
- Unemployment is detrimental to both physical and mental health and unemployed people in New Zealand report poorer health status than people who are employed.
- Māori, Pacific people and young adults have much higher rates of unemployment than the general population.
- In March 1998, 7.1% of the workforce were officially unemployed.
- The average duration of unemployment has increased in recent years.
- While employment is important for good health, some occupations carry risks to health such as injury.
- In 1986 there were 20,652 children under five years with no parents in the paid workforce: by 1996, there were 53,547 children in this position.

### 2.1.3 Education

Along with income and employment status, education is critical in determining people's social and economic position and thus their health. There is good evidence that a low level of education is associated with poor health status. Educational attainment is strongly related to subsequent occupation and income level, and poor social circumstances in early life are associated with significant chances of low educational achievement (Wadsworth 1997). Educational achievement is not just a function of an individual's abilities and aspirations, but is influenced strongly by socioeconomic circumstances (Benzeval et al. 1995).

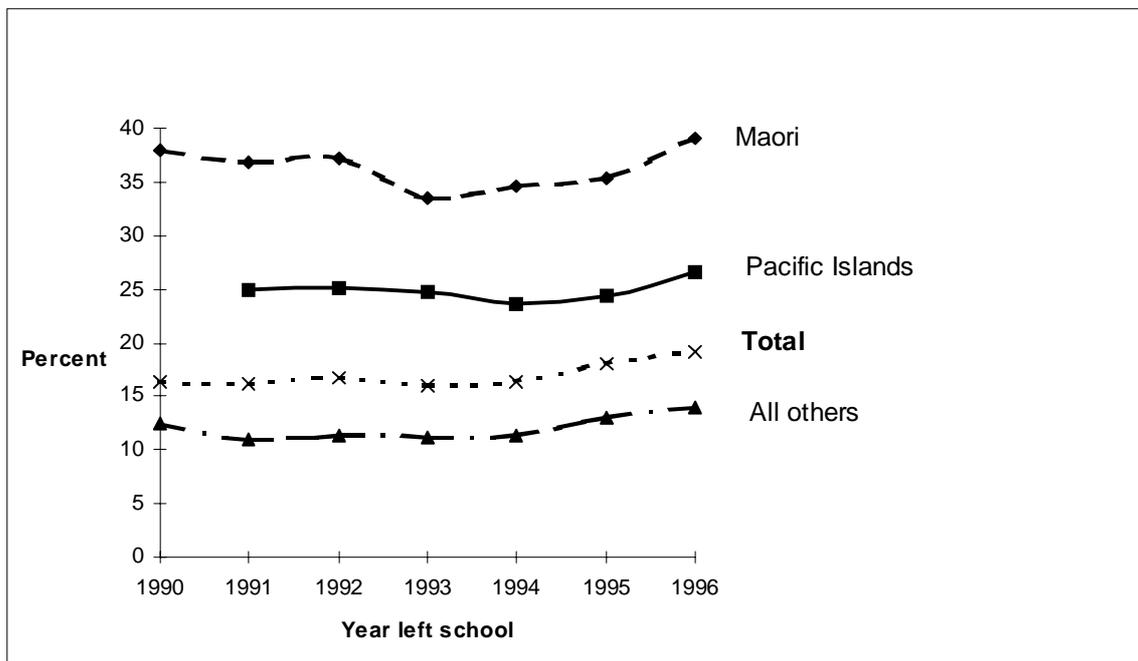
An important feature of education level is that it is more easily improved by society than income, occupation and other indices of socioeconomic status. In addition, unlike other socioeconomic determinants, educational achievement cannot be 'lost' once attained. Children who do well in education are much more likely to make healthier choices in adult life about the health-related habits of diet, alcohol consumption, smoking and exercise (Wadsworth 1997). Universal publicly-funded education provides an opportunity for children of any social class to improve their prospects for good health.

Two measures of educational participation and achievement are length of stay and highest qualification attained at secondary school. The average length of stay at secondary school in New Zealand has increased over the last two decades from 3.6 years

in 1976 to 4.4 years in 1996. The largest increase occurred between 1986 and 1993, with an increase from 3.8 years to 4.4 years. This increase in the number of students remaining at school reflects an increase in the school leaving age, a general trend towards acquiring more skills and reduced employment opportunities for unskilled applicants. The average length of stay for Māori students (4.1 years) remains lower than for non-Māori (4.5 years) (D Patterson, Ministry of Education, personal communication, December 1997).

However, since 1990 the percentage of students leaving school with no qualification has increased slightly from 16% in 1990 to 18% in 1996 (Figure 4). Major ethnic differences persist and 39% of Māori and 27% of Pacific students left school in 1996 with no qualification, compared with only 14% of students from all other ethnic groups.

**Figure 4. Percentage of School Leavers with no Qualification,\* by Ethnicity**



\*Defined as no School Certificate, Sixth Form Certificate, or University Bursary subjects, no Higher School Certificate or less than 12 National Certificate credits Level 1.

Literacy skills are critical for coping effectively in our society. Among other things, being literate allows people to assimilate information about health. Adult literacy is also related to infant mortality (Tresserras et al. 1992).

The first comprehensive study of adult literacy in New Zealand was completed in 1996 (Ministry of Education 1997). The main findings of the study were:

- 20% of the adult population have very poor literacy skills
- over 60% of Māori, Pacific people and members of other minority ethnic groups are functioning below the level of literacy required to effectively meet the demands of everyday life
- labour force status and income are related to level of literacy
- increased retention at senior secondary school appears to be associated with improving literacy levels.

Early childhood education aims to promote children's learning and development. The positive effects of early childhood education have been demonstrated in a number of studies. They include lower levels of illiteracy, reduced likelihood of dropping out of school, and higher rates of going on to post-secondary education (Hertzman and Weins 1996). The benefits of pre-school education appear to be strongest in people from disadvantaged backgrounds (Bennett 1993). In 1996, around 160,000 New Zealand children aged under 5 years were enrolled in some form of early childhood education. This represents 54 % of children under five, including about 93% of four year olds and 83% of three year olds (Ministry of Education 1997). Since 1981, there has been an increasing demand for early childhood care and education above the rate of population growth in this age group. The reasons for this include the development of the Kohanga Reo movement and Pacific Island 'nests', and an increase in workforce participation by parents, particularly mothers (Davey 1993).

#### **Summary**

- Education is critical in determining people's social and economic position and thus their health.
- A low level of education is associated with poor health status.
- The average length of stay at secondary school in New Zealand increased from 3.6 years in 1976 to 4.4 years in 1996; most of this increase occurred between 1986 and 1996.
- In 1996, 39% of Māori and 27% of Pacific students left school with no qualification, compared with 14% of students from all other ethnic groups.
- The percentage of students leaving secondary school with no qualification has not changed significantly since 1990.
- Around 20% of New Zealand adults have very poor literacy skills.
- Over 60% of Māori, Pacific people and members of other minority ethnic groups are functioning below the level of literacy required to effectively meet the demands of everyday life.
- In 1996, 93% of four year olds and 83% of three year olds were enrolled in early childhood education in New Zealand.

#### **2.1.4 Housing**

Housing involves both a site (dwelling) and a situation (neighbourhood). The location, physical quality, level of overcrowding and the cost of housing all impact directly on health. Overcrowding, damp and cold have direct detrimental effects on physical and mental health (PHA 1992). As housing costs are generally a fixed expense for families, relatively high housing costs leave less money for other budget items essential to good health including a nutritious diet, education, transport, leisure activities and health services. Housing tenure is linked directly to cardiovascular and all-cause mortality, with people in rented accommodation having higher death rates than owner-occupiers, even after other socioeconomic variables are considered (Woodward et al. 1992; Sundquist and Johansson 1997). In some areas, the health impact of poor quality housing is combined with neighbourhood problems such as substandard community services, high levels of unemployment, inadequate public transport and recreational facilities, environmental hazards and violence.

There are no official surveys of overcrowding in New Zealand but some information available from census data suggests that overcrowding may be increasing. The number of households with two or more families increased by 96% between the 1986 and 1996 censuses, with most of this increase between 1991 and 1996. By comparison, the total number of households increased by only 17%. The number of households with four or more people declined between 1986 and 1991, but increased considerably between 1991 and 1996. In comparison, there was a smaller increase in the number of smaller-sized households between 1991 and 1996 than in the preceding five years. Over recent years, there has also been an increase in hospital admissions from childhood diseases that are known to be associated with overcrowding, including meningococcal disease and respiratory infections.

The extent of serious housing need - defined according to categories of unaffordability, bad housing conditions, overcrowding and other associated problems such as violence - has been assessed on several occasions. One study showed a sharp increase in the prevalence of serious housing need between 1988 (17,500 households) and 1993 (48,800 households) (Waldegrave and Sawrey 1994). The number of households in serious housing need was assessed at between 20,000 and 30,000 in 1994 using a different method (Ministry of Housing 1994).

Finally, housing rental costs have increased significantly over the last decade and well ahead of the overall increase in the Consumers' Price Index. (CPI). Between December 1987 and September 1997, household expenditure on rent increased by an average of 62%, while the overall CPI increased by 25% during the same period (Statistics New Zealand 1987d-1997c). This disproportionate increase in housing costs has led to families having to spend a greater percentage of their income on accommodation costs. This increase in the proportion of income spent on rents occurred throughout the 1980s (Newell 1994) but has accelerated since the introduction of market rentals for State housing in 1991.

The Accommodation Supplement, introduced in 1992, has partly compensated for increased rental costs. However, overall, the housing reforms lowered the level of subsidy to State house tenants and, more significantly, capped the level of assistance available based (in part) on regional market rent variations. Thus, low income tenants in areas with high market rents have higher housing costs than previously and must spend a greater proportion of their income on accommodation costs. People who live in smaller households pay the largest proportion of their income on housing. Māori and Pacific people are particularly vulnerable to these changes in the cost of rental housing as they have the highest rates of rental tenure and significantly lower incomes than other ethnic groups.

A recent Christchurch study identified accommodation costs as "...probably the issue having the biggest direct and indirect impact on the ability of limited income people to meet their basic needs" (Jamieson 1998). There is accumulating evidence that increased accommodation costs are leaving families with less money to pay for items that are essential to good health. In April 1996, around 60% of Salvation Army foodbank clients were spending more than half of their income on accommodation costs, compared to 50% of clients in April 1995 and 45% in April 1994 (Gunby 1996).

One response by people affected has been for families to share accommodation to offset the financial effect of the increase in rents. This has resulted in overcrowding and has contributed to an increase in diseases in children and adults that are associated with overcrowding, in particular tuberculosis, meningococcal disease and respiratory diseases. The poor physical condition of some rental properties, including some owned and administered by local and central government, are compounding this problem.

A second response to the market rental policy has been for families to live in 'temporary' accommodation on a long-term basis, a particular problem for Māori in rural areas. It is compounded by a third response to the increase in the cost of urban housing; families and older people moving to rural areas (Turangawaewae) where there is an existing housing shortage, especially Northland and the East Cape. This migration is primarily of low income families for whom home-ownership is not an option. Temporary accommodation, which includes caravans, sheds, tents and sleep-outs, is not adequate to protect the physical and mental health of the occupants.

There is a lack of empirical research into the numbers of households living in such conditions in rural areas. There are an estimated 1,000 households in Northland and 350 on the East Cape living in 'unacceptable substandard housing' (Social Services Select Committee 1997), but these numbers are based on limited surveys in only a few areas.

#### **Summary**

- Overcrowding, damp and cold have direct detrimental effects on physical and mental health.
- There was an increase in serious housing need in New Zealand between the late 1980s and mid 1990s.
- High housing costs leave less money for other budget items essential to good health including nutritious food, education, and access to health services.
- Housing rental costs have increased significantly over the last decade in New Zealand and at a much higher rate than other goods and services; this increase reflects in part a move to market rentals for State housing.
- Many families, especially low income families, are now spending a much greater proportion of household income on housing costs than they were a decade ago.
- Increased housing costs and a shortage of rural housing have led to the sharing of accommodation with subsequent overcrowding, as well as people living in substandard 'temporary' accommodation.
- Over recent years, there has also been an increase in hospital admissions from childhood diseases that are known to be associated with overcrowding, including meningococcal disease and respiratory infections.

### **2.1.5 Culture and Ethnicity**

The concept of culture has been described as a set of guidelines (both explicit and implicit) which individuals inherit as members of a particular society or group (Helman 1994). Culture in its broadest sense refers to accepted patterns and norms of behaviour within identifiable groups in society. The most obvious cultural groups are those based

on ethnic identity, but other societal groups based on, for example, social class, religion, age (e.g. young people), occupation (e.g. farming), location (e.g. urban) and leisure-time activity (e.g. sport) also have their own distinct culture. Individuals may be subject to a number of cultural influences simultaneously.

In general, our understanding of the role of culture as a determinant of health is not as well developed as our understanding of many socioeconomic factors. However, culture should be considered separately from social determinants. For many groups, particularly ethnic groups, culture is central to their health and well-being, quite apart from socioeconomic factors. Our analysis and understanding of health must place culture as a central determinant and strategies to improve health in different groups must be aware of the influence of culture.

An ethnic group is characterised by a distinctive social and cultural tradition maintained within the group between generations, a common history and origin, a sense of identification with the group and often a common genetic heritage (Last 1995). There may be several different cultures within a specific ethnic group. The ethnic makeup of New Zealand is increasingly diverse. Although people of European origin are still the largest single group, minority ethnic groups, especially Māori, Pacific people and Asians, now comprise over one third of the total population.

Durie (1995) has cautioned against a simplistic view of ethnicity, calling for researchers and policy makers to acknowledge the diversity of cultural reality of being Māori. Although Māori, like most indigenous peoples, are over-represented in lower socioeconomic groupings, there is considerable variation between individuals. The same can probably be said of Pacific people in New Zealand.

As shown by many of the statistics already discussed, ethnicity in New Zealand is strongly associated with underlying socioeconomic status. There has been ongoing discussion as to whether ethnicity explains health inequalities independently from socioeconomic status. Much of the ethnic differences in death and disease rates in New Zealand are believed to relate to differences in the socioeconomic status of different ethnic groups. This is discussed further in sections on Māori and Pacific people's health.

#### **Summary**

- Cultural factors can have both a positive and a negative influence on health.
- Ethnicity in New Zealand is strongly associated with underlying socioeconomic status.
- Health inequalities within ethnic groups are as important as health inequalities between different ethnic groups.
- It is unclear how much cultural and ethnic factors contribute to population health inequalities, but New Zealand evidence suggests that ethnic and cultural inequalities in health can in large part be attributed to inequalities in the underlying socioeconomic determinants of health.

### 2.1.6 Population-based services and facilities

Population-based services and facilities are essential for protecting and improving health. Essential services such as water and sewerage reticulation contributed historically towards large improvements in overall population health status. Electricity is also very important; most houses are now reliant on electricity for heating, refrigeration, and preparing food, all essential to maintaining good health.

The nature of the provision of these basic utilities has changed in the past few years in New Zealand. In some cases, these changes have led to a significant increase in their cost which has adversely affected people on low incomes. For example, the cost of provision of water in some New Zealand cities is no longer included in property rates but is borne by consumers directly. People who are renting, which includes the majority of people on low incomes, now have to pay for these services, yet they have not benefited from a corresponding increase in income to cover this cost. The possibility of these services being cut off presents a real threat to the health of people immediately affected and the wider community.

Other services that are important for health are transport, recreational facilities and environmental protection. People on low incomes, children, the disabled and older people, are particularly reliant on public transport and a safe environment for walking and cycling. In addition, these forms of transport have wider benefits to population health by reducing air pollution and noise and increasing levels of physical activity. Other specific measures to minimise environmental pollution are important for protecting population health. Facilities such as parks, swimming pools and libraries provide recreational and educational opportunities for people to improve their health and well-being, especially people on low incomes who may have limited opportunities for other forms of recreation. Some new residential developments in New Zealand have no public transport or recreational facilities.

#### Summary

- Utilities such as water and sewerage reticulation contributed historically towards large improvements in population health in New Zealand.
- Maintenance of these services, which should not be taken for granted, is essential to protecting population health and should be a high priority.
- The funding and provision of these basic utilities has changed in the past few years in New Zealand and issues of maintenance, infrastructure development and user charges have implications for health.
- Transport, recreational facilities and environmental protection are also important for improving and protecting health.
- Public transport and recreational facilities are absent or missing in some new residential areas in New Zealand.

### 2.1.7 Social cohesion and social support

There is increasing interest in the role of what has been termed social cohesion or social connectedness, that is, the degree to which individuals are integrated with, and participate in, a secure social environment (Kawachi and Kennedy 1997). There is evidence that the level of

cohesion or 'connectedness' in society is related to the health of individuals and communities (Kawachi et al. 1996). Social cohesion refers to a society in which people work towards common goals and in which diversity is recognised but does not lapse into conflict (Robinson 1997). There are a number of features of communities that contribute to high levels of social cohesion: strong ties with family or whanau; high levels of civil and political participation; a safe and pleasant environment including housing; good public transport and other public services; good social networks and a strong community identity. Social problems such as poor housing, unemployment or poorly paid and dangerous work, fear of crime, a degraded environment, and isolation due to inadequate transport all contribute to poor social cohesion. Areas of multiple deprivation place extreme stress on communities, families and individuals (Scottish Office, UK Department of Health 1998).

Strong social networks within a distinct geographical neighbourhood help to create healthier conditions in several ways, including:

- social control of illegal activity and of substance abuse
- socialisation of the young as participating members of the community
- providing first employment
- improving access to formal and informal health care (Wallace 1993).

At an individual level, good levels of social support enhance health. People with strong family and community ties have better health than people who are socially isolated (Berkman and Breslow 1983; Greenwood et al. 1996; Rosenfield 1997). The socially excluded lack the means - material or otherwise - to participate in mainstream economic, social, cultural and political life. People particularly vulnerable to social isolation or exclusion include the unemployed, single parent families, people with mental illness, people with disabilities, people living alone and older people.

Social connectedness cannot be measured in itself, but insights are provided by examining factors that will influence it including employment, housing conditions, mobility, household structure, and communication networks and transport. Employment trends were discussed earlier. Poor housing conditions, including at a neighbourhood level, contribute to social exclusion (Goodlad and Gibb 1994). The deterioration in housing conditions for some groups in New Zealand this decade was described in section 2.1.4. New Zealanders are highly mobile: at both the 1991 and 1996 censuses, over half of New Zealand's population had lived at their current address for less than five years. In 1996, mobility was strongly related to age, the most mobile group being people aged 25 to 29, 81% of whom had moved in the past five years. In addition, there has been an increase in single parent and one person households over the past decade.

Good communication and transport networks enhance opportunities for socialisation. At the time of the 1996 census, 95% of New Zealand households contained a telephone. However, 20% of Samoans, Tongans and Tokelauans, and 15% of Māori, did not have access to a telephone at their usual residence. Only 12% of households did not have access to a motor vehicle in 1996, down from 13.4% in 1986. Again, there are large variations in access to a motor vehicle by type of household: 31% of people living alone and 22% of single parent households lacked access to a motor vehicle, compared with only 3% of households containing a couple with children. Lack of access to a car may increase social isolation, especially in areas with poor public transport. On the other hand, a high reliance on private vehicles, as is the case in New Zealand, can lead to high

traffic volumes in residential areas. This may make it difficult for pedestrians and cyclists to get around and reduce opportunities for socialising with neighbours, particularly among children and older people (BMA 1997).

**Summary**

- People with strong family, cultural and community ties have better health than people who are socially isolated.
- Social cohesion or 'connectedness' is related to the health of individuals and communities.
- Single parent families, people with mental illness, people with disabilities, people living alone and older people are particularly vulnerable to social isolation.
- There are generally high levels of access to telephones and motor vehicles in New Zealand but access for some groups is poor.
- Features of New Zealand society that may tend to reduce social connectedness are unemployment, frequent change of residence (high mobility), and an increase in single parent and one person households over the past decade.

## 2.2 Health status in New Zealand

The previous section outlined briefly the main social, cultural and economic determinants of health and, where possible, recent trends in these determinants in New Zealand. This section presents summary data on overall health status in New Zealand and where possible recent trends in these health status indicators are discussed.

Trends in life expectancy at birth and infant and child mortality rates can be compared with other countries and over time. These measures have limitations and focus on very specific - but important - aspects of health status. Birthweight is an important predictor of normal growth and development and possibly adult health also. The health of Māori and Pacific people and the issue of disability are discussed separately.

### 2.2.1 Major causes of mortality and ill health in New Zealand

The major causes of premature death and ill health in New Zealand are in many cases preventable and almost always postponable. The leading causes of death in New Zealand are cardiovascular disease and cancer, predominantly lung, breast, bowel and prostate cancer, and these will remain the leading causes of death well into the next century. Compared with other OECD countries, NZ has high mortality rates for ischaemic heart disease, respiratory diseases, breast and bowel cancer, motor vehicle injuries and suicide (MoH 1996). An alternative way to consider the importance of different causes of death is to measure the potential years of life lost (PYLL) due to deaths before the age of 75. Cancer, ischaemic heart disease and motor vehicle crashes are the three leading contributors to PYLL for both males and females, together accounting for almost half of the total.

Hospital admissions are one measure of the burden of disease and injury. The main reasons for admission to hospital in New Zealand vary with age: in children, injuries and respiratory diseases predominate; in young adults, pregnancy-related admissions and injuries; and in middle-aged and older people, respiratory diseases, cancer and cardiovascular disease. Hospital admission rates are increasing by around 2% each year in New Zealand even after accounting for population growth.

#### Summary

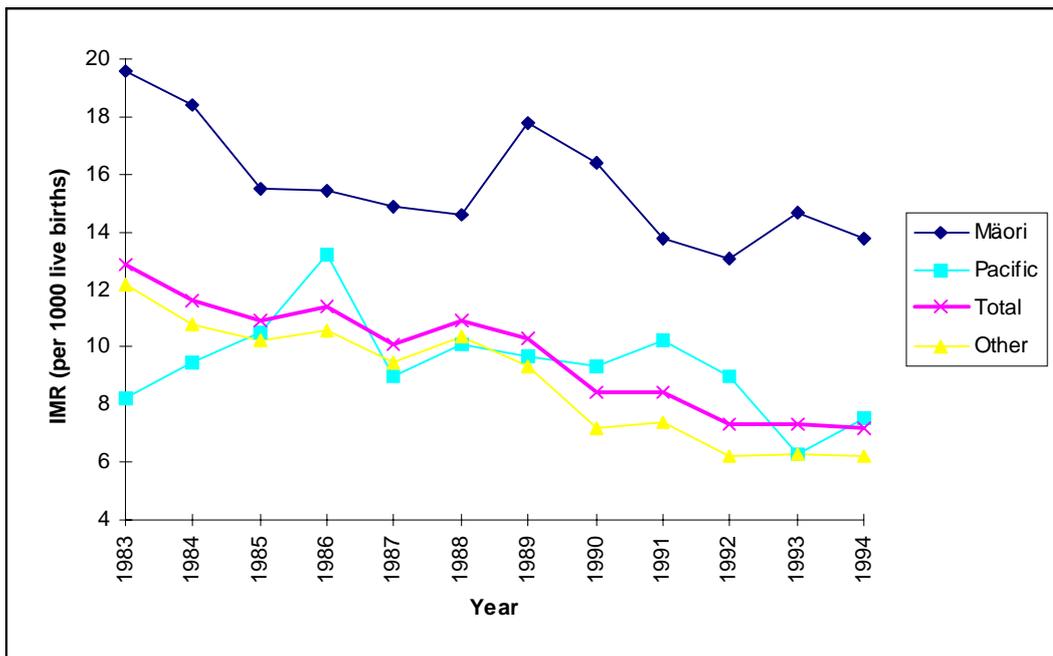
- The main causes of death in New Zealand are cardiovascular disease and cancer.
- Compared to other OECD countries, New Zealand has high rates of cardiovascular disease, respiratory diseases, breast and bowel cancer, motor vehicle injuries and suicide.
- The major causes of premature death and ill health in New Zealand – cancer, ischaemic heart disease and motor vehicle crashes – are in many cases preventable.

### 2.2.2 Infant mortality rates

Deaths in infancy are a sensitive indicator of social and economic conditions and the adequacy of health services. An infant death is defined as a live-born infant dying before the first year of life is completed.

New Zealand infant mortality rates (IMR) by ethnicity are shown in Figure 5. As in previous decades, the overall IMR continued to decline throughout the 1980s but has levelled off since 1992. In 1960, New Zealand's IMR ranked 6<sup>th</sup> out of 21 OECD countries, but in 1995 our IMR ranked 15<sup>th</sup> of 21 OECD countries (MoH 1998c). The Māori IMR has declined but remains higher than that of non-Māori, mostly due to a higher rate of sudden infant death syndrome (cot death). The gap between Māori and non-Māori IMRs has widened since the mid-1980s. In 1984, the Māori IMR was 1.7 times the non-Māori IMR: by 1994, the Māori IMR was 2.2 times the non-Māori rate. The IMR for Pacific infants was consistently lower than the European rate until the mid-1980s, but it has been above the European rate for three out of five years since 1990. Owing to changes in the coding of ethnicity on birth and death certificates during 1995, it is not possible to include more recent ethnic-specific data.

**Figure 5. NZ infant mortality rates by ethnicity, 1983-1994**



Source: NZHIS

#### Summary

- Deaths in infancy are a sensitive indicator of social and economic conditions and the adequacy of health services.
- The infant mortality rate (IMR) in New Zealand declined steadily until 1992 but has levelled off since.

- IMR has not improved in New Zealand at the same rate as in other developed countries. In 1960, New Zealand's IMR ranked 6<sup>th</sup> out of 21 OECD countries, but in 1995 our IMR ranked 15<sup>th</sup> of 21 OECD countries.
- The Māori IMR has declined but remains higher than that of non-Māori.
- The gap between Māori and non-Māori IMRs has widened since the mid-1980s.

### 2.2.3 Birthweight

Low birthweight is a risk factor for increased infant mortality and increased health problems in later life. Between 1980 and 1993 the proportion of low birthweight infants (weighing less than 2500 grams) increased by 10 percent, from 54.1 to 59.5 per 1000 live births. The increase occurred almost entirely among people of European ethnicity. Some, but not all, of the increase was due to an increase in the survival of very low birthweight babies (under 1500 grams) as a result of improved medical technology. The Māori rate of low birthweight has remained constant during that period and, at 75 per 1000 in 1993, is considerably higher than the European rate. The rate is lowest for Pacific infants: it has remained steady at around 43 per 1000 during the period.

#### Summary

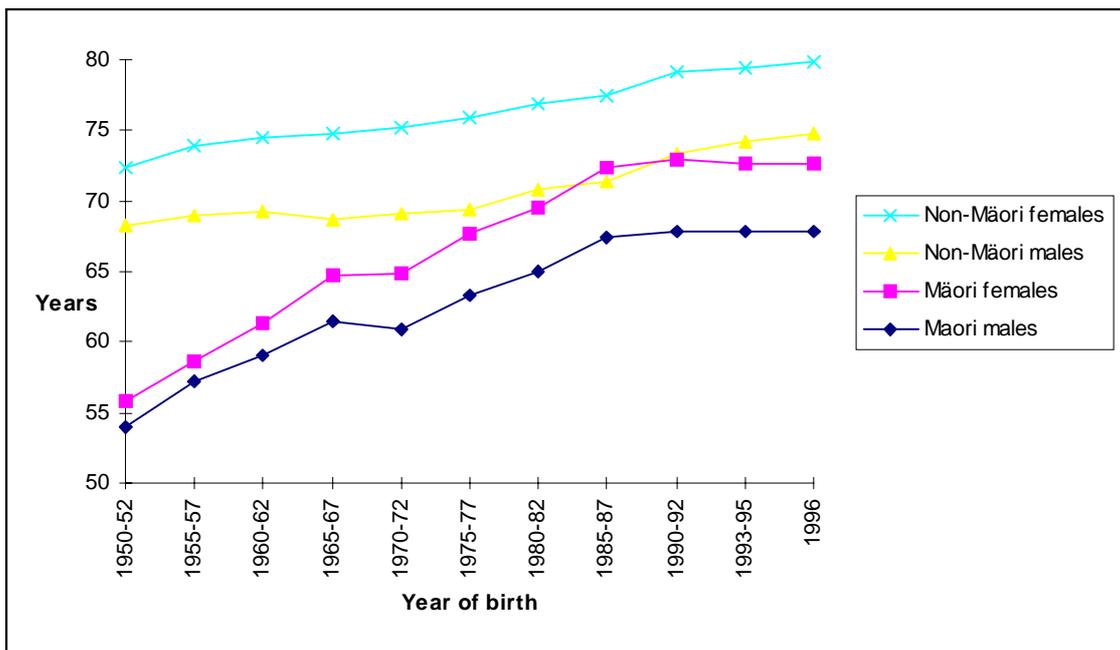
- Low birthweight is a risk factor for increased infant mortality and increased health problems in later life.
- Between 1980 and 1993 the proportion of low birthweight infants increased.
- The Māori rate of low birthweight is considerably higher than the European rate, partly due to higher rates of smoking among Māori.

### 2.2.4 Life expectancy

Life expectancy in New Zealand has increased considerably over the last 100 years, and the gains have continued at a steady rate over the last 40 years (Figure 6). Since 1972, there has been a gain of just over 5 years in the life expectancy at birth of men and 4.5 years in women. Women live longer on average than men. In 1993-95, life expectancy at birth was 73.7 years for males and 79.1 years for females (Statistics NZ 1997a). Much of the recent improvement in life expectancy has come from reductions in death rates in middle aged and older adults, especially the declining rates of cardiovascular disease. However, as a nation New Zealand has a lower life expectancy than several other comparable countries including Australia. Our relative position in comparison with other OECD countries has slipped from 8<sup>th</sup> of 24 countries in 1960 to 19<sup>th</sup> of 24 countries in 1995 for females, and from 6<sup>th</sup> to 13<sup>th</sup> for males (NHC 1997).

The gap in life expectancy between Māori and non-Māori closed significantly between 1950 and 1990, demonstrating a reduction in Māori/non-Māori health inequalities (Figure 6). However, the gap between Māori and non-Māori persists. Based on the most comprehensive recent data, in 1991-92 a new-born non-Māori male child had a life expectancy 5.4 years longer than his Māori counterpart and for females, the difference was 6.2 years. In addition, as Māori life expectancy has not increased since 1990, the gap between Māori and non-Māori is widening again.

**Figure 6. Life expectancy at birth in New Zealand**



Source: Statistics New Zealand

### Summary

- Life expectancy in New Zealand has increased considerably over the past 100 years.
- Women now live on average 5½ years longer than men.
- Since 1960, life expectancy in New Zealand has not increased as fast as in many other OECD countries.
- The gap between Māori and non-Māori life expectancy closed significantly between 1950 and 1990.
- Since 1990, Māori life expectancy has not increased while non-Māori life expectancy has continued to increase.

### 2.2.5 Health status of Māori

As the above data indicate, there has been a significant improvement in Māori health status over the past four decades, yet it continues to lag behind that of non-Māori. The data are not perfect; for example, information on ethnicity is not collected reliably and has been collected in different ways over time. Māori experience an excess burden of mortality and morbidity throughout life, starting with a higher infant mortality rate (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 due to injuries, cardiovascular disease, diabetes, respiratory disease and most cancers) (Pomare et al. 1995). The overall higher Māori mortality rates compared to non-Māori also exist *within* individual social classes (Pearce et al. 1993).

Almost twice as many Māori (15%) as European New Zealanders (8%) rate their own health as only 'fair' or 'poor' (Statistics NZ 1993). Other New Zealand research on self-

assessed health status shows that Māori respondents tend to have a significantly lower self-assessed health status than non-Māori and this effect is independent of the contribution of income, education and employment status (Viathianathan 1996). The author concludes that there may be something about being Māori that influences self-assessed health status quite apart from socioeconomic indicators.

The relatively poor health status of Māori results from a number of factors. Māori may have a genetic predisposition to some diseases, for example rheumatic fever and diabetes, but genes contribute only a small part of the excess disease burden in Māori (Pomare et al. 1995). Some of the excess Māori morbidity and mortality is due to differences in the uptake or effectiveness of health services. For example, Māori have lower rates of immunisation than non-Māori overall and poorer uptake of well-child services. The excess Māori death rate in men is highest for diseases that are amenable to medical intervention, including tuberculosis and chronic rheumatic heart disease (Pearce et al. 1993). In addition, poorer Māori health status can be attributed in part to high rates of smoking and other behavioural risk factors and cultural factors also appear to be important (Pomare et al. 1995). There is general agreement that most of the excess morbidity and mortality is a result of the poorer social and economic status of Māori (Pomare and de Boer 1988; MoH 1996).

Another important issue is the diversity of the Māori population and the diversity of Māori with respect to health and social, cultural and economic determinants, a situation described as ‘diverse Māori realities’ (Durie 1994). In many cases intra-Māori differences are more marked than inter-ethnic differences, and there is concern that the uneven improvements in health within the Māori population is resulting in some Māori lagging further behind.

#### **Summary**

- Māori health has improved significantly over the past four decades yet there is still significant premature morbidity and mortality among Māori.
- Māori experience an excess burden of mortality and morbidity throughout life, starting with a higher infant mortality rate (mainly due to SIDS), higher death and hospitalisation rates 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).
- The relatively poor health status of Māori results from a number of factors but it is mostly due to poorer socioeconomic circumstances than non-Māori.
- Intra-ethnic health inequalities are also important for Māori.

### **2.2.6 Health status of Pacific people**

The health of Pacific people living in New Zealand has also improved over recent decades, but there are many areas of concern (MoH 1997a). Population data are less readily available than for Māori, but Pacific people have clearly identifiable health problems, many of which are potentially preventable. These include the highest national rates of meningococcal disease, measles, rheumatic fever, rheumatic heart disease and

obesity. Other important health problems among Pacific people are an increasing rate of SIDS, low immunisations rates, high rates of hospitalisation in children, particularly for pneumonia, asthma and middle ear infections, and high rates of diabetes, tuberculosis and liver cancer in adults. Self-assessed health in Pacific people is also worse than for both Māori and Europeans (Statistics NZ 1993).

Similarly to Māori, the comparatively poor health status of Pacific people can be attributed to a number of factors. However, the low socioeconomic status of Pacific communities explains much of their excess burden of illness (MoH 1997a).

#### **Summary**

- The health of Pacific people in New Zealand has improved over recent decades, but they still experience a heavy burden of avoidable morbidity and mortality.
- Pacific people living in New Zealand have a number of preventable health problems.
- The low socioeconomic status of Pacific people explains much of their comparatively poor health status.

### **2.2.7 Disability**

According to the 1996 Household Disability Survey, about one in five New Zealanders is limited in daily activities because of the long-term effects of disability (Statistics New Zealand 1997b). These disabilities may be related to age or previous injury, or associated with physical, sensory, psychiatric or intellectual disabilities that people were born with or have developed. Older people have the highest rates of disability as many of the disorders causing disability increase with age. Age-related disabilities are likely to become more common over the next 20 years as the population ages.

People with disabilities are often socioeconomically disadvantaged. In general, disability rates in New Zealand are highest among low socioeconomic groups (HFA and MoH 1998). Disability may present a barrier to employment, result in costs for health and disability support services and restrict their opportunities for education and socialisation - although this is not always so. Adults with disabilities in New Zealand are less likely to be employed than people without disabilities. The total personal income for working-age adults with disabilities is significantly lower than for adults without a disability in New Zealand (Statistics New Zealand 1997b). Women with a disability have the lowest incomes with 71% reporting an annual personal income of less than \$15,000. This same pattern is reflected in household income. Adults with disabilities are more than twice as likely to have a household income under \$30,000 as adults without disabilities. People with physical and mental disabilities can also find it very difficult to find appropriate accommodation, particularly accommodation which affords them a high level of independence.

#### **Summary**

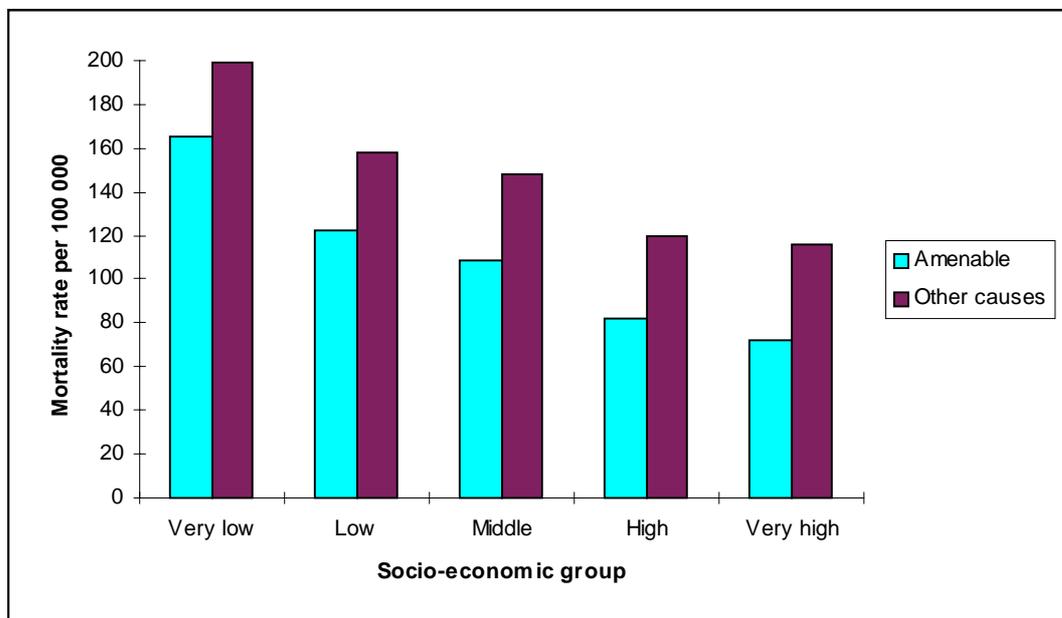
- One in five New Zealanders is limited in daily activities because of the long-term effects of disability.
- Disabilities will become more common in New Zealand as the population ages.
- People with disabilities are commonly socioeconomically disadvantaged.

### 2.3 Inequalities in health status

The previous section highlights the poorer health status of Māori and Pacific people compared to other New Zealanders in most respects. While women live significantly longer than men on average, there is some debate as to whether women experience greater ill health than men. For New Zealand, the levels of self-reported poor health and disability are now very similar between men and women (Statistics NZ 1993). This has also been shown recently in the UK, except for psychological disorders where women predominate (McIntyre 1996; Kind et al. 1998).

Socioeconomic inequalities in health have been reported across the developed world (Benzeval et al. 1995). A number of studies have shown that there is also a striking socioeconomic variation in health status in New Zealand with high socioeconomic groups being in a much more favourable position than low socioeconomic groups. For example, people who live in more deprived areas of Wellington experience higher death rates, hospitalisation rates and higher rates of cancer than people living in affluent areas (Crampton et al. 1997). In the North Health region between 1982 and 1994, low socioeconomic groups had higher mortality rates than higher socioeconomic groups, from diseases both amenable and not amenable to medical treatment (Figure 7) (Jackson et al. 1998). In this study, the gradient was strongest for deaths from lung cancer, ischaemic heart disease, diabetes, pneumonia and chronic respiratory disease. In addition, large social class differences in hospital admission rates persisted throughout the period with low socioeconomic groups having the highest admission rates.

**Figure 7. Age standardised mortality rates for conditions amenable to medical intervention, and other causes not amenable to medical intervention, by socioeconomic group for the population under 65 years of age, North Health region, 1982-1994.**

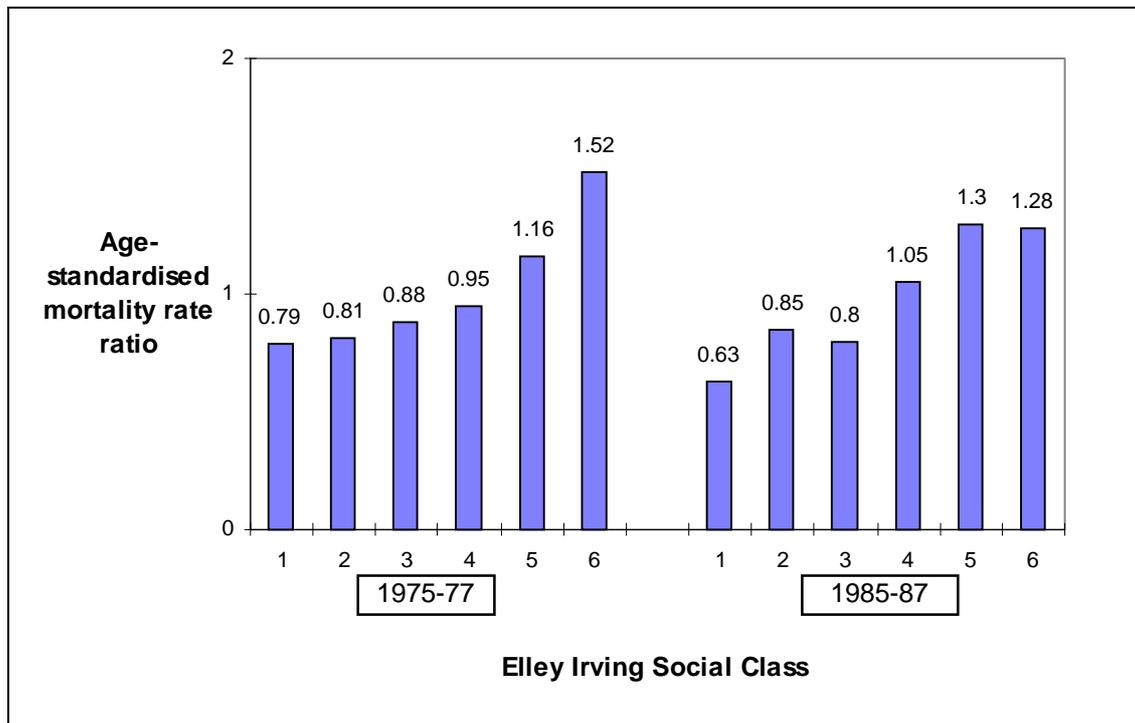


Source: Jackson et al. 1998.

Furthermore, despite recent reductions in mortality in New Zealand the gap between higher and lower socioeconomic groups has not closed and may have widened. In the decade following the mid 1970s mortality for adult men aged 15 to 64 years declined by 15% overall but the social class gradients in mortality were undiminished (Figure 8)

(Pearce et al. 1991). The reductions in mortality from conditions amenable to medical treatment in the North Health region between 1982 and 1994 were greatest in the highest socioeconomic group (46%) and lowest in the bottom socioeconomic group (27%): the groups that already had the lowest mortality showed the biggest gains (Jackson et al. 1998). Thus, there was an overall improvement in population health but socioeconomic differences persisted.

**Figure 8. NZ male age-standardised mortality rate ratios, age 15-64 years, by Elley-Irving social class\***



\* Elley Irving social class 1 is the highest class.

Source: Pearce et al. 1991, p 155, reprinted with permission of the NZ Medical Journal.

There are also socioeconomic inequalities in self-reported health in New Zealand. In the 1992/93 New Zealand Household Health Survey, people with an annual family income of \$20,000 or less were over three times more likely than people with an income of over \$30,000 to rate their health as 'not so good' or 'poor' (Statistics NZ 1993). Early analyses of the 1996 Household Health Survey show a similar relationship between individual and household income and self-reported health: people with the lowest income report poorer health than those on higher incomes (personal communication, Martin Tobias, Ministry of Health, May 1998).

### Summary

- People in the lowest socioeconomic groups consistently have the poorest health.
- There are persistent socioeconomic inequalities in health status in New Zealand as measured by mortality, hospitalisation and self-rated health.
- Despite an overall improvement in population health status, socioeconomic inequalities in health have not decreased over the past two decades and may even be increasing.

### **3. Pathways from socioeconomic factors to health and health inequalities**

There is, as discussed already, sufficient evidence to state that deprived social and economic conditions are associated strongly and consistently with poor health. This chapter addresses two fundamental questions that arise from this finding.

- What is the direction of this association between low socioeconomic status and poor health?
- What are the possible causal mechanisms that explain the association?

Understanding the causal pathways by which socioeconomic conditions affect health helps to identify the most effective interventions for improving health.

#### **3.1 Direction of the association between socioeconomic status and health**

The relationship between social and economic conditions and health operates in both directions. People who grow up with or develop a chronic health problem are more likely to end up in poor social and economic conditions as a consequence of their ill health, for example through stigma associated with chronic illness or through reduced earning capacity (West 1991). That is, poor health leads to deprivation. This finding is important for public policy, which should aim to improve the social and economic conditions of people with chronic illness or disability.

This finding explains only part the relationship between deprivation and poor health. The relationship between socioeconomic conditions and health operates primarily in the other direction; that is, deprivation leads to poor health. Longitudinal studies have established that this is the major cause of mortality and morbidity differences between social groups (Benzeval 1995; Power et al. 1996). The following section outlines possible causal pathways that explain this finding. Figure 1 on page 21 shows diagrammatically the different levels at which the effects might operate.

#### **3.2 Pathways from social and economic factors**

##### **3.2.1 Health behaviour and health service use**

The major causes of premature death in our society, such as coronary heart disease, cancers, stroke, respiratory diseases, HIV and injuries, are affected by certain behaviour patterns of individuals. Some of these important 'life-style factors' are diet, smoking, alcohol intake, physical activity, sexual behaviour and more general risk taking. Health-damaging behaviours are more common among people in lower socioeconomic groups in New Zealand (Hopkins et al. 1991; Mann et al. 1991), as in other developed countries. There is evidence that life-style factors explain some of the effect of social conditions on health and resulting health inequalities, and this finding supports the provision of high quality general education and health education for all. However, life-style factors do not explain adequately all of the observed socioeconomic health differentials (Townsend et al. 1992). Behavioural factors have the strongest influence on health when the social environment is good, that is when underlying socioeconomic factors favour good health (Blaxter 1990).

Health-damaging behaviour is likely to persist when social conditions are poor for two main reasons. First, knowledge alone is often not enough to change behaviour, as other factors may sustain health-damaging behaviours or encourage healthy behaviours. For example, smoking may be used by women as a coping strategy, enabling them to look after their families in difficult circumstances (Graham 1993) and, even though most smokers want to give up smoking (Mullins and Borland 1996), the addictiveness of nicotine restricts their ability to do so. Second, even when behavioural risk factors are well known, it has proven very difficult for people to change high-risk behaviour. In one large study, highly motivated men in the top 10 percent risk category for coronary heart disease were able to make only minimal changes in their eating and smoking behaviours in spite of intensive intervention over a six-year period (MRFIT Research Group 1982). Making changes that affect future health is particularly difficult for people whose socioeconomic circumstances are insecure.

Some health-related behaviour has changed dramatically this century among all social groups, e.g. the use of contraception, infant feeding practices and household hygiene (Powles 1992), yet socioeconomic differences in these practices persist. Other behaviours, such as smoking and eating a high-fat diet, have been much slower to change in low than in high socioeconomic groups. The fact that some behaviour has been so difficult to change among people with poor social conditions leads us back to considering the social conditions themselves as a focus for intervention.

Differences in health service use are not a major reason for socioeconomic differences in mortality rates in New Zealand, as the biggest differences in mortality rates between social groups are for disorders which are not amenable to medical intervention (Marshall et al. 1993). However, poor access to health care, especially preventive health and early intervention services, partly explains the link between socioeconomic status and health. Social, cultural and economic factors influence the use of preventive and treatment services and the more affluent generally have better access to high quality health services. New Zealand studies demonstrate that individuals in lower social class groups use general practitioner services less than would be expected given their health status (Davis 1985; Robins 1995) and that financial barriers act as a deterrent to consultation for poorer New Zealanders (Barnett and Coyle 1998; Jamieson 1998). Therefore, improving the affordability of general practice services in New Zealand and attending to issues of availability and appropriateness is an important part of any strategy to reduce socioeconomic differences in health status.

### **3.2.2 Specific social and economic conditions such as occupation, family income or housing**

The physical and social environment in which people live has direct effects on health. Physical working conditions that can cause injury or illness are the best documented. The much higher death rate from injuries among men in lower social class groups is partly due to work-related injuries. There are high death rates among agriculture and forestry workers, hunters and construction workers in New Zealand (Occupational Safety and Health, personal communication, April 1998). Unsafe environments, exposure to damaging substances such as asbestos, and excessive working hours have all impacted most heavily on the most disadvantaged (Hassan 1989). Organisational aspects of work are also related to ill-health; jobs with high demand and little control

are most common among low status workers and these factors increase the risk of coronary heart disease. This is thought to be a direct link through neuroendocrine (hormone-related) mechanisms (Marmot and Theorell 1988).

Several mechanisms are probably involved in the association of unemployment with ill health. In the first instance, unemployment is a stressful life event (Bartley 1994). Unemployment has a direct material impact on people's lives and lifestyles by precluding certain activities through a reduction in disposable income, particularly when the whole household is 'work poor' (no-one is employed). The psychological and social benefits of being in paid work are also absent (Morrell et al. 1998). Other moderating or intervening factors include social isolation and perceived lack of purpose in life with a loss of self esteem, changes in health-related behaviour, and the effect that a spell of unemployment has on subsequent employment patterns (Bartley 1994; Morrell et al. 1998).

Low family income affects health directly by precluding the purchase of adequate basic necessities such as adequate shelter, food and warmth, and limiting people's ability to participate in society. Families on low income often experience high levels of mental stress which may manifest as domestic violence. Low income may put people at greater risk of depression by limiting choices and reducing their ability to gain social support. Low and insecure income may also affect health-related behaviour (as discussed above).

There are established links between housing and health. High housing costs leave less money for other budget items essential to good health (discussed previously). Damp housing contributes to respiratory illness (Best 1995) while housing design affects child injury rates, for example, unprotected heating can lead to burns. Poor maintenance of dwellings can lead to infestations that spread infection, exacerbate allergy and expose occupants to pesticides. Overcrowding increases the spread of infectious diseases such as gastrointestinal diseases, meningococcal disease, and the bacteria that cause rheumatic fever. It has also been associated with mental distress in women (Best 1995).

### **3.2.3 Interaction of early-life risk factors with other influences in later life**

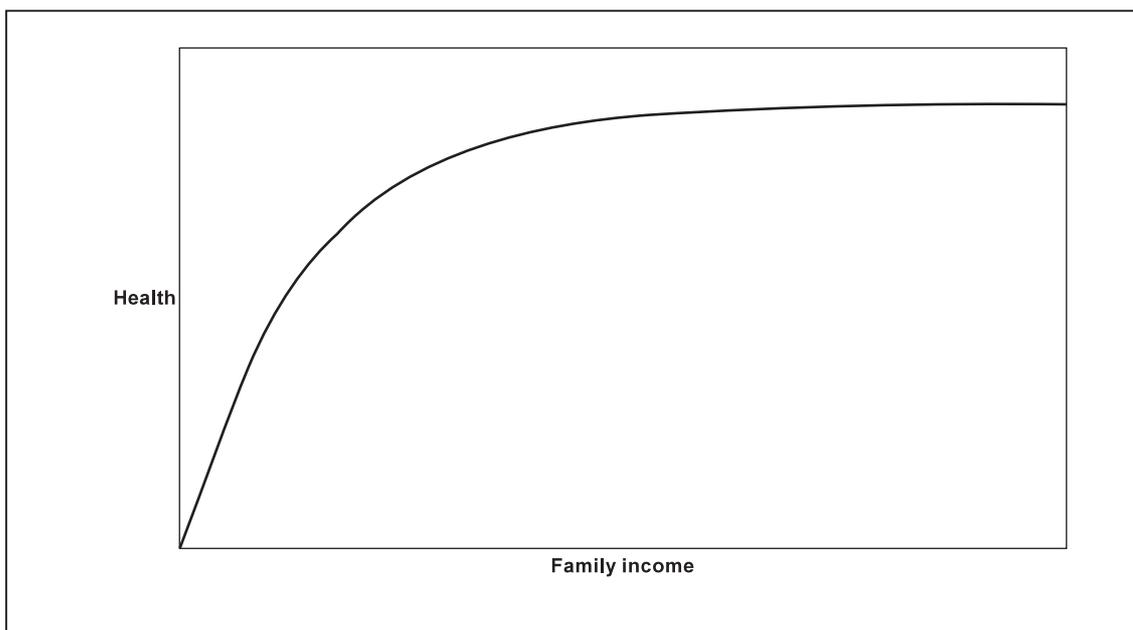
Low birthweight is more common among infants born in poorer circumstances. Some chronic conditions of adult life, especially non-insulin dependent diabetes mellitus (NIDDM) and cardiovascular and respiratory diseases, are associated with low birthweight. Other early-life risk factors interact with behaviours, such as diet and smoking, and environmental conditions, such as overcrowded housing, to produce higher rates of disease in adult life (Power and Matthews 1997; Power et al. 1998). A similar mechanism is proposed for childhood factors such as separation from parents and lack of parental care which influence psychological disorders in adult life (Rutter 1989). These childhood factors are compounded in turn by adult factors such as early pregnancy and lack of social support in adulthood. This time lag between socioeconomic deprivation and some health effects underscores the importance of a life course approach to examining socioeconomic factors and health (Bartley et al. 1997; Davey Smith et al. 1997).

### 3.2.4 The characteristics of the community or a whole society

The characteristics of certain populations make them more vulnerable to ill health than other populations. The effects of social disadvantage on health are a function of the group, not just the circumstances of the individual (Woodward 1996). Lack of education or unemployment have different impacts on an individual's health depending on the conditions of others in the same community. For example, a high level of unemployment in a community is likely to compound the effects of unemployment on a particular individual in that community. Likewise, some features of a whole society affect the way that individuals behave: alcohol consumption and salt intake are good examples (Rose 1993).

There is good evidence that level of individual or family income affects individual health. It has also been suggested that the extent of income inequality within a society is the main factor influencing death rates as a whole in developed countries (Wilkinson 1996). This is theoretically plausible, given the non-linear relationship between income and health for individuals (Figure 9). The gradient is steepest among low income groups, and less steep among people on higher incomes. Thus, if the total level of income in the society is fixed, any income redistributed from high income groups to low income groups will decrease the health of the well-off to a lesser extent than it will improve the health of the poor. Hence overall population health will improve and health inequalities will reduce (Judge et al. 1998). If this were the case in practice, the comparatively high death rates in a society with unequal income distribution will be a consequence of a higher proportion of people on low incomes than in societies with greater income equality/redistribution.

**Figure 9. Postulated relationship between income and health**



There is ongoing debate about societal income inequality and possible mechanisms for an effect on health. Some studies among countries and within countries have shown an association between death rates and measures of income inequality (Kennedy et al. 1996; Kaplan et al. 1996). However, there are criticisms of the methods used for inter-country comparisons (Judge 1995) and other work has shown weaker associations (Judge et al. 1998). One study showed that the association can be explained by a direct effect of individual income, rather than income inequality (Fiscella and Franks 1997). Researchers persuaded of the importance of income inequality *per se* have considered explanations other than a direct effect of income. For instance, Wilkinson (1996) suggests that the perception of relative deprivation by people on low incomes leads to feelings such as hopelessness, worry, helplessness and being devalued, which may have direct effects on health. These feelings may also lead to hostility and risk taking behaviour (Fiscella and Franks 1997).

Income inequality may be a cause, or an effect, of a less cohesive society (Kawachi et al. 1997). The term 'social capital' has been given by Putnam (1993) to the features of social life - the networks, norms and trust - which enable participants to act together to pursue shared objectives. If these features bridge underlying social divisions, then they are likely to make for a more socially cohesive society and potentially improve overall well-being. Social capital is a contributing factor, or combination of factors, to a cohesive or civil society (Robinson 1997).

There is growing interest in 'social capital' and the ways in which this attribute of 'civil society' (i.e. the non-government, non-market activities of society) may be related to the health of the population (Baum 1997; United Nations Development Project 1997). Violence, sexual exploitation and drug taking are obvious health consequences of lack of social cohesion and disintegration of social networks among inner city populations in the United States. Such breakdown of society is clearly related to health in the affected communities but has implications for everyone because health problems that are caused by this social breakdown diffuse out to other neighbourhoods (Wallace and Wallace 1997). The failure of public policy to support these neighbourhoods, especially in terms of subsidised housing, exacerbates the social breakdown.

#### **Summary**

- The relationship between socioeconomic conditions and health operates in both directions but primarily it is deprivation that leads to poor health rather than vice versa.
- Knowledge of health risks is, by itself, not enough to change people's behaviour.
- Socioeconomic status affects health mainly through family income, housing, work conditions and unemployment.
- Disintegration of social networks, which is more likely to occur in areas of socioeconomic deprivation, has detrimental effects on health that potentially spread to involve all members of society.
- Greater income inequality within a society appears to be associated with increased overall mortality.

### **3.3 Cultural Conditions**

It is not easy to separate cultural from social conditions. This section discusses conventions of social life, ethnicity, religion, and cultural aspects of gender as these aspects of culture are especially relevant to New Zealand and there is evidence about possible mechanisms.

#### **3.3.1 Conventions of family and social life**

The values and conventions that are part of family and social life affect health. New behaviours that promote or protect health often become embedded in social convention and their origin forgotten. Examples are washing hands and not spitting in public, which both reduce the spread of communicable diseases. Some cultural obligations may be potentially detrimental to the health of an individual or family yet contribute to the overall well-being of the wider cultural group. For example, regular religious donations or 'tithes' might limit money available for a healthy diet or access to health care for families but help to fund facilities and services that maintain the well-being of the group overall.

Social life is full of potential stressors. Bereavement, marital conflicts, unemployment, and retirement are examples. The ability to cope with stressors and not become ill is strengthened by social support and a sense of group cohesion (Helman 1994). Social support may either promote health and beneficial health behaviours directly or buffer the adverse health effects of stressors (Franks et al. 1992). Antonovsky (1987) demonstrated that individuals who have a 'sense of coherence' about life are better at coping. This sense of coherence develops partly through the individual's life experiences, which in turn depend on social, economic and cultural circumstances. Durie (1994) suggests that a 'secure identity', a similar concept to sense of coherence, protects Māori against poor health.

Aspects of family culture, such as family centredness and ways of resolving conflict, affect life experiences in childhood and also appear to affect the health of adolescents (Sweeting and West 1995). For Pacific people, as for many other ethnic groups, the family is the main unit in which children learn, grow and are supported through early childhood (MoH 1997a). Traditionally, the family has also been the only support structure for older Pacific people. The integrity of the family unit is therefore important for the health of both children and older people in Pacific communities.

#### **3.3.2 Ethnicity**

Ethnicity is strongly associated with almost every measure of health and disease. As it is one of the strongest cultural influences, ethnicity is often used as a proxy for 'culture' but this can lead to incorrect conclusions about the effect of cultural influences on health.

The mechanisms by which ethnicity affects health were discussed earlier in sections of the health of Māori and Pacific people. Most important is the influence that a person's ethnic origin has on their subsequent social position and individual values and behaviour.

For Māori, a strong sense of cultural identity, including elements such as language (te reo) and land (te whenua), may of itself protect individuals against poor health (Durie 1994). In addition, certain protocols and beliefs that are part of an ethnic group's cultural practices may protect health, while others can be harmful. The ways in which different ethnic groups value older members of the groups will affect the health and well-being of their older people. For example, kaumatua and kuia have high status in the Māori community and this contributes positively to the health of these individuals, their whanau, hapu and iwi.

### 3.3.3 Religion

Certain aspects of religion affect measures of illness, disease and death (Levin 1994). There are a number of possible causal pathways, including through behaviour, psychosocial effects, the psychodynamics of belief systems, religious rites and faith, as well as transcendent explanations including 'miracles' (Levin 1994). Some religions expressly sanction or proscribe certain behaviours (e.g. relating to diet, alcohol, sexual behaviour). Religious membership can promote social cohesiveness and provide social support. Beliefs may lead to a greater sense of coherence, although they can both increase self confidence and also give rise to guilt, depression and self doubt.

### 3.3.4 Gender

Higher rates of some illnesses among women and higher death rates from injury, including suicide, among men are commonly attributed to cultural factors, especially sex roles. As discussed earlier, the levels of self-reported poor health and disability are now very similar between men and women in New Zealand, but there are clear gender differences in the experience of factors that affect health. In New Zealand society, a culture of masculinity may foster risk taking, drunkenness and difficulty with expressing emotions and seeking help. These factors have been suggested as contributors to an increasing gap in life expectancy between men and women in Britain (Griffiths 1996). For women, the role of single parent is increasingly common. New Zealand research has shown that women who are separated from the father of their child are more likely to be depressed and to be economically disadvantaged into middle age than other mothers (Williams et al. 1997).

#### Summary

- Conventions of family and social life, such as social support, promote health.
- Māori cultural conventions, such as those related to a secure Māori identity, promote health.
- Religious beliefs affect health through a variety of mechanisms
- Gender roles of men and women influence the health of both groups.

### **3.4 Conclusion**

Social, economic and cultural factors influence health and illness through a number of pathways. By itself, lack of knowledge of behaviour which improves or threatens health has a relatively small effect. Nevertheless, general education remains important as does specific education about health damaging behaviour, especially as new threats to health arise or are identified. The major effects are directly a result of specific social and economic conditions - family income, housing, unemployment and work conditions - or indirectly by influencing behaviour. Important effects occur early in life and are exacerbated by poor social conditions later.

There is also evidence that attributes of a whole community or society affect health. In addition to the norms of communal behaviour that affect health, societies with greater social cohesion are healthier. Individuals with a greater sense of coherence, stronger ethnic identity, or stronger religious beliefs also have better health.

Specific actions which decrease family poverty and unemployment, improve housing and promote family and social cohesion should all produce major improvements in health.

## 4. Rationale for acting on the socioeconomic determinants of health to reduce health inequalities<sup>3</sup>

It has long been accepted that public policy initiatives that improve population health status are worthwhile. This chapter argues that there is good reason to implement policy initiatives that will both improve health **and** reduce health inequalities by improving the health status of the most disadvantaged groups. Four arguments are presented to support this proposal:

- health inequalities are reducible
- doing so is equitable (fair)
- doing so benefits wider society, not just people who are direct recipients of the health gains that reduce inequalities
- doing so has economic benefits.

### 4.1 Health inequalities are reducible

International and New Zealand evidence suggests that, as health inequalities vary between countries and different parts of the same country and also change with time, it is possible to reduce them (Drife 1993). The steep reduction that has occurred in the major causes of mortality in all social class groups in New Zealand over the last century suggests that a large proportion of the burden of premature ill-health is potentially reducible, if not entirely avoidable.

A feature of the disease profile of New Zealanders is that a major part of the burden of disease is preventable. Comparison with other OECD countries shows that the health of New Zealanders has not improved as rapidly as in similar countries over the past three decades. Premature deaths in New Zealand are due largely to heart disease, respiratory disease, breast and bowel cancer, motor vehicle crashes and suicide. Although much progress has been made, for example, in reducing heart disease death rates in both Māori and non- Māori, and cot deaths in non- Māori, there is still great scope for effective prevention (Galgali et al. 1998). It is likely that further gains will require comprehensive strategies that focus not only on high risk behaviour and secondary prevention, but also address the fundamental socioeconomic determinants of health.

### 4.2 Equity

Inequalities in health become “unfair” (inequitable) when poor health is avoidable, and the person who suffers bears little or no responsibility for their position. Within the health care system, the issue of equity has several different elements including equity of access to health services, equity of utilisation with respect to need, and equity of health outcomes. In this report, a broader definition of health equity is used, that of creating at least **equal opportunities for good health** and bringing health disparities down to the lowest possible level. This definition encompasses equity of access to and utilisation of health services.

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<sup>3</sup> These arguments are developed more fully in the second background paper to the NHC by Alistair Woodward and Ichiro Kawachi: *Why should we reduce health inequalities? Reasons for acting on the social, cultural and economic factors that cause ill-health.*

One objection to the argument for reducing inequalities in health is that health is essentially an individual matter and people have the opportunity to improve their own health status. The corollary of this objection is that if people took better care of their own health, then health inequalities would be negligible: thus health inequalities are not really an issue of equity.

However, this objection is not supported by accumulating evidence. There are few instances in which individuals are **entirely** responsible for their ill-health. As the previous chapter outlined, health is more than a matter of personal choice. Three pieces of evidence which were discussed in the previous chapter support this. First, there is evidence that health disadvantage accumulates over a lifetime: poor health status as an adult is strongly related to poor childhood circumstances. Second, health behaviour is strongly influenced by social environment and is not just a matter of 'personal choice'. Finally, specific behaviours, such as smoking, account for only some of the observed socioeconomic inequalities in health status. Even if individuals accepted full responsibility for their lifestyle and changed their behaviour accordingly, they would still have worse health status owing to factors beyond their direct individual control, such as employment policies.

In New Zealand, equity also demands that Māori health be given special consideration. Some of the arguments for greater equity for Māori health compared to non-Māori are:

- the persistence of a large, avoidable excess of illness and injury among Māori
- poor Māori health status is in part caused by historical injustices done to Māori in the course of colonisation
- a commitment to equal health status of Māori as tangata whenua and indigenous people that is fundamental to the Treaty of Waitangi, in particular - but not confined to - the "citizenship rights" of Article Three.

Equity is a key principle behind the funding of health services in New Zealand. This includes efforts to reduce disparities in health status between population groups (MoH 1998a). It is also one of four principles that underlies work by the National Health Committee on priority setting (NHC 1997). Successive New Zealand governments have acknowledged the presence of health inequalities, especially in relation to Māori, and have signalled clearly an intent to reduce such inequalities (Minister of Health 1995; MoH 1996).

New Zealand and international work also suggests that the community considers equity important. Most oral submissions to the 1987 Royal Commission on Social Policy placed a high priority on the removal of inequities in areas such as health, education, social welfare and housing (Royal Commission on Social Policy 1988). A 1989 study on the values of New Zealanders found a high level of support for the idea that there are unacceptable inequalities in wealth distribution in New Zealand (Gold and Webster 1990). British and US studies show generally that people favour some degree of income redistribution to reduce income inequalities, as well as distributing resources in favour of people in greatest need to bring them up to the same level as others (Miller 1992).

While socioeconomic inequalities in health are inequitable from an egalitarian viewpoint, they can also be argued against from a libertarian stance. For most libertarians, good health is not an end in itself, but it does underlie an individual's

freedom to pursue goals and basic capability to succeed in the economic and cultural marketplace. Therefore, socioeconomic conditions that are detrimental to an individual's health will diminish that person's freedom and choices in life. Libertarians maintain that it is undesirable for some to be less free than others, and that if this is avoidable by freedom-respecting means, we should avoid it. In general, then, libertarian and egalitarian political philosophies agree that population health gain and a reduction in inequality are desirable ideals.

In summary, inequalities in health are undesirable because they are unfair (inequitable) and limit an individual's freedom to pursue their goals. Therefore reducing those inequalities is of itself an important goal for societies, regardless of other social benefits that may follow.

### **4.3 Wider societal benefits**

There are wider benefits to society when people are able to live in an environment where people are healthy. The social benefits of reducing health inequalities are sometimes direct and obvious, for example by reducing the spread of infectious diseases such as tuberculosis or measles. The public health reforms of the 19<sup>th</sup> century occurred because the wealthy realised that the living conditions of the poor were a threat to their own good health: cholera, tuberculosis and other epidemics respected no geographical or social boundaries (Wohl 1983). A similar picture exists today with diseases such as AIDS. Disease is concentrated and sustained in conditions of poverty and disorder, but the potential for spread of disease to affluent communities still exists.

There are other important examples: reducing alcohol abuse, mental illness and violence is of great value to all members of society. All members of society pay the cost, in one way or another, for the conditions that create and perpetuate health inequalities. For example, the states in the USA with the greatest income inequalities are those that spend the most per person on police protection (Kaplan et al. 1996).

One of the most significant dangers of inequality is that it may promote social exclusion, lower thresholds for risk-taking and violence, and weaken the social connections that make for healthy neighbourhoods. Unequal societies tend to be those with the lowest levels of community cohesiveness (Kawachi and Kennedy 1997). The consequences of a loss of social cohesion can be seen in the breakdown of inner cities in the United States. As discussed earlier, the health problems that are caused by this social breakdown diffuse out to other neighbourhoods (Wallace and Wallace 1997). A narrowing of the social gap in health by addressing the socioeconomic determinants is likely to contribute to a more cohesive and stable society.

Interventions to improve health may have benefits other than improvements in health. For example, investment in better housing may reduce respiratory disease and house fires but may lead also to less strain and violence in families with consequent benefits to all members of society.

#### **4.4 Economic benefits of prevention**

There are sound economic reasons for improving population health and reducing health inequalities. Success in a modern global economy requires a workforce that is healthy as well as highly skilled (Department of Health 1998). Large numbers of working days are lost each year owing to sickness and injury at considerable cost to business and the wider community: in the 1992/3 health survey, 14 % of paid workers had taken time off work in the preceding four weeks (Statistics New Zealand 1993). People whose self-assessed health status was not so good or poor and people with a disability or long-term illness were more likely to have taken time off work.

Spread across a whole economy, better output from individual firms with a healthy workforce is in the interests of primary wealth creation, which may in turn benefit the health of the population (Frank and Mustard 1994). Improving the health of children and young people better equips them to learn and this is likely to improve the skill-level and productivity of the future workforce.

Health policy that aims to achieve the maximum health benefits for the population will receive a greater potential return on investment by concentrating on groups that lag behind in health (Gunning-Schepers 1989). Reducing the burden of ill health reduces unnecessary expenditure on treatment services - the 'ambulance at the bottom of the cliff' - thus freeing up resources for other uses. The treatment of cancer, cardiovascular disease, respiratory problems, injuries and mental health problems uses a large portion of the health budget each year, and all are preventable to some extent. The prevention of avoidable illness frees resources for the treatment of other conditions that cannot yet be prevented (Department of Health 1998). In a health system such as New Zealand's that is predominantly publicly-funded, preventing avoidable ill health thus benefits all tax-payers.

In addition, the benefits of treatment services - even ones for which there is good evidence for effectiveness - are likely to be reduced if the wider determinants of health are ignored (Birch 1997). Thus, health sector resources, which may be better used on preventive rather than treatment services or on interventions outside the health sector, may be used inefficiently. For example, a young girl might need repeated hospitalisation for respiratory infections which are caused largely by overcrowded, damp housing conditions. Improving the housing arrangements would prevent expensive hospital admissions, improve the health and well-being of the child, the parents and others in the house, and is likely to be a more cost-effective use of resources.

Some interventions that reduce health inequalities are very cost-effective. Examples are taxation of tobacco, fluoridation of water supplies and the provision of safe water. However, as for many treatment services, there is generally limited evidence on the costs and relative effectiveness of these interventions that act on biological and physical factors. This is also the case for interventions that act on social, cultural and economic factors related to health. It is particularly difficult to quantify the health benefits or exact costs of intersectoral policies and population health interventions. Decisions in this area must therefore be made on the basis of judgement informed by the best available evidence: this is less than ideal but not unusual in social policy and even economic policy.

### **Summary**

- Socioeconomic inequalities in health are reducible.
- Reducing socioeconomic inequalities in health is equitable (fair).
- Reducing socioeconomic inequalities in health benefits wider society, not just people who are direct recipients of the health gains that reduce inequalities.
- Reducing avoidable disease and premature death by intervening on socioeconomic factors has economic benefits.

## **4.5 Conclusion**

This chapter outlines reasons for improving population health status and reducing socioeconomic inequalities in health. There is evidence that a large proportion of the socioeconomic inequalities in health in New Zealand is avoidable. The causes of ill health do not rest with individuals or with governments on their own but are shared by all people in society. There are strong arguments in favour of public action to reduce inequalities in health.

Equity in health is not the only value that governments seek to promote. There are other moral considerations, such as the interests of individual autonomy, that have to be taken into account in resource allocation. However, the claims for equalising health are strong. For example, the personal view of the present British health secretary, Frank Dobson, is that “[i]nequality in health is the worst inequality of all. There is no more serious inequality than knowing that you will die sooner because you are badly off” (Wise, 1997).

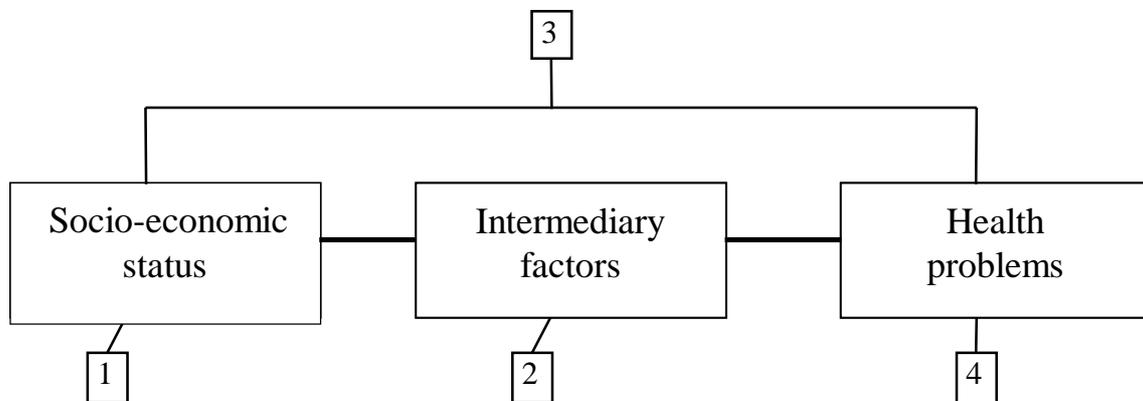
## 5. Effective interventions to improve health and reduce health inequalities

Over the past century, the measures that led to the greatest improvements in health, particularly the decline in infectious diseases, were improved public water supplies and sewage disposal, nutrition and general living and working conditions, as well as specific population health interventions (McKeown 1979). More recent population health interventions have been highly effective also, for example the fluoridation of water supplies, tobacco control measures, and immunisation. The challenge now is to identify specific interventions that not only improve population health but also reduce health inequalities. This requires identifying interventions which are particularly effective for lower socioeconomic groups.

A variety of approaches are needed to reduce socioeconomic inequalities in health. Figure 10 demonstrates four areas for possible policy interventions:

1. underlying social and economic determinants
2. factors that are intermediate between socioeconomic determinants and health
3. the effect of ill health on socioeconomic position
4. health and disability support services.

**Figure 10. Four possible targets for interventions to reduce socioeconomic inequalities in health**



Source: J Mackenbach, Erasmus University, personal communication; used with permission.

The most fundamental target for intervening is the underlying socioeconomic determinants, such as income and education. Intervening here aims to improve underlying socioeconomic status and thus an individual's opportunity for good health. Such interventions have a number of advantages over other target areas:

- large improvements in health are possible so there is more 'leverage' on reducing health inequalities and improving health equity
- there are other benefits to individuals besides improved health e.g. an improved level of education and thus better employment prospects
- there are wider benefits to society as well as to individuals e.g. reduced violence, improved self-reliance.

The disadvantage of such interventions is that it is the most difficult area to reconcile differing philosophical and political positions e.g. libertarian vs. egalitarian. However, by selecting issues carefully, such as children's health, philosophical differences present less of a barrier. It is also difficult to quantify health improvement and costs, and the complex relationships between these factors make it difficult to attribute effect and therefore evaluate interventions.

As discussed in chapter three of this report, there is good understanding of some of the pathways by which socioeconomic factors affect health. The second area to target interventions is therefore on factors that are intermediate between socioeconomic determinants and poor health. These include factors such as work environment and health behaviours, e.g. smoking, diet and physical activity. There is very good evidence about the costs and benefits of some interventions so it is already possible to recommend action that will reduce socioeconomic inequalities in health. It is also possible to evaluate the effectiveness of interventions on intermediate factors. Such evaluation helps to improve understanding of the causal pathways between socioeconomic factors and poor health. However, focusing on intermediary factors can shift the focus from acting on underlying socioeconomic determinants and may be interpreted by some as 'victim blaming'. Some interventions may also lead to widening relative inequalities, e.g. higher socioeconomic groups are the group most likely to act on simple health education messages.

A third area for intervention is to address the possible decline in socioeconomic circumstances for people who experience ill health – the 'reverse causality' pathway whereby people who become ill slip down the socioeconomic ladder. For example, job loss because of chronic illness is likely to reduce income and hence lead to poorer housing circumstances which in turn worsens health further. Preventing a drop in socioeconomic status in people who are or become ill is an important area for intervention: the causal pathway is well understood, there is a clearly defined population and therefore intervention boundaries are readily definable, and there are identifiable ways to maintain socioeconomic status of people who are ill, e.g. income supplementation. The disadvantages of this type of intervention is that 'reverse causality' is only a minor contributor to overall socioeconomic inequalities in health, and this approach can encourage a 'sick role' for some people.

The final area for intervention is the treatment, rather than the prevention, of health problems. By targeting health care services to disadvantaged groups, it is possible to alleviate some of the health impact of poor socioeconomic circumstances. There are a number of attractive features of health sector interventions to reduce socioeconomic inequalities in health:

- there are well-defined interventions with measurable outcomes and good evidence for effectiveness and cost-effectiveness
- there is broad societal agreement on allocating resources to health care and an existing large commitment of resources
- the health sector is already committed to equity in health and can take the lead in promoting equity in health more widely
- there is still considerable potential for improving the access of disadvantaged groups to health care services

- the health sector alone can achieve change even if broad intersectoral or political support is missing
- addressing health service deficiencies strengthens the position of health professionals to press for improvements outside the health sector.

The main disadvantages of intervening at this level are that it shifts the focus from underlying determinants, such as poor housing or low income, and there is only limited potential for the health sector to reduce socioeconomic inequalities if the fundamental determinants are ignored. In addition, there are resource constraints in the health sector which are compounded by widening socioeconomic inequalities in health.

The advantages and disadvantages of intervening at these four different areas are summarised in Table 1.

**Table 1. Advantages and disadvantages of intervention to reduce socioeconomic inequalities in health at four different target areas**

<b>Target Area</b>	<b>Advantages</b>	<b>Disadvantages</b>
1 socioeconomic determinants	<ul style="list-style-type: none"> <li>• largest improvements in health possible</li> <li>• other benefits to individual</li> <li>• benefits to society as well as individuals</li> <li>• promotes greater equity of opportunity for good health</li> </ul>	<ul style="list-style-type: none"> <li>• difficult to reconcile philosophical differences</li> <li>• quantifying health benefits and costs difficult</li> <li>• multiple causes make it difficult to attribute effect and evaluate interventions</li> </ul>
2 intermediary factors (e.g. work environment, health behaviour)	<ul style="list-style-type: none"> <li>• some pathways well understood</li> <li>• helps improve understanding of causal pathways</li> <li>• possible to evaluate interventions</li> <li>• some ability to quantify costs and benefits</li> </ul>	<ul style="list-style-type: none"> <li>• some interventions may lead to widening relative inequalities</li> <li>• may be interpreted as ‘victim blaming’</li> <li>• shifts focus from underlying determinants</li> </ul>
3 effect of ill health on socioeconomic position	<ul style="list-style-type: none"> <li>• helps prevent drop in socioeconomic status in sick people</li> <li>• causal pathway well understood</li> <li>• clearly defined population</li> <li>• identifiable methods</li> </ul>	<ul style="list-style-type: none"> <li>• focuses on ‘reverse causality’</li> <li>• can bolster ‘sick role’ in society</li> </ul>
4 health services	<ul style="list-style-type: none"> <li>• best evidence for effectiveness</li> <li>• well-defined interventions with measurable outcomes</li> <li>• existing commitment of resources</li> <li>• broad agreement on allocating resources to health care</li> <li>• existing commitment to equity</li> <li>• health sector can take the lead in promoting equity in health</li> <li>• still considerable potential for improving access of disadvantaged groups to health services</li> <li>• health sector can achieve change even if intersectoral support missing</li> <li>• strengthens position of health professionals to press for improvements outside the health sector</li> <li>• possible to evaluate interventions and quantify costs and benefits</li> </ul>	<ul style="list-style-type: none"> <li>• only limited potential for reducing socioeconomic inequalities</li> <li>• resource constraints are compounded by widening socioeconomic inequalities</li> <li>• shifts focus from underlying determinants e.g. poor housing or low income</li> </ul>

## 5.1 Reviews of evidence for effective interventions

There have been several reviews of interventions to reduce health inequalities (Benzeval et al. 1995; Gepkens and Gunning-Schepers 1996; NHSCRD 1995). These reviews have found that some, but not all, of the interventions have been effective. For example, from a review of 98 publications about interventions, Gepkens and Gunning-Schepers (1996) found that “structural” measures appeared to be effective most often (Table 2). Health education strategies focusing on behavioural risk factors, such as information on the health benefits of physical activity, are of limited effectiveness unless combined with personal support or structural measures.

**Table 2. Types of interventions and their effectiveness.**

Types of intervention	Effective*	Dubious	Ineffective	Total
Structural measures <sup>#</sup>	11	4	1	16
Existing health care	5	3	3	11
Health education				
Providing information	6	6	4	16
Providing information + personal support	32	12	5	49
Health promotion + structural measures	2	1	-	3
Other	2	1	-	3
<b>Total</b>	<b>58</b>	<b>27</b>	<b>13</b>	<b>98</b>

\* Interventions were classified as “effective” in this review when the targeted outcome measure showed a positive result and when the intervention was at least as effective for the lowest socioeconomic group as it was for the highest.

# Structural measures include all interventions intended to modify the social or physical environment, that are neither existing health sector or purely health education or health promotion interventions.

Source: Gepkens and Gunning-Schepers 1996, reproduced with permission of Oxford University Press.

Table 2 also shows that most reported interventions for reducing health inequalities were designed to improve the accessibility of health services or health education to reduce behavioural risk factors. Although some of the interventions in Table 2 were described as “structural”, most of these were directed towards improving financial accessibility of health and support services. There is a paucity of evidence about the health impact of broader social or economic policies or of the effectiveness of population-based health measures. There are two reasons for this: first, the health impact of broader social and economic policy is seldom assessed; and second, it is very difficult to quantify accurately the health improvement that can be attributed to a specific intervention or policy.

The issue of evidence for effectiveness warrants further discussion. The strength of the evidence for effectiveness of health care interventions can be graded according to the design of the intervention study or studies. For example, evidence-based best practice guidelines often use a basic grading system such as that shown in Table 3. Some interventions to reduce socioeconomic inequalities in health, particularly those within the health sector, can be assessed using experimental studies such as randomised controlled trials (RCTs) which provide ‘strong’ evidence for effectiveness. However, the effectiveness of many interventions to modify broad socioeconomic factors is very difficult to test using experimental studies and in many cases a RCT is not the study design of choice. Thus, there is no ‘high grade’ evidence about just how effective such

interventions have been, or about the cost-effectiveness of these interventions. Instead, the evidence for effectiveness of broad interventions is likely to come from historical (times series) analyses and ecological studies. This would equate to Grade 3 or 4 level evidence in the basic evidence grading system (Table 3).

**Table 3. Basic Evidence Grading Strategy**

<b>Grade 1</b>	Randomised controlled trials/community intervention studies
<b>Grade 2</b>	Non-randomised controlled trials/community intervention studies
<b>Grade3</b>	Non-randomised historical cohort studies and other studies with non-experimental designs (e.g. population-based studies, case-control studies)
<b>Grade4</b>	Case series
<b>Grade5</b>	Expert consensus opinion

## 5.2 Health sector interventions

Most previous interventions to reduce health inequalities which have been evaluated fall within the narrower realms of health sector (target areas two and four in Figure 10, page 58). Such interventions are intended to increase healthy behaviour in low socioeconomic groups or mitigate the effects of poor social and economic circumstances on health.

The NHS Centre for Reviews and Dissemination (1995) reviewed the effectiveness of 94 interventions for reducing health inequalities. The review was confined to interventions that could be undertaken by the health sector alone or in collaboration with other agencies and included interventions to improve access to health services, health education (including school-based programmes), and the provision of community services.

Characteristics of interventions that were successful at reducing inequalities or improving the health of high risk groups included:

- improving access to health services, including removing or reducing patient charges (Richardson 1991), appointment of a patient “navigator” to assist at-risk groups with personal, medical and social problems they encounter in the health care system (Black and Ades, 1994), and provision of cervical cancer screening and breast examination by nurse practitioners during routine visits to low income women (Mandelblatt et al. 1993).
- planned, systematic and intensive approaches to delivering effective interventions
- prompts to encourage use of services
- a multifaceted approach which involves a combination of strategies
- inter-agency collaboration
- ensuring that interventions address the expressed or identified needs of the target population
- development of skills in target groups
- involvement of peers in the delivery of interventions.

In New Zealand, the Health Funding Authority funds many programmes which help reduce socioeconomic inequalities in health, for example:

- Tipu Ora, a well child programme for Māori caregivers and children: evaluation of a pilot programme in Rotorua demonstrated improved ante-natal and post-natal outcomes
- additional care and support components of the well-child schedule (in the form of extra contacts by service providers) for disadvantaged children
- Te Whare Oranga, marae-based medicine and fitness centres
- universal childhood immunisation
- needle exchange programmes for intravenous drug users
- smoking cessation programmes for pregnant women
- “third sector” primary health care providers, such as *Healthcare Aotearoa*, which have been set up specifically to provide primary care services for people on low incomes.

The desired outcome of all public health programmes is to improve population health and reduce, or at least not exacerbate, health inequalities. There is evidence that health promotion programmes, in the absence of a wider strategy to address socioeconomic factors, may produce only limited changes in risk factors and population mortality (Ebrahim and Davis 1997). Some population health interventions, especially mass-media health campaigns aimed at modifying behavioural (intermediary) factors, are more effective for higher socioeconomic groups (Hart 1988). For example, initiatives to reduce smoking rates in New Zealand over the past two decades have been successful in all groups, but less so in lower socioeconomic groups. Thus, while the smoking rate for the population as a whole has declined, the difference between the highest and lowest socioeconomic groups has widened (Jackson et al. 1990; D Sarfati, Ministry of Health, personal communication, March 1998). Other interventions have reduced socioeconomic disparities by benefiting low socioeconomic groups more; fluoridation of water supplies and childhood immunisation are good examples.

In the case of emerging health problems, people in higher socioeconomic groups are likely to be more responsive to initial control measures and health messages. This has occurred in New Zealand with cardiovascular disease, as higher socioeconomic groups have been most responsive to information about smoking, diet and exercise. In this case, a transient increase in inequality may be acceptable as it is likely to be accompanied by a wider response to control measures when people in other socioeconomic groups ‘follow the lead’. However, if such inequalities are not to become entrenched, it is also important that barriers to behavioural change are identified. Subsequent interventions can be targeted to groups that are harder to reach.

There are still potential health gains that can be made with well-designed population-based programmes. In particular, reduction in smoking rates, improvements in diet and increases in the level of physical activity will contribute to further reductions in cardiovascular and other diseases. However, changing health behaviour, particularly of people in lower socioeconomic groups, requires more than the provision of information. Further initiatives to modify health behaviour relating to smoking, diet and physical activity need to be supported by fiscal and legislative measures to reduce smoking rates further and increasing facilities and opportunities for physical activity. A greater emphasis is also needed on the socioeconomic context of people to whom interventions are targeted. Efforts to change lifestyle will be far more effective if they are linked to steps that address the root causes of ill health (Scottish Office, UK Department of Health 1998).

### Summary

- Health sector interventions may reduce the impact of socioeconomic disadvantage but can have only a limited effect on socioeconomic inequalities in health.
- There is good evidence that some health sector interventions are effective at improving health.
- Isolated health education has limited potential to improve health, particularly among low socioeconomic groups.

### 5.3 *Macroeconomic and social policies*

As this report has outlined, social, cultural and economic factors are fundamental determinants of health. Intervention at this level (target area one in Figure 10, page 58) is outside the realms of health policy, resting instead with social and economic policies such as income distribution, housing policy, employment policy and urban planning. Reducing structural impediments to good health enlarges people's opportunities to make healthy lifestyle choices (target area two) and enhance their capacity for individual responsibility. However, intervening at this target area is also the most difficult as there is less consensus about ways to intervene and it is rarely possible to provide compelling evidence for effectiveness.

Although some social and economic policies have been evaluated within their respective disciplines, rarely have such evaluations taken into consideration the health impact of such policies. For example, there are more than 30 deaths from house fires in New Zealand each year, yet these and other health outcomes are rarely considered in reviews of policies such as the move to market rents for State housing, steep rises in power prices for smaller domestic users, and the cessation of national housing surveys to monitor the quantity and quality of housing stock.

In Sweden, a range of social and economic policies have been introduced in an effort to tackle large inequalities in infant mortality, first observed in the 1930s. These have included housing programmes, and high levels of income support and welfare provision for women and children. In recent decades, infant mortality has dropped markedly for the population as a whole **and** the gap between social groups has narrowed (Benzeval et al. 1995). However, it is difficult to disentangle the specific policy components which contributed to this decline. Sweden has also employed legislation and financial incentives to address inequalities in work-related problems by improving both psychosocial and physical conditions in workplaces.

While studies of the health impact of particular economic and social policies are rare, inter-country comparisons have shown that those countries which have made most progress in certain key aspects of health, such as life expectancy and infant mortality, are countries which implemented economic policies that have (by accident or design) reduced poverty and brought about a more equal distribution of resources (Benzeval et al. 1995; World Bank 1993).

Despite a lack of specific quantitative evidence on the health benefits of economic and social policies, there is a case for pursuing policy changes as a means of improving population health. Evidence demonstrates that the association between socioeconomic

factors and health is strong and consistent. Thus, at the very least, the potential impact of social and economic policies on the health of the population should be an integral part of the policy development process.

Spencer (1996: 216) has noted that “Tackling health inequalities at a national level requires a political commitment to change”. A number of countries have made such a commitment. For example:

- In Australia, a two-pronged approach is being taken in which specific targets are set for disadvantaged population groups, and intersectoral proposals are made to change key health determinants beyond the health sector. Proposals related to key determinants include improving overall adult literacy, employment, housing and providing a ‘healthy environment’ (Whitehead et al. 1993).
- In the Netherlands, a programme was launched in 1989 aimed at increasing knowledge of health inequalities and their causes and influencing health policy. Although the impact on policy is difficult to judge, national, regional and local initiatives have been developed under the programme, including an intersectoral working group at national level to stimulate inter-ministerial co-operation and initiatives to improve health-related living conditions in deprived areas (Mackenbach 1994). A further 5-year programme was commenced in 1995 to develop and evaluate ten community interventions to reduce health problems in lower socioeconomic groups (J Mackenbach, personal communication, May 1998).
- In the UK in 1997, the new Labour Government appointed a Minister of Public Health and signalled the government’s intention to address socioeconomic inequalities in health. All government policies will in future be evaluated for their potential impact on health, and the relationship between the broad determinants and health will be considered explicitly when developing policy in sectors other than health. The Green Paper *Our Healthier Nation: A contract for health*, released in February 1998, discusses strategies to reduce socioeconomic inequalities in health by addressing, among other things, the fundamental determinants of health.

Interventions to address the socioeconomic determinants of health and health inequalities may be directed towards a range of different targets. Because personal behaviours and the social, economic and cultural environment are inter-related, a strategic, inter-sectoral approach is likely to be most effective. This requires vision, leadership, collaboration and political commitment.

#### **Summary**

- Intervention at the level of macroeconomic and social policy can reduce socioeconomic inequalities in health significantly.
- Such interventions are outside the formal health sector and require intersectoral collaboration.
- The potential impact of social and economic policies on the health of the population should be an integral part of the policy development process.
- Several countries are taking measures to reduce socioeconomic inequalities in health by addressing underlying socioeconomic determinants.

## 5.4 Population-based services and environmental measures

Population-based and environmental measures address target areas one and two in Figure 10 (page 58). Interventions which have been effective historically in addressing some of the socioeconomic determinants of ill-health in industrialised countries over the last century include:

- improvements in water and air quality
- improvements in nutrition through food production, preservation and distribution
- improved working environments (Doll 1992; Benzeval et al. 1995).

Many of these measures, such as reticulated water and sewerage, are now an accepted part of the living environment. The issue for health is therefore the maintenance and improvement of existing services. Benzeval et al. (1995) note that, in spite of rapid and continuing improvements in living standards, problems remain of differential access to fairly basic population health measures. It is important to be continually vigilant in maintaining these measures, especially for lower socioeconomic groups.

The importance of transport to the health of communities was highlighted previously. Communities and local government in New Zealand increasingly recognise the importance of safety and access issues in transport planning. There is evidence that specific features of the transport environment are effective in reducing fatal and non-fatal injuries and these benefits can be quantified. Examples are motorway median barriers, separate cycle and pedestrian paths, and road engineering measures. Recreational facilities such as parks, community halls, and swimming pools also benefit community health and well-being, although it is more difficult to quantify the health benefits of these facilities or their impact on health inequalities.

### Summary

- Population-based and environmental measures, such as safe water supplies, have been important historically in reducing socioeconomic inequalities in health.
- Many of these measures are now an accepted part of the living environment and the issue for health is the maintenance and improvement of existing services.
- Transport and recreational facilities contribute to maintaining population health.

## 5.5 Community development projects

Urban and rural communities are often the most decentralised administrative level that has the political mandate and authority to develop and implement intersectoral initiatives to improve health and can organise resources to do so (PHC 1995b). Community development projects address local influences that are detrimental to the health of the community (possibly all target areas in Figure 10). A key feature is that they are owned and controlled by community members. Communities are able to mobilise a large resource in support of projects in which they have a sense of ownership. These projects usually comprise a range of different activities and strategies, and often focus on methods of empowering the local community by building skills and social networks (Raeburn and Rootman 1998). Some occur as part of *Healthy Cities/Communities* initiatives (described in the following section). Two examples of broad community initiatives are:

- In Liverpool, UK, residents set up a credit union and initiated development of a community centre, a drop-in centre and training in counselling and other skills. The group also lobbied

for environmental clean-up campaigns and land reclamation to provide play space for children.

- In New Zealand, the Birkdale-Beachhaven Community Project was first set up in 1975 with the overall aim of developing community well-being. Surveys have consistently shown a high level of awareness of and satisfaction with the project. By 1978, the local police had attributed a sharp decline of juvenile crime to the project. While no overall health statistics have been assessed to gauge the project's impact on health status, a number of informal indicators, such as teenage pregnancies at school, suggest a positive impact. More focused evaluations of specifically health-related programmes that have been organised through the project have shown marked improvements in the health of those groups participating. (Raeburn and Rootman 1998)

While some community development projects have floundered early, others have shown impressive achievements in terms of strengthening social networks, fostering the skills of residents in dealing with health issues, and opening up channels of communication between professionals and residents resulting in more responsive and accessible local services (Benzeval 1995: 34). Some of the strongest payoffs seem to be in the area of mental health and the best and most enduring results arise from programmes that concentrate on skill building rather than "problems", and on building community networks and social support (Raeburn and Rootman 1998).

There are a number of initiatives, which have arisen from within different communities in New Zealand, that have led to improvements in health. Not all of these have been health focused initially, yet the benefits to health have become obvious. Māori have taken a leading role in this respect:

- in addition to helping revive and sustain Māori cultural identity, Kohanga Reo early childhood centres often form the focus for community health activities with parents bringing their other children to Kohanga for health programmes and services.
- Te Whanau O Waipareira Trust in West Auckland provides a wide range of health and other services to the local community.

#### **Summary**

- Community development projects are owned and controlled by community members and address local influences that are, among other things, detrimental to the health of the community.
- These projects usually comprise a range of different activities and strategies, and often focus on methods of empowering the local community by building skills and social networks.
- Improvements in health often accompany community development initiatives that may not specifically set out to improve health.

### **5.6 Intersectoral initiatives**

Population health programmes today tend to have a broader agenda and often involve a multifaceted, intersectoral approach to problems such as: improving working, living and traffic environments; changing dietary and exercise habits; and preventing cardiovascular disease, injuries, cancer and mental illness (target areas one and two in Figure 10). For example:

- Interventions to reduce smoking in New Zealand have included increasing tobacco taxes, restrictions on advertising, the prohibition of sales to young people and policing of this, mass media campaigns and restrictions on smoking in offices and public places.
- *Healthy Cities/Communities* (HCC), a WHO initiative, is a population-based, intersectoral intervention. The basic aim of HCC is to build a strong lobby for health at the local level and provide a framework for broad city-wide health promotion. HCC have since been introduced in a number of different countries, including nine cities throughout New Zealand. Local implementation can take many different forms and usually includes a number of separate, but related programmes or projects. Although there have been evaluations of *Healthy Cities* programmes both in New Zealand and internationally, these have primarily assessed process rather than outcomes (Randle and Hutt 1997; Jaffey 1991; Davies and Kelly 1993). The potential effectiveness of *Healthy Cities* to reduce health inequalities appears to depend crucially on the willingness of the organisations involved to go beyond the initiation of health education programmes and community development projects to measures which influence working, living and social conditions in their regions (Benzeval et al., 1995).
- Other local government bodies in New Zealand are active outside of a HCC model. For example, Christchurch City Council has adopted a 'Community development and social well-being policy' which actively promotes a healthy social, cultural and economic community. The highest priority objectives of this policy are meeting basic needs, ensuring equitable access to opportunities, community resources and clean living environments, and improving the position of the least advantaged.
- The recent UK Green Paper *Our Healthier Nation: A contract for health* (Department of Health 1998) includes *Health Actions Zones*, a comprehensive intersectoral initiative in deprived areas to reduce health inequalities. The first zones have received funding to implement wide-ranging initiatives and there is a broad support from private and public organisations within the identified zones.

Another common approach to addressing the socioeconomic determinants of health is via intersectoral programmes that target disadvantaged children. A number of early-childhood programmes have proven effective in improving health and other outcomes for socioeconomically disadvantaged children. For example:

- In the USA, the *Head Start*, which was set up in 1965, provides a comprehensive package of services to children in the poorest counties. Services include early education at a day centre, immunisations, medical check-ups, hot meals during the day, and social and parental education/support for the families of the children (Benzeval et al., 1995).
- The *Early Start* Project, a pilot project based both on *Head Start* and the *Healthy Start* programme set up in Hawaii 20 years ago aims to provide intensive family support for high risk families in Christchurch (Fergusson et al. 1997). When fully operational, the programme aims to provide regular home visits, together with advice and co-ordination of community-based services such as Plunket, general practitioners, the Children and Young Person's Service, and other agencies. In May 1998 the government announced that this programme is to be extended into other centres, including West Auckland, Whangarei and Rotorua as the *Family Start* programme.
- In NZ, the *Strengthening Families* project is a national, intersectoral initiative involving health, education and welfare agencies. It aims to improve the well-being of children in difficult circumstances by improving the co-ordination and effectiveness of a range of different services. The programme, which is being implemented at the local authority level, will involve a case management approach together with the co-ordination of service management and a comprehensive review of funding arrangements.

**Summary**

- By including a number of collaborating agencies, intersectoral health programmes are able to improve health where single agencies might have limited effect.
- “Healthy Cities and Communities” provides a framework for broad community health promotion.
- New Zealand programmes such as “Family Start” and “Strengthening Families” are existing intersectoral initiatives to improve health and other outcomes for disadvantaged children.

## 6. Discussion and recommendations for action

The purpose of this chapter is to discuss what initial action should be taken to reduce ill health due to social, cultural and economic factors in New Zealand. While there are still significant gaps in the data available in New Zealand, recommendations are made for specific evidence-based interventions that have been shown to be effective in improving population health and reducing health inequalities. As discussed in the previous chapter, some policies or initiatives, which the National Health Committee can be confident will improve health and reduce socioeconomic inequalities in health, are difficult to support with strong evidence for effectiveness or a quantifiable health gain. This is particularly the case where the action relates to macroeconomic and social policies. In these cases, the National Health Committee and the Health Determinants Advisory Group reason that:

even if there is no specific evidence on the health outcomes of interventions, if there is:

- evidence for a strong and consistent association between a particular socioeconomic factor and health **and**
- there is good evidence that the association is causal, **then** specific initiatives, including policies, that show a positive effect on that factor are highly likely to lead to improved health.

European experience with intervening to reduce socioeconomic inequalities in health shows that:

- successful action has tended to start with small, manageable problems rather than attempting to tackle the whole subject in a comprehensive manner
- initiatives have been undertaken at different levels, from national governments to small community groups or individual health professionals (Whitehead and Dahlgren 1991)
- while potential gains may be largest by acting on the fundamental socioeconomic determinants, the evidence is best at the level of health sector interventions and intermediary factors (Figure 10) and there is greater consensus for action at these levels (J Mackenbach, personal communication, May 1998).

The recommendations in this report are made to the Minister of Health. They are also intended for a wider audience. In particular, they are designed to inform people in the wider health sector, in other government departments that influence population health and in local government. The recommendations do not cover all possible strategies for reducing socioeconomic inequalities in health. Rather, they address areas that are currently of concern and where the National Health Committee and the Health Determinants Advisory Group believe that action will lead to improved health. All interventions should incorporate adequate evaluation so that the effectiveness and cost-effectiveness can be assessed and progress towards reducing socioeconomic inequalities in health monitored.

This chapter makes recommendations under the following headings.

- Leadership
- Health sector interventions
- Macroeconomic and social policies
- Population-based programmes and environmental measures
- Community development.

## 6.1 Leadership

Strong and positive leadership is a central requirement to addressing socioeconomic inequalities in health. The health sector must be prepared to take a lead. The ability of non-health sectors to identify and tackle health-related issues cannot be taken for granted. Lack of action may be due to a lack of awareness of the effect of certain actions on health, lack of motivation or unwillingness to become involved, or lack of an appropriate mechanism to initiate and encourage intersectoral co-operation (PHC 1995b). Good leadership is required to overcome such barriers. A number of bodies or agencies can play a significant role.

There is a need to strengthen support for a broad view of health that goes beyond the health sector and a focus on personal health services. The **National Health Committee** is attempting to promote this broad view of health with its programme on social, cultural and economic determinants and other work.

While people working in the health sector provide leadership for health, **strong political leadership** is necessary also at the highest levels of government, including the Prime Minister, the Minister of Health and Cabinet. Good leadership will help ensure that health considerations are a focus for all relevant government policy. Stronger institutional support for population health within central government would help to integrate planning between all departments whose policies influence health. One possibility for strengthening leadership at central government level is to have a separate Minister for Public Health. Such an appointment was made in the UK in 1997 and *the National Health Committee intends to monitor the effectiveness of this appointment in influencing intersectoral initiatives and policies that affect health.*

Alternative strategies for leadership for health that would complement the Director of Public Health might be:

- the establishment of a task-force on health within the Department of the Prime Minister's and Cabinet or a Special Health Committee within Cabinet whose role is to review current government social and economic policies, assess their effect on health and co-ordinate intersectoral initiatives at this level
- a Parliamentary Commissioner for Public Health to mirror the Parliamentary Commissioner for the Environment.

The health sector can also provide leadership at various levels and health sector agencies already work with other agencies in many ways to protect and improve population health. The principal role of the **Ministry of Health** is to provide policy advice to the Minister of Health, but the Ministry also has opportunities to influence other sectors' policies that have health implications. There are a number of ways in which this role can be strengthened, for example by having a consistent framework for prioritising work, collecting evidence and producing high quality policy advice on other sectors' proposed policies. The Ministry of Health also co-operates with other ministries and departments to implement programmes with a common desired outcome, for example with the *Strengthening Families* initiative.

The working conference “Action for Health and Independence” scheduled for October 1998 will provide an opportunity to widen support for a broad view of health. By focusing on health goals and outcomes rather than the health care system, this conference will help stimulate debate about the ways in which specific goals for health improvement might be achieved through action both within the health sector and intersectorally. For example, to achieve certain health goals, it may be better to invest additional resources in education and housing rather than in the health sector. While there are differing views on how effective goals and targets are at improving health, explicit health goals and targets provide the signposts for assessing the impact of specific policies and programmes on health (Ratner et al. 1997). Specific goals, targets and actions can be set for reducing health inequalities, such as reductions in social class differentials in heart disease mortality, to help measure progress towards reducing inequalities and to improve accountability in the use of resources.

Leadership by the Health Funding Authority and health care providers is also important. The **Health Funding Authority** exercises leadership by identifying the health and independence needs of communities and groups of people and funding the services that best meet those needs within the available resources. It is important that the Health Funding Authority maintains a broad view of health and identifies ways that it can work with other sectors and organisations to improve population health. The Health Funding Authority should strengthen its health leadership role by:

- identifying socioeconomic determinants, such as poverty, unemployment, and poor housing conditions, as central components of health needs assessment
- monitoring determinants of health such as unemployment, poverty and poor housing and related ill health
- working with local authorities and voluntary agencies to assess the impact of local and national policies on the health of the most vulnerable sections of the population
- playing an advocacy role to national agencies to raise the awareness of socioeconomic health determinants among local agencies and communities
- aligning its purchasing strategy towards identified New Zealand health outcome targets.

**Health and disability support service providers** demonstrate leadership by providing high quality, safe, efficient and acceptable services to consumers. Primary and secondary health care providers can provide strong leadership for health by recognising the importance of factors outside the health system in determining health. Providers can help reduce health inequalities by:

- ensuring that any barriers to the uptake of services that might exist for those on low incomes, such as the timing and location of clinics, are identified and eliminated
- ensuring that all new service development proposals include an assessment of their effect on local health inequality (French and Tiplady 1998).

Providers can also work with local government, community groups and voluntary agencies in order to identify policies and activities that affect health and where collaborative action can improve population health. Providers, individual health care professionals and groups representing them are potentially strong advocates for improving the socioeconomic factors that influence the health of individuals and the community. This is an important leadership role which should be developed in New Zealand. **Voluntary organisations and special interest groups** play a leadership role

by providing care and support for individuals and families and advocating on behalf of these people.

As **local government** provides certain essential health protection activities, such as the provision of water and sewerage services, local authorities have an important leadership role. In addition, local government should take a leading role in creating a social and physical environment that enhances health. Many have done so. To varying degrees, local authorities exercise leadership to improve and protect the health of local communities by facilitation, advocacy and enforcement. Local authorities should consider the effects that changes in the provision and funding of essential utilities and other services have on health and particularly the health of vulnerable groups. Specific recommendations for local authorities are addressed in Section 6.4.

### **The National Health Committee recommends:**

- The Minister of Health seek a report from the Ministry of Health on the current mechanisms for co-operation between health policy agencies, such as the Ministry of Health, Te Puni Kokiri, the Ministry of Pacific Island Affairs, the National Health Committee and the Health Funding Authority, and other government agencies such as housing, education, social welfare, employment and transport to examine:
  - the effectiveness of the current processes
  - how the current processes could be improved
  - how the agencies can co-operate to improve population health and reduce health inequalities
  - what steps should be taken over the next three to five years to achieve this.
- The Minister of Health require the Ministry of Health and Health Funding Authority to work with other social policy agencies and departments to develop and implement further intersectoral programmes with outcomes that will improve health, particularly the health of disadvantaged groups; high priority areas include housing, early childhood services and promoting physical activity.
- The Minister of Health require the Ministry of Health to review its current opportunities for input into the policies of other sectors and obtain Ministerial approval for prioritising this work, collecting evidence and producing high quality advice from a health perspective.

## **6.2 Health sector interventions**

Health sector interventions include population-based (public health), personal health and disability support services. Health sector interventions are not the major focus of this report although there are significant advantages in intervening within the health sector.

The publicly-funded health sector alone is unable to achieve equity of health outcomes. However, it can and should:

- strive for equity of access to both treatment and preventive services
- use those resources devoted to health care to achieve the greatest possible benefit to overall population health
- give high priority to improving the health of groups with the worst health status

- be able to respond to the health care needs of different social groups
- take the lead in encouraging a wider and more strategic approach to developing policies which benefit population health.

The Committee's major areas of concern are:

- continuing financial barriers for low income groups in accessing services
- the inappropriateness of some services for disadvantaged population groups, for example services that do not consider cultural acceptability, transport issues and the timing and location of provision
- confusion about the cost of services and entitlements, including the Community Services Card and free GP visits for children aged under six
- the relatively poor immunisation and screening rates in low socioeconomic groups
- the continuation of funding for some current health services which are not supported by evidence for effectiveness (for example routine ultrasound in normal pregnancy and screening for glue ear in pre-schoolers) while other services with good evidence for effectiveness and cost-effectiveness are excluded currently from public funding (for example, nicotine replacement therapy).

Health promotion programmes can play a role in improving population health and reducing health inequalities. Such programmes have tended to focus in the past on isolated health education and information provision e.g. via mass media campaigns. These strategies are not very effective at changing behaviour in low socioeconomic groups or young people. More effective programmes combine health education with personal support or initiatives to address underlying 'structural' factors. Some health promotion programmes that are likely to lead to an improvement in population health and reduction in health inequalities in the New Zealand setting have been identified by the National Health Committee.

Smoking remains a major preventable cause of premature morbidity and mortality throughout life in New Zealand. Recent data indicate an increase in smoking among teenagers over the past two years (Bandaranayake and McCool 1997). The data illustrate that there is little room for complacency over impressive reductions in smoking rates since the early 1980s. Increased efforts are required to meet the Ministry of Health's outcome targets for smoking rates including smoking in pregnancy.

The National Health Committee believes the highest priorities are strategies to prevent smoking uptake in children and teenagers, and smoking cessation programmes for pregnant women and Māori. The majority of smokers wish to give up smoking (Mullins and Borland 1996). Research evidence shows that there are highly effective strategies to reduce smoking rates and smoking-related illness, including:

- increases in tax on tobacco (particularly important to reduce consumption among Māori and youth in New Zealand)
- smoking cessation programmes including nicotine replacement therapy with advice, skills training and social support
- counselling about quitting smoking as part of home-visiting for pregnant women
- sustained media quit campaigns combined with community-based support services
- primary care practitioners systematically identifying patients who smoke and encouraging and supporting them to quit smoking (highly cost-effective)

- reducing exposure to environmental tobacco smoke through legislation.

The increase in tax on tobacco announced in the 1998 Budget is an important step. Currently, the main service gap is in publicly-funded smoking cessation programmes. Analyses have shown consistently that smoking cessation interventions are a relatively cheap way of reducing premature morbidity and mortality (NHSCRD 1998) and are therefore a good use of publicly-funded healthcare resources. The National Health Committee welcomes the announcement in May 1998 that PHARMAC proposes to use savings from other drug purchases to subsidise nicotine replacement therapy for some groups. The Committee notes that the current Smoke-free Environments Act 1990 does not cover all workplaces but is confined to offices. This discriminates strongly against people in low socioeconomic groups who are less likely to be working in offices and so are more likely to be exposed to environmental tobacco smoke at work.

### **The National Health Committee recommends:**

- The Minister of Health require the Health Funding Authority to reduce inequities in access to health services as a high priority and to monitor equity of access to health care according to need in different localities and populations and report on progress towards improved equity of access.
- The Minister of Health require the Health Funding Authority to target the dissemination of clear information about access to publicly-funded primary and preventive care services so that low socioeconomic groups are better informed about their entitlements.
- The Minister of Health seek an amendment to the Smoke-free Environments Act to make **all** workplaces smoke free.

The remainder of this section discusses interventions to reduce socioeconomic inequalities in health based on a life-course approach: pregnancy, childhood, youth, young adulthood, middle adulthood, and older adulthood.

#### **6.2.1 Pregnancy**

New Zealand has a very high rate of teenage pregnancy compared to other developed countries: appropriate interventions are discussed in the section on 'youth' (page 77).

There is substantial evidence that good antenatal care is an effective way to improve the health of both mother and child (NHSCRD 1997). Access to such care is generally poorer in low socioeconomic groups. To maximise its effectiveness, antenatal care also needs to consider cultural factors.

There is strong evidence that maternal smoking reduces average birthweight and is a strong risk factor for neonatal and late foetal death (Doll et al 1994). Programmes providing sensitive support and advice on quitting smoking to pregnant women reduce smoking in pregnancy (NHSCRD 1998). Specific programmes are needed for Māori women who have the highest rates of smoking in pregnancy. Such programmes would help reduce socioeconomic inequalities in health.

### The National Health Committee recommends:

- The Minister of Health require the Health Funding Authority to fund the development and implementation of culturally-appropriate smoking cessation programmes for all pregnant women who smoke.

#### 6.2.2 Childhood

The National Health Committee is concerned about the worsening health of children in some population groups. The health sector on its own can do only so much to improve the health of disadvantaged children. Real improvements in child health require a commitment to improving underlying socioeconomic conditions.

The Ministry of Health has completed a review of child health programmes recently which identifies the interventions that are most likely to improve and protect the health of children in New Zealand (MoH 1998b). However, health sector initiatives to improve child health must also be supported by efforts to improve underlying socioeconomic factors. The National Health Committee supports the findings of the Ministry's review, in particular that there is good evidence that home visitation throughout the perinatal period, infancy and early childhood for low income families, single or teenage parents is effective in improving a number of health and developmental outcomes in these groups. Programmes which capitalise on the skills of experienced mothers living in communities may be less expensive and more culturally sensitive than purely hospital-based programmes led by teams of health professionals (Hodnett and Roberts 1997). The provision of education alone during home visits is not very effective in improving health outcomes.

The common desired outcomes of the health, education and social welfare sectors are reflected in initiatives such as *Strengthening Families*, indicating that collaboration between these sectors is possible and worthwhile. The Christchurch *Early Start* pilot project, which included intensive home visiting, achieved an 80% rate of hazard-free homes for children. Such programmes are an effective way to improve child health status in other ways, and may include components such as service delivery, e.g. immunisation and the provision of personalised health information, as well as personal support and practical assistance. The National Health Committee welcomes the announcement in April 1998 to extend *Early Start* into three other areas of New Zealand as *Family Start*. This programme aims to screen all babies at birth to identify those at risk of poor health and other outcomes, and provide direct support to the families of high risk babies. Opportunities to co-operate on further initiatives should be explored.

Improving immunisation rates in disadvantaged groups in New Zealand may require that services are delivered by different people and at different times and locations, and this is certain to require the allocation of additional resources or the redirection of some resource from existing but not very effective services. Vaccine administration as part of home visits is one effective strategy (Johnson et al 1993).

### **The National Health Committee recommends:**

- The Minister of Health require the Health Funding Authority to fund a national programme to increase the uptake of childhood immunisation, particularly among Māori, Pacific children, and children from low socioeconomic groups.
- The Minister of Health seek further advice on the effectiveness of existing home visiting programmes in New Zealand to ensure that they are reaching groups who would benefit most.
- The Minister of Health work with the Ministers of Māori Development, Education, and Social Welfare to identify further interagency initiatives to improve health and developmental outcomes in children in disadvantaged circumstances.

### **6.2.3 Youth**

Despite declining rates of teenage pregnancy over the past ten years, New Zealand has one of the highest rates of teenage pregnancy in the developed world and there is a strong socioeconomic gradient. Teenage pregnancy is associated with an increased risk of poor social, economic and health outcomes for both mother and child and leads frequently to intergenerational poverty. A good general education is strongly associated with deferring pregnancy. There is good evidence that high quality sex education is an essential part of an effective strategy to reduce unintended teenage pregnancy and that it does not lead to increased promiscuity, sexually transmitted diseases or pregnancy rates (Kirby 1997; NHSCRD 1997). Current evidence indicates that programmes emphasising solely an abstinence message do not delay the onset of sexual intercourse (Kirby 1997). Increasing the availability of contraceptive clinic services for young people is associated with reduced pregnancy rates (NHSCRD 1997). Such services should be based on an assessment of local needs and ensure accessibility and confidentiality. General anti-poverty strategies, such as improving the employment prospects of school leavers and income maintenance for pregnant teenagers, are also likely to influence rates of unintentional teenage pregnancies and help reduce adverse outcomes (NHSCRD 1997).

Given that a large number of teenagers continue with their pregnancies, it is important to examine ways in which health, educational and social services can intervene effectively to promote the health and well-being of teenage parents and their children.

There is evidence that the following are effective interventions (NHSCRD 1997) and all would reduce socioeconomic inequalities in health:

- Specialised antenatal care programmes for pregnant teenagers involving, for example, GPs, district nurses, health visitors and social workers.
- Home-visiting programmes, which improve a range of health outcomes for mothers and children.
- Home-based parenting schemes for teenagers who may be reluctant to attend clinics improve parenting skills.

There are a number of existing youth sexual health initiatives in New Zealand, mostly as a result of funding made available in June 1996. Two initiatives in the northern region are 'One Stop Shops' in South Auckland and West Auckland, and 'First Point of Contact'

services in some secondary schools. Both initiatives employ a youth worker to co-ordinate a range of services for youth, including contraception and sexual health advice. An evaluation of the 'First Point of Contact' services demonstrated reduced rates of pregnancy in some schools, while all schools reported that they had no unsupported pregnancies. Other benefits were reduced truancy rates and reduced levels of violence in schools (M Christiansen, Health Funding Authority, personal communication, June 1998).

Young women, particularly Māori, are also more likely to smoke during pregnancy, so smoking cessation advice is especially relevant. There is a need to research and fund effective interventions to reduce smoking among pregnant Māori teenagers.

#### **The National Health Committee recommends:**

- The Minister of Health require the Health Funding Authority to fund further services providing specialised contraception and advice for teenagers, in particular additional school-based services and 'one stop shop' initiatives.
- The Minister of Health require the Health Funding Authority to fund specialised antenatal services for pregnant teenagers which include advice and support for smoking cessation, including appropriate programmes for Māori and Pacific youth.
- The Minister of Health require the Health Funding Authority to pilot and evaluate programmes to reduce smoking rates in teenagers, both by preventing smoking in the first place and by helping teenagers who do smoke to quit.

#### **6.2.4 Young adulthood**

Socioeconomic differences in health status are probably the least marked in young adulthood. The biggest single cause of premature death in young adults is injury, particularly road traffic injury. Some progress has been made in reducing deaths and injuries from road traffic crashes over the past few years in New Zealand. *The National Health Committee supports continued efforts to reduce road traffic injuries, a very important area for intersectoral collaboration.* Interventions to reduce alcohol consumption in young adults will reduce injury rates, including road traffic injury.

Young adults also have high rates of smoking, with a socioeconomic gradient (low socioeconomic groups have the highest rates). *Interventions to assist with smoking cessation are therefore pertinent (see smoking recommendations above).*

#### **6.2.5 Middle and older adulthood**

There is considerable potential to reduce the high rates of coronary disease in New Zealand and strategies to reduce smoking are central to achieving this reduction. Māori have twice the rates of smoking-related death in this age group as non-Māori (Laugeson and Clements 1998). Reducing smoking rates in Māori would significantly reduce Māori/non-Māori mortality differences.

In addition, increasing levels of physical activity in the population has been described as “today’s best buy” in public health because of the significant benefits and opportunities for increasing participation rates (Morris 1994). While the cardiovascular benefits of physical activity are large, there are also numerous other health benefits. Disadvantaged social and economic circumstances can present barriers to participation in physical activity. The National Health Committee has recently published advice on the health aspects of physical activity, including a review of effective interventions to increase physical activity in adults (NHC 1998), copies of which are available from the Committee. There is good evidence that certain interventions improve rates of physical activity in this age group and the Committee wishes to draw attention to the strategies it has identified, particularly those for increasing physical activity among Māori. These include:

- educational and behavioural programmes to promote physical activity, including ‘Green Prescriptions’ from general practitioners which consist of written advice on physical activity
- providing social and physical support for physical activity, for example marae-based fitness centres
- workplace interventions, particularly one-to-one counselling.

Improving screening rates for cervical cancer and ensuring that breast cancer screening rates are high in low socioeconomic groups may require that services are delivered in different ways. Specific resources should be allocated for this. Decisions to implement screening programmes must be aware of the need to fund the full range of follow-up services that are a necessary part of the programme, including services that are culturally-appropriate for different ethnic groups.

The National Health Committee has published five consultation documents over the past year detailing strategies for disease and injury prevention in older adults (Norton and Butler 1997; Robertson and Gardner 1997; Sainsbury and Richards 1997; Thomson 1997; Beaglehole and Bonita 1998). Prevention of cardiovascular disease is especially relevant to this report. The relationship between socioeconomic status and cardiovascular disease persists in old age and risk factors cluster around the less well educated and less affluent for whom the need to prevent cardiovascular disease is greatest.

There is good evidence that stopping smoking is beneficial, even in old age (Beaglehole and Bonita 1998). Subsidised smoking cessation programmes should be available to older people.

Many older people are sedentary. Increasing physical activity in this group has cardiovascular and other health benefits including reduced hip fractures from falls. Specific initiatives are needed to increase physical activity in older people. There is good evidence that effective programmes are those which:

- provide information about safe and appropriate forms of physical activity
- favour walking, water-based, gentle exercise in groups and home-based activities
- provide a secure and comfortable environment
- have special classes with older instructors
- include advice from general practitioners.

Local government also has a role in, for example, creating a safe environment for pedestrians and providing appropriate recreational facilities.

### **The National Health Committee recommends:**

- The Minister of Health require the Ministry of Health to develop specific policy advice on the implementation of those interventions identified in the Committee's advice on physical activity which are particularly effective in low socioeconomic groups and Māori.
- The Minister of Health require the Health Funding Authority to fund smoking cessation programmes for middle-aged adults and older adults, especially Māori.
- The Minister of Health require the Ministry of Health to develop specific policy advice on those interventions identified in the Committee's advice on physical activity which are effective in older adults.

### **6.3 Macroeconomic and social policies**

There is a need for better recognition of the relationship between the determinants of health, human development and economic growth when considering public policy. The outcomes of macroeconomic and social policies affect health outcomes, and have 'downstream' implications for priorities and expenditure in the health sector. Current trends in socioeconomic factors, which are beyond the control of the health sector, are placing increased pressure on health services at a time when the health sector is attempting to prioritise and carefully manage its limited resources. The health of Māori and Pacific people is a priority for the health sector in New Zealand. Real gains in health for these groups also require concerted action on the socioeconomic determinants of health.

Economic and social policies create the conditions for economic growth and prosperity. They also need to consider health and well-being, particularly of children (Mustard 1996). The National Health Committee acknowledges that desired health outcomes of macroeconomic and social policies must be balanced against other considerations, in particular an efficient and well-functioning economy, but it is important that such policies are formulated to:

- improve the health of the population
- reduce, or at least not exacerbate, health inequalities
- maximise the opportunity for all children to get a healthy start to life.

While it is beyond the scope of this report to provide detailed recommendations on macroeconomic policy, these three outcomes should be considered explicitly and transparently during the formulation of economic and social policies.

The mechanisms by which health can influence the policies of other sectors could be strengthened. One technique that has been used internationally to assess the effects of non-health sector policies on health is health impact assessment (HIA). HIA has been defined as "any combination of procedures or methods by which a proposed policy or programme may be judged as to the effects it may have on the health of a population" (Ratner et al. 1997). Such methods are used currently in Sweden and Canada and the use of HIA has been advocated in the recent British Green Paper (Department of Health 1998).

In practice, a number of difficulties have been identified in the use of health impact assessment at the level of policy formulation and the methods. However, HIA may have a useful role in ‘vetting’ proposed legislation and policy for health consequences and helping to orientate public policy towards health. The related processes of environmental and social impact assessment emphasise the importance of focusing on equitable outcomes and explicitly targeting disadvantaged groups (Scott-Samuel 1996) which is similar to the approach that this report proposes. *The National Health Committee intends to commission a project to investigate and report on the evidence for the usefulness of HIA in achieving these outcomes in the New Zealand context.*

In this section, the Committee focuses on:

- the specific desired health outcome of each major socioeconomic determinant
- recent trends that are of special concern
- possible interventions and recommendations.

### 6.3.1 Adequate income

**The desired health outcome of macroeconomic and social policy is universal access to adequate income and the lowest possible level of both absolute and relative poverty.**

The National Health Committee acknowledges that macroeconomic policy must consider a large number of factors and desired outcomes in its formulation and implementation. Yet income is a major determinant of health. The effect of macroeconomic policy on health should be considered explicitly and transparently. From a health perspective, the Committee is concerned about the following trends:

- evidence of widening income inequalities, declining income for people in the lowest income groups and an increase in absolute poverty, in particular among beneficiaries and families with children over the past 14 years in New Zealand
- this increase in poverty is leading to worsening health among people on the lowest incomes.

Poverty – in particular the impact of poverty on children – is currently a major health issue in New Zealand and one that warrants close scrutiny. Poverty is an obstacle to improving the health and education of children in both developed and developing countries (United Nations Development Project 1997). Action is required to lessen the adverse effects of poverty on the health of children and families with low incomes. Given the connection between poverty and health, further reductions in income levels are likely to have health consequences, particularly for children. A health perspective needs to be an explicit part of policy decisions that affect income levels, especially social welfare benefit levels.

Action to address the problem of low incomes must entail, when national income is fixed, income redistribution from the better off to people on low incomes. As well as improving directly the health of people on low incomes and reducing health inequalities, it is possible that such a redistribution will have other consequences such as reducing alienation and increasing social cohesion, which themselves will benefit health for everyone.

There is good evidence that income maintenance for low-income pregnant women is an effective way to increase birthweight even without specific health programmes, particularly in populations at highest risk (Kehrer and Wolin 1979). Income maintenance during pregnancy is an important adjunct to specific antenatal health programmes to improve birth outcomes.

#### **The National Health Committee recommends:**

- The Minister of Health require the Ministry of Health to collect data to monitor systematically the health effects of current macroeconomic and social policies, particularly the effects on vulnerable population groups and groups with the worst health: children, people with disabilities, older people, Māori and Pacific people.
- The Minister of Health set up an interagency group, led by the health sector, to formally assess the effects of poverty on health in New Zealand with a view to guiding policy and subsequent action both to alleviate poverty and to mitigate the adverse effects of poverty on health, the priority being child poverty.
- The Minister of Health require the Ministry of Health, in conjunction with other health and social policy agencies, to develop an explicit process for assessing the likely health impact of proposed changes to macroeconomic and social policy affecting income.
- The Minister of Health work with the Minister of Social Welfare to establish whether current levels of income maintenance for low-income pregnant women are adequate for women at high risk of an adverse birth outcome.

### **6.3.2 Employment and Occupation**

**The desired health outcome of employment policy is that people who are able to work have access to safe, well paid work.**

Aside from the direct effects of unemployment on health, paid employment is the best way to ensure access to adequate income and thereby improvements in health. This is facilitated by ensuring that macroeconomic and other policies place a high priority on high levels of full-time employment.

The National Health Committee is concerned about the detrimental health effects of the following:

- the high rates of unemployment among Māori, Pacific people and people aged 15 to 24 years
- a high rate of work-related deaths in New Zealand
- declining rates of full-time employment over the past 10 years.

The Committee is mindful that unemployment is affected by a number of factors. New Zealand research has shown that the principal barriers to employment are structural or institutional factors rather than the characteristics or motivation of individual job seekers - 96% of people surveyed wanted to work (Richards and Richards 1998). Strategies to

improve employment rates must consider employability, in particular training and increasing skills, better co-ordination of government agencies, as well as initiatives to create jobs.

Accessible and affordable childcare is a prerequisite for the participation of many people in the paid workforce, especially women. This is a focus of current British initiatives to assist people on social welfare benefits to return to paid work. Two studies in the UK concluded that comprehensive childcare would boost the economy as well as strengthen the financial and educational circumstances of children (Cohen and Fraser 1991; Holtermann 1992). The 1998 Budget in New Zealand announced additional government financial assistance with the costs of childcare for domestic purposes beneficiaries who find full-time work.

### **The National Health Committee recommends:**

- The Minister of Health urge the Minister of Employment to implement initiatives that improve the employment prospects of Māori, Pacific people and young people.
- The Minister of Health recommend to the Minister of Employment that initiatives to increase employment among these groups should be piloted and evaluated appropriately in the first instance.

### **6.3.3 Adequate housing**

**The desired health outcome of housing policy is an adequate supply of affordable, safe and well-maintained housing to accommodate the population, especially people on low incomes and people with special needs.**

During the preparation of this report, housing was unanimously identified as a major health issue by a broad range of individuals and organisations: public health and other healthcare professionals, community groups, voluntary groups and charities, and Māori community health workers. The National Health Committee considers action in this area to be a high priority and five issues need to be addressed as a matter of urgency:

- the high cost of housing
- the increasing use of temporary accommodation on a permanent basis
- overcrowding
- a shortage of accommodation for low income families in rural areas
- the poor physical condition of some accommodation.

There is a need for greater recognition of the relationship between housing and health. This requires greater collaboration between the housing and health and other social service sectors at both a national level, between Ministries, and locally between health service providers, community groups and local authorities. One immediate step that can be taken to assist greater collaboration is the inclusion of the Ministry of Housing with the *Strengthening Families* initiative. A commitment to epidemiological research on health problems related to housing is also important. This requires co-operation between the health and housing sectors, local authorities and voluntary agencies.

The high cost of housing for people on low incomes underlies much of the increased prevalence of housing conditions that are detrimental to health (see section 2.1.4).

Internationally, expert opinion strongly supports housing policies that ensure affordable accommodation for low income families. The issue of high cost needs to be addressed through housing policy. Overcrowding is related closely to the cost of housing, so improving affordability is likely to reduce overcrowding.

New strategies are needed also to address the shortage of housing for low income families in rural areas. Given that this is almost exclusively a Māori problem, partnerships between health agencies, Housing New Zealand, iwi, hapu, runanga and other community organisations are essential. The possibility of linking with Māori health providers should be explored, as these organisations may also be able to deal holistically with health, housing and other problems. Possible solutions include rental housing on Māori land, rent-to-own and group self-build housing (Robert MacBeth, Te Puni Kokiri, personal communication, April 1998). Specific strategies to bring health, housing and community agencies together could be piloted in several locations as a first step.

The Committee has reviewed the evidence for effective interventions to improve health through action on housing (Bowers 1998). There is good evidence for the effectiveness of the following interventions relating to housing.

- Home visiting programmes in high risk groups with assessment of domestic hazards and advice on hazard reduction, supported by media campaigns, legislation and enforcement, are effective in child injury prevention.
- Reducing damp and cold in houses, e.g. by adequate heating, improves the health of the occupants.
- Rehousing on grounds of ill health improves health.
- Installation of heaters combined with fixed sum grants for heating costs improves child health.

In addition, there is some evidence that installing domestic smoke alarms and sprinkler systems is likely to reduce deaths and injuries from house fires.

Housing New Zealand is installing smoke alarms in all its properties and the Ministry of Housing is assessing currently the feasibility of making smoke alarms compulsory in all rental properties. This work is also considering other cost-effective strategies that reduce deaths and injuries in house fires and which may be more cost-effective, including building code regulations, media campaigns to raise public awareness, and childproof cigarette lighters.

### **The National Health Committee recommends:**

- The Minister of Health urge the Minister of Housing to include health considerations explicitly in government housing policy.
- The Ministers of Health and Housing commission a thorough assessment of serious housing need, given the implications for health. This assessment should incorporate issues of affordability, overcrowding and the physical condition of housing. The first priority is to identify households with serious overcrowding where children are at increased risk of poor health.

- The Minister of Health make representations to the Ministers of Housing, Education and Social Welfare on the desirability of including the Ministry of Housing within the *Strengthening Families* initiative.
- The Minister of Health make representations to the Minister of Housing on the need for developing and evaluating strategies to remedy the rural housing shortage.
- The Minister of Health work with the Ministers of Housing and Social Welfare to pilot and evaluate local initiatives that bring together health, housing and community agencies to improve accessibility and quality of housing for low income families.
- The Minister of Health urge the Minister of Social Welfare to examine strategies to assist low income families with purchasing heaters and with payment for the running costs.

#### 6.3.4 Education and health

**The desired health outcome of education policy is that people have the skills and qualifications to read and comprehend information about their own and their children's health, participate in paid employment, contribute to the wider community and participate actively in the education of their children.**

Recent data show that:

- a sizeable number of students, particularly Māori and Pacific students, are still leaving school with no qualification.
- over 60% of Māori, Pacific people and members of other minority ethnic groups are functioning below the level of literacy required to effectively meet the demands of everyday life.

It is important that the implication of low educational achievement on the health of these groups is recognised. Generally, people with poor levels of education have poorer employment opportunities and lower paid jobs. Education is also a key area for action particularly to ensure that children are afforded the best opportunities for good health in the future. The common desired outcomes of the health and education sectors is already recognised in initiatives such as *Strengthening Families*.

*The National Health Committee has not had the opportunity to examine adequately further strategies for co-operation between the health and education sectors and is considering commissioning work in this area in conjunction with the education sector.*

#### 6.4 Population-based services and environmental measures

Population-based services and facilities are essential for protecting and improving health. From a health perspective, these services, including clean water, adequate sewage disposal and power, should be available to everybody. Access should not be restricted by ability to pay.

The National Health Committee is concerned that:

- some communities still do not have access to adequate basic utilities, e.g. some rural communities still do not have safe drinking water

- changes in the funding and provision of these basic utilities have not explicitly considered possible effects on health
- these changes lead to a significant increase in user charges for basic services, adversely affecting people on low incomes.

It is imperative that the essential nature of these services for protecting and improving population health is not overlooked. Many of these facilities are the responsibility of local government, but the policy and legislative environment within which local government acts is often set by central government. Both central and local government therefore need to be aware of the health implications of changes in service delivery. Where local government policy makers consider population health issues in the development and implementation of policy, there will be a greater opportunity for that policy to be conducive to health. Specific legislative measures could be incorporated into any changes in the funding and provision of utilities to ensure that population health is safeguarded.

Fluoridation of reticulated water supplies by local authorities is a very safe, effective and cost-effective measure to improve and protect dental health, particularly of children (PHC 1994a). There is no good evidence for adverse health effects of community water fluoridation. As the benefits of water fluoridation are greatest for people at highest risk of dental caries, including Māori and lower socioeconomic groups, water fluoridation contributes to equity of health outcomes (PHC 1995a). It is concerning that only 55% of New Zealanders receiving reticulated water had their water fluoridated in 1996 (MoH 1997b). The Ministry of Health has a number of strategies to increase awareness of the benefits of water fluoridation (MoH 1997b). However, local authorities should ensure that decisions about fluoridation of water supplies consider adequately the needs of children and disadvantaged groups, who do not have access to the information and resources that opponents of water fluoridation might have.

Facilities such as parks, swimming pools and libraries provide recreational and educational opportunities for people to improve their health and well-being, especially for people on low incomes who may have limited opportunities for other forms of recreation. Public transport is particularly important for low socioeconomic groups to access services and facilities essential to good health. Health should be explicitly considered during decision-making about the ways in which these facilities and services are managed and funded.

#### **The National Health Committee recommends:**

- The Minister of Health require the Ministry of Health to examine the effect of changes in the funding and provision of basic utilities such as water, sewerage and electricity on the health of the population, especially lower socioeconomic groups, and continue to monitor further changes.
- The Minister of Health ensure that health considerations influence central government policy on the funding and provision of these basic utilities.
- The Minister of Health urge local authorities to ensure that when decisions are made about the fluoridation of water supplies, the needs of children and disadvantaged groups are the first priority.
- The Minister of Health urge local authorities to consider explicitly the health impact of changes to the provision of recreational and environmental services, especially the effect on low-income groups.

## **6.5 Community development projects and intersectoral initiatives**

Building communities should be a central concern of social and economic policy. Community development provides a strong basis for health development. This is not about communities owning hospitals or medical facilities but implies broader community development initiatives that are likely, among other things, to improve the health of people in that community. Community development is one way to improve social support networks and enhance social cohesion.

Shared health concerns provide a strong focal point for community action. A number of community-based initiatives in New Zealand, which have started from a desire to retain or improve health services in an area, have recognised subsequently that other non-health services are essential to maintaining and improving the health of the community. One example is the Hokianga Community Health Enterprise. It works with the local Tourism Association on research and development of strategies to increase tourism in the area. It also links strongly with the local District Council around issues of transportation and roading (B Allen, Hokianga Community Health Enterprise, personal Communication, April 1998). Such initiatives should be encouraged, formally evaluated and the results distributed widely so that other communities can build on the features of effective community development programmes. Evaluation of such programmes cannot determine their direct effect on health outcomes *per se*, but can assess the effect of the programmes on the social, cultural and economic determinants of health.

Local initiatives, however successful they are in the short-term, will not survive unless they are supported by long-term strategies and resources. Local and central government agencies can play an important role in facilitating community development work. The ultimate success of such programmes is more likely if they recognise and address the concerns of the community – these may differ from the concerns of government agencies. Policies should recognise the importance to society of social cohesion and create an environment that makes it easy for communities to mobilise. Communities do not necessarily think and act within the boundaries that confine different government agencies. Agencies therefore need to think beyond their own boundaries and work intersectorally to build local autonomy and competence by encouraging initiatives that improve community health and well-being. Health Action Zones are one initiative recently set up in the UK (see section 5.6). *The NHC intends to monitor the effectiveness of Health Action Zones and consider the possible application of this concept to the New Zealand setting.*

Healthy city and healthy community initiatives may help to create an environment where health is a priority in the planning and provision of services and facilities. Thorough evaluations of these initiatives are becoming more widely available both internationally and in New Zealand.

**The National Health Committee recommends:**

- The Minister of Health require the Ministry of Health and Health Funding Authority to systematically document and widely publicise evaluations of successful community development projects, including Māori community development projects.
- The Minister of Health require the Health Funding Authority to examine further opportunities for effective collaboration with local authorities within programmes such as Healthy Cities and Healthy Communities.

## 7. Conclusion

This report has outlined the major social, cultural and economic determinants of health in New Zealand and highlighted areas of concern. A number of interventions are recommended which will assist in reducing socioeconomic inequalities in health. However, successful intervention at any level will require leadership, vision and a genuine commitment to reducing health inequalities. It is important to remember that, while the recommended interventions have different time-frames, a long-term focus is essential. Few gains - in terms of improved population health, a reduction in socioeconomic inequalities in health and reduced demand for treatment services - are likely in the short term. In addition, the success of most interventions will depend on 'buy-in' from other sectors, including policy-makers within those sectors.

Many of the recommended interventions in this chapter build on existing services or recommend better ways to invest existing Health Funding Authority resources. In some cases, for example smoking cessation programmes, a redirection of funding is required to give stronger emphasis to reducing socioeconomic inequalities in health. The National Health Committee believes that many of the interventions identified in these recommendations may be more cost-effective than some services currently funded by the Health Funding Authority. However, it is difficult for the Committee to identify from where such funds might be diverted presently, as many services are already stretched. The Minister must consider seriously making available temporary additional funding for some programmes to reduce socioeconomic inequalities in health. The health benefits that arise in the medium to long term are likely to ease future funding requirements for treatment services.

Ultimately, the ability of the healthcare sector to deliver effective and high quality services in an equitable way is highly dependant on addressing adequately the social, cultural and economic context in which ill health and disability arise. The National Health Committee considers reducing socioeconomic inequalities in health to be a very high priority in New Zealand.

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## Glossary

**Absolute poverty:** This refers to some absolute standard of minimum requirement for survival and functioning in a community. Also see **Relative poverty**.

**Adolescence:** See Youth.

**Adulthood:** Aged 25-64 years.

**Ante-natal:** Before birth

**Association:** A statistical dependence between two or more events, characteristics, or other variables. An association may be fortuitous or may be produced by various other circumstances; the presence of an association does not necessarily imply a causal relationship.

**Cardiovascular disease:** Disease of the cardiovascular system which includes ischaemic (or coronary) heart disease. The cardiovascular system is made up of the whole circulatory system which includes: the heart, systemic circulation (the blood vessels of the body) and pulmonary circulation (the blood vessels of the lungs).

**Children:** People between 0 and 14 years of age.

**Community cohesiveness:** See **Social cohesion** or **'connectedness'**.

**Community development:** Increasing the ability of communities, particularly marginalised communities, to work together to identify and take action on priorities defined as important by the communities themselves. Community action can be defined as action by a collective of people which mobilises and co-ordinates resources to solve mutual problems or to pursue mutual goals.

**Coronary heart disease:** See **Cardiovascular disease**.

**Consumer Price Index (CPI):** This index measures changes in the level of prices of goods and services purchased by private New Zealand households and is the best available measure of the effect of changes in retail prices on the average household budget.

**Cultural acceptability and appropriateness:** See **Culturally effective services**.

**Culturally effective services:** Services which are responsive to, and respectful of, the history, traditions and cultural values of the different ethnic groups in our society.

**Determinants of health:** All factors which influence health, including individual lifestyle factors, social and community influences, living and working conditions, and general socio-economic, cultural and environmental conditions. This report focuses on social, cultural and economic determinants of health.

**Disability:** Any significant limitation of independent functioning, including sight, hearing, learning difficulties and chronic illness as well as disabilities resulting from injury.

**Disability support services:** Services provided to individuals with disabilities - further care or support, or to promote independence.

**Disadvantage:** See Socio-economic disadvantage.

**Early childhood programmes:** A diverse collection of programmes ranging from half-day to full-day programs based in the community, school, or church settings, supported through government funds, parent fees, and/or private philanthropy. Some programmes provide education support services to parents as well as to children, while other work primarily with the child.

**Ecological study:** A study in which the units of analysis are populations or groups of people rather than individuals.

**Epidemic:** The occurrence in a community of cases of a specific illness which is clearly in excess of the number that would normally be expected.

**Evaluation:** A process of systematic and objective assessment of the relevance, effectiveness and impact of activities in light of their objectives.

**Evidence-based practice:** Practice which is based on decisions that combine systematic assessment of relevant information in the scientific literature with clinical judgement.

**Family:** The 1991 Census of Population and Dwellings defines a family as consisting of either a couple (from a legal or de facto marriage) with or without a child (or children), or one parent with a child (or children) usually resident in the household. The family is not necessarily the entire biological family but comprises those member related by blood, marriage (registered or de facto) or adoption.

**Family Start:** Family Start is a New Zealand programme that is part of a wider strategy for strengthening families, which aims to provide family focused, home-based, early intervention services. Also see **Strengthening Families**.

**Hapu:** Groups of whanau with common ancestral links; sub-tribe.

**Health:** The World Health Organisation broadly defines health as a complete state of physical, mental and social well-being, not just the absence of disease. Māori definitions of health include physical, spiritual, mental and family health as well as cultural elements such as land, environment, language and extended family.

**Health education:** Constructed opportunities to improve knowledge and develop life skills which have a positive effect on individual and community health.

**Health equity:** Types of health equity include equity of access to health services, equity of utilisation of health services with respect to need, equity of health outcomes and equity of opportunity for good health. It is the latter form of equity that is the focus of this report.

**Health gain:** Can be described as -

- improving the health status of population groups with low health status
- improving, promoting and protecting the public health
- maintaining and restoring the health of people of people who normally are healthy
- maintaining or improving health and independence to increase quality of life for people with chronic illnesses or disabilities.

**Health impact assessment (HIA):** Any combination of procedures or methods by which a proposed policy or programme may be judged as to the effects it may have on the health of a population.

**Health inequalities:** The gap between best and worst health experience of different population groups; a virtually universal phenomenon of variation in health indicators (such as infant and maternal mortality) with socio-economic status.

**Health promotion:** As defined by the Ottawa Charter Health Promotion (WHO 1986), health promotion is the process of enabling people to increase control over and to improve their health. Health promotion action means: building healthy public policy; creating supportive environments; strengthening community action; developing personal skills; and reorienting health services.

**Health protection:** Comprises legal or fiscal controls, other regulations and policies, and voluntary codes of practice, aimed at the enhancement of positive health and the prevention of ill health.

**Health status:** A set of measurements which reflect the health of individuals or populations. The measurement may include physical functioning, emotional well-being, activities of daily living, etc.

**Healthy Cities and Communities (HCC):** A long term development project, originating in Europe, which seeks to enhance the physical, social and environmental conditions in cities/communities in order to improve the health of people who live in them. The project contributes to changing how individuals, communities, private and public organisations and local governments understand and make decisions about health.

**HIV/AIDS:** The human immunodeficiency virus (HIV) is the virus that in the late stages of infection causes the disease AIDS (Acquired Immunodeficiency Syndrome).

**Home visiting:** Involves the delivery of a range of services including information on family health, child development and health services, personal support and other practical assistance. These services are delivered by professional staff, para-professionals or volunteers, working with individuals in a family context and in their own home.

**Hospitalisation:** A term commonly used to give some indication of the morbidity of disease and conditions in a community. An incidence of 'hospitalisation' in the New Zealand health statistics includes inpatients who leave hospital to return home, who transfer to another hospital or institution, or who die in hospital after formal admission. This is, therefore, a count of episodes of care rather than of individuals; for example, a patient who is transferred will be counted twice.

**Immunisation:** Protection of susceptible individuals from communicable disease by administration of a living modified agent, suspension of killed organisms or an inactivated toxin. In some situations, temporary passive immunity can be produced by administering an antibody in the form of immune globulin.

**Infant:** Child between 0 and 1 year of age.

**Infant mortality rate (IMR):** A measure of the yearly rate of deaths in children less than one year old. The denominator is the number of live births in the same year. IMR is often cited as a useful indicator of the level of health in a community.

**Injury:** Any unintentional or intentional damage to the body resulting from acute exposure to thermal, mechanical, electrical or chemical energy or from the absence of such essentials such as oxygen or heat.

**Intermediary factor:** A factor that occurs in a causal pathway between (and intermediate to) dependent and independent variables.

**Intersectoral:** Involving various sectors of society: governmental (for example health, education, welfare), community organisations (for example, Rotary and Lions) and the general public and/or individuals.

**Intervention:** A specific prevention measure or activity designed to meet a programme objective. The three main categories for intervention are: legislation/enforcement; education/ behaviour change; and engineering technology.

**Ischaemic heart disease:** See **Cardiovascular disease**.

**Iwi:** Tribe.

**Kaumatua:** Wise and experienced older members of the whanau.

**Kohanga reo:** Māori language nests; also describes a movement established by Māori in the 1960s to teach the Māori language to pre-school children.

**Kuia:** Older woman or women.

**Life expectancy:** The average remaining lifetime in years for an individual of a given age if current sex-specific and age-specific mortality rates continue to apply.

**Low birth weight:** Infants weighing less than 2500 grams at birth are considered to have low birth weight. Very low birth weight infants are those weighing less than 1500 grams at birth.

**Mental illness or disorder:** Any clinically significant behavioural or psychological syndrome characterised by the presence of distressing symptoms or significant impairment of functioning. Mental disorders are assumed to result from some psychological or organic dysfunction of the individual but may be precipitated by external factors.

**Morbidity:** Illness.

**Mortality:** Death.

**Obesity:** Having Body Mass Index (BMI) measure of greater than 30. BMI is a measure of body size where weight in kilograms is divided by height in metres squared, and allows comparison between individuals and groups independent of height.

**OECD:** Organisation for Economic Co-operation and Development. The 24 OECD countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom and United States.

**Older adulthood:** Aged 65 years and over.

**Personal health services:** Health services provided to an individual for the purpose of improving or protecting the health of that individual, whether or not they are provided for another purpose.

**Population health:** Also see **Public health**. Population health is used instead of public health where possible in this report to avoid confusing 'public health' with 'publicly-funded health services'.

**Post-natal:** After birth/delivery.

**Potential years of life lost (PYLL):** A measure of the relative impact of various diseases on society. PYLL highlights the loss to society as a result of youthful or early deaths. The figure for PYLL lost due to a particular cause is the sum, over all those people dying from that cause, of the years that these individuals would have lived had they experienced normal life expectancy, or lived to some arbitrary age (usually 65 or 75 years).

**Poverty:** See **Absolute poverty** and **Relative poverty**.

**Premature death/premature mortality:** **a)** Any preventable death. **b)** Deaths that occur before a specified age (often age 65 or the average life expectancy of a certain population).

**Prevention:** Prevention may occur at primary, secondary or tertiary levels. Primary prevention aims to prevent a particular problem from occurring, such as the prevention of infectious diseases through immunisation. Secondary prevention is the early or asymptomatic detection and prompt treatment of a condition, for example early detection of hearing loss. Tertiary prevention occurs when a condition is identified and further deterioration is prevented.

**Primary care:** Essential health care made universally attainable to individuals and families in the community by means acceptable to them, through their full participation and at a cost that the community and country can afford. It forms an integral part of the country's health system of which it is the nucleus, and of the overall social and economic development of the community.

**Public health:** The science and art of promoting health, preventing disease and prolonging life through the organised efforts of society. Also see ‘population health’.

**Public health services:** These include all programmes, interventions, policies and activities that improve and protect the health of individuals and the community. Public health services intervene at the population or group level as distinct from individual personal health services.

**Randomised controlled trial (RCT):** An experimental study design where subjects in a population are randomly allocated into groups, usually called ‘study’ and ‘control’ groups. The study group receives an experimental preventive or therapeutic intervention whereas the control does not. The outcomes in the two groups are compared and analysed. The RCT is generally regarded as the most scientifically rigorous study design available.

**Real Disposable Income (RDI):** Gross income adjusted for income tax liability and inflation, as measured by the **Consumers Price Index (CPI)**.

**Relative poverty:** This description of poverty identifies a gap between what is and what might be, showing what potential exists for improvement. It is measured by comparing individuals or groups and relating them to some norm, defined locally, nationally or internationally. See also **Absolute poverty**.

**Respiratory disease:** diseases affecting the respiratory system (airways and lungs), including asthma, chronic bronchitis and emphysema, and infections.

**Rheumatic fever:** An acute illness with fever, usually seen in middle childhood and adolescence, which may recur over a period of years. Long term consequences include damage to heart valves.

**Risk factor:** An aspect of personal behaviour or lifestyle, an environmental exposure, or an inherited characteristic that is associated with an increased risk of a person developing a disease.

**Self-rated health:** an individual’s subjective assessment of their own health.

**SIDS:** Sudden Infant Death Syndrome, formerly known as “cot death”.

**Social class:** An occupational classification that was first developed by the British Registrar General in 1911. The classification was based on homogenous groups of occupations hierarchically ranked according to the degree of skill involved and the ‘general standing’ of each occupation. The classifications are: Class I - Professional occupations (such as doctors and lawyers); Class II - Managerial and technical occupations (such as teachers and administrators); Class III - skilled manual and non-manual occupations (such as clerks and bricklayers); Class IV - semi-skilled occupations (such as bus conductors and postmen); Class V - unskilled occupations (such as porters and labourers).

**Social cohesion or ‘connectedness’:** The degree to which individuals are integrated with, and participate in, a secure social environment. Social cohesion is an *aspect* of society; ‘social capital’ is a contributing factor to social cohesion.

**Socio-economic disadvantage:** A relative lack of financial and material means experienced by a group in society, which may limit their access to opportunities and resources available to wider society.

**Socio-economic group:** An alternative occupational classification to social class (as described above) is socio-economic group, which was developed in 1951. This identified 17 unranked groups that contained people with similar social, cultural and behavioural standards. In the UK, these groups have been collapsed into six: Group 1 - Professional workers; Group 2 - Employers and managers; Group 3 - Intermediate and junior non-manual workers; Group 4 - Skilled manual workers; Group 5 - Semi-skilled manual workers; Group 6 - Unskilled manual workers.

**Socio-economic status:** Socio-economic status (SES) is a complex mix of social and economic circumstances of an individual or group of individuals. Measures of SES often include indices of social class, income, occupation, employment status, area of residence, housing quality, household composition, and social integration.

**Strengthening Families:** An intersectoral initiative in New Zealand which involves health, education, welfare and other agencies. **Family Start** is part of this wider strategy.

**Tangata whenua:** literally ‘the people of the land’, these being Māori in New Zealand.

**Te Puni Kokiri:** The Ministry for Māori Development.

**Treaty of Waitangi:** New Zealand’s founding document which establishes the relationship between the Crown and Māori as Tangata Whenua, and requires both the Crown and Māori to act reasonably towards each other and with utmost good faith.

**Tuberculosis:** A general name for a whole group of diseases associated with the presence of the *Mycobacterium tuberculosis* bacterium, of which pulmonary tuberculosis is the most important.

**Well-child/Tamariki Ora services:** Term used to describe all health promoting and disease prevention activities undertaken in the primary care setting for children and their families and whanau.

**Whanau:** Relationships that have blood links to a common ancestor; family.

**Youth:** People between 15 and 24 years of age.







