

# Reducing Inequalities in Health

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# Foreword

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Significant inequalities exist among different groups of New Zealanders. For example, Māori, Pacific peoples and people from lower socioeconomic groups have worse health and die younger than other New Zealanders. The reasons for health inequalities are complex and generally beyond the control of the groups most affected.

The New Zealand Health Strategy identifies the need to reduce inequalities in health. The Ministry of Health and its advisors believe that a co-ordinated approach to reducing inequalities in health is necessary. This paper, therefore, describes inequalities in health in New Zealand and sets out a framework and principles that can be used at national, regional and local levels by policy-makers, funders, service providers and community groups to take action to reduce inequalities in health.

The framework identifies the need for action that targets:

- social, economic, cultural and historical factors contributing to inequalities in health
- pathways through which these factors influence health, for example, health-related behaviours and environmental conditions
- health and disability services
- the impact of poor health and disability on economic and social wellbeing.

In coming months, the Ministry of Health will organise workshops in the health sector to consider the principles and framework set out in this paper. Discussion will cover how these ideas can be integrated into the day-to-day work of policy-makers, funders and service providers.

Health inequalities are a major public health problem. It is only through the co-ordinated efforts of all of us working within the health sector, as well as of those working in other sectors and in communities, that we will be able to make a significant impact on them. I urge you to consider, as you read this document, how you can make a difference.



Karen O Poutasi (Dr)  
Director-General of Health

# Acknowledgements

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# Executive summary

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We all have a role to play in reducing inequalities in health in New Zealand. Regardless of how we measure health – by risk factors, use of services or outcomes – we find that particular groups are consistently disadvantaged in regard to health. And these inequalities affect us all.

Poverty is associated with health. And more than this, whatever our socioeconomic position, we are likely to be experiencing worse health than the group who is a little better off than we are – in terms of education, occupation, income or deprivation. Action to reduce inequalities in health, therefore, has the potential to improve the health of all New Zealanders.

In New Zealand, ethnic identity is an important dimension of health inequalities. Māori health status is demonstrably poorer than other New Zealanders; actions to improve Māori health also recognise Treaty of Waitangi obligations of the Crown. Pacific peoples also have poorer health than Pākehā. In addition, gender and geographical inequalities are important areas for action.


Addressing these socioeconomic, ethnic, gender and geographic inequalities requires a population health approach that takes account of all the influences on health and how they can be tackled to improve health. This approach requires both intersectoral action that addresses the social and economic determinants of health and action within health and disability services themselves.

*Reducing Inequalities in Health* proposes principles that should be applied to whatever activities we undertake in the health sector to ensure that those activities help to overcome health inequalities. The proposed framework for intervention entails developing and implementing comprehensive strategies at four levels.

1. *Structural* – tackling the root causes of health inequalities, that is, the social, economic, cultural and historical factors that fundamentally determine health.
2. *Intermediary pathways* – targeting material, psychosocial and behavioural factors that mediate the impact of structural factors on health.
3. *Health and disability services* – undertaking specific actions within health and disability services.
4. *Impact* – minimising the impact of disability and illness on socioeconomic position.

Intervention at these four levels should be undertaken nationally, regionally and locally by policy-makers, funders and providers.

The framework can be used to review current practice and ensure that actions contribute to improving the health of individuals and populations and to reducing inequalities in health.



It also highlights the importance of factors outside the direct control of the health sector in shaping the health of our population. Those outside the health sector – particularly The Treasury, the social welfare, education, housing and labour market sectors, and local government – can contribute significantly to the task of reducing inequalities in health.

Success in reducing inequalities in health brings positive results for the individual, the economy and society. It enables New Zealanders to live healthier, longer lives. In turn, a healthier population will increase the country's prosperity.

There will be opportunities to discuss this document, and to apply the principles and framework to specific health issues and service areas, as the Ministry of Health holds sector workshops over the coming months.





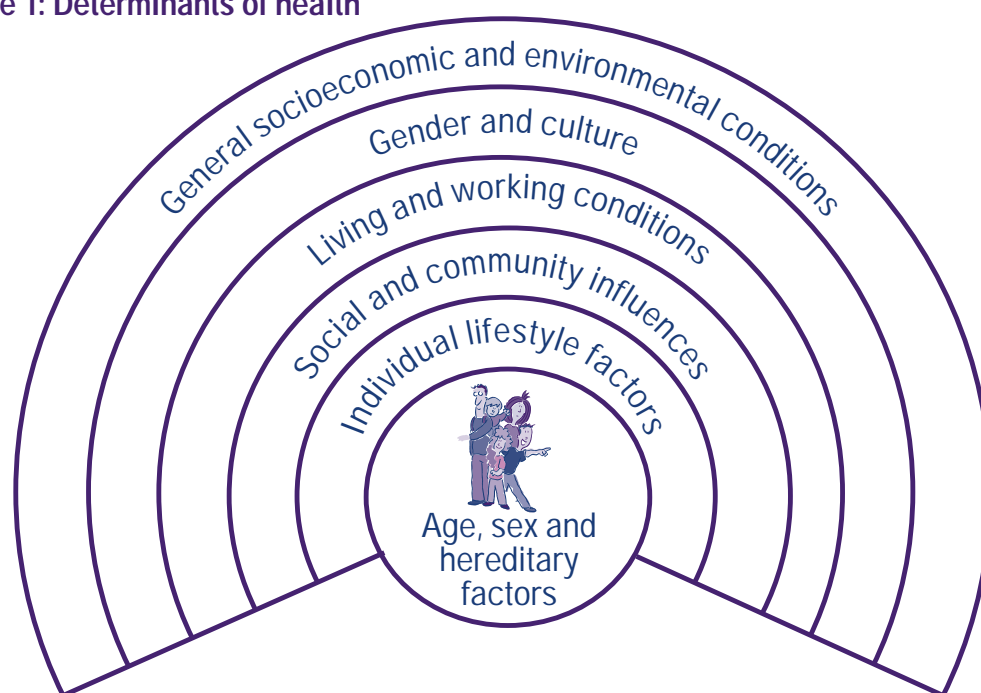
# Introduction

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The New Zealand Health Strategy provides a framework for the health sector to improve the overall health of New Zealanders and to reduce inequalities amongst New Zealanders, with a focus on Māori, Pacific peoples and low-income New Zealanders.

Successful implementation of the New Zealand Health Strategy requires a population health approach. This approach takes into account all the factors that influence health and how they can be tackled to improve health. Figure 1 shows a model of the determinants of health, which are a complex and varied combination of factors.

**Figure 1: Determinants of health**



Source: adapted from Dahlgren and Whitehead (1991)

Age, sex and hereditary factors are key contributors to our health. They are relatively unchangeable. Recent advances in medical technology may make some genetic changes possible, but such developments will only affect a very small section of the population.

There are, however, other factors affecting our health and independence over which we potentially have more control. Their impact on our health can be affected by changing individual and/or societal behaviour. As illustrated in figure 1, these factors include:

- individual lifestyle factors – for example, whether we smoke, exercise, how much alcohol we drink
- social and community influences – for example, whether we belong to strong social networks, feel valued and empowered to participate in decisions that affect our health and wellbeing

- living and working conditions – for example, whether we live in safe housing and have decent working conditions
- culture, ethnicity and gender – for example, women, Māori and Pacific peoples are over-represented in lower paid jobs
- general socioeconomic and environmental conditions – for example, our position in society, including income, education and employment, which affects our ability to participate (HFA 2000).

*Reducing Inequalities in Health* aims to assist the health sector to implement a population health approach that will improve the overall health of the population *and* reduce health inequalities.

This paper does not identify specific interventions or prioritise action, nor should it. Priority health issues and effective interventions will differ at national, regional and local levels. Priority issues for the health sector are set out in the New Zealand Health Strategy. District Health Boards – using a combination of the national priorities set out in the New Zealand Health Strategy, the New Zealand Disability Strategy, associated national population and service strategies and their own needs assessments – are in the best position to determine the priorities for their districts and subdistricts. This paper provides a conceptual basis for considering how best to address these priorities.



# What is the challenge?

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In New Zealand, as elsewhere, inequalities in health exist among socioeconomic groups, ethnic groups, people living in different geographic areas, and males and females. These inequalities are not random: in all countries more socially disadvantaged groups have poorer health, greater exposure to health risks and poorer access to health services. In countries with a colonial past, such as New Zealand, indigenous peoples have poorer health, even when socioeconomic position is taken into account (Howden-Chapman and Tobias 2000).


Inequalities in the distribution of and access to material resources – income, education, employment and housing – are the primary cause of health inequalities. Differential access to health care services and differences in care for those receiving services also have a considerable impact on health status and mortality. Everyone is affected; there are no neat cut-off points. Each socioeconomic group experiences worse health than the group that is a little better off. This gradient applies to most causes of death – from cancer, cardiovascular disease and Alzheimer’s dementia, to injuries. Individual behaviours, such as smoking, only partly explain this relationship, and such behaviours themselves are strongly related to social and economic factors (Howden-Chapman et al 2000).

Woven in with social and economic determinants of health is the impact of ethnic identity. Māori at all educational, occupational and income levels have poorer health status than non-Māori. The same is true for Pacific peoples, whose health status is generally intermediate between Māori and Pākehā (Howden-Chapman and Tobias 2000).

These ethnic disparities suggest that there are other, pervasive characteristics of New Zealand society that cause poor health in Māori and Pacific peoples (Howden-Chapman et al 2000). These characteristics are thought to include institutional racism (Jones 2000) and, for Māori, the ongoing effects of our history of colonisation and land confiscations (for example, through narrowing the Māori economic base and reducing Māori political influence) (Howden-Chapman and Tobias 2000). Racism affects health partly because indigenous and minority populations tend to experience less favourable social and economic circumstances and access to health care (Westbrooke et al 2001) and partly because of the more direct psychosocial stress that racism engenders (Davey-Smith 2000; Jones 2000).

The impact of socioeconomic position on health tends to be underestimated. For example, existing measures may not fully capture socioeconomic position, and studies tend not to capture the cumulative impact that socioeconomic position in earlier life has on adult health status (Davey-Smith 2000). It is unlikely, however, that the differences among ethnic groups can be completely explained by unmeasured socioeconomic position; there is an independent effect of ethnicity.

There are also significant geographical differences in health in New Zealand. Districts with lower than average income have higher rates of premature mortality and hospitalisations. International evidence on the role of income inequality is mixed and the issue is contentious (Judge and Paterson 2001). In New Zealand an ecological study of income inequality and



all-cause mortality found a weak association (O’Dea and Howden-Chapman 2000), while a later study found no association once ethnicity was taken into account (Blakely, personal communication February 2002). At the small-area level,<sup>1</sup> there is a steep gradient in life expectancy at birth across small areas classified according to degree of deprivation; on average, the most deprived tenth of the population is likely to live for approximately 7.5 fewer years than the least deprived tenth of the population.

There are also gender inequalities in health (see Ministry of Women’s Affairs 2001). For example, higher mortality rates are observed in men and, generally, women self-report poorer mental health (Ministry of Health 1999c). Biological factors provide part of the explanation for this difference. However, much of it relates to the gender roles that define women and men according to the positions they occupy in society, the different roles they perform and the variety of social and cultural expectations and constraints placed upon them (Ostlin 2002).

Effective action to address inequalities in health must take a balanced approach. It must both tackle the social and economic inequalities that are the root causes of health inequality, and improve access to and effectiveness of health and disability services for all.



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<sup>1</sup> NZDep96 small area levels are based on standard Statistics New Zealand meshblocks, the smallest geographic unit used by Statistics New Zealand, and containing a median of 90 people.

# Treaty of Waitangi

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New Zealand is culturally and ethnically diverse, broadly comprising Māori and non-Māori as Treaty partners.

The Treaty of Waitangi is the founding document of New Zealand. Its signing in 1840 provided for the settlement of New Zealand by non-Māori. It provides a framework of rights and responsibilities, and also articulates a relationship between Māori and the Crown.

Te Puni Kōkiri's report *Progress Towards Closing Social and Economic Gaps Between Māori and Non-Māori* (2000) stated that existing inequalities between Māori and non-Māori may be partly attributed to historical events experienced by the Māori population, such as asset loss, land alienation and rapid urbanisation. The report also noted:

The Treaty of Waitangi was signed to protect the interests of Māori and it is certainly not in the interests of Māori to be disadvantaged in any measure of social or economic wellbeing.

It is, therefore, appropriate that action to reduce inequalities in health in New Zealand is taken within a Treaty of Waitangi framework.

## What does the Treaty framework mean for non-Māori?

In addition to its relevance in describing the relationship between the Crown and Māori, the Treaty of Waitangi has a role in articulating the Crown's broader responsibilities to all New Zealanders (Durie 1998). The Treaty of Waitangi speaks about citizenship for non-Māori and Māori, as well as guaranteeing Māori continued enjoyment of their rights as Māori.


Non-Māori New Zealanders comprise a number of different ethnic groups. The main non-Māori ethnic groups in New Zealand are:

- Pākehā
- Pacific peoples
- Asian peoples.

Each of these ethnic groups is diverse, comprising people from different cultures, with specific customs, beliefs and traditions.

Our diversity extends beyond ethnicity to include gender, sexual orientation, age and the various religious and other groups with which we affiliate.





These differences give us a variety of world views, with different values and priorities. The various groups may view health differently, each influenced by their collective experience, their customs and beliefs and their place in society. To improve health and reduce health inequalities, we must appreciate and value these differences and work with people to address their health priorities as they define them, in ways that will work for them.

Underlying this diversity, however, is stability in the socioeconomic position of particular population groups relative to other groups. For example, single mothers have for centuries been over-represented amongst the poorest in society. Such consistent, long-term disparities have a profound impact on health inequalities as they shape exposure to health risks, access to health care services and health outcomes of different population groups in markedly different ways.



# What do we have to gain?

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The challenge is to reduce inequalities and, therefore, to create opportunities for all New Zealanders to enjoy good health. Successfully meeting this challenge will lead to, among other outcomes:

- a fairer society where everyone has the opportunity for good health
- an inclusive society, where everyone has a sense of belonging and feels that their contribution is valued
- improved health and wellbeing for the population as a whole, not just for those groups who are currently experiencing relatively poor health
- a stronger economy because a healthier population can contribute to a richer social and economic life (The Treasury 2001a; Woodward and Kawachi 1998).

The unequal distribution of material resources – income, education, employment and housing – creates health inequalities (Howden-Chapman et al 2000). This distribution is inherently unjust when it perpetuates the cycle of creating wealth and good health for many but poverty and ill health for some (Swedish Ministry of Health and Social Affairs 2000). Significant numbers of New Zealanders also favour a more just distribution of society's resources; 60 percent agree that they would be prepared to pay higher taxes, provided these were progressive, in order to reduce social inequality (Perry and Webster 1999).

Positive economic features result from policies that facilitate a high rate of employment, safe working conditions and investment in social and human capital, and which encourage low disparities in income and wealth. Positive social outcomes result from policies that ensure all social groups are encouraged and able to participate fully in society (Howden-Chapman and Tobias 2000).

Poor health, like poor education, holds back many people. Moreover, the cycle of poor health, unemployment and poverty compounds over a person's life. If we can work towards creating a society that incorporates the positive features outlined above, we will be able to harness the skills and potential of the whole population, rather than of only some individuals within it. More importantly, people will be able to live healthier and longer lives and, in turn, a healthier population will increase the country's prosperity.



# Health inequalities in New Zealand

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Inequalities are documented in many aspects of New Zealand society. The five-yearly Census of Population and Dwellings collects information on New Zealanders and gives comparative data across social groupings and over time. Its findings are used as the basis for information on the socioeconomic inequalities that impact on health.

The Ministry of Health collects and reports health information in three ways:

- health outcomes – morbidity (quality of life) and (premature) mortality (quantity of life)
- health risks – biological, behavioural and environmental
- health services utilisation – prevention, treatment and support/rehabilitation.

Health information is collected by health and other agencies, and published in a variety of source documents; for example *Our Health Our Future* (Ministry of Health 1999a), *Progress on Health Outcome Targets 1999* (Ministry of Health 1999b), and *Social Inequalities in Health* (Howden-Chapman and Tobias 2000). The Director-General of Health reports annually to Parliament on the state of the nation's health (Ministry of Health 2001a). The Minister of Health reports annually to Parliament on progress towards implementing the New Zealand Health Strategy (Minister of Health 2001). These documents use existing information to monitor trends.

There are some limitations in current data collection methods and the quality of the available data. For example, although sex is usually accurately recorded, ethnicity is generally not. For some ethnicity data, the problem of small numbers may make accurate interpretation difficult. Interpretation also has to take into consideration the accuracy of the base data. Information about use of health services shows what services are being used, but not whether the people using the services are those most in need. It is, therefore, a poor measure of health outcome, but it is often the only indicator of morbidity available; thus it has to be interpreted with care.

Despite these limitations, the data clearly demonstrate health inequalities across the following dimensions:

- socioeconomic position
- ethnic identity
- geographic place of residence
- gender.

Each of these is discussed below and illustrated using life expectancy as the measure of health and NZDep96 as the measure of deprivation (see Appendix 1 for details). See Howden-Chapman and Tobias (2000) for information using other measures of health: morbidity, mortality, health risks and health services utilisation.



# Socioeconomic inequalities in health

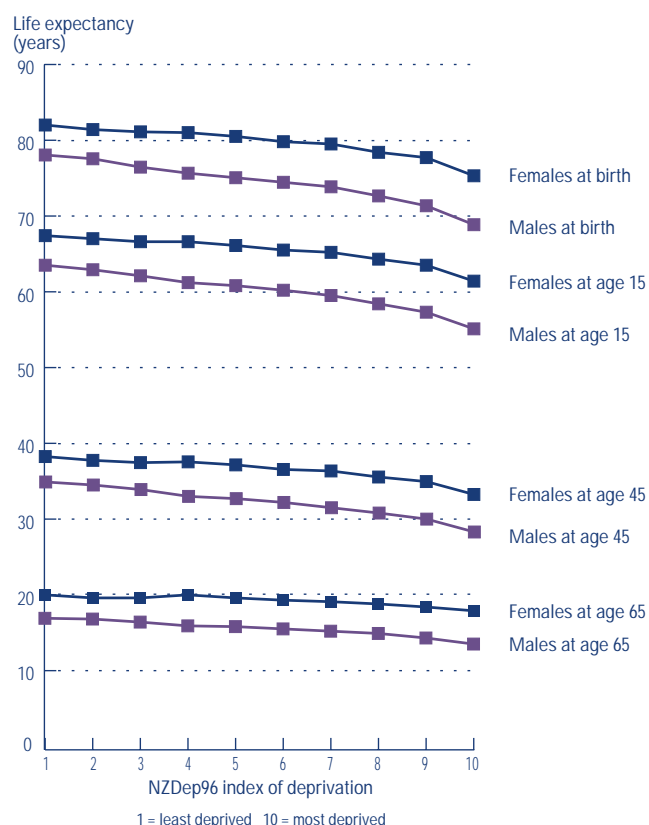
## Lifecourse perspective

Health and the risk of premature death are influenced by socioeconomic factors acting throughout life (Davey-Smith et al 1997) and across generations. Thus, health in middle and old age depends on past circumstances as well as present ones. The effects of disadvantage also accumulate over time. For example, school failure is more often experienced in low socioeconomic groups, which in turn can lead to relatively poorly paid work that is less secure and exposes people to physical and chemical hazards, as well as to poorer housing in relatively disadvantaged neighbourhoods, and to retirement on the basic level of superannuation.

Few studies, however, capture the cumulative impact of socioeconomic position on health. Most studies measure socioeconomic position at one point in time, by one or more measures of socioeconomic position.

Life expectancy at birth – and at ages 15, 45 and 65 years – declines markedly as the deprivation of the area of residence increases. For males, there is a nine-year difference in life expectancy at birth between the least deprived and the most deprived tenth of the population as measured by NZDep96. Although smaller for women, this difference is still over six years. A similar gradient is evident with other measures of socioeconomic position, such as education, employment and income.

**Figure 2: Life expectancy at four ages, by deprivation decile, for the total New Zealand population, 1995–97**



Source: Ministry of Health

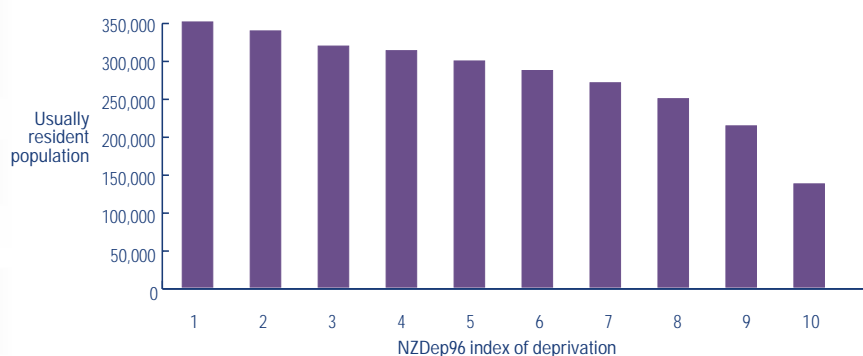
## Ethnic inequalities in health

An analysis of socioeconomic position/health status data identifies three distinct types of ethnic inequalities in health in New Zealand. These have been described as the distribution gap, the outcome gap and the gradient gap (Reid et al 2000). This section uses examples from an analysis of NZDep96 data, but the effect is also found using other measures of socioeconomic position.

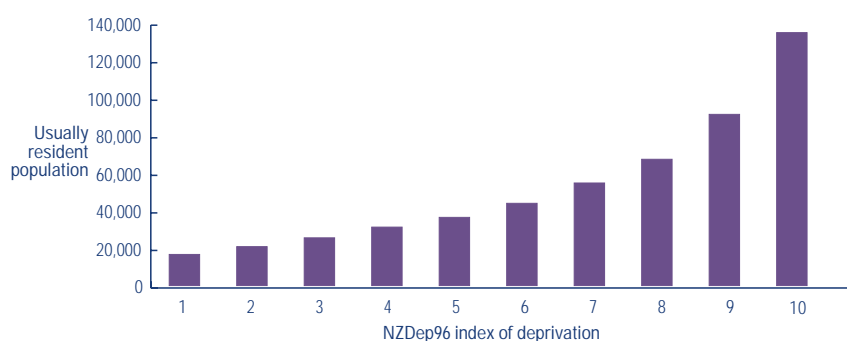
### The distribution gap

First, if socioeconomic deprivation were independent of ethnicity, Māori and non-Māori would be equally distributed through the deprivation deciles. However, distribution is highly unequal: more than half the Māori population lives in very deprived neighbourhoods (deciles 8–10). The Pacific population is even more skewed towards the most deprived deciles (Salmond and Crampton 2000). Such findings demonstrate the distribution gap (see figures 3A–3C).

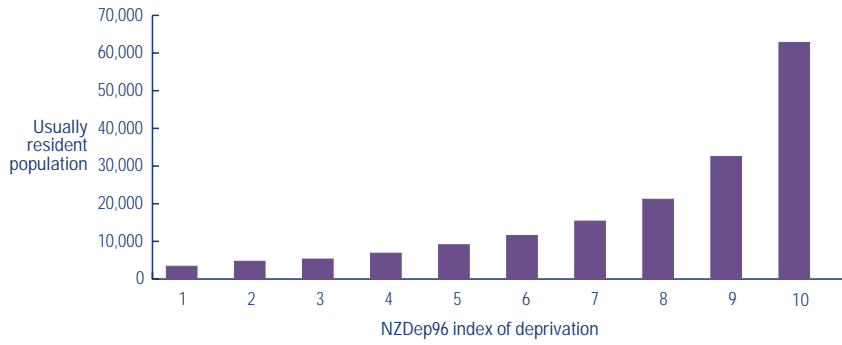
**Figure 3A: Deprivation profile of the European and Other ethnic groups**



**Figure 3B: Deprivation profile of the Māori ethnic group**



**Figure 3C: Deprivation profile of the Pacific ethnic group**

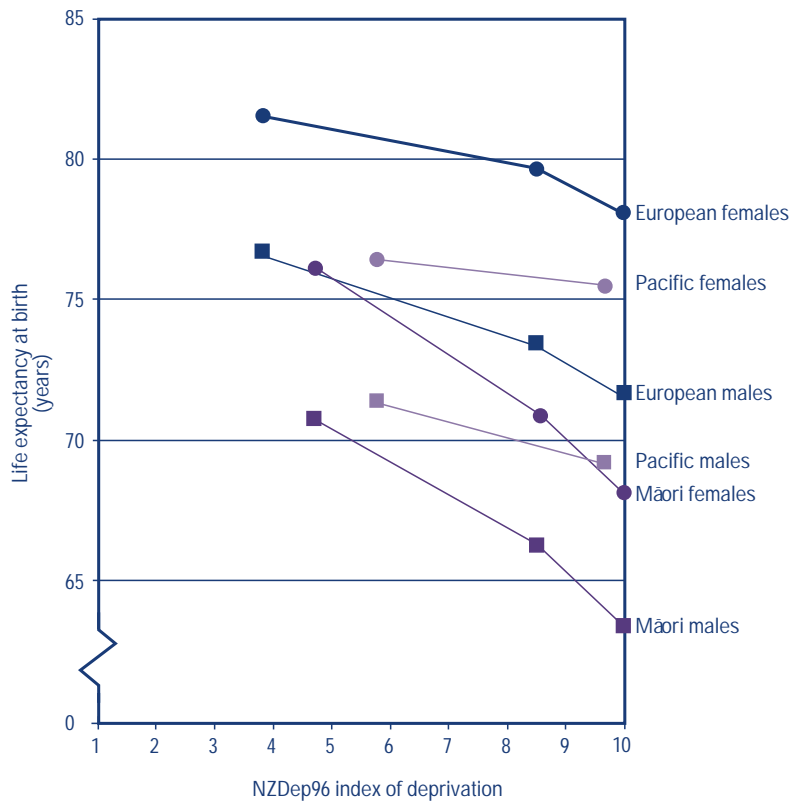


Some of the deprivation gap will result from the younger age structure of Māori and Pacific populations.

### The outcome gap

Second, health outcomes for Māori and Pacific peoples are in most instances worse than those for non-Māori and non-Pacific peoples, even after controlling for deprivation. This disparity is referred to as the outcome gap. Figure 4 shows that average life expectancy at birth for Māori is consistently less than that of non-Māori in each of these deprivation strata. The effect is present in both men and women (Reid et al 2000).

**Figure 4: Life expectancy at birth, by aggregated deprivation decile, for Māori, Pacific and European ethnic groups\***

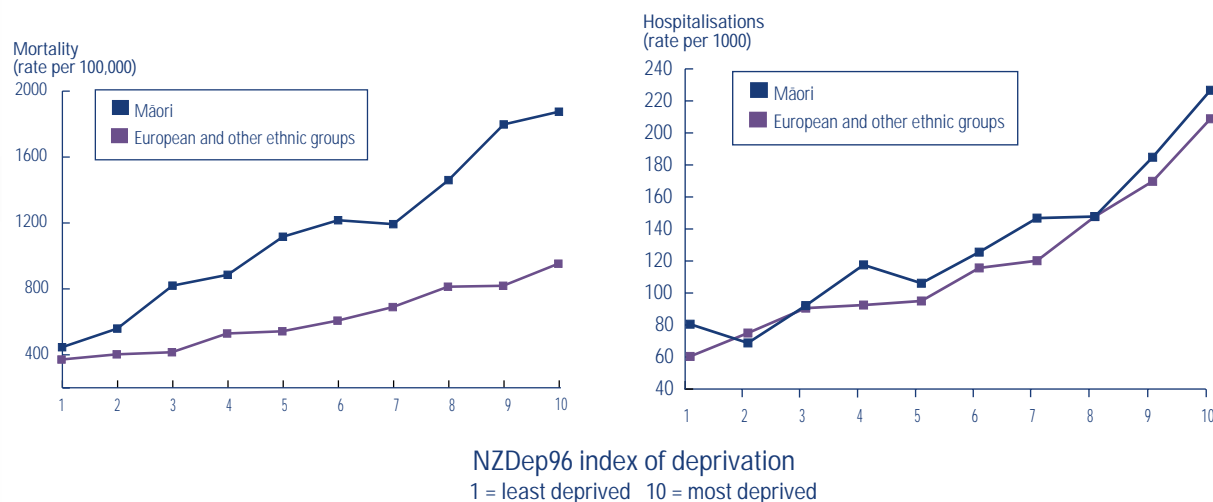


\* Population-weighted midpoints of aggregated NZDep96 deciles differ for each ethnic group.  
Source: Ministry of Health

## The gradient gap

Finally, the gradient gap describes the relationship between health outcomes and increasing deprivation by ethnic group. In some cases, the impact of increasing deprivation is greater for Māori, so that the resultant Māori gradient is steeper than that of non-Māori. It is as if the effect of increasing deprivation compounds risk for Māori when compared with non-Māori. As reflected in figure 5, the gradient gap is demonstrated in mortality data, but is generally not evident in hospitalisation data (Reid et al 2000). With respect to mortality, the size of the gradient gap varies with age group and cause of death.<sup>2</sup>

**Figure 5: Mortality and public hospitalisations, Māori and non-Māori males aged 45–64 years, 1996–97**



Source: Eru Pomare Māori Health Research Centre

## Geographic place of residence

Place of residence – that is, people’s local physical and social environments – plays a role in generating inequalities in health.

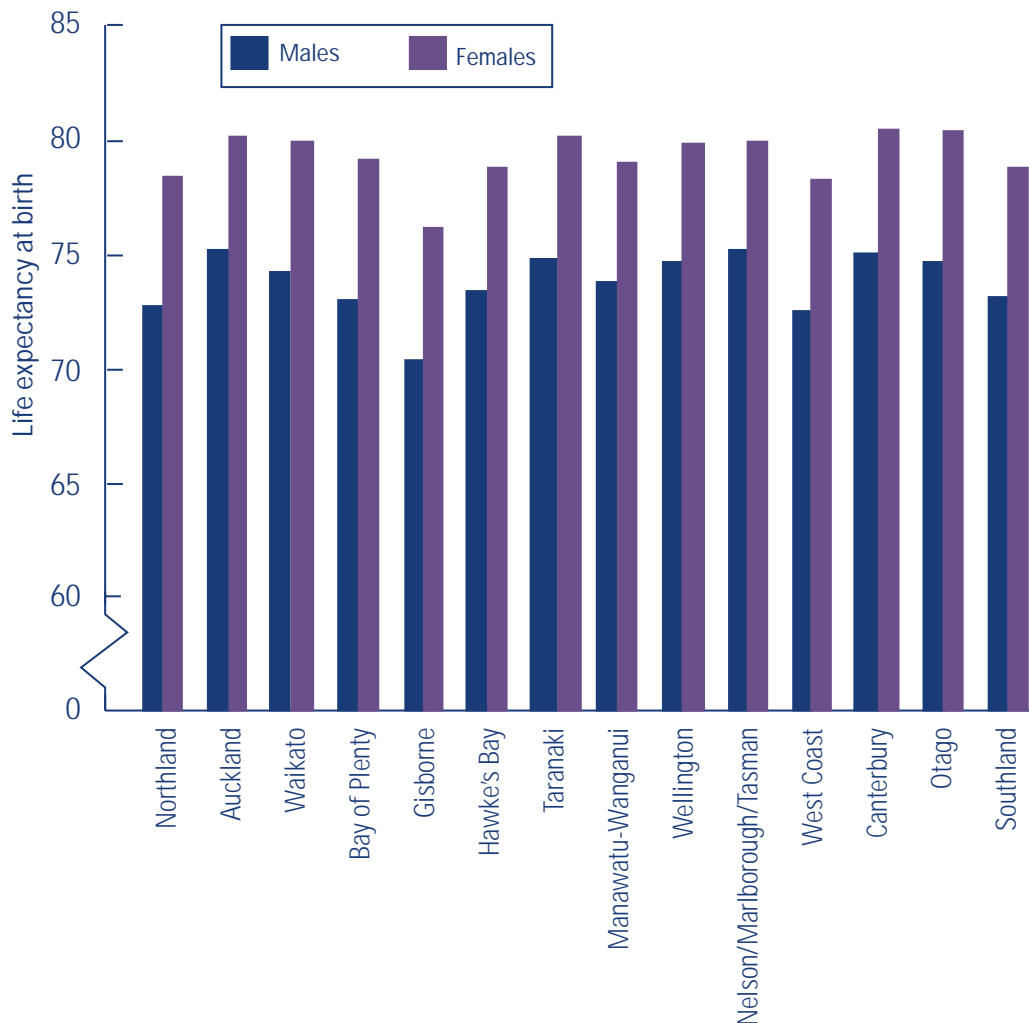
Features of a person’s place of residence that affect health include:

- the access it provides to health services
- the access it provides to employment and educational opportunities, and to social services
- the availability of affordable, healthy food options
- factors such as the safety of the roads, recreational opportunities and public transport networks
- people’s perceptions of their neighbourhoods and the degree of community cohesiveness
- the quality and appropriateness of the housing stock.

<sup>2</sup> It is possible that at least some of the gradient gap is due to bias in the source data (Blakely, Kiro et al 2002; Blakely, Robson et al 2002).

There is some evidence internationally to suggest that poorer areas and areas with indigenous or minority populations have features that make them unhealthy, while wealthier areas have features that promote people's health. Figure 6 shows variations in life expectancy by region. Much of this variation will be due to compositional effects (ie, differing socioeconomic and ethnic profiles and associated health risks among regions), however, the impact of place may be responsible for some of the variation.

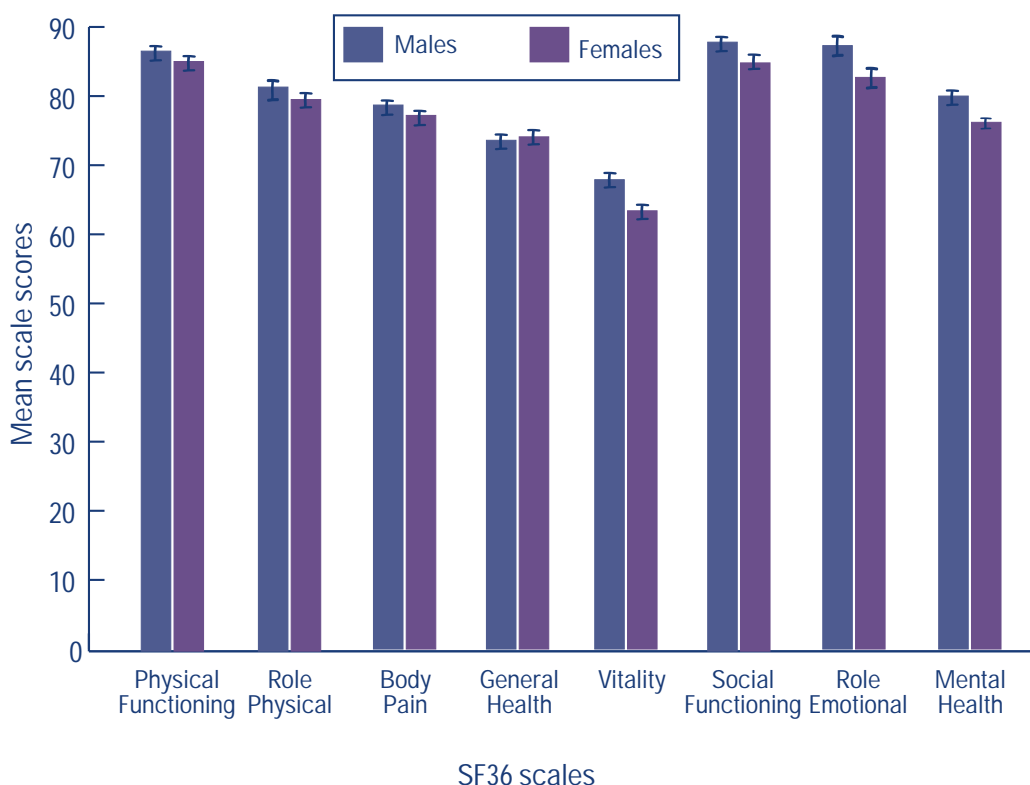
**Figure 6: Regional life expectancy at birth, 1995–97**



## Gender

Women have longer life expectancy than men, but have poorer self-reported mental health. Gender differences in health can be seen in the SF36 self-reported health scale (figure 7). The three scales at the furthest right of the graph (all of which relate to dimensions of mental health) show statistically significant gender differences.

Figure 7: SF36 profiles by gender 1996/97



Source: Ministry of Health

Both sex and gender influence the differences in men’s and women’s health outcomes. Sex refers to the biologically recognised differences between men and women, related to reproduction. Gender is a social category that defines the social and cultural construction of femininity and masculinity in society, justifying the differential allocation of resources and power (Ostlin 2002).

Gender differences in cause-specific mortality and morbidity suggest that interventions to reduce health inequalities among women should have a different focus than those to reduce inequalities among men. These gender differences in outcomes are caused by gender differences in risk factors related, for example, to different exposures arising from labour segregation (both in the workplace and the home) and differential access to social and economic resources. Both men’s and women’s health is affected by gender roles, and policies and programmes need to be sensitive to the impact of gender on exposure to health risks, health services utilisation and health outcomes.

Our knowledge in this area is relatively underdeveloped in New Zealand compared with our understanding of socioeconomic and ethnic inequalities in health. However, it is clear that we need to understand better how gender influences health inequalities in order to develop gender-sensitive policies and programmes that are more effective at reducing socioeconomic and ethnic inequalities in health between men and women, as well as among men and among women.



## What do all these findings on health inequalities mean?

Socioeconomic position, ethnic identity and gender are all related to significant health inequalities among New Zealanders. Over and above these variables, place of residence may also exert a small independent influence on health status. These four dimensions appear to interact in complex ways to affect health. These inequalities exist throughout life – from birth, through childhood, adolescence and adulthood, and into old age. Disadvantage early in life also influences disadvantage and health in later life. Disadvantage therefore takes a cumulative toll on an individual's health over his or her lifetime, as well as across generations.

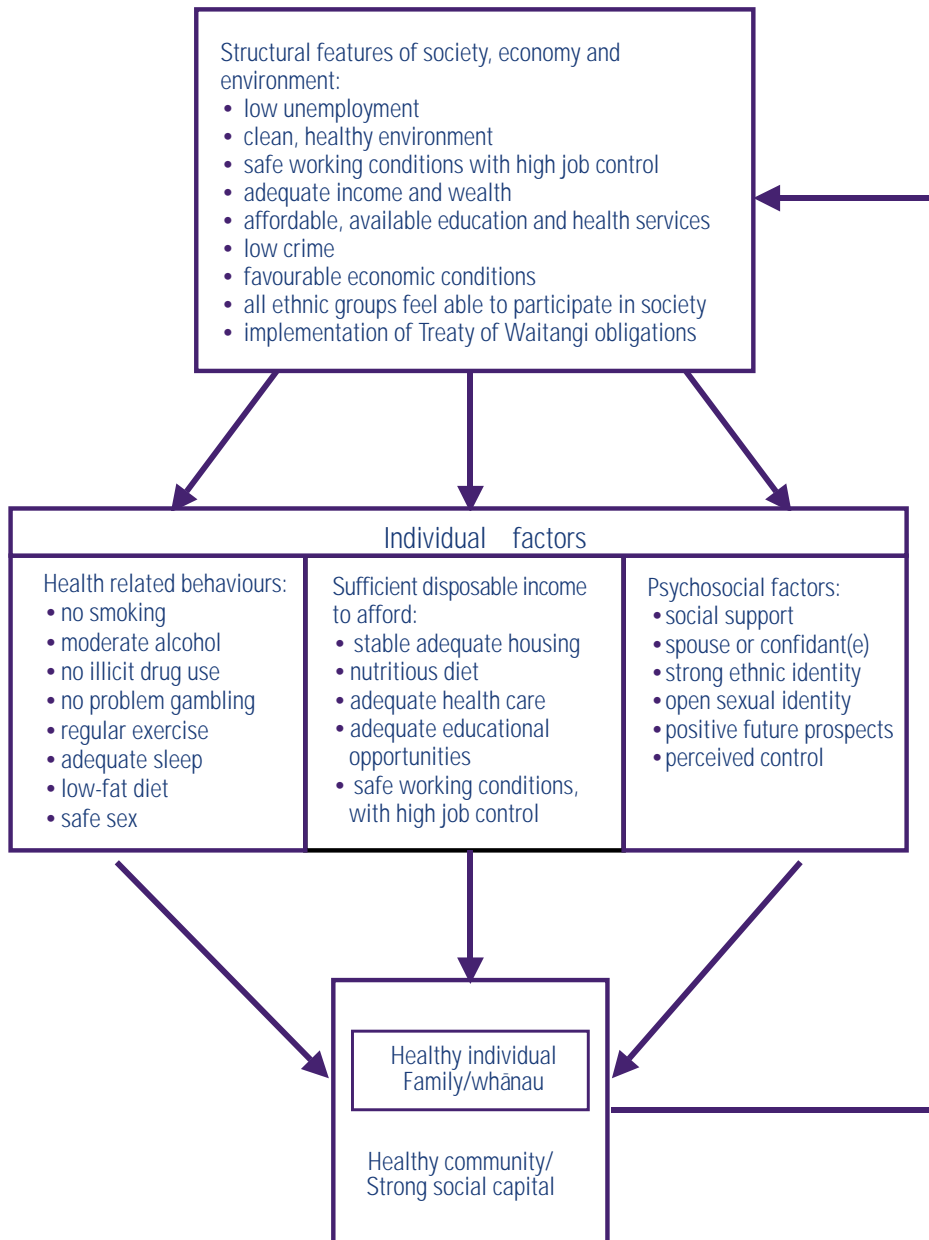
Although we have a reasonable understanding of how socioeconomic position and ethnic identity influence health outcomes and inequalities in health, there are still differences in opinion as to the best ways forward. Many providers around the country are using innovative methods to reduce inequalities and are achieving success (for example, see Ministry of Health 2001b). As we move forward, it is critical that we take care to monitor and evaluate outcomes, and to disseminate the resulting information, in order to learn from our experience.



# A model of health determinants – fitting it all together

The model of health set out in figure 8 is modified from that used in Social Inequalities in Health (Howden-Chapman and Tobias 2000). It recognises that it is the structure of society that predominantly determines individual behaviour. However, individual behaviour and experience are also clearly affected by factors such as age, gender and genetic make-up. In turn, individual behaviour and experience influence the health of the community and the structure of society.

**Figure 8: Model of the social and economic determinants of health**



Note: Arrows indicate probable causality



The model shows how structural conditions may get 'under the skin' to ultimately affect health. Structural factors may encourage or inhibit particular lifestyles. For example, in high-income households, high disposable income allows expenditure on physically active leisure, which reduces the incidence of ischaemic heart disease. In turn, cultural rules may feed back to structural factors (feedback is indicated by the upward arrow in figure 8). For example, Pacific cultures incorporate strong social obligations to accommodate one's relatives, even if one's household is already overcrowded physically and overstretched financially (Laing and Mitaera 1994); a high occupancy exposes everyone in the household to a greater risk of airborne infections, such as tuberculosis and meningococcal disease.

Although individuals make choices about how they act, those choices are conditioned cumulatively over a lifetime and are partially determined within economic, historical, family, sociocultural and political contexts. Gender, ethnic and socioeconomic (dis)advantage interact and accumulate across the lifespan. For Māori, historical decisions such as the signing of the Treaty of Waitangi and the subsequent land confiscations have had a significant impact on present health patterns. Such effects arise directly through factors such as narrowing the Māori economic base, as well as reducing Māori political influence (Durie 1998).

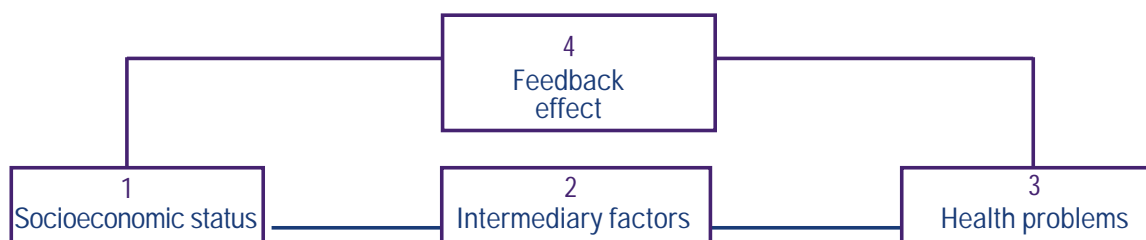
These structural factors have important flow-on effects. Sufficient purchasing power to feel secure and included in society is central to the health of individuals in any community. Individuals and households need sufficient disposable income to afford stable, adequate housing, educational opportunities and effective, available and acceptable health care.

Having financial security is one of the factors that makes it easier to feel secure psychologically. Adults with partners or confidant(e)s tend to be buffered from outside socioeconomic pressures, but most people still need wider social support to prosper. Affirmation of identity – whether it be ethnic identity or sexual orientation – is also closely related to health. Those who are financially secure, psychologically confident and socially supported are also more likely to look forward to the future and to want to adopt and maintain health-related behaviours that yield long-term health benefits. Those who are not financially or psychologically secure, or who live in deprived neighbourhoods, are more likely to undertake self-destructive behaviours that threaten their health, such as smoking, eating high-fat diets and being less physically active.

# What we can do – an intervention framework

Mackenbach (cited in National Advisory Committee on Health and Disability 1998) identifies four possible points to intervene to reduce socioeconomic inequalities in health (as shown in figure 9).

**Figure 9: Four possible targets for interventions to reduce socioeconomic inequalities in health**



In this framework, health inequalities may be reduced by targeting:

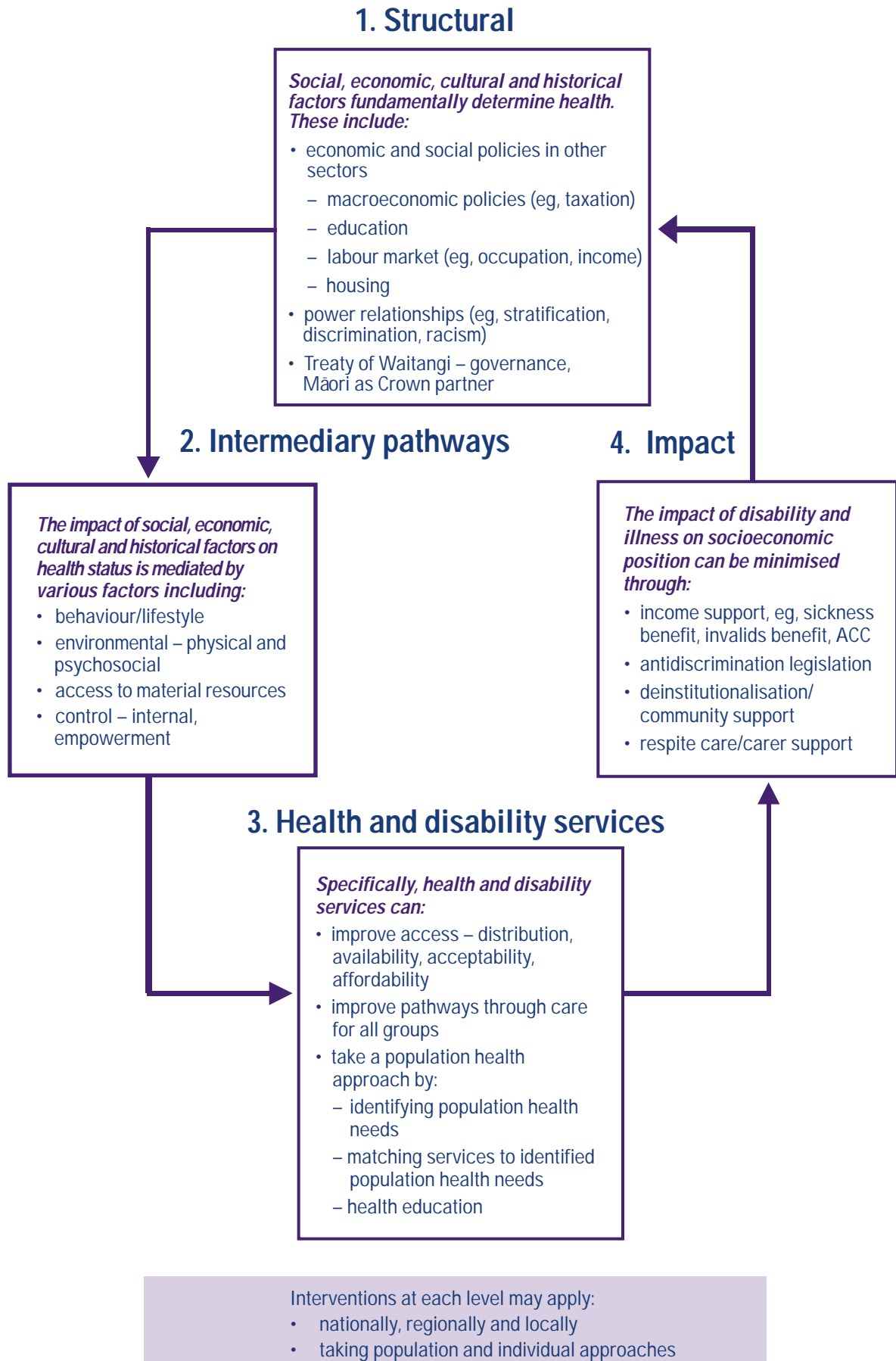
1. underlying social and economic determinants of health
2. factors that are intermediate between socioeconomic determinants and health, such as behaviour, environment and material resources
3. health and disability support services
4. the feedback effect of ill health on socioeconomic position.

Figure 10 below combines the model of social and economic determinants of health (figure 8) and Mackenbach's intervention framework (figure 9) to propose an intervention framework to improve health and reduce inequalities in New Zealand.

## A comprehensive approach to reducing inequalities in health – the intervention framework

The intervention framework in figure 10 provides a guide for the development and implementation of comprehensive strategies to improve health and reduce health inequalities. To make a significant difference to the health of populations, we must develop and implement the comprehensive strategies that target all four levels in figure 10. The framework can be used in clinical, planning and policy areas, locally, regionally or nationally and on a population or individual basis. Programmes should be developed using interventions from a variety of levels in this framework.

Figure 10: Intervention framework to improve health and reduce inequalities



## **Level 1: Structural – social, economic, cultural and historical factors fundamentally determine health**

The most fundamental approach to reducing inequalities in health is to tackle their root cause; that is, address the social, cultural, economic and historical inequalities themselves. This requires policies directly concerned with education, occupation, income and the economy. For example, it involves investment in education and the social security system, and the development of labour market policies that strengthen the position of those most at risk of unemployment (Mackenbach and Bakker, 2002).

The Treasury has recently taken up this structural perspective in three forward-thinking reports *Towards an Inclusive Economy* (The Treasury 2001a), *Human Capital and the Inclusive Economy* (The Treasury 2001b), and *Geography and the Inclusive Economy: a Regional Perspective* (The Treasury 2001c). The Ministry of Social Development has also articulated a social development approach, which includes an overall approach and a social exclusion strategy (Ministry of Social Development 2001).

From the perspective of the health sector, the disadvantage of a structural approach is that it is not directly within our control. It is, however, within our influence and can make a sustained reduction in health inequalities. The health sector can and should take the lead in encouraging a wider and more strategic approach to developing healthy public policies (Benzeval et al 1995).

Health sector workers can contribute by drawing attention to the social and economic determinants of health and advocating for policies in other sectors that will improve health and reduce health inequalities. We should also work collaboratively with other sectors to develop and implement a more comprehensive range of strategies to tackle specific health problems than we could apply relying on health services alone. The first objective of the New Zealand Health Strategy – health impact assessment – may provide an effective means of formally assessing the likely impact of social and economic policy options on health. The National Health Committee and the Ministry of Health are currently exploring the application of health impact assessment in New Zealand.

The health sector also has a direct role at the strategic level; namely, it should ensure that its own policies are directed towards a more equitable distribution of health resources in relation to inequalities in health status.

Specific examples of the types of action that may be taken at this level include:

1. systematic implementation of the provisions of the Treaty of Waitangi in policy, planning and service delivery
2. health funding arrangements that distribute resources according to need
3. exploration of health impact assessment tools
4. monitoring of health inequalities, social determinants and the relationship between the two
5. development of Māori and Pacific providers and workforce



6. policies that ensure equitable education, labour market, housing and other social outcomes.

The Treasury, Ministry of Social Policy, Ministry of Health and other government departments can all work collaboratively at this structural level to make a significant impact on inequalities in health.

## **Level 2: Intermediary pathways – the impact of social, economic, cultural and historical factors on health status is mediated by various factors**

The effect of socioeconomic position on health is mediated by a number of material, psychosocial and behavioural factors, which may provide effective intervention points. Housing policies and community development programmes may help reduce the exposure of low socioeconomic groups to unfavourable living conditions. In addition, workplace interventions and health and safety regulations may help to reduce exposure to unfavourable physical and psychosocial working conditions. Community development programmes that empower people and increase feelings of control, as well as school-based services to help children from disadvantaged groups to develop adequate coping skills, may also help.

Examples of actions at this level include:

1. housing initiatives
2. community development programmes
3. settings-based programmes, such as healthy cities and health-promoting schools
4. workplace interventions (for example, Occupational Safety and Health)
5. local authority policies (for example, in relation to cycleways, lighting, playgrounds and transport)
6. health education and the development of personal skills
7. health protection.

## **Level 3: Health and disability services – what services can specifically do**

Although reducing social and economic inequalities is likely to have the greatest sustained impact on population health, health care services do have a significant part to play.

Health and disability services can contribute to reducing inequalities if they:

- ensure equity of access to care by distributing resources in relation to need, as defined in collaboration with local communities
- remove barriers, however defined, that inhibit the effective use of services for all ethnic and social groups (Benzeval et al 1995).

Examples of actions at this level include:

1. improved access to appropriate, high-quality health care and disability services
2. collection of accurate ethnicity data
3. implementation of the elective services booking system based on need
4. monitoring of service delivery to ensure equitable intervention rates according to ethnicity, gender, socioeconomic status and region
5. primary care initiatives that reduce access barriers for Māori, Pacific peoples and other disadvantaged groups
6. ethnic-specific service delivery
7. community participation in the health sector at a governance level and in resource allocation decision-making
8. equitable resource allocation by District Health Boards as funders and by providers, including hospitals
9. collaborative partnerships within the health sector and intersectorally.

#### **Level 4: Impact – minimising the impact of disability and illness on socioeconomic position**

Poor health status can result in downward social mobility at the individual level. Healthy individuals tend to be promoted, whereas those in poor health find it difficult to obtain employment or have to take less demanding jobs. In this way our health status can determine our social and economic position rather than the other way around (Benzeval et al 1995).

In other words, those who are chronically ill, or have a disability or mental illness, face higher risks of downward mobility through lower educational achievement, greater problems in finding and keeping a job and fewer opportunities for upward mobility within a job.

Examples of actions at this level include:

1. income support (for example, sickness benefits)
2. disability allowance
3. accident compensation
4. antidiscrimination legislation and education
5. support services for people with disabilities, chronic illness and mental health illness living in the community and their carers (for example, respite care).

Health services, acting in levels 2 and 3, also have an important role to play in minimising the likelihood that poor health will adversely affect people's education and employment opportunities. An example of this is hearing and vision screening to ensure that young children are able to learn.

## Best practice principles

Policies and interventions are likely to be more appropriate to the task of reducing inequalities in health if they are underpinned by the following principles:

- an explicit commitment to implementing Treaty of Waitangi principles – participation, partnership and active protection
- a recognition that all New Zealanders should have timely and equitable access to an affordable range of health and disability services
- a focus on early intervention and ensuring that all groups have access to effective treatment services.

Any intervention should:

- not make inequalities worse
- increase people's control over their own lives
- actively involve users of health services and communities
- favour the least advantaged
- take a comprehensive approach, targeting individuals, whānau, population groups and the environment
- foster social inclusion and minimise stigmatisation
- be effective both in the short- and long-term
- adapt to changing circumstances
- work with and build the capacity of local organisations and community networks.



# Who is responsible for reducing health inequalities?

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Action must be taken at all levels of the framework, by all parts of the sector, nationally, regionally and locally. There is a role for all of us to play in reducing health inequalities. The wider social sector also has a significant role, but here we have focused on what the health and disability sector is responsible for, and how it can work with other sectors to effect results. Key players in our sector are:

- policy advisors and decision-makers, especially the Ministry of Health, the Minister of Health and Cabinet colleagues
- funders and providers of health services, including District Health Boards, hospitals, non-government organisations and primary health care organisations
- local government
- communities, through generating community action.

One of the government's key goals, which guides public sector policy and performance, is to reduce inequalities in education, employment, housing and health for all disadvantaged groups, and particularly for Māori and Pacific peoples and between men and women. The Ministry of Health's formal requirements to contribute to the achievement of this goal is set out in its Statement of Intent (SOI), which is tabled in Parliament with the Budget. The Ministry reports its performance against its SOI in its Annual Report, which is also tabled in Parliament. There is a Cabinet requirement to include a specific section within the Annual Report that details the Ministry's progress in reducing inequalities over the previous year. The Treasury, Te Puni Kōkiri, the Ministry of Pacific Island Affairs and the Audit Office audit this performance.

District Health Boards have a statutory responsibility for reducing health inequalities (New Zealand Public Health and Disability Act 2000), which is reinforced through their main accountability documents – the Crown Funding Agreements. These key health sector organisations have a powerful mandate to direct health resources as needed at the local level. District Health Boards and the Ministry of Health should negotiate and monitor service agreements with providers in such a way as to ensure service provision reduces inequalities in health.

Local government has always had a role to play in health, particularly in the environmental infrastructure that supports health. The Local Government Bill, once enacted, will strengthen this role.

Communities can and do take the initiatives at a local and national level to improve their circumstances. Everyone can act to reduce inequalities in health, and the whole of society benefits.





# Where to from here?

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This paper aims to stimulate discussion within the health sector and more broadly. There will be formal opportunities to discuss the framework as the Ministry of Health organises sector workshops over the coming months.

The workshops will expand on the intervention framework presented here, and work through some practical examples of what can be done to reduce inequalities in health:

- at the four intervention points
- nationally, regionally and locally
- by policy-makers, funders and providers.

Worked examples using diabetes (Ministry of Health 2002a) and oral health (Ministry of Health 2002b) are available from the Ministry of Health.

The Ministry of Health would like feedback on this paper. Comments should be sent to:

Public Health Policy Group

Public Health Directorate

Ministry of Health

P O Box 5013

Wellington



# Appendix One

## The NZDep96 index of deprivation

NZDep96 is an updated version of the NZDep91 index of deprivation. NZDep96 combines nine variables from the 1996 Census, which reflect eight domains of deprivation. NZDep96 provides a deprivation score for each meshblock in New Zealand. Meshblocks are geographical units defined by Statistics New Zealand, containing a median of 90 people.

The NZDep96 index of deprivation has two forms: an ordinal scale and a continuous score. The scale ranges from 1 to 10, where 1 represents the least deprived areas and 10 the most deprived areas. The NZDep96 interval variable is the first principal component score, which has been scaled to have mean 1000 index points and a standard deviation 100 index points. The NZDep96 10-point scale is derived from the interval variable.

The NZDep96 scale from 1 to 10 divides New Zealand into tenths of the distribution of the first principal component scores. For example, a value of 10 indicates that the meshblock is in the most deprived 10 percent of areas in New Zealand.

It should be noted that NZDep96 scores apply to areas rather than individual people, and the 1 to 10 scale is ordinal not interval.

Table A1 lists the census data that were combined to form NZDep96. Each variable was calculated as proportions for each small area.

**Table A1: Variables included in NZDep96**

Variable	Description
1 Communication	People with no access to a telephone
2 Income	People aged 18–59 receiving a means-tested benefit
3 Employment	People aged 18–59 unemployed
4 Income	People living in households with equivalised* income below an income threshold
5 Transport	People with no access to a car
6 Support	People aged < 60 living in a single-parent family
7 Qualifications	People aged 18–59 without any qualifications
8 Owned home	People not living in own home
9 Living space	People living in households below equivalised* bedroom occupancy threshold


\* Equivalisation: method used to control for household composition.

Ref: Howden-Chapman and Tobias (2000)


# Glossary

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Deprivation scale	A 10 category ordinal scale from 1 (assigned to the least deprived 10 percent of NZDep96 small areas) to 10 (assigned to the most deprived 10 percent of NZDep96 small areas).
Determinants of health	The range of personal, social, economic and environmental factors that determine the health status of individuals and populations.
Ethnic identity	The current official (Statistics New Zealand) definition of an ethnic group is a social group whose members: <ul style="list-style-type: none"><li>• share a sense of common origin</li><li>• claim a common and distinctive history and destiny</li><li>• possess one or more dimensions of collective and cultural individuality such as unique language, religion, customs, mythology or folklore</li><li>• feel a sense of unique collective solidarity.</li></ul>
Health inequality	Differences in health that are unnecessary, avoidable and unjust.
Health status	A description and/or measurement of the health of an individual or population.
Income inequality	A measure of the extent of differences in income received by individuals in the population, from the lowest to the highest.
Māori	The indigenous people of New Zealand.
Morbidity	Any departure (subjective or objective) from a state of physiological or psychological wellbeing.
Mortality	Death.
New Zealand Health Strategy	The New Zealand Government's strategic direction for the health sector, incorporating goals and objectives, and stating priorities, published in December 2000.
NZDep96	A census-based small area index of deprivation, derived by principal component analysis of nine socioeconomic variables from the 1996 New Zealand Census, using meshblocks (small areas with a median of 90 people).



Pacific peoples	The population of Pacific Islands ethnic origins (for example, Tongan, Niuean, Fijian, Samoan, Cook Islands Maori, and Tokelauan). Includes people of Pacific Islands ethnic origin born in New Zealand as well as those born overseas.
Pākehā	Descendants of early European settlers in New Zealand.
SF36	A health-related quality of life instrument comprising 36 items (questions) that provide an eight-dimensional description of health status, including scales relating to physical, mental and social functioning. Each scale is psychometrically scored, generating a profile of eight scores to describe the health of an individual or group.
Whānau	Relationships that have blood links to a common ancestor.



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