Health and Independence Report 2003
Director-General’s annual report on the state of public health
Foreword

Every day thousands of New Zealanders have contact with our health and disability support system, whether they are receiving care or treatment for illness or injury, engaging in activities to promote health, or receiving support to live full and independent lives.

Rarely, however, do many people consider such issues as how each individual contact or activity fits within the wider framework of the health and disability support system, the breadth and sheer complexity of services that are delivered, or how the activities of the system are impacting on the health and independence of New Zealanders.

This report provides a context for our individual encounters with the health and disability support system by exploring the strategies that guide the system, the scope of activity across the system, and the outcomes that are being achieved for New Zealanders. In so doing, this report accounts for the considerable investment of taxpayers’ money in the health and disability support system.

The 2003 Health and Independence Report builds on the approaches developed in reports of previous years. This report is required under section 3C of the Health Act 1956. This year, we have extended discussion of the many services that are delivered through examining four key parts of the health and disability support system: personal health services, public health services, mental health services and disability support services. The 2003 report also provides extensive discussion of outcomes of publicly funded health and disability support services, both in terms of their contribution to the health and independence of New Zealanders, and progress towards key strategic goals.

Two further innovations are notable in this year’s report. Firstly, a stand-alone chapter explores Māori health status and the contribution of health services to Māori health. Secondly, the final chapter of this report draws together summarised findings of evaluations and analyses of sector activities. Such evaluations provide critical information and direction to enable ongoing enhancements to the health and disability support system.

I would welcome any comment from readers on the content and direction of this report, and ways in which the report can be further enhanced in future years to maintain its relevance and usefulness. Please address these to:

Health and Independence Report
Sector Policy Directorate
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Wellington.

Karen O Poutasi (Dr)
Director-General of Health
Acknowledgements

The editors would like to thank the many people both inside and outside the Ministry of Health who have contributed to this report. Thanks are also extended to Associate Professor Chris Cunningham (Director of Health Research, School of Māori Studies, Massey University), and Professor Nicholas Mays (Professor of Health Policy, Health Services Research Unit, Department of Public Health and Policy, London School of Hygiene and Tropical Medicine), both of whom gave their time to peer review the document.

The cover photos represent the four societal outcomes that the Ministry of Health and the health sector contribute to, as detailed in the Ministry's Statement of Intent: better participation and independence, trust and security, better health, and reduced inequalities.
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Introduction

For every dollar that the New Zealand Government spends, 20 cents will be invested in the health and disability support system. This allocation funds a vast array of services, in both urban and rural settings, delivered by an estimated 67,000 health workers in a variety of fields.

In a typical year, there will be:

- 14 million visits to general practitioners
- 44 million prescriptions dispensed
- 620,000 hospital discharges for medical and surgical treatment
- 88,000 people accessing mental health services
- 414,000 cervical smears taken
- 320,000 free influenza vaccinations
- 53,000 free checks for people with diabetes
- 292,000 assessment, treatment and rehabilitation ‘bed days’ provided for some 14,000 people with disabilities or age-related disorders.

The *Health and Independence Report 2003* documents the state of public health in New Zealand – how healthy we are and how our health and disability support system enables us to live to the fullest degree possible.

A key focus of this report is the contribution that the health and disability sector makes to the health and independence of New Zealanders. It identifies the successes and achievements of the health and disability support sector, and discusses critical issues and challenges facing the sector. It is intended to be a resource for a wide range of users, including health planners, health service providers, policy analysts, community groups and anyone with an interest in the health and disability support sector.

In a significant sense, this report is a statement of accountability for the health and disability support sector. The *Health and Independence Report 2003* examines:

- how the $8 billion of taxpayer funding is distributed
- the health and disability support services that are delivered
- the health and independence outcomes that are attributable to the health and disability support system, as well as outcomes that are influenced by social, economic and environmental factors occurring throughout the lifecycle
- progress towards achieving the overarching strategies of the health and disability support system
- aspects of the performance of our health and disability support system alongside those of other countries.
The health and disability support sector as a system

Throughout this report, the health and disability support sector is presented using an inputs → outputs → outcomes classification.

The inputs of the health and disability support system include the policy frameworks, the funding mechanisms for health and disability support services, the structural arrangements, the workforce and the information systems.

The outputs of the system are the actual services delivered to New Zealanders, such as those listed on the previous page.

The Ministry of Health, in its Statement of Intent, identifies societal outcomes that the health and disability support sector significantly contributes to. These are: better health, better participation, reduced inequalities, and trust and security in the health system. Supporting the societal outcomes are the system outcomes of equity and access, effectiveness, quality, efficiency and value for money, and intersectoral focus.

Inputs
- Finance
- Workforce
- Information
- Strategies
- Structures

Outputs
- Personal health services
- Public health services
- Mental health services
- Disability support services

Outcomes
- Better health
- Better participation
- Reduced inequalities
- Trust and security

The Minister of Health and the Ministry of Health have the most control over the high-level inputs to the system: the aggregate funding, the policy frameworks and the structures of the system. DHBs (and the Ministry of Health in its funding role) have the most control over inputs such as workforce, the outputs of the system (particularly the services delivered) and the system-level outcomes. Overall, all the entities in the system – government, DHBs, non-governmental organisations (NGOs), primary health care providers, other providers, regulatory agencies, individual practitioners and New Zealanders themselves – have a part to play in achieving the societal outcomes.

Chapters 2, 3 and 4 carry a footer with a summary system diagram indicating whether the material on that page is predominantly about inputs, outputs or outcomes, as indicated below:
Structure of the report

There are six chapters in the 2003 Health and Independence Report. The structure of the report follows a path from describing the strategies and structures underpinning the system; to funding and service delivery; to the outcomes achieved; to progress towards achievement of strategic goals; concluding with evaluation, where possible, of the performance of the health and disability support system.

Chapter 1 examines the health and disability support system, how it functions, and the overarching strategies – the New Zealand Health Strategy and the New Zealand Disability Strategy. This chapter also discusses the means by which the performance of the health system can be considered.

Chapter 2 describes the inputs of the health and disability support system, primarily workforce, funding and information.

Chapter 3 discusses the outputs (services) delivered, in terms of personal health services, public health services, mental health services and disability support services.

Chapter 4 assesses the ‘high-level’ outcomes that the system achieves in relation to health status and health sector performance, and achievements in relation to the goals or key strategies guiding the sector.

Chapter 5 specifically examines Māori health status and the contribution of health services to Māori health in the context of the Treaty of Waitangi and in relation to He Korowai Oranga: Māori Health Strategy.

Chapter 6 examines aspects of the performance of New Zealand’s health system against the experiences of other countries’ systems, and summarises the findings of in-depth evaluations of components of our health and disability support system.

Note on data reporting

The Health and Independence Report provides an annual compendium of Ministry of Health reports and information, providing or summarising in one place a great deal of statistical and financial information. In all cases, the most recently available data have been used and, wherever possible, these have been for the 2002/03 year. However, in many instances, data collection and reporting processes have meant the most recently available data are for the 2001/02 year or earlier. All information on patients treated in public hospitals, and publicly funded patients treated in private hospitals, are required to be submitted to the National Minimum Data Set within 21 days after the month of discharge. However, due to hardware and software problems, and staff shortages, some hospitals were unable to meet these deadlines for submitting data for 2002/03. As a result, 2002/03 data from the National Minimum Data Set were incomplete at the time of compiling this report (September–October 2003). For these reasons, 2001/02 records have been used as the most complete recent year’s data.
Chapter 1: What is the Health and Disability Support System and How Does It Work?

This chapter provides an overview of the strategic framework, the sector structures, and approaches to assessing the performance of the health and disability support system. It specifically examines:

- the key overarching strategies of the sector, the New Zealand Health Strategy and the New Zealand Disability Strategy, and related strategies
- the structures of the health and disability sector, including District Health Boards, Primary Health Organisations and other service funders and providers
- activities of the Ministry of Health that provide insights into the performance of the health and disability system.

The strategic framework

The New Zealand Public Health and Disability Act 2000 (the Act) requires the New Zealand Health Strategy and the New Zealand Disability Strategy to be in place to provide the framework for the overall direction for the sector. These strategies take a population approach to identify the areas where intervention will make a real contribution to the goals of healthy and independent New Zealanders. The Act also requires the Minister of Health and the Minister for Disability Issues to report annually to the public and the House of Representatives on progress in implementing the New Zealand Health Strategy and the New Zealand Disability Strategy respectively.

These two strategies sit alongside each other and guide the development and implementation of more detailed service, health issue and population-group specific strategies and/or action plans. These strategies and action plans identify how specific objectives identified in the New Zealand Health Strategy and the New Zealand Disability Strategy will be addressed.

Action in the health and disability sector is also influenced by a number of intersectoral strategies.

The New Zealand Health Strategy

The first New Zealand Health Strategy was launched in December 2000. It places particular emphasis on improving population health outcomes and reducing disparities in health between all New Zealanders, including Māori and Pacific peoples (Minister of Health 2000).

The New Zealand Health Strategy identifies seven fundamental principles that should be reflected across the health and disability sector. Any new strategies for development should relate to these principles.
The seven principles of the New Zealand Health Strategy are:
• acknowledging the special relationship between Māori and the Crown under the Treaty of Waitangi
• good health and wellbeing for all New Zealanders throughout their lives
• an improvement in health status of those currently disadvantaged
• collaborative health promotion and disease and injury prevention by all sectors
• timely and equitable access for all New Zealanders to a comprehensive range of health and disability services, regardless of ability to pay
• a high-performing system in which people have confidence
• active involvement of consumers and communities at all levels.

The New Zealand Health Strategy also highlights 13 population health objectives that were chosen for the contribution they can make to improving the health status of the population, and their potential for reducing health inequalities.

The 13 population health objectives are to:
• reduce smoking
• improve nutrition
• reduce obesity
• increase the level of physical activity
• reduce the rate of suicides and suicide attempts
• minimise harm caused by alcohol and illicit and other drug use to both individuals and the community
• reduce the incidence and impact of cancer
• reduce the incidence and impact of cardiovascular disease
• reduce the incidence and impact of diabetes
• improve oral health
• reduce violence in interpersonal relationships, families, schools and communities
• improve the health status of people with severe mental illness
• ensure access to appropriate child health care services including well child and family health care and immunisation.

The New Zealand Disability Strategy
The New Zealand Disability Strategy was launched in April 2001. It is an intersectoral document with relevance across the whole of the public sector in New Zealand (Minister for Disability Issues 2001).

The Ministry of Health was initially responsible for leading the development of the New Zealand Disability Strategy and overseeing its implementation. On 1 July 2002 this role shifted to the Ministry of Social Development’s Office for Disability Issues.
The Ministry of Health funds a range of disability support services for people with long-term/lifelong disabilities (mostly aged under 65 years),\(^1\) while funding for disability support services for people aged 65 years and over was devolved to District Health Boards (DHBs) on 1 October 2003.\(^2\) Disability support services comprise a range of services to increase independence and participation, from home-based support to residential support services.

The New Zealand Disability Strategy identifies 15 objectives, underpinned by detailed actions to advance New Zealand towards being a fully inclusive society.

<table>
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<th>The 15 objectives of the New Zealand Disability Strategy are to:</th>
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<td>• encourage and educate for a non-disabling society</td>
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<td>• ensure rights for disabled people</td>
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<td>• provide the best education for disabled people</td>
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<td>• provide opportunities in employment and economic development for disabled people</td>
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<td>• foster leadership by disabled people</td>
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<td>• foster an aware and responsive public service</td>
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<td>• create long-term support systems centred on the individual</td>
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<td>• support quality living in the community for disabled people</td>
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<td>• support lifestyle choices, recreation and culture for disabled people</td>
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<td>• collect and use relevant information about disabled people and disability issues</td>
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<td>• promote participation of disabled Māori</td>
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<td>• promote participation of disabled Pacific people</td>
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<td>• enable disabled children and youth to lead full and active lives</td>
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<td>• promote participation of disabled women in order to improve their quality of life</td>
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<td>• value families, whānau and people providing ongoing support.</td>
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Population-, disease- and service-based strategies

Although the New Zealand Health Strategy and the New Zealand Disability Strategy provide the overarching framework for action in the health and disability sector, they do not identify how specific priority objectives or services will be addressed. Population-, service- and disease-based strategies sit underneath the umbrella of the New Zealand Health Strategy and the New Zealand Disability Strategy and provide more detailed guidance for the health and disability sector, especially DHBs, on how to achieve the goals of the New Zealand Health Strategy and the New Zealand Disability Strategy. These strategies include He Korowai Oranga: The Māori Health Strategy, the Primary Health Care Strategy, and the Pacific Health and Disability Action Plan.

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1 Along with people with long-term disabilities aged 65 years and over until they require aged residential care.

2 People with disabilities aged 50–64 whose health support needs are assessed as ‘close in interest’ to older people are also funded by District Health Boards.
Population-, disease- and service-based strategies often overlap in their scope, and they inform and are informed by other health and disability strategies and action plans. For example, the Health of Older People Strategy is guided by the New Zealand Health Strategy, the New Zealand Disability Strategy and He Korowai Oranga, and draws on other health strategies, in particular the Primary Health Care, Palliative Care and Mental Health Strategies and the Pacific Health and Disability Action Plan.

Strategies released in 2003 were:

- **Healthy Eating – Healthy Action, Oranga Kai – Oranga Pumau**: A strategic framework sets out a framework for combating increasing rates of preventable health conditions related to poor nutrition and sedentary lifestyles, and the rising obesity epidemic.

- The Child Health Information Strategy is an overarching plan to guide the development, collection and use of information about the health of children and young people.

- **Improving Quality (IQ)**: A systems approach for the New Zealand health and disability sector was released in September 2003. It provides a shared approach and shared language to enable enhanced quality improvement in the New Zealand health and disability system.

- The New Zealand Cancer Control Strategy is the first phase in the development and implementation of a comprehensive and co-ordinated programme to control cancer in New Zealand. This strategy includes purposes, principles and goals to guide existing and future actions to control cancer.

### Action plans, toolkits and guidelines

The various population-, disease- and service-based strategies provide the basis for other policy initiatives that the Ministry of Health develops. These initiatives include action plans which guide the sector on how to achieve the goals and objectives of strategies, such as the *Improving Quality Action Plan: Supporting the Improving Quality Approach* (Minister of Health 2003c) that accompanies *Improving Quality: A Systems Approach for the New Zealand Health and Disability Sector* (Minister of Health 2003b).

Toolkits have also been developed to assist DHBs in addressing the population health objectives of the New Zealand Health Strategy. These web-based resources provide background on the various objectives, as well as policy developments and guidance on recommended interventions. In 2003 DHBs were surveyed regarding toolkit usage and development. The survey found that all respondents³ have used the toolkits and intend to use them for planning purposes in 2004. Respondents provided useful directions for the development of the toolkits to meet further needs of DHBs.

Guidelines have been established for the provision of a number of services, ranging from the support and management of people with dementia, to opioid substitution treatment. These guidelines provide frameworks for effective and appropriate service delivery.

³ Fourteen DHBs responded to the survey. These DHBs were generally larger ones, representing approximately 78 percent of New Zealand’s population.
Intersectoral strategies

Just as a number of strategies developed within the health and disability sector include an intersectoral component, a number of intersectoral strategies developed for, or in conjunction with, other sectors influence action within the health and disability sector. These include:

• the Injury Prevention Strategy which was developed by ACC, in consultation with stakeholders, experts, the Ministry of Health and other government agencies. It is an expression of the Government’s commitment to working with organisations and groups in the wider community to improve the country’s injury prevention performance

• the High and Complex Needs Strategy which promotes a way of working intersectorally and has been developed jointly by the Ministries of Social Development, Health and Education, and the Department of Child, Youth and Family Services. It aims to improve outcomes for children and young people with high and complex needs across more than one sector, through effective intersectoral service collaboration. Priority is given to those with mental health and/or behavioural problems with the highest and most complex unmet needs who require services in addition to those provided through mainstream services

• the Youth Offending Strategy which aims to reduce youth offending and reoffending by children and young people through a range of interventions including more effective intersectoral collaboration among the key agencies. The strategy is being led by the Ministry of Justice in conjunction with the Ministries of Education, Health and Social Development, the New Zealand Police, the Department of Child, Youth and Family Services (CYFS), and the Department for Courts.

Sector structures

Figure 1.1 shows the structure of the New Zealand health and disability sector in 2003 under the New Zealand Public Health and Disability Act 2000.

Minister of Health

The Minister of Health has overall responsibility for the health and disability support system. The Minister determines the content of the New Zealand Health Strategy, works through the Ministry of Health to enter into accountability arrangements with DHBs, and agrees with government colleagues how much public money will be spent on the public delivery of services.

Ministry of Health

The Ministry of Health aims to ensure that the health and disability support system works for New Zealanders. It is the Government’s primary advisor on health policy and disability support services. The Ministry:

• provides policy advice on improving health outcomes, reducing inequalities and increasing participation

• acts as the Minister’s agent (as shown in Figure 1.1)
• monitors the performance of District Health Boards and other health sector Crown entities
• implements, administers and enforces relevant legislation and regulations
• provides health information and processes payments
• facilitates collaboration and co-ordination within and across sectors
• provides nationwide planning and maintenance of service frameworks
• plans and funds public health, disability support services and other service areas that are retained centrally.

**Figure 1.1:** Structure of the New Zealand health and disability sector, 2003

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4 From 1 October 2003, only for people with long-term disabilities, largely under the age of 65.
District Health Boards

The role of DHBs

DHBs were established in 2001 under section 19 of the New Zealand Public Health and Disability Act 2000. The 21 DHBs are Crown entities responsible to the Minister of Health (administration is through the Ministry of Health). Each Board has up to eleven members: seven elected by the community and four appointed by the Minister of Health to ensure an appropriate mix of skills and representation. In recognition of the Crown’s partnership with Māori, each Board must have at least two Māori members, and preferably a greater number if Māori make up a higher proportion of a DHB’s population.

DHBs plan, fund and ensure the provision of health and disability services to a geographically defined population. DHBs are responsible for improving, promoting and protecting the health and independence of their populations. They are required to assess the health and disability support needs of the people in their regions, and manage their resources appropriately in addressing those needs. Funding is allocated to DHBs using a weighted population-based funding formula.

Central government provides broad guidelines on what services DHBs must provide through the Nationwide Service Framework. This framework is a collection of definitions, methodologies and processes that allow the sector to take a consistent approach to analysing, funding and monitoring services. The framework ensures national equity in core service delivery and enables effective Ministry monitoring of DHB performance. The Nationwide Service Framework includes, among other things, tools and processes for allocation decisions, service specifications, demographic and volume information, and monitoring processes. Services can be purchased from a range of providers, including public hospitals, non-profit health agencies, iwi groups and private organisations.

DHB planning activities

The New Zealand Public Health and Disability Act 2000 requires DHBs to produce a District Strategic Plan and a District Annual Plan. These documents respectively set out the strategic direction each DHB expects to take over the next 5–10 years, and how the strategic direction will be implemented on an annual basis. The preparation of these documents is guided by the New Zealand Health Strategy, the New Zealand Disability Strategy, the Minister of Health’s Letter of Expectation, and the DHBs’ health needs assessments (discussed below). DHBs are also required to consult their community as a part of the planning process.

As part of its planning, each DHB is required to perform a Health Needs Assessment. This involves assessing the health status of its population (including existing health inequalities), factors that may affect the health status of the population, the services the population needs, and the contribution those services are intended to make to the health status of the population. These assessments must be undertaken before a DHB establishes, or makes significant amendments to, its District Strategic Plan.
Devolution of responsibilities to DHBs

Since the passing of the Act in late 2000, greater responsibilities have been progressively devolved to DHBs, and in October 2003 they took on responsibility for disability services for older people. This means that DHBs are responsible for all services except public health, disability support services for people with long-term disabilities (largely under the age of 65) and some national contracts; these remain the responsibility of the Ministry of Health.

Public health units

Public health units are owned by DHBs (although public health services are centrally funded by the Ministry). There are 12 public health units throughout New Zealand which provide more than half of the country’s public health services, the remaining services being provided by more than 200 non-government organisations. These services include environmental health, communicable disease control, tobacco control and health promotion programmes.

Many of these services include a regulatory component performed by statutory officers appointed under the Health Act 1956. These officers are employed by DHBs but are personally accountable to, and subject to direction from, the Director-General of Health.

Other service providers

Acute hospitals, some services such as assessment, treatment and rehabilitation services, and more than half of public health services come under the wing of DHBs. General practitioners, Primary Health Organisations (PHOs), rest homes and midwives are independent and/or contracted to supply services by DHBs or the Ministry of Health. Overall there are approximately 80 public hospital facilities in New Zealand and a large number of privately operated aged-care facilities.

Ensuring quality in service delivery

The Health and Disability Services (Safety) Act 2001 replaces the traditional focus on inputs and licensing of premises and facilities with a more modern regime focusing on standards of inpatient services delivered and outcomes for consumers. Currently, the Ministry is in the middle of the two-year transition period for providers to move from licensing to certification. The transition period ends on 30 September 2004.

Under certification, hospitals, rest homes and homes for people with disabilities (as defined by the Act) must be audited against set standards. There are currently three standards that are mandatory for all providers covered by the Act (Health and Disability Sector Standards, Infection Control Standard and Restraint Minimization and Safe Practice Standard) and one standard that is mandatory for those providers offering mental health services (National Mental Health Sector Standard).

By November 2003, 121 providers had been issued with a certificate under the Health and Disability Services (Safety) Act 2001, and another 321 had applied for certification and were planning their certification and audit programme.
Primary health care

Primary health care includes a broad range of first-level services, although not all of these are Government-funded. It includes:

- health improvement and preventive services such as screening
- general practice services, mobile nursing services, community health services and pharmacy services
- first-level services for certain conditions, such as maternity, family planning and sexual health services, or those using particular therapies, such as physiotherapy, chiropractic and osteopathy services, and alternative healers.

Primary Health Organisations

In February 2001 the Minister of Health released the New Zealand Primary Health Care Strategy. This document expresses a new vision and new directions for primary health care. Primary Health Organisations (PHOs) are the local structures that will achieve the objectives of the Primary Health Care Strategy. The first PHOs were established in July 2002. As of 1 October 2003, 53 PHOs had been established and approximately 2.1 million New Zealanders were enrolled with a PHO. DHBs are responsible for establishing, funding and monitoring PHOs.

PHOs provide a set of essential primary health care services to a defined population, including at least first-level general practice services, some health promotion services, services specifically to improve access for groups known to be in most need, and management of prescribing and laboratory test use. People will be encouraged to join a PHO by enrolling with a provider of primary health care services such as a general practice or local health clinic.

Further discussion of PHOs and the Primary Health Care Strategy can be found in Chapter 4.

Non-Government and voluntary organisations

Non-Government and voluntary organisations are an important part of the health sector. Not-for-profit services are provided by more than 200 national organisations and local providers. This group of providers includes some large organisations such as the IHC, the Plunket Society, the Family Planning Association of New Zealand and the National Heart Foundation.

Community trusts and iwi-based bodies have also expanded in number and scope of activities. Several communities, especially in rural areas, have established community trusts to develop health services for people in their area, and iwi-based organisations are providing an increasing range of health and social services.
The Accident Compensation Corporation (ACC) is a Crown entity. Its responsibilities are:

- preventing injury
- collecting accident insurance premiums
- determining whether claims for injury are covered by the scheme and providing entitlements to those who are eligible
- paying compensation
- buying health and disability support services to treat, care for and rehabilitate injured people
- advising the government.

ACC provides universal accident insurance cover, injury prevention services, care management, and medical and other care and rehabilitation services.

The accident compensation scheme provides accident insurance for all New Zealand citizens, residents and temporary visitors to New Zealand, no matter who is at fault. In return people do not have the right to sue for personal injury, other than for exemplary damages.

Statutory Advisory Committees

A number of advisory committees have been established under various statutes to provide independent advice to the Minister of Health on specialist issues.

- The National Advisory Committee on Health and Disability (also known as the National Health Committee) advises the Minister of Health on the type and relative priorities of public health services, personal health services and disability services that it believes should be publicly funded. The committee is also required to advise on personal health and regulatory matters relating to public health. The committee formulates its advice in consultation with the public and health service providers.

- The Public Health Advisory Committee is a sub-committee of the National Health Committee. Its role is to provide independent advice to the Minister of Health on public health issues including:
  - factors influencing the health of people and communities
  - the promotion of public health
  - the monitoring of public health.

- The Health Workforce Advisory Committee provides advice on health workforce issues that the Minister specifies by notice to the Committee.

- The National Advisory Committee on Health and Disability Support Services Ethics (also known as the National Ethics Advisory Committee) provides advice to the Minister on ethical issues of national significance regarding health and disability research and services, determines nationally consistent ethical standards, and provides scrutiny for research and services.
• The National Ethics Committee on Assisted Human Reproduction reviews all research and innovative treatment proposals involving assisted human reproduction, and advises the Minister of Health on ethical issues relating to assisted human reproduction.

• The Ministerial Advisory Committee on Complementary and Alternative Health advises on issues to do with complementary and alternative health and specifically provides advice in areas such as regulation, consumer information needs, research and integration.

• The National Health Epidemiology and Quality Assurance Advisory Committee is responsible for providing the Minister with advice on any matter of health epidemiology and quality assurance, and specifically examines perinatal, child and adolescent morbidity and mortality.

Other technical committees provide advice on child and youth mortality, medicines safety and classification, new prescribers and other matters.

**System performance assessment**

**Setting the framework for performance assessment**

The performance of any health system can be considered at two levels. At a disaggregated level, performance of the individual funders and providers of health services is assessed. In the New Zealand case, this level would be that of District Health Boards, Primary Health Organisations and other primary health care providers, and other service providers.

At a systems level, key issues for consideration are:

• how and at what level services are being financed and delivered (the inputs and outputs of the sector)

• whether services are contributing to improving the health and independence of the populations (the outcomes of the sector)

• whether the design of the system is contributing in the best way to accomplishing goals (contribution to overarching strategies)

• whether the right services are being delivered to the right people, to a high level of quality and in the most appropriate manner (systems analysis).

This report will shed light on each of these issues throughout the remaining chapters. At a nationwide level, the Ministry aims to ensure the system works for New Zealanders. At a district level, each DHB is responsible for ensuring its local systems work for its population.

Overseas approaches to system performance assessment, including that taken by the World Health Organization, are discussed in Appendix 1 of this report.
Contributors to health and independence

The New Zealand Health Strategy and the New Zealand Disability Strategy, established under the New Zealand Public Health and Disability Act 2000, provide the framework for the health and disability support sector to achieve improved health and independence of New Zealanders. The role of the sector in achieving improved health and independence outcomes is a major focus of this report.

The Ministry of Health’s Statement of Intent describes an outcomes framework to illustrate the influence the Ministry has on the health and disability support sector, and ultimately on health outcomes. The Statement of Intent reflects the directions established by the two overarching strategies, and encompasses the Ministry’s responsibilities with respect to the Treaty of Waitangi. The Statement of Intent includes three outcome levels that are logically connected and flow through to the actions of the Ministry.

- Societal outcomes: These are the health and disability support outcomes valued by governments and citizens, and which are necessary for healthy New Zealanders. These are influenced by both the health sector and the wider public sector, as well as actions by the private sector, individuals and social groupings.
- System outcomes: Outcomes that reflect the key components of a fair and functioning health and disability support system.
- Ministry outcomes: Outcomes that reflect the levers the Ministry has available to it to achieve a well functioning health and disability support system. These outcomes are largely determined by the functions the Ministry performs.

Figure 1.2 places the Ministry of Health’s outcomes framework alongside the roles of other contributors to the health and independence of New Zealanders, recognising that other sectors of government and society exert considerable influence throughout the life course. These wider influences on health and independence are also discussed in different parts of the report.
Figure 1.2: Health and independence outcomes framework

**Healthy New Zealanders**

- Better health
- Reduced inequalities
- Trust and security
- Better participation and independence

A fair and functional health system

- Equity and access
- Effectiveness
- Quality
- Efficiency and value for money
- Intersectoral focus

National and local policy and service delivery organisations

- Ministry of Health
  - Direction and leadership
  - System funding
  - System capability
  - Operating environment
  - System monitoring
- District Health Boards
  - Plan, fund and ensure service provision
  - Improve, promote and protect population health and independence
  - Public involvement
- Primary Health Organisations
  - Comprehensive primary health care services
  - Co-ordination of care
  - Community involvement
- Non-Government Organisations
  - National organisations and local providers of services
- Other Government agencies

**Systems performance assessment activities**

Systems performance assessment is both an outcome and an input into strategy and systems development and service delivery. The multiple role of systems performance assessment provides accountability for the performance of the health and disability sector, and also provides evaluation to inform improvements in the sector. The cycle of strategic development, implementation and assessment is detailed in Figure 1.3.

Systems performance assessment has four key components: monitoring, evaluating, reporting and scanning the environment.
Figure 1.3: Cycle of systems performance assessment

**Strategies**
New Zealand Health Strategy/ New Zealand Disability Strategy/ He Korowai Oranga

- District Health Boards
- Ministry of Health

**Health needs assessment**

- Strategic Plans (5–10 year programmes)
- Statement of Intent/ Annual Plans (annual statement of planned activities)
- Service funding and delivery
- Monthly, quarterly and annual reporting

- Statement of Intent (three-yearly, reviewed annually)
- Output Plan (annual statement of activities)
- Output delivery, service funding and delivery
- Monthly, quarterly and annual reporting

**System Performance Assessment**
Provides feedback for improvement through:
- monitoring
- evaluation
- reporting
- environmental scanning
Monitoring

System monitoring is one of the activities of the Ministry highlighted in the Statement of Intent framework. A major component of system monitoring is DHBs reporting on their activities, which are set out in their District Strategic Plans, District Annual Plans and Statements of Intent. DHBs report regularly to the Ministry on Indicators of DHB Performance which focus on measuring DHB performance in the Government’s priority areas, as identified in the New Zealand Health Strategy and the Minister’s stated annual expectations.

The Ministry of Health also monitors delivery by other providers that receive Vote Health funding, including disability support services and public health services. In an international context, the Ministry monitors the performance of the health sector with a focus on international benchmarks, such as those reported by the World Health Organization and the Organisation for Economic Co-operation and Development.

Monitoring progress in implementing the New Zealand Disability Strategy is undertaken by the Office of Disability Issues, which informs an annual report to Parliament by the Minister for Disability Issues (Minister for Disability Issues 2002). The Office for Disability Issues will also undertake overarching reviews of progress against the strategy after five and 10 years.

Evaluation

Evaluation is a process of asking questions of programmes, organisations and policies to identify design improvements, describe processes and assess outcomes. Evaluation can therefore occur throughout the cycle of programmes, organisations and policies. Evaluation has been undertaken widely within the health sector, including surveys of client satisfaction and analyses of projected versus actual performance, through to larger-scale evaluation of implementing policy and structural change. Two major evaluations currently under way in the Ministry are a three-year evaluation of health reforms implementation, and an evaluation of the implementation of the Primary Health Care Strategy. Examples of recent evaluation activity undertaken or funded by the Ministry are detailed in the final chapter of this report.

Reporting

Dissemination of performance assessment activities is critical to ensuring the information gathered and analysed through monitoring and evaluation feeds into systems planning and service delivery. Reporting in the health sector is undertaken through a variety of methods. These include:

- statutory reporting by the Ministry, including this report and Implementing the New Zealand Health Strategy 2003 (Minister of Health 2003a)
- annual publications of the Ministry, including An Indication of New Zealanders’ Health (Ministry of Health 2003d) which details progress in the health and independence status of New Zealanders
- occasional Ministry publications, such as Sharing Excellence in Health and Disability Information Management (Ministry of Health 2003i), which highlights developments in information management across the health sector to improve health outcomes
briefings to Ministers
- DHB performance indicator reporting to the Ministry of Health and between DHBs.

Environmental scanning

Environmental scanning is a process of examining current conditions inside and outside the health sector, and anticipating future developments to inform strategy and systems development. Features of environmental scanning include examination of trends in health status, developments in health services and technologies, trends in social, demographic and economic conditions, and emerging cross-sectoral activities. Through a process of scenario-building, strategies and system planning can be refined to account for current circumstances and future opportunities.
Chapter 2: What Underpins the Health and Disability Support System?

This chapter examines key inputs to the health and disability support system: finance, workforce and information. It discusses:

- public and private expenditure on health and disability support services in New Zealand
- the composition of the health workforce, and challenges facing the health workforce
- the information infrastructure that links different components of the system.

Finance

Public sector funding sources

Public sector funding is the major source of funding for health and disability support services in New Zealand. It accounts for some 78 percent of all health expenditure in the country (Ministry of Health 2003b), out-of-pocket and private insurance being the other main contributors.5

The largest part of public sector funding is the Government’s direct health funding through Vote Health which includes a small amount to cover operational deficits of the District Health Boards (DHBs).

Other public agencies provide a significant amount of funding for activities directly and indirectly related to health. This includes health-related expenditure by the ACC, other government agencies, and local authorities (city councils and district councils).

Figure 2.1 shows the Government’s total expenditure on health and disability services as a proportion of total government expenditure. At $8.24 billion, it was 20 percent of total expenditure budgeted for 2002/03 ($41.2 billion).

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5 This discussion draws extensively on information contained in the Ministry of Health publication Health Expenditure Trends 2002 (Ministry of Health 2003b).
Figure 2.1: Government expenses, 2002/03

Source: The Treasury 2002

Notes: ‘Health’ includes expenditure on departmental outputs, health service purchasing, other non-departmental outputs, and health payments to ACC. (Health payments to ACC are not included in Vote Health.) The bulk of mental health services fall into the personal health service category. ‘Other benefits’ include family support, the accommodation supplement and invalids’ benefits.

Vote Health

Vote Health is the Government’s main contributor to publicly funded health and disability services expenditure. Vote Health funds DHBs, the Ministry of Health and other health and disability service providers to either purchase or provide:

- personal health services\(^6\)
- public health services\(^7\)
- disability support services (DSS)\(^8\)
- independent service provision which represents a residual category of health funding outside personal health, DSS and public health. The main expenditure items in this category are most provider development and health and disability promotion services.

Vote Health expenditure excludes capital, on the basis that these funds do not directly influence service provision in the year they are incurred (capital investment in the health and disability support system is discussed later in this chapter).

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\(^6\) Funding related to health services provided to individuals for the purpose of improving or protecting their health. It includes expenditure for mental health services.

\(^7\) Services concerned with the whole population or population groups. This broad focus distinguishes it from funding for individual personal health services. Public health services are primarily concerned with health protection, improvement and/or promotion.

\(^8\) Individuals are eligible for DSS funded by Vote Health if they have a physical, psychiatric, intellectual, sensory or age-related disability (or a combination of these) that is likely to continue for a minimum of six months and reduces independent functioning to the extent that ongoing support is required.
Expenditure growth under Vote Health has accelerated in recent years, particularly following the transfer of disability services and funding from other government departments, most notably from the Department of Social Welfare, and the additional funding via the Health Funding Package, discussed later in this chapter.

### Table 2.1: Vote Health expenditure, excluding capital and transfers, plus deficit financing 1989/90–2001/02

<table>
<thead>
<tr>
<th>Year</th>
<th>Total ($ million nominal)</th>
<th>Total real ($ million 2000/01)</th>
<th>Per person – resident population basis</th>
<th>Per person real ($ 2000/01)</th>
<th>Total as % of GDP</th>
<th>Total as % of government expenses*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total ($)</td>
<td>3,702</td>
<td>4,015</td>
<td>4,006</td>
<td>4,053</td>
<td>4,425</td>
<td>4,688</td>
</tr>
<tr>
<td>Total real ($)</td>
<td>4,698</td>
<td>4,951</td>
<td>4,885</td>
<td>4,877</td>
<td>5,268</td>
<td>5,327</td>
</tr>
<tr>
<td>Per person – nominal</td>
<td>n/a</td>
<td>n/a</td>
<td>1,147</td>
<td>1,236</td>
<td>1,292</td>
<td>1,317</td>
</tr>
<tr>
<td>Per person – real ($ 2000/01)</td>
<td>n/a</td>
<td>n/a</td>
<td>1,390</td>
<td>1,465</td>
<td>1,496</td>
<td>1,499</td>
</tr>
<tr>
<td>Total as % of GDP</td>
<td>5.2%</td>
<td>5.5%</td>
<td>5.5%</td>
<td>5.4%</td>
<td>5.4%</td>
<td>5.2%</td>
</tr>
<tr>
<td>Total as % of government expenses*</td>
<td>12.6%</td>
<td>13.5%</td>
<td>14.0%</td>
<td>14.1%</td>
<td>15.5%</td>
<td>15.9%</td>
</tr>
</tbody>
</table>


Note: Government expenditure has been revised.

Table 2.1 shows the following trends.

- Nominal Vote Health expenditure (including deficit financing) grew steadily throughout the review period, except in 1991/92. Expenditure in 2001/02 was 86.8 percent higher than in 1989/90 (up on average 5.3 percent per year).
- Reflecting the trend in total Vote Health expenditure, nominal per person spending increased through the period, with the exception of 1991/92 to 1992/93. Estimated 2001/02 nominal per person spending was 54.5 percent higher than in 1991/92 (up an average of 4.4 percent per year).\(^9\)
- During the period 1991/92 to 2001/02, real (Consumer Price Index-adjusted) spending decreased between 1991 and 1993 before beginning a sustained recovery from 1993/94. Real expenditure growth averaged 3.5 percent per year since 1991/92.
- Real per person growth followed a similar pattern to growth in real spending, averaging 2.4 percent per year since 1991/92.
- In the review period, Vote Health (including deficit financing) as a percentage of GDP was at its lowest at 5.2 percent in 1995/96 and 1989/90. It was at a 5.8 percent high during the period 2000/01.

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\(^9\) Because of the changes in the definition of populations, data under the new definition are available only from 1991/92. Discussion on per person (resident population) trends is restricted to the period since then.
Vote Health by major expenditure category

Table 2.2 details the amount of expenditure for service categories of Vote Health for the three years up to 2001/02.\(^\text{10}\)

Table 2.2: Components of Vote Health expenditure, excluding capital and including transfers, 1999/2000–2001/02

<table>
<thead>
<tr>
<th>Expenditure categories</th>
<th>1999/2000</th>
<th></th>
<th>2000/01</th>
<th></th>
<th>2001/02</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$000</td>
<td>As a % of Vote Health</td>
<td>$000</td>
<td>As a % of Vote Health</td>
<td>$000</td>
<td>As a % of Vote Health</td>
</tr>
<tr>
<td>Personal health(^1)</td>
<td>4,637,947</td>
<td>69.1</td>
<td>5,022,533</td>
<td>70.5</td>
<td>5,650,393</td>
<td>76.2</td>
</tr>
<tr>
<td>Disability support services</td>
<td>1,645,384</td>
<td>24.5</td>
<td>1,758,700</td>
<td>24.7</td>
<td>1,373,078</td>
<td>18.5</td>
</tr>
<tr>
<td>Public health purchasing</td>
<td>117,273</td>
<td>1.7</td>
<td>124,755</td>
<td>1.8</td>
<td>138,421</td>
<td>1.9</td>
</tr>
<tr>
<td>Independent service providers</td>
<td>34,386</td>
<td>0.5</td>
<td>46,926</td>
<td>0.7</td>
<td>77,123</td>
<td>1.0</td>
</tr>
<tr>
<td>Other payments</td>
<td>213,724</td>
<td>3.2</td>
<td>47,989</td>
<td>0.7</td>
<td>85,209</td>
<td>1.1</td>
</tr>
<tr>
<td>Ministry of Health(^#)</td>
<td>59,220</td>
<td>0.9</td>
<td>126,370</td>
<td>1.8</td>
<td>93,854</td>
<td>1.3</td>
</tr>
<tr>
<td>Total*</td>
<td>6,707,934</td>
<td>100.0</td>
<td>7,127,273</td>
<td>100.0</td>
<td>7,418,078</td>
<td>100.0</td>
</tr>
</tbody>
</table>


Note: Totals may not add up due to rounding.
\(^\#\) Ministry of Health merged with the Health Funding Authority in 2000/01.

Distribution of Vote Health by age

In the 2001/02 financial year, an estimated $1,044 million\(^\text{12}\) was allocated for the provision of health services for children (under 18 years) in New Zealand. This equated to 14 percent of the health vote allocated to the provision of health services and included appropriations for primary health care, secondary care, disability support services, mental health services and public health services. During this period, children (aged under 18 years) formed 27 percent of the New Zealand resident population.

Expenditure on health and disability support services for the 12 percent of the population aged 65 and over is around 39 percent of Vote Health. Older people are high users of health and disability support services with annual per person expenditure\(^\text{13}\) from Vote Health increasing exponentially in older age groups (Ministry of Health 2002e). However, research indicates approximately a third of health expenditure is associated with costs incurred in the last year of life and dying, which is high on a per person basis regardless of age (Pollock 2001).

\(^{10}\) This table represents Vote Health as appropriated. It excludes deficit financing and capital but includes transfers.

\(^{11}\) Mental health services are included in both personal health and disability support service categories.

\(^{12}\) Data on actual expenditure on health services for children are not collected in a way that can easily be reconciled to audited accounts. Instead, expenditure is sampled and the overall health care costs per child are estimated and scaled to budget. Accordingly, this information reflects estimated allocations rather than actual expenditure. The appropriation for the health vote includes deficit funding for services, while capital expenditure has been deducted. All amounts include GST.

\(^{13}\) ‘Per person expenditure’ refers to total publicly funded expenditure on the service by demographic group, divided by the total population of that demographic group.
A key challenge for future funding and delivery of health and disability support services is the ageing population. By 2050 it is estimated that one in four New Zealanders will be 65 years of age or over compared with one in nine now. Increases in the proportion of Māori and Pacific older people will be particularly significant – 250 percent and 450 percent respectively. Other ethnic minority populations, which are relatively young, are also predicted to increase significantly (Ministry of Health 2002e). There is also growing evidence that successive cohorts of older people are healthier and living longer. Rising expectations of health and support services, technological advances and the rising costs of long-term care are the main pressures on demand for health care, rather than demographic growth (Wanless 2002).

Private sector funding sources

Most private sector funding on health-related activities comes from out-of-pocket expenditure by households (excluding private expenditure by people in long-term care institutions), expenditure by health insurance companies on behalf of their policy holders, and health-related expenditure by not-for-profit organisations met by funds from non-government sources.

Together, private sector sources accounted for around 22.1 percent of total health expenditure in 2001/02, down from 23.4 percent in 1992/93, but higher than the low of 12 percent in 1979/80. Out-of-pocket expenditure by households is the largest component of private sector funding, contributing around 16.1 percent of total health expenditure in 2001/02. Health insurance and not-for-profit organisations contributed 5.7 percent and 0.3 percent respectively.

Private sector funding in 2001/02 accounted for approximately 72 percent of private hospital surgical and medical expenditure (15.6 percent of total medical and surgical expenditure) and 74.5 percent of expenditure on dental services.

Aggregate health expenditure: seeing publicly and privately funded health expenditure side-by-side

Long-term trends (1925–2002) in health expenditure in New Zealand are shown below in relation to funding source (Figure 2.2) and public and private shares (Figure 2.3).

Total health care expenditure in New Zealand has risen from around $7.0 million in 1925 to around $10.7 billion14 in 2002 in nominal terms.

As Figure 2.3 shows, prior to World War II private funding of health care dominated in New Zealand, accounting for around 57 percent of total funding in 1925. By 1945, however, the public share had grown to 74 percent of total expenditure and steadily increased to peak at 88 percent by the early 1980s.

---

14 This figure increases to $11.25 billion when other items (rest homes, home help and provider subsidies and expenditure on community funding agencies, IHC and Salvation Army subsidies) are included.
Figure 2.2: Aggregate real ($ million 2001/02) health expenditure, 1925–2002


Figure 2.3: Publicly and privately funded expenditure shares 1925–2002

Since 1989/90, total real expenditure on health care has grown at an average rate of 4.3 percent per year. Publicly funded real expenditure rose by 3.8 percent per year over this period and total privately funded real expenditure increased by 6.3 percent per year. This more rapid growth in privately funded expenditure is reflected in growth in its share of total expenditure: publicly funded expenditure fell from 82.4 percent of the total in 1989/90 to 77.9 percent in 2001/02.

Between 1989/90 and 2001/02 publicly funded real expenditure on health care increased by $3.01 billion (71 percent of the total increase). Over the same period privately funded real expenditure rose by $1.23 billion (29 percent of the total increase).

Health insurance

Estimates of health insurers’ total expenditure on health care during the review year are based on data provided by the Executive Director of the Health Funds Association of New Zealand Inc. The estimates show that expenditure by the insurance industry on health increased by 0.3 percent in 2001/02, compared with 8.8 percent a year earlier.

During 2001/02, health insurance accounted for around 5.7 percent of all spending on health, compared with 6.2 percent in 2000/2001 and 2.8 percent in 1989/90. Table 2.3 gives details of insurance coverage by age group across the population for 2000/01 and 2001/02.

Table 2.3: Percentage of the New Zealand population covered by medical insurance (by age group), 2000/01–2001/02

<table>
<thead>
<tr>
<th></th>
<th>0–4 years</th>
<th>5–14 years</th>
<th>15–24 years</th>
<th>25–39 years</th>
<th>40–59 years</th>
<th>60+ years</th>
<th>All ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000/01</td>
<td>18</td>
<td>31</td>
<td>32</td>
<td>33</td>
<td>49</td>
<td>32</td>
<td>35</td>
</tr>
<tr>
<td>2001/02</td>
<td>19</td>
<td>31</td>
<td>30</td>
<td>32</td>
<td>47</td>
<td>31</td>
<td>34</td>
</tr>
</tbody>
</table>


Personal health expenditure

Funding related to health services to improve or protect the health of individuals is identified as personal health expenditure. Personal health funding grew from $5,023 million in 2000/01 to $5,650 million in 2001/02, an increase of 12.5 percent. Personal health accounted for 76.2 percent of Vote Health expenditure in 2002 compared with 70.5 percent the previous year.

Personal health expenditure may be broken down into institutional care and community care. The former is predominantly hospital care and is provided in both public and private hospitals, but does not include aged residential care (which is funded by Disability Support Services).
Privately funded care has ranged between 18 and 22 percent of total institutional personal health care spending, and publicly funded care between 78 and 82 percent of total institutional personal health care spending over the period 1995/96 to 2001/02.

Community care covers a range of services that are delivered outside of the hospital setting. The major item of public expenditure is medicaments which includes pharmaceuticals used in curative treatment as well as pain relief medicines, dressings, syringes and other equipment supplied by pharmacists or other medical practitioners. Figure 2.5 shows trends in real public expenditure for the major categories of personal health community care: medicaments, GP and maternity services, ‘other’ community expenditure \(^\text{15}\), specialists and referred services and dental services for the period 1990/91 to 2001/02.

\(^\text{15}\) The significant increase in expenditure in the ‘other’ category in the last four years of the period shown is due to the inclusion in this expenditure category of significant spending on mental health care.
Table 2.4 gives a breakdown of Vote Health and Vote Health Service Providers funding in personal health expenditure by main expenditure category during 2001/02. Medical and surgical expenditure, which accounted for 41.9 percent of total personal health expenditure, was the largest category followed by medicaments with 15.6 percent of the total.

Table 2.4: Vote Health personal health expenditure, by main service category, 2001/02

<table>
<thead>
<tr>
<th>Institutional¹</th>
<th>$ million (incl GST)</th>
<th>% of total</th>
<th>Community²</th>
<th>$ million (incl GST)</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical and surgical¹</td>
<td>2,367.1</td>
<td>41.9%</td>
<td>General practitioner</td>
<td>337.4</td>
<td>6.0%</td>
</tr>
<tr>
<td>Mental health</td>
<td>373.8</td>
<td>6.6%</td>
<td>Maternity</td>
<td>152.3</td>
<td>2.7%</td>
</tr>
<tr>
<td>Dental</td>
<td>87.0</td>
<td>1.5%</td>
<td>Referrals</td>
<td>326.3</td>
<td>5.8%</td>
</tr>
<tr>
<td>Maternity</td>
<td>322.4</td>
<td>5.7%</td>
<td>Dental</td>
<td>25.1</td>
<td>0.4%</td>
</tr>
<tr>
<td>Other</td>
<td>284.2</td>
<td>5.0%</td>
<td>Mental health</td>
<td>416.2</td>
<td>7.4%</td>
</tr>
<tr>
<td>Medicaments²</td>
<td>879.2</td>
<td>15.6%</td>
<td>Other</td>
<td>79.5</td>
<td>1.4%</td>
</tr>
<tr>
<td>Total community³</td>
<td>2,215.9</td>
<td>39.2%</td>
<td>Total personal health³</td>
<td>5,650.4</td>
<td>100.0%</td>
</tr>
</tbody>
</table>


Notes:
1 Includes clinical training.
2 Medicaments include medicines, dressings, syringes and other therapeutic devices and associated dispensing costs.
3 Totals may be affected by rounding.
Hospital and secondary services

Figure 2.6 shows the percentage of Vote Health funding spent on hospitals and secondary services over the period 1995/96 to 2001/02. Over this period the general trend is of increasing expenditure on hospital and secondary services. In 2001/02 the total spending on hospital and secondary services had reached approximately $4.4 billion. The percentage peaked at 68.7 percent in 1996/97 with a low in 2001/02 of 59.9 percent, reflecting increased funding of health services outside of hospital settings.

Figure 2.6: Hospital and secondary services within Vote Health, 1995/96–2001/02

![Bar chart showing spending on hospital and secondary services from 1995/96 to 2001/02.]


Accident Compensation Corporation (ACC)

The ACC was established in 1974 following the recommendations of the 1967 Royal Commission on Personal Injury. It provides a range of services to reduce the impact of injury on individuals and the community. These include:

- injury prevention initiatives
- case management and rehabilitation services
- managing relationships with health professionals throughout New Zealand.
The ACC has responsibility for establishing and operating an insurance-based scheme to rehabilitate and compensate people who suffer personal injury. To meet this responsibility, the ACC purchases primary health care, emergency transport, community and referred services, and non-urgent (‘elective’) medical treatment for clients. These are purchased directly from hospital and health services and private providers, and ancillary services for people with injuries from accidents. The Ministry of Health purchases acute care, certificates of injury and laboratory services for injured people on behalf of the ACC. The ACC annually pays a bulk fund to the Crown to cover the cost of the acute services provided by public hospitals.

Table 2.5 gives details of the ACC’s total health-related expenditure, along with its reimbursement and net addition to total expenditure in the health sector, from 1998/99 to 2001/02.

Table 2.5: ACC health-related expenditure ($ million)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total expenditure</td>
<td>419.7</td>
<td>487.0</td>
<td>581.1</td>
<td>709.6</td>
<td>801.3</td>
</tr>
<tr>
<td>Less reimbursement</td>
<td>118.3</td>
<td>120.5</td>
<td>201.6</td>
<td>272.6</td>
<td>292.5</td>
</tr>
<tr>
<td>Net addition to total health expenditure</td>
<td>301.4</td>
<td>366.6</td>
<td>379.5</td>
<td>437.0</td>
<td>508.8</td>
</tr>
</tbody>
</table>


Public health services expenditure

Public health services take a population approach to improving health and preventing injury and illness, as distinct from personal health services which are focused on treatment of individuals.

Public health expenditure was funded $224.5 million in the 2002/03 financial year. This included approximately $60 million for breast cancer and cervical screening, although these are largely personal health services which are funded through the Public Health Directorate (or ‘through public health’). Figure 2.7 below details changes in public health expenditure between 1993/94 and 2002/03. To maintain comparability between years, the same categories of output classes have been used. This means that expenditure items such as screening services, meningococcal vaccine and Pacific provider development (also a largely personal health service area) are excluded from the table, therefore the total expenditure for 2002/03 in Figure 2.7 is less than $224.5 million. Using comparable appropriations data, Figure 2.7 shows a steady increase in public health expenditure from $77.1 million in 1993/94 to $142 million in 2002/03.

16 Personal injury covers accident, medical misadventure, employment-related conditions and treatment for personal injury.
Figure 2.7: Expenditure on public health services, 1993/94–2002/03

Source: Ministry of Health appropriations data 2003.

Figure 2.8 details the breakdown of public health funding by service area for the 2002/03 year. Figure 2.8 includes the National Screening Unit, Pacific provider development and meningococcal services that are excluded from Figure 2.7 above, so as to indicate the full range of services funded through public health. Further information on these service areas can be found in Chapter 3.
Public funding for mental health services

The Government provides funding to District Health Boards and the Ministry of Health for these agencies to fund the development and provision of health services. Part of this funding is then designated as mental health funding. Any mental health funding not used to fund the development or provision of mental health services in any year is protected in accordance with the mental health ring-fence rules. It is required to be spent within mental health in future years.

In 2002/03, the Government provided $74 million (including GST) additional funding allocated to mental health. This amount includes $12.8 million provided following the Mental Health Commission’s Review of the Continuum of Mental Health Services Funded by the District Health Boards in the Auckland Region (Mental Health Commission 2002). A total of $53 million (including GST) was translated into agreements for the provision of services to bring the total value of service funded to $831.7 million (including GST). The balance of $21 million (including GST) is ring-fenced for funding services in 2003/04.

During 2001/02, responsibility for funding most services was devolved to District Health Boards. The Crown Funding Agreement specified the services District Health Boards were to provide and contracts specified all other services. District Health Boards assumed responsibility for monitoring these contracts. The following table shows the level of actual mental health funding under the responsibility of each agency.
Table 2.6: Responsibility for mental health funding

<table>
<thead>
<tr>
<th></th>
<th>2000/01 $ million (incl GST)</th>
<th>2001/02 $ million (incl GST)</th>
<th>2002/03 $ million (incl GST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Health</td>
<td>737.1</td>
<td>83.3(^{17})</td>
<td>50.7</td>
</tr>
<tr>
<td>District Health Boards</td>
<td>695.4</td>
<td>695.4</td>
<td>781.0</td>
</tr>
<tr>
<td><strong>Total(^{18})</strong></td>
<td>737.1</td>
<td>778.7</td>
<td>831.7</td>
</tr>
</tbody>
</table>

Source: Mental Health Directorate, Ministry of Health, 2003

Since the 1960s there has been a trend away from the provision of mental health care in large, separate mental health institutions. Compulsory assessment and treatment has been provided to people within a community care environment as well as inpatient settings since the passage of the Mental Health (Compulsory Assessment and Treatment) Act 1992. New Zealand requires more of both community services and supporting inpatient services to meet government’s targets. However, the gap for community services remains the widest. In 2002/03, additional forensic inpatient services were funded by the Ministry of Health and acute and intensive services funded by DHBs increased. Overall this has meant a slight increase in the share of funding allocated to inpatient services.

Table 2.7: Actual funding by service setting

<table>
<thead>
<tr>
<th></th>
<th>2000/01 $ million (incl GST)</th>
<th>Share of funding</th>
<th>2001/02 $ million (incl GST)</th>
<th>Share of funding</th>
<th>2002/03 $ million (incl GST)</th>
<th>Share of funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient</td>
<td>233.6</td>
<td>32%</td>
<td>239.4</td>
<td>31%</td>
<td>278.2</td>
<td>33%</td>
</tr>
<tr>
<td>Community and residential</td>
<td>503.6</td>
<td>68%</td>
<td>539.3</td>
<td>69%</td>
<td>553.5</td>
<td>67%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>737.2</td>
<td>100%</td>
<td>778.7</td>
<td>100%</td>
<td>831.7</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Ministry of Health Mental Health Directorate, 2003

Note: Totals may be affected by rounding.

The non-government organisation sector (including consumer-run services) provides an important contribution towards better health outcomes for consumers and reducing the burden on families. The proportion of services funded in the non-government organisation sector remained unchanged.

\(^{17}\) Includes workforce development, research and development and quality initiatives.

\(^{18}\) Excludes $7.9 million funding for carer support in the South Island transferred to Disability Support Services.
Table 2.8:  Funding by service provider

<table>
<thead>
<tr>
<th></th>
<th>2000/01 $ million (incl GST)</th>
<th>Share of funding</th>
<th>2001/02 $ million (incl GST)</th>
<th>Share of funding</th>
<th>2002/03 $ million (incl GST)</th>
<th>Share of funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>District Health Boards</td>
<td>534.6</td>
<td>73%</td>
<td>558.6</td>
<td>72%</td>
<td>596.7</td>
<td>72%</td>
</tr>
<tr>
<td>Non-Government Organisations</td>
<td>202.5</td>
<td>27%</td>
<td>220.2</td>
<td>28%</td>
<td>235.0</td>
<td>28%</td>
</tr>
<tr>
<td>Total</td>
<td>737.1</td>
<td>100%</td>
<td>778.8</td>
<td>100%</td>
<td>831.7</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Mental Health Directorate, Ministry of Health, 2003
Note: Totals may be affected by rounding.

An increasing proportion of funding is devoted to services with a specific cultural focus. The services may be provided by non-government organisations or by District Health Boards, but share characteristics in the mode of delivery that distinguish them from culturally sensitive mainstream services. New services were delivered in all areas in 2002/03 and, overall, the relative shares of funding remained unchanged.

Table 2.9:  Funding by service focus

<table>
<thead>
<tr>
<th></th>
<th>2000/01 $ million (incl GST)</th>
<th>Share of funding</th>
<th>2001/02 $ million (incl GST)</th>
<th>Share of funding</th>
<th>2002/03 $ million (incl GST)</th>
<th>Share of funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Māori</td>
<td>68.1</td>
<td>9%</td>
<td>74.1</td>
<td>10%</td>
<td>79.6</td>
<td>10%</td>
</tr>
<tr>
<td>Pacific</td>
<td>9.2</td>
<td>1%</td>
<td>10.0</td>
<td>1%</td>
<td>10.7</td>
<td>1%</td>
</tr>
<tr>
<td>Mainstream</td>
<td>659.8</td>
<td>90%</td>
<td>694.6</td>
<td>89%</td>
<td>741.4</td>
<td>89%</td>
</tr>
<tr>
<td>Total</td>
<td>737.1</td>
<td>100%</td>
<td>778.7</td>
<td>100%</td>
<td>831.7</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Mental Health Directorate, Ministry of Health, 2003

For 2002/03, all service areas have received increases. In part due to the lead time in establishing new services, DHBs have funded significant increases in workforce and quality initiatives. Forensic services also received a boost, with the Ministry funding new services as part of the implementation of the Forensic Review recommendations.
Table 2.10: Funding by service type

<table>
<thead>
<tr>
<th>Service Type</th>
<th>2000/01 $ million (incl GST)</th>
<th>2001/02 $ million (incl GST)</th>
<th>2002/03 $ million (incl GST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child and youth</td>
<td>78.6</td>
<td>88.3</td>
<td>94.8</td>
</tr>
<tr>
<td>Older people(^{19})</td>
<td>22.6</td>
<td>22.3</td>
<td>24.0</td>
</tr>
<tr>
<td>Combined ages – inpatient</td>
<td>162.9</td>
<td>164.1</td>
<td>171.2</td>
</tr>
<tr>
<td>Combined ages – community and residential</td>
<td>283.8</td>
<td>306.7</td>
<td>316.8</td>
</tr>
<tr>
<td>Alcohol and drug</td>
<td>64.8</td>
<td>70.9</td>
<td>74.6</td>
</tr>
<tr>
<td>Forensic</td>
<td>60.6</td>
<td>62.2</td>
<td>73.5</td>
</tr>
<tr>
<td>Consumer/Day activity/Carer and family/Home-based support</td>
<td>38.7</td>
<td>42.5</td>
<td>47.0</td>
</tr>
<tr>
<td>Workforce development(^{20})</td>
<td>20.8</td>
<td>16.2</td>
<td>19.7</td>
</tr>
<tr>
<td>Other</td>
<td>4.3</td>
<td>5.5</td>
<td>9.6</td>
</tr>
<tr>
<td>Total</td>
<td>737.1</td>
<td>778.7</td>
<td>831.2</td>
</tr>
</tbody>
</table>


Targets for mental health services

The Government is committed to ensuring that the targets set out in the Mental Health Strategy (that the 3 percent of the population with serious mental illness should have access to specialist mental health services per month) are met. The Mental Health Commission’s *Blueprint for Mental Health Services: How things need to be* details the resources needed to deliver on the Mental Health Strategy (Mental Health Commission 1998).

The Mental Health Blueprint lays out the resources the Mental Health Commission considered necessary to provide the target-level services. The following table shows progress toward those targets. It sets out the current levels of mental health services resources compared to the resources necessary to provide the Blueprint guideline services to the population of 2010.

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\(^{19}\) Auckland, Bay of Plenty, Counties Manukau, Lakes, Northland, Tairawhiti, Taranaki, Waikato and Waitemata DHBs fund older people’s psychiatric services as mental health services. In other regions, these have been funded by the Ministry of Health as DSS services.

\(^{20}\) Includes provider development.
Table 2.11: Attaining government targets: Resources by category of service

<table>
<thead>
<tr>
<th>Blueprint category</th>
<th>Value 2002/03 $ million</th>
<th>Blueprint Guideline 2010 $ million</th>
<th>% Blueprint Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient beds</td>
<td>220</td>
<td>271</td>
<td>81</td>
</tr>
<tr>
<td>Community mental health teams</td>
<td>262</td>
<td>369</td>
<td>71</td>
</tr>
<tr>
<td>Residential</td>
<td>76</td>
<td>163</td>
<td>47</td>
</tr>
<tr>
<td>Community support</td>
<td>62</td>
<td>112</td>
<td>55</td>
</tr>
<tr>
<td>Consumer</td>
<td>13</td>
<td>18</td>
<td>72</td>
</tr>
<tr>
<td>Alcohol and other drug residential</td>
<td>10</td>
<td>14</td>
<td>67</td>
</tr>
<tr>
<td>Alcohol and other drug community teams</td>
<td>44</td>
<td>53</td>
<td>83</td>
</tr>
<tr>
<td>Methadone places</td>
<td>9</td>
<td>15</td>
<td>63</td>
</tr>
<tr>
<td>Mental Illness prevention</td>
<td>0</td>
<td>32</td>
<td>0^21</td>
</tr>
<tr>
<td>Total</td>
<td>696</td>
<td>1047</td>
<td>66</td>
</tr>
</tbody>
</table>

Source: Mental Health Directorate, Ministry of Health and Mental Health Commission
Note: Figures in table are based on 2002/03 prices.

The preceding tables all describe funded levels of services agreed with providers.

**Disability support services expenditure**

In the 2002/03 year, the Government budgeted approximately 16.6 percent of Vote Health for Disability Support Services (DSS). These funds are ring-fenced which means they must be used to fund DSS only.\(^22\) The proportion of Vote Health ring-fenced for DSS declined in 2001/02 as a result of funding for younger and older people with psychiatric disability being reclassified as mental health. There have been other minor transfers from the ring fence.

**Trends in disability support services expenditure**

Figure 2.9 shows trends in DSS funding. Excluding psychiatric disability, DSS expenditure increased steadily from 1995/96 to 2002/03 by between 2.5 percent and 8 percent each year. This growth reflects changes in prices (in particular for residential aged care services) and increases in volumes of services (especially in areas such as home-based support), in part associated with changing demographics and new technology.

\(^{21}\) The Mental Health Commission’s *Blueprint for Mental Health Services in New Zealand: How things need to be* (Mental Health Commission 1998) proposes services be developed, as an outreach part of specialist mental health services, where mental health clinicians will be funded to carry out preventive work and to liaise with other services and programmes to put preventive strategies in place for groups and individuals who are at risk, including suicide prevention work. To date there are no services of this nature in place. This does not include services to prevent mental illness in the primary health care and population-based public health sectors.

\(^{22}\) Note that all figures in this year’s report include expenditure for those with long-term disabilities and older people with disabilities (whose funding of disability support services was devolved to the DHBs on 1 October 2003).
Figure 2.9: DSS expenditure 1995/96–2002/03 ($000, GST inclusive)


Figure 2.10 shows the breakdown of DSS expenditure by service area. For the 2002/03 year, residential care occupies more than half of DSS expenditure. The percentages shown in Figure 2.10 are similar to those for previous years.

Figure 2.10: DSS expenditure by service area, 2002/03


Note: Disability support services attract varying GST rates, such as 10.25 percent for rest homes and 10.75 percent for continuing care hospitals. Informal carer support has no GST as many providers are not GST registered. Based on the IRD Act, special rules apply for calculating GST when commercial dwellings, such as motels, hotels, rest homes or hospitals, supply domestic goods and services to people who are or will be residing there for more than four weeks. The 2002/03 expenditure figure is subject to audit.
Trends in funding for DSS service areas

Disability support services (DSS) can be categorised into five main service areas (covering 86 percent of 2002/03 expenditure).

- Residential care for older people and for people with intellectual, physical or sensory disabilities (residential care may be provided in either institutional or community settings).
- Assessment, treatment and rehabilitation.
- Home-based support.
- Carer support (such as respite care).
- Environmental support.

Information on the delivery of these services can be found in Chapter 3. Consistent with the expenditure focus of this chapter, the following information details trends in funding of these service areas.

Residential care

Figure 2.11 shows that annual expenditure on long-term hospital care for older people has increased by approximately 25 percent from $178 million in 1996/97 to $232 million in 2002/03. Rest home expenditure was similar in 2000/01 and 2001/02, increasing by almost 4 percent in 2002/03. Expenditure on dementia rest home facilities in 2002/03 increased by 11 percent from 2001/02.

Figure 2.11: Ministry of Health residential care expenditure, by facility type, 1996/97–2002/03

Subsidised age-related continuing hospital care is growing more quickly than rest home care. This is consistent with the policy to promote ageing in place which is expected to result in older people staying longer in their own homes with integrated support services in place.

**Assessment, treatment and rehabilitation**

Overall expenditure for assessment, treatment and rehabilitation (AT&R) services increased by 18 percent in 1999/2000 compared with 1998/99, and rose by another 5 percent in 2000/01 (Figure 2.12). The large increase in 1999/2000 can mainly be attributed to increases in prices in the Southern region. Price increases were introduced to ensure national consistency in the prices offered by the Ministry of Health. Between 2000/01 and 2001/02 there was a 14 percent reduction in AT&R expenditure from Vote Health, due largely to the transfer of responsibility of funding of some services to ACC.

**Figure 2.12:** AT&R expenditure (excluding GST), inpatient and outpatient, 1999/2000–2002/03

![Graph showing AT&R expenditure from 1999/00 to 2002/03]


---

23 Psychogeriatric AT&R services are funded via the DSS budget in Central and Southern regions, while Northern and Midland regions are funded from the mental health budget.
Home support

Home support expenditure more than doubled between 1995/96 and 2002/03, as shown in Figure 2.13 below. This increase reflects specific strategies to support people with disabilities in their own homes (rather than in residential care) when home-based care is an appropriate and safe option.

Figure 2.13: Home support expenditure, 1995/96–2002/03


Carer support

In 2002/03 $55.4 million was spent on carer support, an 11 percent increase from the previous year (Figure 2.14).
Figure 2.14: Carer support expenditure, 1999/2000–2002/03


Needs assessment and service co-ordination

During 2002/03, 28 agencies were funded $32.1 million to provide NASC services. This represented 2.3 percent of total disability expenditure. A reduction in assessment and service co-ordination waiting times in the Northern region was achieved through a 10 percent increase in expenditure between 2001/02 and 2002/03. Between 1990/2000 and 2001/02, NASC service expenditure has remained relatively static. There was a 40 percent increase in expenditure between 1998/99 and 1999/2000. However, this was mainly due to a change in how the NASC service budget was managed, rather than a direct increase in funding.

Environmental support services

Expenditure on environmental support services totalled approximately $35 million in 2002/03. This excluded environmental support services funded by DHBs, and benefits and subsidies administered by HealthPAC. Within the environmental support services budget, there are separate allocations for equipment, home modifications, and vehicle grants and modifications, although there may be shifts between the allocations depending on demand pressures.
Table 2.12 shows expenditure by category of environmental support service. Housing modifications ($11.6 million), equipment ($6.8 million) and wheelchair and mobility equipment ($12.2 million) are the largest expenditure categories, representing 88 percent of the total expenditure for 2002/03.²⁴

Table 2.12: Expenditure (exclusive of GST), by environmental support services category, 1999/2000–2002/03

<table>
<thead>
<tr>
<th>Category</th>
<th>1999/2000</th>
<th>% of total</th>
<th>2000/01</th>
<th>% of total</th>
<th>2001/02</th>
<th>% of total</th>
<th>2002/03</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Expenditure ($000)</td>
<td>% of total</td>
<td>Expenditure ($000)</td>
<td>% of total</td>
<td>Expenditure ($000)</td>
<td>% of total</td>
<td>Expenditure ($000)</td>
<td>% of total</td>
</tr>
<tr>
<td>Wheelchairs and mobility</td>
<td>8,365</td>
<td>27.9</td>
<td>8,854</td>
<td>31.0</td>
<td>9,708</td>
<td>31.7</td>
<td>12,562</td>
<td>35</td>
</tr>
<tr>
<td>Housing modifications</td>
<td>10,542</td>
<td>34.4</td>
<td>8,875</td>
<td>29.0</td>
<td>8,301</td>
<td>27.1</td>
<td>11,876</td>
<td>33</td>
</tr>
<tr>
<td>Equipment for daily living</td>
<td>7,570</td>
<td>24.7</td>
<td>8,253</td>
<td>26.9</td>
<td>7,994</td>
<td>26.1</td>
<td>6,903</td>
<td>19</td>
</tr>
<tr>
<td>Hearing</td>
<td>2,225</td>
<td>7.3</td>
<td>1,647</td>
<td>5.4</td>
<td>3,457</td>
<td>11.3</td>
<td>3,294</td>
<td>9</td>
</tr>
<tr>
<td>Vehicles</td>
<td>574</td>
<td>1.9</td>
<td>341</td>
<td>1.1</td>
<td>448</td>
<td>1.5</td>
<td>469</td>
<td>1</td>
</tr>
<tr>
<td>Vision</td>
<td>123</td>
<td>0.4</td>
<td>116</td>
<td>0.4</td>
<td>396</td>
<td>1.3</td>
<td>132</td>
<td>0.3</td>
</tr>
<tr>
<td>Communications and information technology</td>
<td>572</td>
<td>1.9</td>
<td>460</td>
<td>1.5</td>
<td>352</td>
<td>1.1</td>
<td>557</td>
<td>2</td>
</tr>
</tbody>
</table>

|                                 | 29,973 | 98.4 | 28,546 | 95.3 | 30,656 | 100.0 | 35,800 | 99 |

Source: Accessable and Enable NZ (equipment management and supply agencies).

Funding variations in different expenditure areas over recent years reflect a number of interlinked factors, such as demand and pricing pressures. These are closely linked with the development of waiting lists in high demand areas, some one-off funding injections in response to waiting lists and other pressures, and policy changes in some areas.

**Key issues in financing**

**The Health Funding Package 2002/03–2005/06**

The Health Funding Package commits $2.4 billion of additional funding over the three years from 2002/03–2004/05 and represents significant government investment. Under the package, $400 million in new funding is cumulatively added to Vote Health each year between 2002/03 and 2004/05.

There is also funding to meet extra demand for health services from population growth: $101 million in 2002/03, $227 million in 2003/04 and $355 million in 2004/05 (the equivalent of $126 million and $128 million of new funding in 2003/04 and 2004/05, respectively). Additionally in 2005/06 there will be $535 million of new funding. Table 2.13 shows the total Vote Health appropriations made from 1998/99 to 2005/06.

²⁴ This excludes DHB and HealthPAC-funded environmental support services contracts.
Table 2.13: Trends in Vote Health appropriations, 1998/99–2006/07

<table>
<thead>
<tr>
<th>Year</th>
<th>Total appropriation ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998/99</td>
<td>6,329,125</td>
</tr>
<tr>
<td>1999/2000</td>
<td>6,720,924</td>
</tr>
<tr>
<td>2000/01</td>
<td>7,188,443</td>
</tr>
<tr>
<td>2001/02</td>
<td>7,543,728</td>
</tr>
<tr>
<td>2002/03</td>
<td>8,631,968</td>
</tr>
<tr>
<td>2003/04</td>
<td>9,609,746</td>
</tr>
<tr>
<td>2004/05</td>
<td>9,319,300</td>
</tr>
<tr>
<td>2005/06</td>
<td>10,555,104</td>
</tr>
</tbody>
</table>

Note: Appropriations from 2003/04 onwards are estimated.

The Health Funding Package is the first time that any government has committed to a rolling three-year funding path. Previously, Vote Health, as for other votes, was committed for one year only, with indicative funding identified for the next two years which could be changed in subsequent Budget rounds (that is, there was no guarantee on the level of funding in the out years and therefore no certainty for planning and risk management in those years). Having funding certainty for the three years of the funding package allows DHBs and others in the health sector the opportunity to innovate and prioritise to implement the New Zealand Health Strategy and New Zealand Disability Strategy. It also allows DHBs to plan innovations so they can keep the costs of their hospital services down (for example, by better integration of primary and secondary care).

Members of the population access different types of health services according to their age, ethnicity and gender. Changes in the total number and the structure of the population are key drivers of changes in health and disability services demand, and health and disability service expenditure. Demographic funding adjusts Vote Health for the effect of these population changes.

As DHBs move out of deficit (14 DHBs are expected to have no deficit by the end of the 2003/04 fiscal year), they will be able to invest more in the priorities signalled in the New Zealand Health and Disability Strategies.

The population-based funding formula

The population-based funding formula is an aggregate formula which determines the share of funding to be allocated to different areas of the country, based on the population living in each area. The formula does not determine the overall level of funding which is determined by the Budget process based on government spending priorities.
The population-based funding formula model is designed to fairly distribute available funding between DHBs according to the relative needs of their populations and the cost of providing health and disability support services to meet those needs. The formula will give each DHB the same opportunity, in terms of resources, to respond to the needs of its population.

The process of moving to a population-based funding formula can be considered in two parts.

- The move to population-based funding, where funding is provided to DHBs to ensure the provision of services for their resident populations.
- Using a population-based funding formula to determine each DHB’s fair share of funding.

**District Health Board funding**

For the 2003/04 fiscal year DHBs have been moved to funding based on their population. Table 2.14 shows funding for personal and mental health services, provision of hospital and related services, and management outputs for all DHBs for 2003/04. As well as receiving funding direct from government, DHBs who are net providers of services to other populations will also receive inter-district flow funding direct from other DHBs. All DHBs will receive more funding in 2003/04 than 2002/03. DHBs received a total increase of approximately $493 million, including new funding for the Primary Health Care Strategy.
Table 2.14: Funding for each DHB, 2003/04

<table>
<thead>
<tr>
<th>DHB</th>
<th>Funding ($000) 2003/04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auckland</td>
<td>622,111</td>
</tr>
<tr>
<td>Bay of Plenty</td>
<td>304,162</td>
</tr>
<tr>
<td>Canterbury</td>
<td>658,194</td>
</tr>
<tr>
<td>Capital and Coast</td>
<td>341,094</td>
</tr>
<tr>
<td>Counties Manukau</td>
<td>587,957</td>
</tr>
<tr>
<td>Hawke’s Bay</td>
<td>231,583</td>
</tr>
<tr>
<td>Hutt</td>
<td>196,208</td>
</tr>
<tr>
<td>Lakes</td>
<td>159,920</td>
</tr>
<tr>
<td>MidCentral</td>
<td>226,446</td>
</tr>
<tr>
<td>Nelson Marlborough</td>
<td>183,668</td>
</tr>
<tr>
<td>Northland</td>
<td>245,598</td>
</tr>
<tr>
<td>Otago</td>
<td>292,631</td>
</tr>
<tr>
<td>South Canterbury</td>
<td>82,741</td>
</tr>
<tr>
<td>Southland</td>
<td>144,734</td>
</tr>
<tr>
<td>Tairawhiti</td>
<td>88,141</td>
</tr>
<tr>
<td>Taranaki</td>
<td>175,567</td>
</tr>
<tr>
<td>Waikato</td>
<td>472,608</td>
</tr>
<tr>
<td>Wairarapa</td>
<td>65,057</td>
</tr>
<tr>
<td>Waitemata</td>
<td>607,548</td>
</tr>
<tr>
<td>West Coast</td>
<td>64,662</td>
</tr>
<tr>
<td>Whanganui</td>
<td>114,743</td>
</tr>
</tbody>
</table>

Source: The Treasury 2003

**Capital investment in health**

The publicly provided health sector accounts for a substantial portion of government assets. Moreover, communities care very much about their local hospitals and other public health facilities. There is, therefore, a substantial stewardship responsibility for the public health sector in maintaining and building appropriate, well located and safe health care facilities.

To meet this responsibility requires community expectations to be addressed, clear requirements for business cases, and a stable, trusted and transparent framework for capital decision-making that is appropriate for the DHB environment. In order to achieve these objectives a new Capital Investment Framework was introduced in 2003. The new capital investment framework introduced innovations in five key areas.

1. The establishment of a four-year capital budget envelope.
2. Expert DHB-led advice on prioritisation and quality of capital investment decisions.
3. Collaboration between DHBs on service requirements and capital needs.
4. Asset management planning.
5. Clear criteria for business cases.
Capital budget envelope

The Government has established a four-year capital budget of $657 million for health. The health capital budget also delivers certainty to the health sector as to the level of investment the Government is prepared to commit. Prior to the establishment of the $657 million capital budget envelope, substantial capital investment was already under way with major hospital projects under development or completed in Auckland, Wellington, Nelson, Christchurch and Invercargill. Other major developments are planned following the first annual capital allocation round at the end of 2003.

National Capital Committee

To ensure that the health sector’s expertise and local knowledge on health facilities are valued, a National Capital Committee (NCC) has been established to deliver expert capital advice by DHBs to the Ministry of Health. Its membership is drawn from senior DHB chairs, a Chief Executive and a Ministry of Health Deputy Director-General. The NCC is also developing strong links to health service planning to ensure that its work is informed by national health service priorities.

Consideration by the NCC of business cases is undertaken via a newly developed prioritisation framework for business cases. This enables different projects to be compared and the best projects to proceed.

Collaboration between DHBs on service requirements and capital needs

Regional Capital Groups have been established to enable DHBs to demonstrate that every possible opportunity has been taken to maximise health gain from capital expenditure. Regional Capital Groups provide opportunities for local and regional contributions to the capital decision-making process, ensure DHBs are consulted on decisions made by their neighbouring DHBs, and are intended to avoid as much as possible decisions being removed from DHBs.

DHBs are also required to undertake a Health Development Initiative to inform every major business case. A Health Development Initiative is a process, prompted by a specific capital proposal, to prioritise and agree the allocation of health services and the consequential capital impacts between all DHBs in a region.

Strategic asset management planning

DHBs must now undertake formal asset management planning. Asset management planning must address current, medium- and long-term asset requirements and facility-related drivers for change. It must be informed by operationally focused facilities management plans, an ISSP and site master plans. It should also consider equipment and facilities issues driven by forecast demand trends, new policy (such as PHOs) and new technology.
Business case development
Development of a business case is complex, potentially expensive and time consuming. A staged process with a clear set of expectations has been introduced to ensure DHBs cover all risks and address all the complex requirements of planning for major health capital projects.

Workforce

Overview of the current health and disability sector workforce
The health and disability workforce is an essential component of delivering high-quality health and disability services. The health and disability workforce accounts for approximately 70 percent of the cost of delivering public health services. A stocktake by the Health Workforce Advisory Committee in 2001 estimates that approximately 67,000 health workers are employed, and that there are an estimated further 30,000 informal workers providing home-based support services, and 10,000 alternative and complementary health practitioners (Health Workforce Advisory Committee 2002a).

Nurses and medical practitioners make up the biggest component of the workforce with 37,907 nurses (including registered nurses, registered midwives and enrolled nurses) in active practice in 2002, and 8491 medical practitioners in active practice in 2001. Figure 2.15 shows the number of people invoiced for annual practising certificates in the professions of occupational therapy, medical laboratory technology, chiropractic, optometry, optical dispensing, dietetics, psychology, podiatry and physiotherapy in 2002. In addition, there are 2999 pharmacists and 1645 dentists in active practice (Dental Council of New Zealand 2003, Ministry of Health 2003h).

Figure 2.15: Number of people invoiced for annual practising certificates/annual licensing renewals in certain professions, 2002
New Zealand’s health workforce is highly skilled and knowledgeable and is equipped to deliver a range of health and disability services across the primary, secondary and tertiary settings. Sixty-one percent of the New Zealand health and disability workforce (including informal support workers) is involved in delivering services in a community setting and 39 percent in a hospital setting. The majority of medical practitioners and nurses, however, work in a hospital setting, with 61 percent and 77 percent respectively working in a hospital setting (Health Workforce Advisory Committee 2002a).

The Primary Health Care workforce in 2001, the year most recent data are available, includes:

- 5941 working in different fields of nursing (including practice nursing, district health nursing, occupational health nursing and rural health nursing)²⁵ (New Zealand Health Information Service 2003a)
- 3208 medical practitioners working as GPs or in other areas of primary care (Medical Council of New Zealand 2003).

The population-based public health sector is small and highly diverse, requiring a range of skills in professional and community-based specialties. The size of the workforce has not been accurately assessed. In 2001, the Health Workforce Advisory Committee estimated that the public health workforce included 332 health protection and environmental health officers, 200 public health physicians and 500 public health nurses. However, no estimates were made of the numbers of health promoters, community health workers or other public health specialty areas such as epidemiologists or demographers.

There are a number of factors impacting on the skills and type of workforce needed to deliver health and disability support services in the future. These include an ageing population and an increasingly culturally diverse population, technological developments, the increased devolution of hospital and institutional care to the community, increased labour costs, and increasing consumer expectations.

**Supply and demand issues in the health workforce**

Overall, the number of health practitioners per 100,000 New Zealanders is increasing. There are, however, issues regarding geographical variations, and reported shortages or recruitment and retention problems in specific areas, in some professions, or some specialties.

**Geographical distribution**

The following map shows the number of active general practitioners per 100,000 by District Health Board (Medical Council of New Zealand 2003). The map depicts considerable variation by region. In many cases, District Health Boards have developed collaborative arrangements to address shortages between regions.

²⁵ Figure excludes mental health nursing and health education/health promotion.
Retaining and recruiting a skilled primary health care workforce is critical to maintaining access to sustainable services for rural communities. Features of rural practice that discourage retention and recruitment include onerous on-call rosters, difficulty in taking leave and professional isolation. These problems in turn mean workforce shortages in some areas creating heavy workloads for the remaining practitioners that can adversely impact on access to services for those rural communities.

In rural areas, general practitioner to patient ratios can be as high as 1:2000 compared to the average New Zealand doctor/patient ratio of 1:1230. Onerous on-call arrangements are still a feature of rural practice in many areas but there is an increasing trend to expand shared arrangements with GPs in neighbouring towns, and for nurses in some areas to make an increased contribution to sharing on-call responsibilities.
Strategies

Strategies being used to address geographical distribution issues in nursing and medicine include rural placements for medical students, the development of a primary health care (rural) diploma for advanced nurses and the roll-out of Healthline (a telephone triage service for patients).

In addition, a roll-out began in 2002/03 of a three-year rural service funding package of $32 million to support the retention and recruitment of the rural primary health care workforce. This funding has been committed to the following.

- Workforce retention funding – a flexible resource for supporting and retaining the primary health care team. Nineteen of the 21 District Health Boards (DHBs) received rural workforce retention funding. Once Primary Health Organisations (PHOs) are established, they will have responsibility for deciding how best to use the funding to address its particular rural workforce issues.
- Reasonable roster funding – a targeted resource aimed at those rural practitioners experiencing onerous on-call arrangements.
- Continuation of the rural locum support scheme to assist rural general practitioners to take regular breaks from their practice.
- Introduction of a rural recruitment service in 2003/04 to assist with recruiting general practitioners, long-term locums and nurse practitioners with prescribing capabilities.

Table 2.15 below details the commitment of rural service funding.

<table>
<thead>
<tr>
<th></th>
<th>2002/03 $000 (incl GST)</th>
<th>2003/04 $000 (incl GST)</th>
<th>2004/05 $000 (incl GST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural workforce retention</td>
<td>4.5</td>
<td>8.5</td>
<td>8.5</td>
</tr>
<tr>
<td>Reasonable rosters</td>
<td>1.4</td>
<td>2.7</td>
<td>2.7</td>
</tr>
<tr>
<td>Continue locum scheme</td>
<td>0</td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td>Rural recruitment service</td>
<td>0</td>
<td>0.6</td>
<td>0.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5.9</strong></td>
<td><strong>12.9</strong></td>
<td><strong>13.0</strong></td>
</tr>
</tbody>
</table>

Note: The $0.5 million available to carry forward from 2002/03 has been committed towards one-off development costs of the rural recruitment service, one-off rural nurse practitioner training costs (2004 academic year) and rural workforce retention PHO ‘top-ups’.

Creating favourable working conditions to successfully retain and recruit a skilled primary health care workforce requires sustained effort. According to a rural workforce survey conducted for the 2002 calendar year, there was a net loss of five general practitioners from rural areas (London 2003). However, the Government’s commitment of significant funding to support the rural workforce has helped stabilise the workforce in a number of rural areas so that rural communities’ access to services has not been disrupted.
Shortages in specialties or professions

Figure 2.17 shows that the overall number of specialists in medicine is increasing, with 2725 specialists employed in 2001 compared to 1657 in 1980. There is also a growing number of women working as specialists, relative to the number of men.

Figure 2.17: Number of active specialists, and percentage of specialists by gender, 1980–2001


Table 2.16 shows the number of medical practitioners registered by role and specialty. The number of specialties or vocational branches of medicine recognised by the Medical Council of New Zealand is increasing. This reflects the growing complexity of medicine and the resulting increase in specialisation.
<table>
<thead>
<tr>
<th>Role</th>
<th>General practitioners</th>
<th>House officers</th>
<th>Medical officers special scale</th>
<th>Other</th>
<th>Primary care</th>
<th>Registrars</th>
<th>Specialists</th>
<th>Grand total</th>
</tr>
</thead>
<tbody>
<tr>
<td>House officer rotations</td>
<td>0</td>
<td>760</td>
<td>*</td>
<td>0</td>
<td>*</td>
<td>0</td>
<td>765</td>
<td></td>
</tr>
<tr>
<td>Not answered</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>24</td>
<td>6</td>
<td>49</td>
<td>65</td>
<td>175</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>0</td>
<td>*</td>
<td>30</td>
<td>4</td>
<td>8</td>
<td>20</td>
<td>48</td>
</tr>
<tr>
<td>Anaesthetics</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>*</td>
<td>0</td>
<td>136</td>
<td>341</td>
<td>494</td>
</tr>
<tr>
<td>Basic medical science</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>26</td>
<td>0</td>
<td>4</td>
<td>17</td>
<td>48</td>
</tr>
<tr>
<td>Breast medicine</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>*</td>
<td>*</td>
<td>0</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Dermatology</td>
<td>0</td>
<td>0</td>
<td>*</td>
<td>0</td>
<td>0</td>
<td>*</td>
<td>37</td>
<td>41</td>
</tr>
<tr>
<td>Diagnostic radiology</td>
<td>0</td>
<td>0</td>
<td>*</td>
<td>*</td>
<td>0</td>
<td>45</td>
<td>205</td>
<td>252</td>
</tr>
<tr>
<td>Emergency medicine</td>
<td>*</td>
<td>0</td>
<td>68</td>
<td>0</td>
<td>*</td>
<td>65</td>
<td>32</td>
<td>170</td>
</tr>
<tr>
<td>General practice</td>
<td>2502</td>
<td>7</td>
<td>9</td>
<td>*</td>
<td>14</td>
<td>*</td>
<td>2539</td>
<td></td>
</tr>
<tr>
<td>Intensive care</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>*</td>
<td>0</td>
<td>*</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Internal medicine</td>
<td>0</td>
<td>0</td>
<td>35</td>
<td>15</td>
<td>4</td>
<td>272</td>
<td>495</td>
<td>825</td>
</tr>
<tr>
<td>Musculoskeletal medicine</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>*</td>
<td>0</td>
<td>5</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Obstetrics and gynaecology</td>
<td>*</td>
<td>0</td>
<td>4</td>
<td>*</td>
<td>0</td>
<td>54</td>
<td>164</td>
<td>227</td>
</tr>
<tr>
<td>Occupational medicine</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>33</td>
<td>55</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>0</td>
<td>0</td>
<td>*</td>
<td>*</td>
<td>0</td>
<td>18</td>
<td>81</td>
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<td>Sexual health medicine</td>
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<td>0</td>
<td>0</td>
<td>4</td>
<td>*</td>
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<td>Surgery: cardiothoracic</td>
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<td>0</td>
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<td>*</td>
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<td>0</td>
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<td>Surgery: orthopaedic</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>*</td>
<td>*</td>
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</tr>
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<td>Surgery: paediatric</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>*</td>
<td>*</td>
<td>14</td>
<td>17</td>
</tr>
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<td>Surgery: plastic</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>*</td>
<td>0</td>
<td>17</td>
<td>32</td>
<td>50</td>
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<td>Surgery: urology</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>36</td>
<td>45</td>
</tr>
<tr>
<td>Surgery: vascular</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>*</td>
<td>12</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td><strong>Grand total</strong></td>
<td>3037</td>
<td>760</td>
<td>289</td>
<td>233</td>
<td>171</td>
<td>1242</td>
<td>2725</td>
<td>8491</td>
</tr>
</tbody>
</table>

Source: Medical Council of New Zealand 2003

Note: * denotes a number less than four, but greater than zero.
Increases are occurring in rehabilitation medicine and surgical groups such as cardiothoracic surgery, neurosurgery and otolaryngology. Fewer medical practitioners are, however, choosing to move into diagnostic radiology, anaesthetics and general practice. In 2001, 64 percent of specialist hours were worked in public hospitals and 29 percent for the combined private sector (Medical Council of New Zealand 2003).

In nursing, although a sufficient number of nurses are being trained in New Zealand, as in many other countries, fewer nurses choose to stay in nursing for their entire careers. A survey by the Nursing Council of New Zealand found that over 50 percent of nurses cease active employment as registered nurses within 11 years of registration (Nursing Council of New Zealand 2003b).

In the last few years, there has been an increasing shortage of medical radiation therapists and medical radiation technologists. As a result, some patients have been treated in Australia. The shortage of medical radiation technologists is worldwide, despite medical radiation technology being one of the fastest growing health professions. A survey in 2001 by the Ministry of Health’s National Screening Unit showed a 13 percent vacancy rate for medical radiation technologists.

There is also a shortage of locums for community pharmacies, especially those in rural areas. The United Kingdom and Australia are experiencing similar problems.

The reasons for shortages vary from profession to profession, but in some cases include global shortages; student debt; a lack of applicants training in some specialties; inadequate focus on appropriate orientation, supervision and oversight; the trend for increasingly more complex health services and, therefore, a need for increasing skills; the attraction of better remuneration and conditions overseas; and a lack of career pathways.

Some parts of the disability workforce have a particularly high turnover. For example, the Clinical Training Agency estimated in 2002 that staff turnover for some home-based support providers is 50–60 percent per year. Many people employed as support workers work part-time, and often have a number of clients they must travel between, covering their own travel costs (which can be quite significant). Their pay levels are no higher than residentially based support workers (who do not have the added cost of travelling from one client to the next).

**Strategies**

Strategies to address such shortages include:

- in 1999 increasing the number of places at universities for pharmacy students from 100 to 160, with a view to increasing the number of places to 200 from 2004
- increasing the number of places at the medical schools from 285 to 325 from 2004
- an increase in the number of medical radiation therapists being trained from 315 in 2002 to 407 in 2003
• incentives by District Health Boards to retain staff including incentives for loan repayments and cash, overseas exchange schemes, and more flexible working hours
• incentives for placements in specialty areas
• the introduction of nurse practitioners
• the development of a strategy for purchasing post-entry clinical training for nurses
• a focus on healthy workplace environments
• scholarships for students from low-income families wishing to train as health practitioners
• intersectoral work to address issues such as competencies and career pathways for support workers in community and residential care settings.

Ethnicity

Māori and Pacific peoples are under-represented in the health and disability support workforce. Māori make up approximately 5 percent of all health practitioners and Pacific peoples 1.7 percent of all health practitioners. As a proportion of the total population, Māori and Pacific peoples make up 14.5 percent and 6.5 percent of the general population respectively.

Despite the low proportion of Māori and Pacific peoples in the health workforce, the numbers employed are increasing overall. For example, in 1996, Māori made up just 1.6 percent of the medical practitioners compared to 2.6 percent in 2001. Pacific medical practitioners were 0.7 percent in 1996 and 1.1 percent in 2001. The proportion of nurses and midwives in 2001 was 7.6 percent for Māori and 2.9 percent for Pacific peoples (Medical Council of New Zealand 2003).

Strategies

Initiatives are under way as part of the Whakatätaka: the Māori Health Action Plan 2002–2005 (Minister of Health and Associate Minister of Health 2002b) and the Pacific Health Workforce Strategic Action Plan (which is identified in The Pacific Health and Disability Action Plan (Minister of Health 2002) to encourage increased participation of Māori and Pacific peoples in the health workforce. These initiatives are aimed at improving both mainstream services and services for Māori by Māori and services for Pacific peoples by Pacific peoples. They include:

• the establishment of Māori and Pacific Health Provider Development Funds
• scholarships for Māori and Pacific students undertaking health courses
• the establishment of a general practice and rural rotation replacement programme to ensure medical practitioners gain appropriate cultural and clinical experience
• the establishment of an intensive clinical training programme to enhance the number of Māori training as general practitioners.
In addition, mental health workforce development strategies are also aimed at expanding the Māori and Pacific workforce. Initiatives include the establishment of Te Rau Matatini (Māori Mental Health Workforce Development organisation) and Te Ora (encouraging Māori leadership development in psychiatry), and the provision of scholarships for Pacific mental health workers.

The Health Workforce Advisory Committee’s (HWAC) report *The New Zealand Health Workforce: Framing Future Directions: Recommendations to the Minister of Health 2003* was endorsed by the Minister of Health in August 2003. The report’s recommendations include the establishment of a national Māori Workforce Development Specialist Advisory Group to HWAC. This specialist advisory group is expected to be established by HWAC by early 2004.

**Age**

The pattern of when practitioners enter the workforce and exit the workforce can have a big impact on the capacity of the workforce. In some health professions there is a trend for practitioners to spend longer training at the beginning of their careers and retire earlier.

In nursing, there is some evidence that nurses are entering the workforce later. This is reflected in the changing age structure of the workforce. The average age of a nurse working in aged care is 43.8 years, and overall it is 48.3 years. Figure 2.15 shows that nurses over 40 years of age are making up an increasing proportion of the workforce. As this cohort retires, there will be pressures on the workforce at the same time that there is an increase in the population that need the most care (the older aged) (Nursing Council of New Zealand 2003a).

The ageing population will affect the demand for health and disability support services. The population over 65 years of age is expected to more than double in the next 50 years, reaching 1.145 million in 2051. The greatest increase will be after 2011 as the baby boomers progressively reach 65. Increasing numbers of older people will place pressures on disability support services and health services. The services most affected will be those to treat and support people with conditions such as cardiovascular disease, chronic obstructive respiratory disease, cancer, musculoskeletal conditions and dementia.

**Strategies**

A number of initiatives are under way as part of the Health of Older People Strategy that focus on the workforce needs of an ageing population. In 2003, the New Zealand Institute of Research on Ageing and the Health Services Research Centre at Victoria University completed a background paper for the Ministry of Health on the impact of an ageing population in New Zealand on the demand for health and disability support services and the implications for the health and disability support workforce (Cornwell and Davey 2003). This study will contribute to work in 2004 on how to develop the workforce needs of an ageing population.
A number of initiatives are also under way, as part of the Primary Health Care Strategy, that focus on patients who need intensive primary health care services. For example, Care Plus and initiatives aimed at promoting a people-centred approach, such as home visits to review medicines management (possibly in conjunction with nursing visits) for older people. Intersectoral work has also commenced on providing recommendations to the Government on a policy and service framework for ensuring the safety and quality of support services delivered in the community or in residential care settings.

**Working patterns**

Health practitioners do not necessarily work continuously throughout their careers. Table 2.17, for example, shows that whilst 9964 medical practitioners held annual practising certificates in 2001, only 8491 were in active practice (Medical Council of New Zealand 2003).

There are still some marked differences in the proportion of women and men working in particular health professions. For example, 5.9 percent of nurses in 2002 were male. In comparison, 33 percent of medical practitioners in 2001 were female. There is a higher proportion of females in house officer roles than other roles, and they also make up a significant proportion of the general practice, registrar, primary care and medical officer special scale roles. Only 19 percent of specialists are women (Medical Council of New Zealand 2003, Nursing Council of New Zealand 2003a).

**Table 2.17: Medical practitioners in New Zealand, 1990–2001**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of medical practitioners on Medical Council register*</th>
<th>Number of medical practitioners who purchased an APC*</th>
<th>Number of active medical practitioners</th>
<th>Active medical practitioners per 100,000</th>
<th>New Zealand population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>11,147</td>
<td>9,964</td>
<td>8,491</td>
<td>219.0</td>
<td>3,876,300</td>
</tr>
<tr>
<td>2000</td>
<td>10,823</td>
<td>9,565</td>
<td>8,615</td>
<td>224.9</td>
<td>3,831,140</td>
</tr>
<tr>
<td>1999</td>
<td>12,336</td>
<td>9,607</td>
<td>8,616</td>
<td>226.0</td>
<td>3,812,800</td>
</tr>
<tr>
<td>1998</td>
<td>12,039</td>
<td>9,105</td>
<td>8,491</td>
<td>223.9</td>
<td>3,791,900</td>
</tr>
<tr>
<td>1997</td>
<td>12,399</td>
<td>9,102</td>
<td>8,224</td>
<td>218.7</td>
<td>3,760,700</td>
</tr>
<tr>
<td>1996</td>
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<td>8,487</td>
<td>7,634</td>
<td>211.0</td>
<td>3,618,300</td>
</tr>
<tr>
<td>1995</td>
<td>12,044</td>
<td>7,998</td>
<td>7,530</td>
<td>211.5</td>
<td>3,561,100</td>
</tr>
<tr>
<td>1994</td>
<td>11,413</td>
<td>7,521</td>
<td>7,180</td>
<td>204.7</td>
<td>3,506,900</td>
</tr>
<tr>
<td>1993</td>
<td>10,787</td>
<td>7,406</td>
<td>6,872</td>
<td>198.7</td>
<td>3,458,900</td>
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<td>1992</td>
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<td>7,170</td>
<td>6,722</td>
<td>196.6</td>
<td>3,418,600</td>
</tr>
<tr>
<td>1991</td>
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<td>7,015</td>
<td>6,575</td>
<td>194.8</td>
<td>3,375,903</td>
</tr>
<tr>
<td>1990</td>
<td>9,643</td>
<td>6,806</td>
<td>6,339</td>
<td>187.6</td>
<td>3,379,200</td>
</tr>
</tbody>
</table>


Note: During the year 2000 the Medical Council of New Zealand removed from the Medical Register the names of approximately 1800 doctors who had not lived in New Zealand for six consecutive months in any period of three years. The removal was required under the Medical Practitioners Act 1995 and gave the council no discretion in this respect. The reason for the requirement is public safety and not knowing what standards doctors have maintained while working in other countries.
While the number of women in the medical workforce has remained static over the last few years, the number of women training as medical practitioners is increasing. Forty-nine percent of medical students are women. The number of males training in nursing is also increasing.

There is also an increasing trend for men and, in particular, women to choose to work fewer than 40 hours per week, due primarily to family commitments and general lifestyle choices. Despite this trend, the number of hours being worked full-time by general practitioners, house officers, medical officers, registrars and specialists has remained fairly static over the last four years. Balancing work and life pursuits is likely to have a significant impact on the number of hours worked and on the capacity of the workforce in the future. There also appears to have been an increase in the availability of part-time work for nurses, and those nurses seeking to work on a part-time basis. It is not uncommon for new graduates to start on less than full-time equivalent hours (eg, 0.9) rather than full-time to allow them to acclimatise to the work setting and fulfils the requirements of their graduate programme.

**Strategies**

Internationally, the trend is to restrict the number of hours worked by many professionals. Working excessive hours places both health practitioners and patients at risk. Junior medical practitioners, in particular, work long hours, often in pressured environments.

The European Working Time Directive, which currently applies to most workers with a number of exceptions, will be extended to medical practitioners in training with a requirement to reduce the number of working hours to 49 per week in 2009. In New Zealand, collective agreements negotiated between health practitioner unions and District Health Boards include an emphasis on reducing the number of hours worked by health practitioners. The aim is to improve the working environment for health practitioners, while contributing to improved public safety.

The Health Practitioners Competence Assurance Act 2003 received Royal Assent on 18 September 2003. It aims to protect the public from the risk of harm by providing a consistent framework for the regulation, maintenance of competence and discipline of practitioners. The Health Practitioners Competence Assurance Act also accommodates flexibility and innovation in the workforce by enabling health practitioners to work to their level of competence in a defined scope of practice. In this way, it opens the way for new roles and ways of working in the health workforce.

**Migration**

The flow of health practitioners into and out of New Zealand can have an important impact on the capacity of the workforce.
Travel

Many young New Zealanders choose to travel overseas to see the world and gain new experiences. This has some impact on the numbers of New Zealand-trained health practitioners in the workforce.

There is some evidence that medical graduates are exiting the New Zealand health sector earlier in their careers than they used to. Table 2.18 shows the percentage of medical graduates purchasing annual practising certificates up to 2000. The table shows that the retention rate for postgraduate year one was 96 percent in 2000, but only 77 percent for postgraduate year two and 58 percent for postgraduate year four. Within three years of graduation, 42 percent of new medical graduates from 1997 and 1998 had left the New Zealand medical workforce (Medical Council of New Zealand 2003). This could be due in part to doctors training in specialties overseas. The issue for New Zealand is to attract these postgraduates back to New Zealand when they complete their specialist training.

Table 2.18: Percentage of recent medical graduates purchasing annual practising certificates to work in medical practice, 1996–2000

<table>
<thead>
<tr>
<th>Final class year</th>
<th>PGY1</th>
<th>PGY2</th>
<th>PGY3</th>
<th>PGY4</th>
</tr>
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<tr>
<td>1996</td>
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<td></td>
</tr>
<tr>
<td>2000</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Notes:
1 Final class year is used as Auckland and Otago identify graduate year differently.
PGY Postgraduate year, so PGY4 is graduates in their fourth year of work after graduation.

A similar situation exists for dental graduates, with graduates who graduated five years ago exiting the New Zealand health sector earlier in their careers, as shown in Table 2.19 below.

Table 2.19: Percentage of recent dental graduates purchasing annual practising certificates to work in dentistry, 1992–2001

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td></td>
<td></td>
<td></td>
<td>70.7</td>
<td>70.4</td>
<td>51.9</td>
<td>52.6</td>
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<td>1999</td>
<td></td>
<td></td>
<td></td>
<td>70.9</td>
<td>62.1</td>
<td>57.4</td>
<td>46.3</td>
<td>57.8</td>
<td>71.1</td>
<td>57.1</td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td>81.8</td>
<td>61.8</td>
<td>44.8</td>
<td>42.6</td>
<td>50.0</td>
<td>61.4</td>
<td>71.2</td>
<td>55.1</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>62.5</td>
<td>74.6</td>
<td>50.9</td>
<td>34.5</td>
<td>46.3</td>
<td>48.2</td>
<td>61.4</td>
<td>69.2</td>
<td>55.1</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>71.7</td>
<td>52.5</td>
<td>51.7</td>
<td>50.9</td>
<td>38.5</td>
<td>44.4</td>
<td>54.0</td>
<td>65.5</td>
<td>72.9</td>
<td>63.8</td>
</tr>
</tbody>
</table>

Source: Dental Council of New Zealand 2003.
Overseas-trained medical practitioners

Over a third of the medical workforce comprises overseas-trained medical practitioners. Registrations with the Medical Council of New Zealand indicate that the majority of these medical practitioners come from England and South Africa, with 752 and 570 respectively in active practice in New Zealand in 2001. Table 2.20 shows the number of active medical practitioners in New Zealand by country of graduation.

In 2000, a bridging programme was established to assist overseas-trained medical practitioners, who were unclear about New Zealand’s registration requirements, to meet the requirements of the Medical Council of New Zealand. The Medical Council of New Zealand is also monitoring the performance of the bridging programme candidates once they start work. It is considering whether to establish a ‘ready-to-work’ programme to assist all overseas-trained medical practitioners into the workplace.

Table 2.20:  Graduation countries of active medical practitioners in New Zealand, 1998–2001

<table>
<thead>
<tr>
<th>Graduation country</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Zealand</td>
<td>5628</td>
<td>5693</td>
<td>5645</td>
<td>5567</td>
</tr>
<tr>
<td>England</td>
<td>382</td>
<td>376</td>
<td>374</td>
<td>752</td>
</tr>
<tr>
<td>South Africa</td>
<td>591</td>
<td>580</td>
<td>580</td>
<td>570</td>
</tr>
<tr>
<td>India</td>
<td>210</td>
<td>246</td>
<td>260</td>
<td>251</td>
</tr>
<tr>
<td>Scotland</td>
<td>73</td>
<td>74</td>
<td>79</td>
<td>246</td>
</tr>
<tr>
<td>Australia</td>
<td>219</td>
<td>212</td>
<td>214</td>
<td>214</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>187</td>
<td>202</td>
<td>200</td>
<td>183</td>
</tr>
<tr>
<td>United Kingdom (not further defined)</td>
<td>623</td>
<td>595</td>
<td>571</td>
<td>026</td>
</tr>
<tr>
<td>Iraq</td>
<td>60</td>
<td>89</td>
<td>103</td>
<td>98</td>
</tr>
<tr>
<td>China</td>
<td>10</td>
<td>11</td>
<td>11</td>
<td>50</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>6</td>
<td>17</td>
<td>35</td>
<td>48</td>
</tr>
<tr>
<td>Yugoslavia, Federal Republic of</td>
<td>25</td>
<td>27</td>
<td>32</td>
<td>28</td>
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<tr>
<td>Fiji</td>
<td>40</td>
<td>39</td>
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<td>40</td>
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<td>Canada</td>
<td>48</td>
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<td>42</td>
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<tr>
<td>Ireland</td>
<td>44</td>
<td>43</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>United States of America</td>
<td>39</td>
<td>39</td>
<td>40</td>
<td>36</td>
</tr>
<tr>
<td>Egypt</td>
<td>20</td>
<td>26</td>
<td>33</td>
<td>29</td>
</tr>
<tr>
<td>Other</td>
<td>286</td>
<td>300</td>
<td>315</td>
<td>296</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>8491</td>
<td>8616</td>
<td>8615</td>
<td>8491</td>
</tr>
</tbody>
</table>


26 Graduates from the United Kingdom were recorded in 2001 as graduating from either England or Scotland.
Strategies

District Health Boards are considering an incentive system to reward permanent employment, targeted at medical practitioners 3–5 years post-graduation. The Government is also offering scholarships to students from low-income families wishing to train as health practitioners from 2004.

New Zealand is a signatory to the Commonwealth Code of Practice for the International Recruitment of Health Workers. The Code was signed in Geneva in 2003. The Code provides guidelines for the international recruitment of health workers in a manner that takes into account the potential impact on services in the source country. The Code is intended to discourage targeted government recruitment of health workers from countries that are themselves experiencing shortages. The Code seeks to safeguard the rights of recruits and the conditions relating to their profession in the recruiting country. Its guiding principles are transparency, fairness and mutuality of relations among Commonwealth countries and between recruits and recruiters. The Code does not seek to challenge the right of individuals to migrate.

Mental health

Workforce development is critical to developing New Zealand’s mental health services. Being able to attain the planned level of good quality services depends on rapidly developing a sufficient number of appropriately skilled workers. Improvements to services also require improvements in the skills of the existing workforce. A Workforce Development Strategy is in place for the sector.

The figure below shows the size of the workforce by service category from 2001/02 and the gap remaining for implementation of the Mental Health Blueprint (Mental Health Commission 1998) for key service areas.
Most of the growth required in the workforce is for workers who will be based in the community. This is shown in the table below.

**Table 2.21:** Forecasted clinical and non-clinical mental health workforce requirements

<table>
<thead>
<tr>
<th></th>
<th>2001/02 funded FTEs</th>
<th>2002/03 funded FTEs</th>
<th>Implement Blueprint fully</th>
<th>FTE increase required</th>
<th>% increase required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community clinical FTEs</td>
<td>3,240</td>
<td>3,486</td>
<td>4,917</td>
<td>1,431</td>
<td>41%</td>
</tr>
<tr>
<td>Inpatient clinical FTEs</td>
<td>2,020</td>
<td>1,989</td>
<td>2,503</td>
<td>483</td>
<td>24%</td>
</tr>
<tr>
<td>Total clinical FTEs</td>
<td>5,260</td>
<td>5,475</td>
<td>7,420</td>
<td>2,160</td>
<td>39%</td>
</tr>
<tr>
<td>Total support workers</td>
<td>979</td>
<td>1,166</td>
<td>1,893</td>
<td>727</td>
<td>62%</td>
</tr>
</tbody>
</table>

Source: Ministry of Health, 2003

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27 Forensic services are small, highly specialised services working with mentally ill offenders, alleged offenders or those who pose a high risk of offending. There are 115 FTEs employed in these services in New Zealand.
Disability

Within the disability workforce, there is a growing demand for support in home and community settings for clients with high and complex needs. For example, the provision of personal care and rehabilitation support to clients with high and complex needs requires a support worker who has a higher level of competency that those working at a basic level. There is also a need for supervision of prescribed medication in a home or community setting and more advanced levels of support for specific clients at home.

Stocktakes and service reviews have noted particular shortages, such as:

- clinical psychologists working with people with intellectual disabilities and autism
- therapists and social workers working with people with autism, especially those working in the paediatric area
- audiologists working in public settings
- qualified sign-language interpreters, lip speakers and communicators for people with hearing impairments and Deaf people, and Deafblind intervenors (guide helps).

Strategies

The Ministry of Health has implemented a number of programmes to assist in addressing identified training and education gaps. These programmes cover:

- informal carers, through informal carer training programmes and a number of alternative funding projects which fund programmes to develop networks, reduce isolation and disseminate information to carers
- the Early Bird programme which teaches parents skills for working with their children with autism spectrum disorder
- needs assessors and service co-ordinators
- accredited assessors of environmental support services
- care co-ordinators and care managers who will work under the Intellectual Disability (Compulsory Care and Rehabilitation) Act which was passed in October 2003.

The shortage of Māori and Pacific health and disability professionals in the disability support sector have been identified as part of the Māori Disability Action Plan (MDAP) and the Pacific Health and Disability Action Plan, respectively. Development of the Māori and Pacific disability workforce is progressing, consistent with these strategies and the goals of the NZDS. A 2002 national Māori service stocktake found there were 56 ‘for Māori by Māori’ DSS providers and six to eight new services were under development. In the Auckland region, as of late 2003, there were four ‘for Pacific peoples by Pacific peoples’ disability support service providers.

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28 An internal Ministry of Health stocktake was undertaken in order to develop a database of ‘for Māori by Māori’ providers. The stocktake also covered providers of ‘for Pacific peoples by Pacific peoples’ providers.
New funding of $1 million has enabled the Ministry of Health to establish a project, known as the Quality and Safety Project, to provide recommendations to the Government on a policy and service framework for ensuring the safety and quality of support services delivered in the community or in residential care settings.

The workforce of tomorrow

Although the health and disability support workforce in New Zealand is larger than it has ever been, there are many pressures on it. These include an ageing and ethnically diverse population, the effects of the international market for most of our health practitioners, the attractiveness of various specialties, settings or locations, increasing technology and people’s knowledge of it, lifestyle choices, and new ways and conditions of working. These make for a very dynamic environment. The challenge is to respond to these effects.

Technological advancements, for example, will mean better treatment for a wider range of people. At the same time, advancements in technology will mean more advanced training for health practitioners in some areas. For example, medical radiation technologists require postgraduate study to operate ultrasound, medical resonance imaging and computerised topography. Technological advances increase the demand for a service and the length of time it takes to train health practitioners who provide the service.

District Health Boards and District Health Boards New Zealand’s Workforce Action Plan and the Health Workforce Advisory Committee’s report The New Zealand Health Workforce: Future Directions – Recommendations to the Minister of Health 2003 provide a strategic platform for health workforce development initiatives (District Health Boards New Zealand 2003, Health Workforce Advisory Committee 2003). Consistent with these publications, work already under way in the sector on recruitment and retention strategies, improving workforce information and improving collaborative relationships in the sector should assist in building the capacity and capability of the workforce of tomorrow.

Equally, developments such as the Health Practitioners Competence Assurance Act 2003 and the Tertiary Education Strategy will allow for flexibility and innovation in the workforce by training and enabling health practitioners to work to their levels of competence. These are supported by the Code of Health and Disability Services Consumers’ Rights and the Health and Disability Commissioner’s complaints system (both introduced in 1996), and the implementation of competence reviews by the Medical Council. Together, these three mechanisms for the protection of health consumers have resulted in a four-fold reduction in the number of medical practitioners facing disciplinary proceedings since 1994 (Health and Disability Commissioner 2003). The Tertiary Education Strategy also provides an opportunity for the health sector to ensure that the education sector is responsive to the future needs of the health sector and the type of health workforce needed to deliver health services in the future. The Ministry of Health, the Health Workforce Advisory Committee and District Health Boards are working together with the Tertiary Education Commission to meet this challenge.
Information

Information is critical to achieving health and independence gains for New Zealanders. With the increasing move to population-based health care and co-ordinated care programmes such as disease management and well-person population-based programmes, decisions are involving many more people and require a wide range of information. As the New Zealand Health Strategy states:

‘The ability to exchange high-quality information between partners in health care processes is vital for a health system focused on achieving better health outcomes. Better access to timely and relevant clinical information can improve clinical decision-making and, therefore, health outcomes for individual patients.’ (Minister of Health 2000)

The Australian Commonwealth Department has described the decision by the New Zealand Government to invest in, and promote, key items of health information management infrastructure, as positioning New Zealand ‘as a world leader in the field, particularly in the primary care sector’. Their report goes on to say: ‘the infrastructure includes the National Health Index, the Medical Warning System, a national clinical coding system for primary care as well as for hospitals, the early adoption of a standard for health messaging, and a national health intranet and the attendant security apparatus in the form of Public Key Infrastructure’ (Commonwealth Department of Health and Ageing 2003).

In collaboration with the sector, the Ministry continues to build on these achievements to provide the leadership, the nationwide information management infrastructure and the sector frameworks required to support the Government’s health and disability strategies. Through a number of arrangements including joint projects and commissioned work with sector organisations, and through Ministry-led and funded projects, a strong and broad programme of work is being undertaken.

As elements of this existing work programme are completed, they will contribute towards improving the sector’s capability to appropriately manage health information. However, as is evidenced by the British National Health Service information development programme and Australian endeavours, a significant amount of investment still required if New Zealand wishes to maintain and grow its world-class status in information management.

This section of the Health and Independence Report describes the information that exists for gathering and managing information. It then outlines key initiatives for information management in the health and disability support sector.
Health and disability data collection

A wide range of health information is collected nationally and held in various collections.

- The **National Minimum Data Set** is a single, integrated collection of secondary and tertiary hospital health discharge data.
- The **Cancer Registry** is a population-based tumour register of all primary malignant diseases, operating since 1948.
- The **Mortality Register** contains coded causes of death for New Zealanders who die in New Zealand and is based on the legal death certificate or coroner’s report, together with autopsy reports.
- The **Mental Health Information National Collection** contains information on specialist mental health, and alcohol and drug services.
- The **Booking Reporting System** is a data collection sourced from District Health Board services where a patient has received an assessment of their priority for a medical or surgical service.

The Ministry also manages primary health sector data collections that are derived mainly from subsidy claims and contain limited clinical information. The ‘Pharmhouse’ collection, which collects information on subsidised prescriptions, supports the management of pharmaceutical subsidies. The ‘Pharmhouse’ provides the health sector with detailed information about how much Vote Health is being spent on prescribed drugs. The ‘Laboratories’ collection gathers information on subsidised laboratory tests and supports the management of laboratory subsidies by providing DHBs with information on spending patterns.

Similarly, the newly implemented General Medical Subsidies (GMS) data collection holds claim-based data on subsidised general practitioner visits. This data collection will continue to store fee-for-service claims-based data generated from casual visits by PHO patients to other general practitioners, and for those individuals who do not wish to belong to PHOs. A major use for this information, in conjunction with information derived from the PHO Capitated Based Funding system, will be to assist DHBs and the Ministry in the management of inter-district funding adjustments to the DHB Population based funding. The system will also provide the foundation on which to build further primary health care data collection, discussed later in this section, which is likely to be required for purposes such as PHO Performance Monitoring and epidemiological research.

The Maternity and Newborn Information System contains data on the utilisation of maternity services and on health outcomes for mothers and babies. This information is reported annually in the Report on Maternity. It provides valuable information for policy makers, health service planners and maternity providers to identify areas where maternity services can be improved.

Information on health workforce statistics is maintained. This information is collected by survey from professional bodies and is used to help understand and plan workforce development.
Public Health Intelligence is a multidisciplinary analytical group, which carries out the Ministry of Health’s responsibility to monitor the health of the population. Public Health Intelligence analyses health outcomes, risks and determinants to measure how healthy the New Zealand population is over time and to examine inequalities in health across regional boundaries and between various population groups. Public Health Intelligence provides added-value analyses to the health sector using tools such as modelling and forecasting, a variety of surveillance activities, health geoinformatics, and by conducting health surveys. Public Health Intelligence is also involved in training and knowledge transfer in applied epidemiology to the health sector, working collaboratively with national and international researchers, and developing a variety of information products.

One of the key goals in the Minister’s strategy for improving quality in the health system includes ensuring useful knowledge and information is readily available and shared to support a quality-conscious culture. Various actions have been identified within the IQ Action Plan: Supporting the improving quality approach (Minister of Health 2003c) which emphasises facilitating a learning culture. Specific actions include the National Health Index, as well as specific clinical analysis projects, which use the National Minimum Data Set information for comparative outcome analysis at a service level for specified conditions such as stroke, fractured neck or femur, and coronary artery bypass graft. The Government’s review of the ACC medical misadventure system is also considering how the information collected through this avenue can best be used to help identify adverse events and prevention of future patient injuries.

Privacy and security

Information is increasingly becoming an important asset to any organisation and management of that information is becoming increasingly complex. In health, it is necessary to ensure that there is appropriate protection of the health information that health users provide in good faith to their health care provider. People have a right to expect that information will be used in a way that is congruent with improving their health and the nation’s health, but without causing prejudice to themselves.

With co-ordinated care, such as disease management and well-person population-based programmes, it is essential to be able to share information appropriately. The Ministry has the important task of protecting and using this information to the benefit of us all, while protecting individuals. This is managed, in conjunction with the sector, through the development of appropriate information management policies.

Health care users information is protected by the Privacy Act 1993 and the Health Information Privacy Code 1994, which provide a comprehensive privacy framework. The Privacy, Authentication and Security Project, a joint project between the Ministry of Health and ACC, will further develop this base to ensure that there is ongoing evolution of a safe, secure and connected health care system as new technologies and processes are implemented. The project will enable consistent privacy and security information management practice across the sector. The project is now in the sector consultation phase and aligns with current e-government initiatives.
WAVE programmes and projects in 2003

WAVE (Working to Add Value through E-information) outlines the strategic direction for information management development over the next five years. The main aim of WAVE strategies is to develop the appropriate exchange of electronic health information. That is, to make the right information available at the right time to decision-makers in clinical health care providers, policy analysts and administrators, researchers and communities. As a result, many of the WAVE strategies are designed to protect information. The knowledge gained from putting WAVE recommendations into practices has shown that emerging developments have highlighted the need for flexibility in information management strategies.

The National Health Index

The National Health Index (NHI) system is a national system which is used to assign a unique identifier, an NHI ‘number’, to each healthcare user for the purposes of healthcare service delivery and recording. The system maintains demographic information such as name, address, ethnicity and date of birth. The NHI number is usually issued at birth. An NHI Upgrade Programme has been developed to maintain and strengthen existing uses of the NHI and to improve the data quality of the NHI. This will enable greater benefit to be derived from the use of individual NHIs and enable the NHI system to be used for population-based initiatives.

The programme’s benefits for patients include:

• improved public awareness of the NHI and how it is used
• enabling population health programmes to target services to key groups and individuals via their enrolled primary health care provider
• enabling their provider to identify other services that may hold relevant clinical information about them
• increasing the ease with which hospitals involve their primary health care provider in integrated care initiatives.

Key deliverables of the NHI Upgrade Programme are:

• identifying and reconciling NHI duplicates
• improving address validation and geo-coding
• improving ethnicity information
• increasing comprehensiveness of registrations
• improving access to the NHI, especially primary health care providers
• adding patients’ provider affiliations and entitlement information
• ensuring that data elements common to both the NHI and clinical repositories are the same and that if a change is made in one location then it is reflected in another
• communicating and consulting with health and disability support services and the public.
Supporting the health workforce

The Health Practitioner Index Project will develop a national application containing core data on health practitioners, organisations and facilities. The index will reduce compliance costs for practitioners who currently have multiple identifiers and will provide linkages to digital security. The Health Practitioner Index system architecture is also in line with e-government initiatives.

The Ministry of Health has been working with ACC in a jointly sponsored consultation with the sector to develop a Health Practitioner Index. The index will reduce compliance costs for practitioners who have multiple identifiers and improve information quality. The project has issued a request for proposals and is shortlisting proposals for system provision. A Privacy Impact Assessment is in progress and data access agreements with practitioners are being developed. In conjunction, the Health Practitioners Competence Assurance Act is intended to ensure the formal registration of all health practitioners.

The ongoing development of the Mental Health Workforce Information System is an initiative intended to pilot a health-wide workforce information system. It is a partnership between DHBs and the Ministry of Health, and will improve the ability to target workforce issues such as recruitment to rural areas. The system will provide national information in a consistent format on the numbers of qualified staff providing care in the area of mental health. The project is now in the build phase following consultation with the mental health and wider health sector. The system will be managed for the sector by NZHIS.

Data quality

WAVE notes the need to collect data that is of high quality and specifically discusses the quality of ethnicity data. A programme is concluding that examined the existing ways and issues involved in collecting ethnicity data in the sector. A philosophy of standardised collection and continuous improvement has been documented in the Ethnicity Data Collection Protocols, which were implemented in December 2003. The development of accompanying training and educational material will begin shortly with the compilation of a ‘train-the-trainers’ package to assist to train those working directly with ethnicity information collection, such as ward clerks and nurses.

A Data Quality Strategy for the New Zealand health sector is currently under development starting with the development of a data quality framework. The framework will allow for a clear and consistent assessment of the level of data quality for each and all of the Ministry’s national health data collections. This evaluation will accurately assess where the quality of data needs to be improved to enable decision-makers to make better choices and provide information that allows for appropriate policy development.
The Health Information Standards Organisation

The newly formed Board of the Health Information Standards Organisation (HISO) is a ministerial committee formed to improve the co-ordination of health care through the development of health information standards. The Committee will identify needed standards, develop health information standards when necessary and endorse standards developed by sector working groups. The Committee is developing the detailed operational process necessary for sector groups to submit candidate standards and identify existing standards for endorsement within the sector. The provision of the draft *From Present to Future: A Health Information Standards Plan for New Zealand* developed by the Ministry has been presented to HISO for their consideration.

Primary health care information

The implementation of the Capitated Based Funding system will allow more accurate and timely allocation of funding to PHOs. The Capitated Based Funding system automatically calculates the funding for PHOs based on their enrolment population profiles and incorporates adjustments for when PHO enrollees receive services outside of their PHO. Capitated Based Funding also removes duplicate enrolments when applying funding formulae so that a person is only funded once.

While this is a significant step forward in the implementation of the Primary Health Care Strategy, the Capitated Based Funding system does not provide information on the services delivered. The GMS data collection only collects access data when a fee-for-service claim is processed. There is a considerable amount of information in the primary care sector that if collected in a useful way, could inform decision-makers on the health of populations. At present such statistical information is not collected at a national level and if it were, it would assist the development of more appropriate services to better target at-need groups. Work is now under way to assess how best to collect such information without impacting on the workload of primary health care providers through increasing reporting compliance requirements.

The Special Authority Approval process will be improved considerably by the ability to provide online application for subsidies to approximately 100 restricted drugs. The system will run through the Health Network, a secure link from a doctor to the Ministry, and will provide a response to the doctor in real time as to the approval status of the application. A pilot to test ‘real-time’ electronic submission and authorisation is currently under way.

Electronic discharge and referrals, which improves co-ordination between tertiary/secondary and primary health care providers, is being progressively implemented across the country. GPs are more able to provide seamless care once the patient has been discharged from hospital since they are immediately informed of the hospitalisation, its reasons, treatment given and post-discharge care requirements. The information is sent via the Health Network to ensure the privacy and security of the information and the internationally accepted messaging standard, Health Level Seven, is used.
Project PROBE (Provincial Broadband Extension) has been developed jointly by the Ministry of Education and the Ministry of Economic Development to roll out high-speed, always-online Internet access, or broadband, to all schools and provincial communities. The Ministry has become involved in the PROBE project to improve the availability of broadband Internet to health providers including primary health care physicians. This will greatly enable tele-health initiatives including remote diagnosis and other forms of remote service delivery.

**Collaboration**

The Ministry of Health is working with DHBs to develop a sector-wide framework for the management of information. This involves allocating accountabilities for information management into local, regional and national responsibilities. A work plan for each responsibility and collaborative mechanisms to integrate each area is being developed such as the implementation of regional capital groups. The Ministry is also working with DHBs to develop transparent guidelines for DHB information technology investment. This will involve DHBs undertaking a collaboration exercise with other DHBs prior to the submission of their purchase business case.

The Ministry is working closely with the State Services Commission to further e-government initiatives. This collaboration provides for common information standards between government agencies which will enable greater electronic connectively between government departments, and will allow for seamless information services across government to be provided to the public.

**GMS data warehouse**

The development of the General Medical Subsidy (GMS) data store to complement the laboratory data and pharmacy data stores has been completed. By providing detailed information on subsidised fee-for-service GP visits, sector analysts will be able to understand the funding implications of this service type via a simple access pathway.

**ProClaim**

The Ministry of Health has implemented ‘ProClaim’ to replace outdated claims processing systems. This will enable a faster turnaround of claims by allowing for a 24-hour, seven-days-a-week e-claiming availability. A pilot to test full Web-enabled, secure claiming of pharmaceutical and maternity claims is extending the current ‘ProClaim’ system.

**Disability services**

The devolution of DSS for older people to DHBs on 1 October 2003 gave added impetus to general information improvement projects. The process of splitting DSS funding between the Ministry and DHBs highlighted issues with regard to the accuracy and completeness of data currently captured.
Movement towards nationally consistent data for payment of DSS providers and improved client information began in early 2003. The focus was primarily on development of a main data collection form, instead of 40 different variations in use by Needs Assessment and Service Co-ordination agencies. These forms are used to advise the outcome of the Needs Assessment and Service Co-ordination process for individual clients and is the basis for payment to DSS providers. The form was expanded to incorporate additional information on clients’ demographics, impairments/conditions contributing to their need for support, and the range of long-term support services they receive and require across health, disability and other government agency services. It was implemented on 1 October 2003.

Significant other work occurred in parallel to this process to improve the quality of DSS data within the Client Claims Processing System and the quality of reports generated for both the Ministry and DHBs. For example, work has been undertaken to:

- ensure the National Health Index field is held for all disability support services clients (estimated to be 99 percent complete at September 2003)
- ensure client date of birth is recorded
- add a funding stream variable to the database
- enable electronic processing of payments for 15,000 home support clients
- develop a data warehouse to improve the range and quality of reporting
- add new hardware and infrastructure
- put in place a business continuity plan to help support the new data warehouse and future applications.

Overall, these information developments will contribute to improved efficiency, quality and range of data and reporting available to both the Ministry of Health and DHBs. Better data and reporting will support strategic planning, service development and delivery, as well as reporting by both the DHBs and the Ministry of Health.

The New Zealand Health Monitor

The New Zealand Health Monitor strategy is designed to complement information systems that are service-based (or patient-based). Service-based information systems focus on inputs (resources provided or consumed) and throughputs (volumes and times). The New Zealand Health Monitor is a set of surveys that focus on populations and is outcomes-focused. The Health Monitor provides reporting on national population health surveys yearly and is designed to give an overall and consistent approach to health outcomes.
Innovation reviews
The Sharing Excellence in Health and Disability Information Management Awards were brought about to recognise and support those working in the sector and developing innovative technology that improves patient care. It is important that innovation developed in one area can be applied in other areas. An example is electronic ordering.

Patient safety is an area highlighted in research as a significant problem in health care. One way to reduce medical error is electronic ordering, including e-prescribing. Otago District Health Board is implementing an electronic prescribing system following a successful pilot. The system links in with the hospitals database of drugs, highlighting drug interactions and signalling when a patient is allergic to certain medicines. This project was one of six projects recognised as innovative in this year’s awards.

Laboratory results
Timely access to laboratory results reduces the time needed to provide appropriate care for patients and reduces the need for duplicate tests. The three Auckland DHBs have implemented a system that uses common Web-based access to laboratory results. This means that health care providers in differing locations can access tests already ordered. Laboratory results are available within minutes. This initiative demonstrates what is required of information systems to support co-ordinated care.
Chapter 3: What Services are Provided?

This chapter examines the outputs, or the services that are delivered, through four key parts of the health and disability support system.

- Personal health services.
- Public health services and programmes.
- Mental health services.
- Disability support services.

Personal health services

Personal health services cover those areas where an individual needs treatment or advice for a health condition. They range from a person going to see their primary health team to hospital inpatient treatment or hospital outpatient services, to services such as district nursing provided in the community. Personal health services account for the biggest proportion of expenditure on health services, comprising 77 percent of Vote Health in 2001/02.

Primary health care

The primary health care sector

Primary health care covers a broad range of services. They include:

- participating in communities and working with community groups to improve the health of the people in the communities
- health improvement and preventive services, such as health education and counselling, disease prevention and screening
- generalist first-level services, such as general practice services, mobile nursing services, community health services, and pharmacy services that include advice as well as medications
- first-level services for certain conditions (such as maternity, family planning and sexual health services, and dentistry) or those using particular therapies (such as physiotherapy, chiropractic and osteopathy services, traditional healers and alternative healers) (Minister of Health 2001).

Since the start of the 2002/03 fiscal year, the primary health care sector has been undergoing significant change as a result of implementing the Primary Health Care Strategy (Minister of Health 2001). The Primary Health Care Strategy aims for closer co-ordination across all of the primary health care services listed above.
In 2001/02, primary care funding totalled $385 million, including $130 million for General Medical Services benefits, $19 million for practice nurse subsidies, $97 million for maternity benefits and $103 million for capitation funding. These figures exclude $207 million for laboratory tests and $793 million for pharmaceuticals (Ministry of Health 2003b).

In 2000/01 (the most recent year data available) there were approximately 14.6 million individual consultations with GPs, an average of nearly four for every New Zealander. This figure excludes ACC visits. Most consultations involved the very young (aged under five years) and people aged 65 years and over (Ministry of Health 2002e).

Provisional findings from the 2002/03 New Zealand Health Survey (Ministry of Health 2003j) show that four out of five New Zealanders visited their general practitioner in the previous year. Women were more likely to have visited their general practitioner in the previous year than men. The survey also reported that one in eight Māori (12.8 percent) saw a Māori health provider in the previous year, and one in 12 Pacific people (8.5 percent) saw a Pacific health provider.

As discussed in the Information section of Chapter 2, work is currently under way to identify how best to collect information at the national level on the type of care provided by primary health care providers.

**Primary Health Care Strategy**

Implementing the Primary Health Care Strategy is critical to achieving many of the principles, goals and objectives of the New Zealand Health Strategy. This is because primary health care is the first option for people when they are ill or injured. A strong primary health care system is therefore central to improving the health of New Zealanders and, in particular, removing inequalities in health. The Strategy will evolve over the next few years and may not be fully realised for five to ten years. Key priorities for early action are:

- reducing the barriers, particularly financial barriers, for the groups with the greatest health need, both in terms of additional services to improve health and improving access to first-contact services
- supporting the development of Primary Health Organisations (PHOs) that work with enrolled populations
- encouraging developments that emphasise multidisciplinary approaches to services and decision-making
- supporting the development of services by Māori and Pacific providers
- facilitating a smooth transition to widespread enrolment in PHOs.

Chapter 4 provides further information on the strategy, the progress in the roll-out of the strategy and the profile of enrolled Primary Health Organisation (PHO) populations after their first year of operation.
Pharmaceutical services

Over 44 million individual prescriptions were dispensed in 2002/03. The estimated breakdown of prescriptions issued in 2002/03, by age and gender (per head of population), is shown in Figure 3.1. On a per-person basis, pharmaceutical services are predominantly used by people over the age of 45, with the number of prescriptions increasing rapidly with age thereafter. Females obtain more prescriptions on average than males of the same age in all age groups except for children under five years. This pattern of use is likely to continue as people make greater demands on health services, generally to maintain their health and independence (and contribution to society) well into old age.

Figure 3.1: Pharmacy prescriptions dispensed per person, by age and gender, 2002/03

Source: Data extracted from the National Minimum Data Set, 2003. NZHIS, Ministry of Health.
Note: Above data is based on health care user coverage of 35.96 percent for the period.

PHARMAC is the Crown agency responsible for managing pharmaceutical expenditure in the community and hospital sectors. Table 3.1 shows expenditure from Vote Health on the top 20 most common prescription drugs between 1997/98 and 2001/02. The chart shows patterns of subsidised pharmaceutical expenditure in New Zealand. Significant investment continues to be made on dyspepsia management, raised cholesterol, mental health, asthma and heart disease. Expenditure from Vote Health on different pharmaceuticals has, however, also changed significantly over the years. This is notable with lipid modifying agents, antipsychotics and immunosuppressants where expenditure has increased significantly, and antidepressants, antibacterials and beta-blockers where expenditure has fallen. The fall in expenditure on antibacterials is at least partly a result of PHARMAC’s campaign to reduce antibiotic prescribing.
Table 3.1: Vote Health expenditure on pharmaceuticals, 2001/02 and 1997/98

<table>
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<th>Category</th>
<th>2001/02 $ million</th>
<th>1997/98 $ million</th>
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<tr>
<td>Anti-ulcerants</td>
<td>44.0</td>
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<tr>
<td>Lipid modifying agents</td>
<td>40.4</td>
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</tr>
<tr>
<td>Antipsychotics</td>
<td>36.4</td>
<td>5.0&lt;sup&gt;29&lt;/sup&gt;</td>
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<td>Antidepressants</td>
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<td>33.0</td>
</tr>
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</tr>
<tr>
<td>Immunosuppressants</td>
<td>16.1</td>
<td>9.7</td>
</tr>
<tr>
<td>Antibacterials</td>
<td>15.3</td>
<td>34.7</td>
</tr>
<tr>
<td>Analgesics</td>
<td>14.6</td>
<td>14.1</td>
</tr>
<tr>
<td>Calcium channel blockers</td>
<td>13.9</td>
<td>28.1</td>
</tr>
<tr>
<td>Antimigraine preparations</td>
<td>10.5</td>
<td>5.7</td>
</tr>
<tr>
<td>Antidiarrhoeals</td>
<td>8.7</td>
<td>6.9</td>
</tr>
<tr>
<td>Beta adrenoceptor blockers</td>
<td>8.0</td>
<td>17.0</td>
</tr>
<tr>
<td>Inhaled beta-adrenoceptor agonists – metered dose inhalers</td>
<td>7.8</td>
<td>5.1</td>
</tr>
<tr>
<td>Contraceptives – hormonal</td>
<td>7.7</td>
<td>9.6</td>
</tr>
<tr>
<td>Antifungals</td>
<td>7.7</td>
<td>4.5</td>
</tr>
<tr>
<td>Trophic hormones</td>
<td>7.7</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Although between 1997 and 2001 the number of prescriptions for most drugs rose substantially (Ministry of Health 2002f), Figure 3.2 shows that the expenditure from Vote Health has grown at a lower rate, mainly through price reductions negotiated with the industry by PHARMAC. Without PHARMAC interventions, it is estimated that the drug subsidy bill by the end of the 2002/03 year would have been $624 million higher (this estimate is based on an assumption that no price changes would have occurred without PHARMAC’s intervention) (PHARMAC 2003c). Since PHARMAC’s inception in 1993, pharmaceutical expenditure has risen on average by 3 percent per annum. In contrast pharmaceutical expenditure in Australia rose on average 14 percent per annum over the 10 years to 2002 (PHARMAC 2003a).

<sup>29</sup> Excludes $18 million funded by the Health Funding Authority.
**Figure 3.2:** Actual and forecasted PHARMAC expenditure 1993–2005

![Graph showing actual and forecasted PHARMAC expenditure from 1993 to 2005.](image)


**Laboratory services**

**Figure 3.3:** Community-based laboratory use in 2002/03

![Bar chart showing community-based laboratory use by age group in 2002/03.](image)

Laboratory tests also show a marked increase in frequency with age (Figure 3.3). Unlike GP visits, there is not high use in the early years of life. There is, however, a very marked difference between the use of laboratory tests by men and women between the ages of 15 and 44, with women's rate of use being more than double men's.

**Oral health**

In 2001, there were 1645 dentists in New Zealand, together with 110 dental hygienists, 536 dental therapists and 322 dental technicians (comprising 132 clinical and 190 non-clinical) (information supplied by Dental Council, 2003). In comparison with many OECD nations, New Zealand has a relatively low ratio of dentists within the population, with 42 per 100,000 compared to 43 in Australia, 38 in Canada, 61 in the USA, 63 in Japan and 101 in Sweden (Federation Dentaire Internationale 2003).

In 2002/03, over $90 million was spent through Vote Health by DHBs on dental services. This included:

- New Zealand's School Dental Service which provides preventive, educative and restorative services for 500,000 preschool, primary and intermediate school children. In 2001, 98 percent of primary school children were enrolled in the school dental service
- Special Dental Benefits which provide treatment for approximately 4 percent of children enrolled in the School Dental Service who are referred to registered dentists for specialist treatment
- adolescent dental benefits which fund adolescents' visits to private dentists. In 2001, approximately 63 percent of eligible adolescents were enrolled in this programme
- secondary/tertiary dental services through hospital dental departments that provide dental care that requires special management facilities, or that is an integral part of a patient’s hospital treatment
- support to low-income adults for emergency treatment.

Although data on utilisation by preschoolers of school dental services are limited, it is known that in the late 1980s approximately 70 percent of preschool children between two and a half and five years of age were enrolled in the school dental service, while in 1997 the proportion of preschoolers enrolled was 56 percent.

Unlike other personal health services, there is considerable private-sector spending on oral health through either medical insurance or out-of-pocket payments, principally by adults. In 2002/03, it was estimated that some $500 million was spent in this way.
**Child health**

Most children who are unwell are managed in primary health care settings by generalist first-level services, such as general practice services, mobile nursing services, community health services and pharmacy services. The Government aims to fully subsidise access to primary health care for children less than six years of age, and partially subsidises care for children up to 18 years of age. Hospital services include those provided by various professional groups such as paediatricians, registered nurses, psychologists, social workers, physiotherapists, child developmental therapists, audiologists, and child and adolescent mental health service workers (note that this list is not exhaustive).

**Well Child services**

Well Child providers operate a screening, surveillance, education and support service to all New Zealand infants and their families and whānau which links to and follows on from the care provided by the Lead Maternity Carer.

The primary objective for the Well Child-Tamariki Ora Programme is to support families/whānau to maximise their child’s developmental potential and health status from birth to five years, establishing a strong foundation for ongoing healthy development.

There is a minimum of eight core contacts, delivered by a registered nurse or doctor, which every child is entitled to receive in the period from two to four weeks through to five years. Additional care and support is also provided when there is an assessed need. There are approximately 80 providers nationally. The Plunket Society employs the majority of tamariki ora/Well Child providers who perform home and clinic visits for children from birth to five years. DHBs also contract with Māori and Pacific tamariki ora providers in local areas.

**Maternity services**

Pregnant women need to choose a Lead Maternity Carer who will be responsible for the provision and co-ordination of their maternity care, developing a care plan with them and attending their labour and birth. The Lead Maternity Carer remains responsible for caring for the mother and baby until care is transferred to a Well Child Provider, normally when the baby is four to six weeks old. A Lead Maternity Carer can be a midwife (self-employed or hospital-based), a general practitioner or an obstetrician. During the pregnancy, the Lead Maternity Carer is required to provide individual antenatal education and to inform women of the availability of antenatal courses.

There are at least 52 government-funded providers delivering pregnancy and parenting education programmes in nearly 100 locations throughout New Zealand. The goal is for 30 percent of pregnant women (all first-time parents) to be able to access these education programmes. District Health Boards have been encouraged to make further courses available where less than 30 percent of pregnant women have access to existing courses.
The Whānau Ora Maternity Support service aims to facilitate access to maternity and other health services for a targeted group of women. It is targeted to women who have high needs during the maternity period and who require a range of health and disability services but, for various reasons, need assistance in order to access these services. Whānau Ora Maternity Support services are currently being provided by 23 Māori organisations. These services are delivered by Community Health Workers with cultural competence, networking experience, proven parenting skills, and who role-model a healthy lifestyle. The aim of this service is to link a Community Health Worker with a family during pregnancy and for that worker to support the family through to six weeks post-partum.

Family Start
The Ministry of Health is the lead agency for Family Start, a high-intensity parent support and development programme. The core of the Family Start programme is home visiting by a family/whānau worker who works with the family to achieve integrated and comprehensive solutions to identified health, education and social needs. The programme is targeted at the 15 percent of the population most at risk of poor life outcomes. Family Start services are provided at three levels of intensity and duration depending on the level of need.

Family Start was established in three areas of New Zealand in 1998 and expanded to a further 13 in 1999/2000. The programme is funded $18.3 million per annum in total, and is equally funded from Vote Health, Vote Education and Vote Child, Youth and Family. An evaluation of Family Start is detailed in Chapter 6.

Strengthening Families co-ordination
The Ministry of Health, along with many other government departments, contributes to the Ministry of Social Development funding for the employment of Strengthening Families Co-ordinators. These co-ordinators work across agencies at a local level to ensure services to children and families who receive services from multiple service providers are well co-ordinated. The Ministry of Health contributes $166,000 per annum toward to the cost of co-ordinators.

Hospital care
Hospitals are the venues for delivery of a considerable range of health services for people who need specialist care, either as inpatients for medical and surgical treatment that require overnight care or longer, or as day cases for same day care, or as outpatients for relatively brief interventions. Based on data reported by the Health Workforce Advisory Committee in 2001, approximately 42,000 people are employed in the institutional health sector which is predominantly hospitals (Health Workforce Advisory Committee 2002a). Although hospitals are often perceived as large physical structures, the activities of hospital staff are increasingly occurring outside of hospital settings in outreach clinics.
The number of people being treated in New Zealand’s public hospitals has been increasing steadily. The treatments they have been receiving are getting more complex as new treatments become available and our services develop.

Figure 3.4 below shows the national trend since 1988/89 in the amount of medical and surgical treatment in our public hospitals. Because a patient’s record is only completed and submitted to the national collection when they are discharged from hospital, the trend is measured by the number of discharges. A ‘discharge’ requires at least three hours treatment in hospital, and each discharge represents a different period of care in hospital. Thus, a person who is treated in hospital three times during a single year will count as three discharges. Additionally, because the nature and range of treatments in hospital through the last 13 years have become more complex, the number of discharges adjusted for their average complexity (known as ‘case-mix adjusted’) is also shown to indicate the increase in services provided. Note that some treatments occur in less than three hours, and therefore are not counted as hospital discharges. Examples include some chemotherapy administration and removal of some internal fixations (such as wires for fractured bones). This work is captured in the Outpatients section, later in this chapter.\(^{30}\)

**Figure 3.4:** Total medical and surgical hospital discharges 1988/89-2001/02\(^{31}\)

![Graph showing the trend of hospital discharges from 1988/89 to 2001/02.](image)

Source: Data extracted from the National Minimum Data Set, NZHIS, 2003.

\(^{30}\) Case weights for this section are based on Victorian (Australian) cost weights (Wies8) modified by the Ministry of Health for deriving 2001/02 contracted prices with DHBs. Case weights exclude the costs of adjusters paid to DHBs for: complexity (tertiary), rurality, diseconomies of scale, Māori health, capital adjustment, acute demand, and blood.

\(^{31}\) Urgent and non-urgent medical and surgical cases for 1988/89 to 2000/01 are defined by AN-DRG 3.1 code and admission type. For AR-DRG 4.1, a further category of DRG type, namely Other, was introduced. As no AN-DRG 3.1 data was available after 2000/01, medical and surgical numbers, by admission type, for 2001/02 have been estimated based on the percentage change in surgical and medical cases, as defined by AR-DRG 4.1, from 2000/01 to 2001/02.
Between 1988/89 and 2000/01 both the raw and case-mix adjusted number of medical and surgical discharges rose consistently, although the number of surgical discharges did not increase during the mid-1990s. This trend continued into 2001/02 for medical discharges. There was a slight reduction in surgical discharges. Between 1988/89 and 2001/02, there was an average rise of 4.3 percent and 3.8 percent per annum respectively for the number of medical and surgical discharges adjusted for complexity. This rate of increase exceeds the rate of increase expected through demographic change and the ageing of the population alone.

The increase is likely to be for a number of reasons, including changes in admission practices, technological changes and funding initiatives from the late 1990s intended to reduce waiting times.

In 2001/02, approximately one in six medical discharges, and one in eight surgical discharges, were preventable through primary care interventions (Table 3.2). These types of discharge are known as ‘ambulatory sensitive hospitalisations’ and are discussed further in Chapter 4. A smaller percentage of medical and surgical discharges were ‘population preventable’ which means they can potentially be prevented through population health strategies, such as health promotion activities directed towards smoking, nutrition, physical activity and obesity. Population preventable hospitalisations accounted for 5.6 percent of case-mix adjusted medical discharges and 6.0 percent of surgical discharges in 2001/02. Although population preventable hospitalisations comprised a smaller proportion of total hospitalisations, Table 3.2 indicates that the ‘average case weight’ (or cost per case owing to complexity of interventions) is higher for population preventable hospitalisations than ambulatory sensitive admissions.

Table 3.2: Percentages of discharges and case weights which are avoidable: 2001/02

<table>
<thead>
<tr>
<th>Type</th>
<th>Raw discharges</th>
<th>Case-mix adjusted</th>
<th>Average case weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical</td>
<td>18.4</td>
<td>3.8</td>
<td>16.8</td>
</tr>
<tr>
<td>Surgical</td>
<td>12.5</td>
<td>3.6</td>
<td>11.8</td>
</tr>
<tr>
<td>Other</td>
<td>22.0</td>
<td>12.0</td>
<td>23.1</td>
</tr>
<tr>
<td>Total</td>
<td>16.9</td>
<td>4.2</td>
<td>14.7</td>
</tr>
</tbody>
</table>

Source: Data extracted from National Minimum Data Set, NZHIS, 2003

Analysis of the growth in medical and surgical discharges from 1998/99 to 2001/02 indicates a growing proportion of discharges are population preventable. Between 1998/99 and 2001/02, the case-mix adjusted medical discharges which were population preventable increased by 9 percent, and case-mix adjusted surgical discharges which were population preventable increased by 45 percent. The number of ambulatory sensitive hospitalisations also increased, but to a lesser degree, by 1.5 percent for case-mix adjusted medical discharges and 14.9 percent of surgical discharges. These data exclude non-medical non-surgical discharges.

32 These data exclude non-medical non-surgical discharges.
Urgency of care

A patient admitted to hospital is classified as either urgent (in need of emergency medical or surgical treatment) or non-urgent (where treatment is scheduled for a later date). Figure 3.5 compares the changes in medical and surgical discharges according to the type of admission, either urgent or non-urgent.

From 1988/89 to 2001/02, urgent medicine and non-urgent surgery have increased at a similar rate. There was, however, a comparative rise in urgent medicine from 1992/93 to 1995/96. This increase may have impacted on the decline in the levels of non-urgent surgery undertaken at this time, as well as contributing to an increase in both the waiting times and lists for surgery.33

As a result of measures taken since 1996/97 to provide additional funding for elective surgery, non-urgent surgery has increased by 4.3 percent per year, whereas non-urgent medical discharges have increased by an average of 2.6 percent per year. These increases are higher than the rate of population growth over the same period.

Figure 3.5: Discharges from hospital for urgent and non-urgent treatment, 1988/89–2001/02

Source: Data extracted from the National Minimum Data Set, NZHIS, 2003.

33 The way treatment has been paid for and changes in the way information about hospital treatment has been recorded also affected the figures.
Patterns of treatment

Although more people are being treated in hospital, the growth has been at varying levels for different types of treatment. Figure 3.6 shows the five highest volume specialties. The numbers of people treated for internal medicine, general surgery, orthopaedics and gynaecology have risen substantially, by 4.5 percent, 2 percent, 2.7 percent and 2.1 percent per year respectively since 1996/97. The increases for each of these types of treatment are higher than the rates of population growth over the same period.

Discharges for internal medicine treatments, which had the highest annual increase over this period, were almost entirely made up of acute (urgent) cases, rather than elective (non-urgent) cases. Within this category, treatments for diseases of the circulatory system, nervous system and respiratory system were the most common treatments (comprising almost half of all discharges for internal medicine treatments in 2001/02). There were substantial increases in the number of discharges between 1998/99 and 2001/02 for internal medicine treatments for the youngest (0 to 4 years and 5 to 14 years) and oldest (75 to 84 years and 84 years and over) age groups, by 56.8 percent, 35.1 percent, 8.1 percent and 12.5 percent per year respectively. These increases were higher than the annual population growth in these age groups over the same period.

**Figure 3.6:** Total discharges, by high-volume specialties, 1988/89–2001/02

Source: Data extracted from the National Minimum Data Set, NZHIS, 2003.
Growth in privately provided, publicly funded hospital treatment

A small amount of publicly funded treatment is carried out in private hospitals. This has increased considerably since 1993/94 by 39.4 percent per annum for medical work, and 51.2 percent for surgical work. The patient numbers however remain relatively small (Figure 3.7). Increases in medical discharges occurred across many types of treatments. The continued increase is likely to be related to initiatives to reduce waiting times. Discharges for pregnancy, birth and antenatal care formed a substantial proportion of publicly-funded medical treatments in private hospitals (67 percent of medical discharges in 2001/02).

Figure 3.7: Publicly-funded work in private hospitals, 1993/94–2001/02

![Graph showing publicly-funded work in private hospitals, 1993/94–2001/02]

Average length of stay

There has been a significant decline in the length of time people are spending in hospital for medical and surgical treatment. The average length of stay within the secondary care sector fell by 50 percent between 1988/89 and 2001/02, from 6.6 days on average to 3.3 days. As Figure 3.8 indicates, the decline appears to have levelled off since 1998/99. The most likely reason for the levelling off in average length of stay is increasing complexity of cases being treated in hospital (see Figure 3.4). The trend is evident across each of the five high-volume specialties. Reasons why people are spending less time in hospital include advances in medical technology – such as new surgical techniques, more effective drugs, improved community and follow-up care – as well as more effective hospital administration.
Day case rates

A long-term trend in hospital treatment, particularly within surgical specialties, is an increase in activity on a day-case basis. This increase has been driven by technological advances in surgical techniques and anaesthesia, as well as organisational changes.

Overall day-case rates for all medical and surgical cases, together with rates for a number of individual surgical specialties, have risen. Figure 3.9 indicates that overall the percentage of people treated on a day-case basis increased by 4.2 percent per year between 1991/92 and 1995/96, and a further 4 percent per year to 2001/02. Day-case rates have increased across all five surgical specialties shown, but particularly so for the ophthalmology, urology and ear, nose and throat specialties. However, some tapering off in these increases, and small reductions in some specialties, are evident.
Figure 3.9: Day case rates, 1991/92–2001/02

Note: Day cases were not consistently recorded before 1991/92.

Outpatients

Outpatient and accident and emergency (A&E) attendances have not been accurately and consistently recorded over time. However, the available evidence indicates that outpatient rates have risen steadily over the last decade. In 1999/2000 (the most recent for which data are available) there were approximately 740,000 publicly funded A&E events, used most commonly by people aged under 25 years. People aged over 65 years were more likely than younger age groups to use outpatient medical and surgical services (Ministry of Health 2002e).

Public health services

Public health services are concerned with the whole population or population groups. This broad focus distinguishes it from individual personal health services. Public health services are primarily concerned with health protection, improvement and/or promotion at a population level.

The planning and funding of public health services remains the responsibility of the Ministry of Health. However, DHBs are charged with promoting and protecting the health of their populations. Thus, the Ministry of Health and DHBs work collaboratively to plan and fund services aimed at improvement of population health.
Public health services funded by the Ministry of Health are delivered by 12 DHB-owned public health units (which deliver more than half of public health services) and over 200 non-government organisations which include Māori providers and providers of services for Pacific people. Public health services are focused on:

- minimising alcohol and drug-related harm, including monitoring of liquor licensing, provision of information and resources and regulatory activities to improve the social environment in relation to alcohol and drugs (such as through changes in alcohol excise tax, restrictions on alcohol advertising, warning labels and Sale of Liquor Act amendments)
- biosecurity, including public health advice, mosquito surveillance and responses to exotic venomous organisms (such as spiders, snakes, ants and wasps)
- preventing the spread of communicable diseases, including surveillance, prevention and control; health of refugees and asylum seekers; needle/syringe exchange programmes; health aspects of food poisoning; and immunisation
- monitoring and protecting the physical environment, including surveillance and assessment of drinking water supplies; implementation of the sanitary works subsidies; public health input into regional and district plans and resource consents; and investigation of public health issues arising from contaminated sites
- preventing family violence, based on training for health professionals in how to recognise support and refer victims of family violence, and development of the Family Violence Prevention Action Plan
- mental health promotion, including suicide prevention, and destigmatisation and anti-discrimination programmes for mental illness
- tobacco control through services which aim to prevent smoking initiation, promote smoking cessation (including nicotine replacement therapy), prevent harm to non-smokers from second-hand smoke and provide monitoring and surveillance of tobacco control activities
- services which aim to improve nutrition, increase physical activity and maintain a healthy body weight, through building healthy public policy; creating supportive environments; strengthening community action to promote health; developing personal skills; reorienting services and programmes towards prevention and a consideration of the determinants of health; and monitoring, researching and evaluating progress towards outcomes
- improving social environments, including Healthy Cities and Communities; and Health Promoting Schools/Kura Waiora programmes
- Pacific health, including Pacific child and youth health programmes; promoting healthy lifestyles and wellbeing; primary health care and preventive services; provider development and workforce development and promotion of participation of disabled Pacific peoples; and Pacific health and disability information and research

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34 Pacific services funded by the Ministry of Health cover all health services, not only those in public health.
Public health infrastructure, including provision of support for public health actions of other parts of the health sector and other sectors through provision of health information, needs assessment, workforce development and training, development of manuals and guidelines

- the National Screening Unit, implementing the National Cervical Screening Programme and the Breast Screening Aotearoa programme

- sexual health promotion, including sexual and reproductive health resource development; implementation of community- and school-based sexual and reproductive health programmes; and working with communities, organisations and schools on policies and practices

- Well Child/tamariki ora health promotion, including promotion of Well Child/tamariki ora programmes; parenting support and skills; promoting breastfeeding of infants; prevention of hearing loss, sudden infant death syndrome (SIDS), rheumatic fever and melanoma; and oral health promotion

- injury prevention, including programmes which influence policy development and practices that create safer environments at a local and national level; programmes based around the WHO safe community model; services to increase national and local community awareness and knowledge of injury prevention; training programmes and workforce development; services which monitor and assess the effectiveness of injury prevention programmes; and injury monitoring and surveillance systems.

Public health programmes have particular importance for children and young people. Health promotion programmes have potential to provide supportive environments for health for communities, families and parents, together with personal skills and information for families to make informed decisions about improving and protecting their children’s health and wellbeing. These include programmes aimed at:

- reducing the incidence and severity of unintentional and intentional injury
- preventing sudden infant death syndrome
- reducing the incidence and severity of hearing loss
- preventing rheumatic fever
- reducing incidence of asthma
- improving oral health
- improving levels of breastfeeding
- improving levels of immunisation
- preventing melanoma
- developing a healthy and safe physical and social environment
- reducing exposure to tobacco smoke
- preventing youth suicide.

This report focuses on public health programmes that are linked to the goals of the New Zealand Health Strategy, the relevant health outcomes of which are discussed in Chapter 4.
Reducing smoking

Smoking is the greatest single preventable cause of premature death in New Zealand. Each year about 4700 New Zealanders die from cancers, cardiovascular disease, chronic obstructive pulmonary disease and other diseases caused by their smoking. There is also increasing evidence of harm to adults and children from exposure to second-hand tobacco smoke in homes, workplaces and enclosed public places. Between 300 and 400 people die from this cause each year. Those smokers who die from a tobacco-related cause lose, on average, 14 years of life when compared with non-smokers.

Tobacco is a major preventable cause of illness and suffering in all age groups and particularly among Māori and low-income New Zealanders. Tobacco causes or exacerbates around 40 different medical conditions, mainly respiratory and cardiovascular diseases, as well as blindness. Tobacco use is likely to be important in the higher Māori rates of lung cancer, heart disease, sudden infant death syndrome, respiratory infections, otitis media (glue ear) and the adverse outcomes of diabetes.

Ministry of Health tobacco programme

In the 2002/03 year $28 million was spent on tobacco control (GST inclusive). In the current Smokefree/Auahi Kore directory put together by the Smokefree Coalition and ATAK (Apārangi Tautoko Auahi Kore) there are over 300 people involved in some way in tobacco control in New Zealand (for the majority of people, this is only a part of their role; this figure therefore does not represent full-time equivalents).

The health goal for the Ministry of Health’s tobacco programme is ‘to promote a social and physical environment which improves and protects people’s health by reducing the harm from tobacco use and exposure to environmental tobacco smoke’. Reducing tobacco consumption through tobacco control strategies has the potential to play a substantial role in improving health status and reducing health inequalities.

New Zealand’s tobacco control programme uses strategies such as informing legislation (restricting the advertising, sale and use of tobacco products), taxation (increasing the price of tobacco products), health promotion (encouraging changes in attitude and behaviour) and smoking cessation services (helping smokers to quit). These activities combine population approaches such as regulatory intervention, media campaigns and personal health interventions such as smoking cessation services.

Major activities undertaken through the tobacco programme include:

- health promotion programmes, such as:
  - smokefree social marketing campaigns, managed and funded by the Health Sponsorship Council
  - workforce training and service co-ordination
  - smokefree schools programmes and monitoring of compliance with legislation regarding tobacco sales to minors, tobacco vending machines, restrictions on tobacco advertising and education of retailers
• smoking cessation programmes, such as:
  – a National 0800 smoking cessation telephone helpline, operated by the Quit Group
  – smoking cessation services for Māori (including Aukati Kai Paipa and other programmes) operated by over 20 Māori providers all around the country co-ordinated and trained by Te Hotu Manawa Māori
  – subsidisation of nicotine replacement therapy
  – training and co-ordination for health professionals, cessation providers and community health workers

• health protection initiatives to prevent harm to non-smokers, through such initiatives as:
  – promotion and enforcement of the Smoke-free Environments Act 1990 in relation to smokefree workplaces, restaurants, sports clubs, homes, cars, malls and other public places, through DHB public health units
  – media campaigns concerning the hazards of second-hand smoke
  – smoking cessation services and support for pregnant women and the families of children with respiratory diseases.

Improving nutrition, increasing levels of physical activity and reducing obesity

Poor diet, low levels of physical activity and obesity all contribute to major causes of mortality among New Zealanders including cardiovascular disease, diabetes and cancer. Improvements in these areas will have a considerable positive impact on the health of New Zealanders, as well as reducing health inequalities.

Based on the data from the 1997 National Nutrition Survey of adult New Zealanders, a recent study estimated approximately 11,000 deaths, or 40 percent of all deaths, were attributable to nutrition-related risk factors (Ministry of Health and University of Auckland 2003). Physical activity levels are high in New Zealand by international standards, but available evidence indicates levels of activity for young people may be declining overall (SPARC 2003b). Obesity is a growing public health problem in New Zealand and it is likely that levels of obesity have not yet peaked.

In the 2002/03 financial year, public health spending on programmes relating to nutrition and physical activity totalled $8.27 million (including GST) (Table 3.3), of which almost half (47 percent) was directed to public health units of DHBs.
Table 3.3: Nutrition and physical activity public health funding, 2002/03

<table>
<thead>
<tr>
<th></th>
<th>Funding ($000)</th>
<th>Percentage</th>
<th>Number of providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>1,991</td>
<td>24</td>
<td>12</td>
</tr>
<tr>
<td>Regional</td>
<td>502</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>District</td>
<td>4,739</td>
<td>57</td>
<td>18</td>
</tr>
<tr>
<td>Local</td>
<td>1,037</td>
<td>13</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td>8,270</td>
<td>100</td>
<td>51</td>
</tr>
<tr>
<td>Public health units of DHBs</td>
<td>3,874</td>
<td>47</td>
<td>12</td>
</tr>
<tr>
<td>NGOs</td>
<td>2,087</td>
<td>25</td>
<td>11</td>
</tr>
<tr>
<td>By Māori for Māori</td>
<td>1,773</td>
<td>21</td>
<td>29</td>
</tr>
<tr>
<td>Pacific peoples’ programmes</td>
<td>534</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>8,270</td>
<td>100</td>
<td>59</td>
</tr>
</tbody>
</table>

Note: Totals for providers differ because some providers are classified under more than one category.

Because of the scarcity of information on the public health workforce in New Zealand, the size and composition of the workforce in the areas of nutrition, physical activity and obesity are not quantifiable at this stage.

Activities to improve nutrition and physical activity and reduce levels of obesity

To improve nutrition, increase physical activity and reduce obesity are three of the 13 priority objectives for population health in the New Zealand Health Strategy (NZHS). Efforts to address poor nutrition, physical inactivity and obesity include central cross-sectoral activity, as well as work at a local level. Action at all levels is appropriate because lifestyles are determined by societal factors and the environment within which choices are made, as well as by individual actions.

Healthy Eating – Healthy Action: Oranga Kai – Oranga Pumau is an integrated strategy to support the NZHS and addresses nutrition, physical activity and obesity. This strategy was launched in March 2003 and provides the policy framework. An implementation plan is currently under development to set priorities and provide direction to those purchasing and providing services (Ministry of Health 2003c). Nutrition, physical activity and obesity are also important components of the New Zealand Cancer Control Strategy released in August 2003.

The Ministry of Health purchases nutrition and physical activity services throughout the country. The public health units around the country provide significant nutrition services, although this varies by region and provider. There are specific services through ‘by Māori for Māori’ providers, some Pacific providers and some non-government organisations (such as the National Heart Foundation and Agencies for Nutrition Action). Promotion of physical activity is currently led by Sport and Recreation New Zealand (SPARC) which co-ordinates a number of national and local programmes (such as Green Prescriptions and Push Play, KiwiSport, KiwiWalks, KiwiSeniors and He Oranga Poutama) which aim to get more people more active (Ministry of Health 2003c).
Because of the multi-faceted nature of nutrition, physical activity and obesity, the Ministry also undertakes significant cross-sectoral policy and guidance initiatives to achieve action on a variety of fronts. These include:

- development of a series of Food and Nutrition Guidelines for the different ages and stages of the lifecycle to provide health education advice to individuals, as well as the scientific rationale for health professionals, about the amounts and type of food required to meet those recommendations
- joint projects with the New Zealand Food Safety Authority to address the re-emergence of mild iodine deficiency and to increase folate intakes
- joint Australian and New Zealand review of Nutrient Reference Values (NRVs, also known as Recommended Dietary Intakes), overseen by the National Health and Medical Research Council of Australia
- review of the New Zealand interpretation of WHO Code of Marketing of Breastmilk Substitutes
- development and updating of DHB toolkits on nutrition, physical activity and obesity
- development of resources for the health sector, researchers and the public, such as Breastfeeding: A Guide to Action (Ministry of Health 2002a) and Nutrition and the Burden of Disease (Ministry of Health and University of Auckland 2003)
- development of the Oranga Kai – Healthy Eating for Māori health education resource, with assistance from Te Hotu Manawa Māori (Ministry of Health 2003g)
- input into development of Early Childhood Physical Activity Guidelines (led by SPARC)
- working with SPARC to improve the physical activity component of the Health Promoting Schools programme.

**Building knowledge to inform policy and health promotion**

The Ministry also funds significant monitoring and surveillance activities to improve our understanding of nutrition, physical activity and obesity within the New Zealand context, and provide evidence on which to develop public health policies.

Data collection was completed for the Child Nutrition Survey, which gathered information from 3,275 children aged five to 14 years. The results of this survey were released in November 2003 (discussed in Chapter 4). The 2002/03 New Zealand Health Survey also completed its data collection phase. The Survey gathered a wide range of information, including data on vegetable and fruit consumption, weight gain during adulthood, and actual weight and height measurements.
There are currently knowledge gaps in physical activity in terms of how we measure physical activity, types of activity recommended, what works and how to increase levels of physical activity. For these reasons, the Ministry of Health has undertaken a number of joint pieces of work with SPARC. These include:

- participation in a joint research project to validate new physical activity questions for the New Zealand Health Survey and SPARC’s New Zealand Sport and Physical Activity Survey
- participation in the International Physical Activity questionnaire which will enable us to compare New Zealand activity levels with that of 16 other countries.

**Minimising harm from alcohol and drug use**

Alcohol is used by over four-fifths of the adult population in New Zealand. While alcohol is widely used, and is embedded in New Zealand culture, there is also recognition that it can cause great damage in society, particularly through its association with street and family violence, injury and accident.

Use of illicit drugs results in serious harm to many New Zealanders’ health, as well as crime and other forms of social disruption. Harm to health includes deaths associated with drug use, illness and disease, and accidents and injuries. Intravenous injection of drugs can result in the transmission of blood-borne viruses, such as hepatitis and HIV, which potentially threatens the whole community through the risk of infectious diseases being spread throughout the population.

Both alcohol and illicit drug use affect the life of the family and community in which the individual lives, as well as the individual user. Excessive use of alcohol and illicit drugs can lead to reducing an individual’s social functioning at home, with dysfunctional behaviour affecting the behaviour of other members of the family at school and in the community generally. It can also lead to industrial accidents, absenteeism and reduced productivity at work.

Evidence indicates that Māori suffer disproportionate harm compared to the rest of the population from both alcohol and cannabis misuse. Pacific people who consume alcohol are also more likely to exhibit hazardous drinking patterns than the general population. Future policy development will address issues for Māori and Pacific peoples to ensure that alcohol- and drug-related harm is minimised.

The National Drug Policy (NDP) seeks to address the significant harm to the health and social wellbeing of New Zealanders. This relies on an intersectoral strategy to reduce all legal and illegal drug-related harm, using a three-pronged approach including:

- supply control (limiting the availability of drugs), for example through law enforcement
- demand reduction (reducing the desire to use drugs), for example through education programmes
- problem limitation (mitigating the harm already occurring from drugs), for example through treatment services.
The NDP is based on ‘harm minimisation’ to reduce the overall impact of any adverse health, social and economic consequences of drug use to the individual or society. The National Alcohol Strategy, a subsection of the NDP, identifies a range of strategies to minimise alcohol-related harm.

Among other roles, the NDP aims to improve co-ordination and collaboration between agencies to reduce drug-related harm, identify and quantify drug-related problems, identify areas where services or activities are lacking and set priorities for action.

Activities to minimise harm from alcohol, and illicit and other drug use

Minimising harm from alcohol and other drug use is an objective of the New Zealand Health Strategy. Activity by the Ministry of Health in this area is an example of a public health approach that integrates national, regional and local initiatives, regulatory and community-based strategies, and intersectoral approaches.

Vote Health funding for alcohol and drug harm minimisation in 2002/03 totalled $5.45 million (incl GST).[^35] This funding is directed towards a co-ordinated series of strategies that focus on population-level supply control strategies, and also deal with the beliefs and behaviours of individuals and the social and cultural structures around them.

Strengthening community action

Resourcing local communities to work on the issues, using local community networks and intersectoral co-operation at a local level can be powerful ways to change attitudes and behaviour. Indeed, strengthening community action was recognised by the Ottawa Charter for Health Promotion (1986) as one of the major strategies required to achieve equity in health (World Health Organization 1986). The community development approach empowers local communities to tackle issues in a way which suits them and their particular physical, social and cultural environment.

A collaborative and intersectoral approach is being taken to alcohol and drug harm minimisation. There are many community action initiatives across New Zealand in both rural and urban areas, some of which are funded by the Ministry of Health with others supported by ALAC and Ministry-funded staff. This involves engaging a wide range of agencies and community groups in intersectoral action to reduce harm.

For example, to address youth binge drinking, a community action-focused Regional Alcohol Project was established across the Auckland region. The Regional Alcohol Project aims to reduce off-license and social supply of alcohol to those under 18 to reduce violence in public places and to reduce intoxication of those under 25 in on-license venues. Police, public health workers, ALAC and local councils are involved. There is a three-year evaluation of this initiative under way, one component of which is described in more detail in Chapter 6.

[^35]: This funding did not include $2.55 million allocated to 15 new Community Action programmes.
In April of 2003, $2.55 million in funding was allocated to implement the policy for 15 new Community Action Programmes, loosely based on the Community Action on Youth and Drugs projects which focused on combating drug use in New Zealand communities.

Collaborative approaches

Organisations that play a role in the alcohol and other drugs sector in New Zealand include:

- the Alcohol Advisory Council (ALAC)
- non-government organisations such as the New Zealand Drug Foundation and Alcohol and Drug Association
- relevant law enforcement, education and social policy agencies across the New Zealand Government.

Monitoring of liquor licensing, promotion of host responsibility and manaakitanga, provision of information and resources on alcohol and drugs, and provision of workforce development and evaluation are ongoing parts of the Ministry’s strategy.

Education

The school environment is one important setting for developing skills to make healthy choices about drugs. Both the Ministry of Education and local boards of trustees have key roles to play in ensuring school policies and education are effective. Health agencies also support schools by providing advice.

The Ministry of Health is working with the health and education sectors to promote a Health Promoting Schools: Kura Waiora approach in schools. Applied to drugs, this approach includes development of school policies on drugs and involvement of the community. It also enhances students’ skills to make healthy choices about drugs and gives them opportunities to receive assistance and support where needed.

Tertiary education settings are another important venue for community action and health promotion initiatives regarding drug use. Many young people undertaking tertiary education are living away from home for the first time. The new sense of freedom and independence this brings can pose problems for young people. Appropriate advice and support structures need to be provided for those students who engage in risk-taking behaviour that involves drug use.
Regulatory intervention

Regulatory intervention, through such mechanisms as the Misuse of Drugs Act 1975 and the Sale of Liquor Act 1989, is a powerful tool for setting a framework and for controlling the environment within which drug use occurs. For example, legislation can establish the basis for controlling the supply of substances by prohibiting them altogether, prohibiting their supply to certain people, or restricting them to certain localities. Legislation can also affect the way drugs are used through the regulation of people’s actions if they are affected by drugs (for example, the laws about driving a vehicle while impaired by drugs). Legislative controls, particularly on illicit drugs, also work within the context of international agreements on drug control to which New Zealand is a party.

A significant regulatory intervention in 2003 was the rescheduling by Parliament of the recreational drug known as ‘P’ (or pure methamphetamine) as a Class A controlled drug. As a result, the sentence for possession has increased to a maximum of six months imprisonment and/or a fine of $1000. The sentence for supply, importation or manufacture has increased to a maximum of life imprisonment.

Reducing the incidence and impact of cancer

The New Zealand Cancer Control Strategy

The Ministry of Health, in collaboration with the New Zealand Cancer Control Trust, launched the New Zealand Cancer Control Strategy in August 2003 (Minister of Health 2003d). The Strategy provides a framework for a co-ordinated approach to reduce the incidence and impact of cancer and will involve government agencies, cancer organisations, health professional bodies and community groups. The Strategy will build on existing work as much as possible.

The Strategy has six goals. They are to:

- reduce the incidence of cancer through primary prevention
- ensure effective screening and early detection to reduce cancer incidence and mortality
- ensure effective diagnosis and treatment of cancer to reduce morbidity and mortality
- improve the quality of life for those with cancer, their family and whānau through support, rehabilitation and palliative care
- improve the delivery of services across the continuum of cancer control through effective planning, co-ordination and integration of resources and activity, monitoring and evaluation
- improve the effectiveness of cancer control in New Zealand through research and surveillance.
The Strategy considers the incidence and impact of cancer along the whole of the cancer control continuum from prevention, through screening, diagnosis, treatment and support, and palliative care. Each of these stages in the continuum involves different arms of the health sector, encompassing both public health services and personal health services.

The next phase of the Strategy will involve identifying priorities for action, planning implementation, and defining processes to manage, monitor and review implementation. The Strategy will build on and incorporate existing work where possible.

At present we have enough knowledge to prevent at least one third of cancers. Depending on the availability of resources, early detection and effective treatment of a further third of cancers is also possible. In those cases when cancer cannot be cured or held in remission, prevention and relief of suffering can greatly improve the quality of life of people with cancer and their families and whānau.

According to the World Health Organization, cancer prevention should be a key element in all cancer control programmes (World Health Organization 2002). Cancer prevention focuses not only on factors that increase a person's chances of developing cancer (such as smoking), but also on protective factors such as healthy diet and physical activity.

Early detection means detecting cancer prior to the development of symptoms or as soon as is practicable after symptoms develop. The aim is to detect the cancer when it is localised to the body organ of origin and before it has time to spread to other parts of the body. Because early detection is only part of a wider strategy that includes diagnosis, treatment and follow-up, its effectiveness is dependent on the sustainability of other services along the cancer control continuum.

Cancer diagnosis is the first step to cancer management. It involves a combination of clinical assessment and a range of investigations, such as endoscopy, imaging, histopathology, cytology and laboratory studies. Diagnostic tests are also important in identifying the extent to which the cancer may have spread. Cancer staging is necessary for determining options for treatment and assessing likely prognosis.

When someone develops cancer, its impact extends beyond the physical effects of the disease to include psychological, social, economic, sexual and spiritual consequences. Coping with the disease and its treatment involves a range of issues, which impact on those with cancer as well as their families and whānau.

Palliative care is an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness. It involves the prevention and relief of suffering by early identification and impeccable assessment and treatment of pain and physical, psychosocial and spiritual problems (World Health Organization 2002).
Discussion below focuses on activities of the National Screening Unit, located within the Public Health Directorate of the Ministry of Health. Further discussion of cancer-related services can be found in Chapter 4.

**National Screening Unit**

The National Screening Unit (NSU) has overall stewardship of two of New Zealand’s national screening programmes: the National Cervical Screening Programme and BreastScreen Aotearoa. In 2001/02 the National Screening Unit was established and, over the past two years, the NSU has been building a critical mass of expertise and experience in screening to deliver the defined national functions.

The NSU’s role is to provide strategic leadership, and national co-ordination and funding of service delivery. This includes putting in place appropriate policies and quality control measures to provide sufficient guidance and monitoring to ensure the overall safety, efficiency and benefits of the programmes. The NSU has overall responsibility and accountability for the programmes, but it is not directly engaged in the screening process. In this role, the NSU contracts with a large number of service providers, including 21 DHBs, 11 community laboratories, two private breast screening providers, and 13 independent service providers.

The NSU also produces, monitors and provides analyses of a range of information to support its role in developing national policy and quality standards, programme monitoring, and measuring the overall safety, efficiency and benefits of the programmes, including the following:

- Independent Monitoring Group reports on the delivery of services against national indicators of performance, reports are provided regularly (quarterly, six monthly and on a yearly basis (NCSP) and six monthly and annually (BSA)
- monthly statistical reporting on programme coverage (NCSP and BSA)
- published statistical reports (NCSP)
- development of programme outcome targets (NCSP).

Information for women and health promotion resources are also an essential component of the programmes. These include pamphlets and publications on women’s health, website development and media campaigns.

In 2002/03, the NSU’s second full year of operation, the total budget for the programme was $62.95 million (GST exclusive) for the National Cervical Screening Programme, the BreastScreen Aotearoa Programme and the national management function of the National Screening Unit.
National Cervical Screening Programme

International evidence suggests that morbidity and mortality from invasive cervical cancer can be reduced with organised screening programmes which aim to detect and treat precancerous changes of the cervix (Benedet et al 1992). The National Cervical Screening Programme (NCSP) was established in New Zealand in 1990 and is targeted at women aged 20–69 years.

NCSP aims to reduce the incidence of, and morbidity and mortality from, squamous cell carcinoma of the cervix by detecting precancerous cervical changes, thus enabling appropriate and effective treatment. The programme recommends that women aged 20–69 have a cervical smear test every three years. The NCSP services are delivered throughout the country by DHBs, community laboratories, primary care services, and independent service providers (ISPs) targeting Māori and Pacific women.

Data from the NSCP indicates the following.

- Approximately 414,000 cervical smears are taken annually.
- At 31 December 2001, 1,004,092 women aged 20–69 years were actively enrolled on the NCSP-Register (93 percent of the eligible population adjusted for hysterectomy) (Independent Monitoring Group of the National Cervical Screening Programme July 2003).
- During the six-year period to December 2001, 87.1 percent of the eligible population (adjusted for hysterectomy) had had a smear recorded on the NCSP-Register (Independent Monitoring Group of the National Cervical Screening Programme July 2003).
- By the end of December 2001 the number of women who had had a smear recorded on the NCSP-Register in the last three years was 72.7 percent (adjusted for hysterectomy) of the eligible population (NZHIS data, June 2003).

BreastScreen Aotearoa

New Zealand is among the countries with the highest breast cancer incidence in the world (Parkin et al 1997). Each year approximately 2000 New Zealand women develop breast cancer. In 1998, 628 women died from breast cancer, making this the leading cause of cancer deaths in New Zealand females (Ministry of Health 2002c). Nearly three-quarters of breast cancer registrations and more than 80 percent of deaths occur in women aged 50 years and over.

There are also ethnic differences in registration and mortality rates for breast cancer. The incidence of breast cancer has increased from 59 per 100,000 (1956) to 117 per 100,000 (1996) (Ministry of Health 2002b). This increase parallels rates for other developed nations. Māori and Pacific women have a higher age-standardised mortality rate than non-Māori women (31.9 per 100,000 and 36.7 per 100,000, respectively, compared to 21.0 for ‘other’ women).
The aim of BreastScreen Aotearoa (BSA) is to reduce women’s morbidity and mortality from breast cancer by identifying cancers at an early stage, allowing treatment to be commenced earlier than might otherwise have been possible. The programme is delivered throughout the country by lead providers, their subcontracted providers, and mobile units that deliver services to rural and some urban communities. Working alongside the lead providers are nine ISPs in defined geographical areas providing health promotion services aimed at increasing the uptake of Māori and Pacific women in the breast screening programme.

**Information technology**

Critical to the effective and efficient operation of both BSA and NCSP are their supporting information systems and technology. Information systems are required to support day-to-day service delivery by service providers for both programmes. Information systems are also required to support the data collection required for programme monitoring, evaluation and audit.

BreastScreen Aotearoa has a single national monitoring database, and the National Cervical Screening Programme has a National Register and information system. Although functional at present, improvements are under way to align these with the NSU Strategic Plan as well as the Ministry of Health strategic information directions as presented in the WAVE project of 2001, and the Ministry of Health Information Services Strategic Plan of 2003 discussed in Chapter 2.

**Quality**

Quality assurance and quality improvement are central to the two programmes and there are many activities that, together, combine to help assure their safety and effectiveness. During 2002/03, the NSU developed a quality framework for screening programmes in New Zealand. This framework will underlie the ongoing improvement of quality in the existing programmes and can be applied to other screening programmes in the future. Work continues on the implementation of the Gisborne Inquiry recommendations. This included work on legislative changes to improve the operation of the NCSP.

**Immunisation**

Improving the health of New Zealanders by reducing vaccine preventable diseases, such as hepatitis B, measles and influenza, is the key objective of the Ministry of Health’s National Immunisation Programme.

Immunisation is one of the most effective actions we can take to safeguard the health of New Zealanders, and children and young people in particular. Immunisation not only prevents diseases, but also prevents the disability that can result from having the disease. Immunisations on the childhood schedule are free.
The Programme’s targets are:

- 95 percent of children to be fully vaccinated at age 2 years by 2005
- 75 percent of the high-risk adult population to be vaccinated annually against influenza.

Vaccination services delivered in New Zealand include:

- immunisation co-ordination, vaccinator training, immunisation promotion, research and evaluation, vaccine purchase and distribution, and outreach immunisation services. These received $19.8 million (GST exclusive) for 2002/03, an increase from $14 million in 2001 (over $12 million of this is for vaccine purchase)
- in 2001/02, $6.24 million spent on immunisation benefit payments, including benefits for childhood vaccination (data for the full 2002/03 year are not available). This, however, does not include payment to non-fee for service providers (capitated primary care organisations) which are also funded via DHBs.

These budgets do not include immunisation promotion and vaccinations that are covered within other DHB and public health contracts, such as Well Child providers, Māori and Pacific providers and public health nursing (who carry out school-based programmes in most of New Zealand for Year 7).

**Meningococcal Vaccine Strategy**

A total of 557 cases and 18 deaths from meningococcal disease were recorded during 2002, the third worst year in the epidemic since 1991. Meningococcal disease rates in 2003 continue at alarming levels.

As part of the national prevention and control plan for meningococcal disease, the aim of the Meningococcal Vaccine Strategy is to halt the spread of meningococcal disease in the New Zealand population by the vaccination of a significant majority of the under 20-year-old population as quickly as possible. In December 2001 Cabinet appropriated up to $200 million to cover completion of the clinical trials and implementation of a mass vaccination campaign.

2002/03 saw rapid progress in the planning and operation of the clinical trials of the Chiron produced strain specific group B meningococcal vaccine – MeNZB™ – in preparation for an immunisation campaign.

Pending regulatory approval for the immunisation programme, a pilot campaign will take place in Counties Manukau DHB and the eastern corridor of Auckland DHB. The Ministry and Counties Manukau DHB are planning for this to commence from mid-2004. Post-pilot, a nationwide roll-out will follow. Given the staggered phasing of vaccine supply, the programme will be delivered DHB by DHB from greater Auckland and Northland through to Wellington in the North Island, then from Southland through to Nelson-Marlborough in the South Island. This roll-out generally targets the districts with the highest disease rates first.
National Immunisation Register

The National Immunisation Register (NIR) is scheduled to begin operation in 2004. It is a computerised information system that has been developed to hold immunisation details of New Zealand children. It will also be critical to monitoring the safety and effectiveness of the meningococcal B vaccine roll-out, planned for 2004/05. The NIR is a key tool that will assist New Zealand to improve its immunisation rates. Improved immunisation coverage will offer individual protection against vaccine-preventable diseases and protection for the community against recurring epidemics.

The NIR will enable authorised health professionals to quickly and easily find out what vaccines a child has been given (this will include children whose family has shifted to another area or changed health care providers). This will help to make sure immunisations are given at the appropriate time. The Register will also provide a more accurate record of immunisation coverage rates, regionally and nationally. This will enable better programme planning to target populations with the lowest immunisation rates.

Suicide prevention

The evidence from New Zealand and international studies strongly suggests that suicide is rarely the response to a single stress. Instead it is the outcome of a culmination of stressors and adverse life-course sequences in a person with few protective factors to draw on and whose resilience may be compromised. Mental health problems, most commonly depression, are the most important risk factor at an individual level for suicide and suicide attempts. Other factors in the causal pathway to suicide include a socioeconomically disadvantaged background, childhood physical or sexual abuse, poor parent-child relationships, loss of a parent through separation or divorce, and suicide or violence in the family. While broader economic, social and cultural factors have a major influence on suicide rates, research is less clear on how these factors impact on suicidal behaviour at a population level.

Suicide prevention is an objective of the New Zealand Health Strategy and provides a useful example of the contribution of the Ministry of Health to intersectoral work led by other sectors. Youth suicide prevention, in particular, has a well-developed interagency programme of initiatives in place, under the New Zealand Youth Suicide Prevention Strategy which was released in 1998 (Ministry of Youth Affairs et al 1998). A key instrument in the implementation of the New Zealand Youth Suicide Prevention Strategy has been the Ministerial and Inter-Agency Committees on Youth Suicide Prevention. The Ministry of Youth Development (within the Ministry of Social Development) co-ordinates the implementation of the Strategy. The value of the Ministerial and Inter-Agency Committees is that they reflect and reinforce the importance of having a multi-agency approach to suicide prevention and foster collaboration at a government level.
Public and personal health services to reduce suicide

The key contributors to suicide prevention within the health sector involve both public and personal health services. A comprehensive approach from the health sector would include:

- mental health promotion/population approaches to improving mental health and wellbeing
- primary health care services (for early recognition, assessment and management of mental health disorders and/or suicidal behaviour)
- mental health services (for the treatment of mental disorder, suicidal crises and recovery support)
- emergency department services (for the assessment and management of people at risk of suicide, particularly following a suicide attempt)
- research (particularly Health Research Council-funded research) to contribute to an understanding of suicide and inform preventive approaches.

In addition, the health sector needs to have in place a mechanism for the development of regional plans for the prevention of suicide that link up the wide range of sectors that are involved in suicide prevention.

Working across sectors – in particular education, justice, child, youth and family, iwi and social services – is particularly important for suicide prevention. The toolkit for DHBs on suicide prevention outlines the components to a comprehensive approach (http://www.newhealth.govt.nz/toolkits/suicideprevention.htm).

Mental health services

Mental illness accounts for 15 percent of the total burden of disease in the developed world, with depression to become the second leading cause of disability in the world by 2020, according to the World Health Organization.

In New Zealand, it is estimated that at any one time 20 percent of the population have a mental illness and 3 percent have a serious mental illness (Ministry of Health 1997). People with mild to moderate mental illness should receive treatment within the primary health care sector. Mental health services are intended for people with serious illness requiring specialist intervention. Mental health services see on average upwards of 32,850 clients per month, or 0.8 percent of the population.36

While our ability to treat mental illness and restore people to full lives is greater than ever, there are some mental health problems that are not easily treated. In these cases mental health services can only attempt to minimise the impact of the problem. The international evidence is that a community-based model provides the best health and human rights outcomes for service users.

36 Source: The Mental Health Information National Collection (MHINC) data. Note that not all NGOs report to the NZHIS.
The quality of services

In addition to workforce development initiatives, specific quality improvement initiatives have emphasised the development and implementation of the national mental health sector standard, a programme of audits and best practice guideline development. Current quality initiatives are outlined below.

Implementation of the National Mental Health Sector Standard has been required by contract since 1999. By 1 October 2004, providers of hospital services and residential services with five or more beds will be required to be certified under the Health and Disability Sector (Safety) Act 2001 which, in turn, requires providers to meet the Sector Standard. As at September 2003, five DHB providers were certified under the Act. As yet, no NGO services have certification.

Services delivered

With the shift to providing mental health services in the community, it was for some time difficult to obtain information about the outputs of mental health services. This situation is changing with information progressively becoming available through the Mental Health Information National Collection. All District Health Board providers have been providing information to Mental Health Information National Collection since 2000. Some NGO providers are supplying information although, as some of the systems needed to facilitate NGO reporting are not yet available, the coverage of NGO providers is still limited.

Mental Health Information National Collection is relatively new and, while there is considerable effort being invested by District Health Boards in improving data quality, some caution is needed in interpreting information. Nonetheless, the data give an indication of outputs within the mental health sector.

The following tables are all based on information for the calendar year 2002. At the time of printing, information for the financial year was not yet available.

Access to services

A number of people access mental health services only briefly, while others are long-term clients of the services. For example, during 2002 on average 32,866 people were seen per month and 64,294 per six-month period, while the total number seen in the year was 88,296.

This shows that a high proportion of people seen in mental health services are in contact with mental health services over long periods or are in contact frequently, with the number of people seen in a six-month period only twice the number seen on average per month. Similarly the numbers seen in any one year are only 2.7 times the number seen on average per month.
Activity by team type

Specialist mental health services provide services in the community, backed up where necessary by inpatient care. The following table shows the number of people seen by different types of teams and the numbers of contacts with those people during the year.

Table 3.4:   Clients seen during 2002 by team type

<table>
<thead>
<tr>
<th>Team type</th>
<th>Clients seen</th>
<th>Bed nights</th>
<th>Contacts</th>
<th>Average bed nights per client</th>
<th>Average contacts per client</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community</td>
<td>48,545</td>
<td>12,673</td>
<td>846,824</td>
<td>0.3</td>
<td>17.4</td>
</tr>
<tr>
<td>Inpatient</td>
<td>7,780</td>
<td>271,412</td>
<td>6,851</td>
<td>34.9</td>
<td>0.9</td>
</tr>
<tr>
<td>Alcohol and drug</td>
<td>17,483</td>
<td>24,312</td>
<td>152,306</td>
<td>1.4</td>
<td>8.7</td>
</tr>
<tr>
<td>Child, adolescent and family</td>
<td>14,203</td>
<td>3,590</td>
<td>143,389</td>
<td>0.3</td>
<td>10.1</td>
</tr>
<tr>
<td>Psychogeriatric</td>
<td>4,854</td>
<td>28,403</td>
<td>45,328</td>
<td>5.9</td>
<td>9.3</td>
</tr>
<tr>
<td>Kaupapa Māori</td>
<td>3,786</td>
<td>699</td>
<td>66,929</td>
<td>0.2</td>
<td>17.7</td>
</tr>
<tr>
<td>Forensic</td>
<td>3,896</td>
<td>49,003</td>
<td>46,076</td>
<td>12.6</td>
<td>11.8</td>
</tr>
<tr>
<td>Residential</td>
<td>939</td>
<td>135,786</td>
<td>5,018</td>
<td>144.6</td>
<td>5.3</td>
</tr>
<tr>
<td>Other</td>
<td>14,244</td>
<td>23,798</td>
<td>187,535</td>
<td>1.7</td>
<td>13.2</td>
</tr>
<tr>
<td>Total</td>
<td>88,296</td>
<td>549,676</td>
<td>1,500,256</td>
<td>6.2</td>
<td>17.0</td>
</tr>
</tbody>
</table>

Source: NZHIS Mental Health Information National Collection as at 28 August 2003.37

This shows that most people receive most of their care within community teams. It can be expected, as more NGOs provide information to Mental Health Information National Collection, that the count of community contacts and clients seen will increase.

37 Please note: Mental Health Information National Collection is a new database. The Ministry of Health gives no guarantee as to the accuracy or completeness of the data supplied. The data were extracted on the 28 August 2003 and may be subject to change as more information is received.
Figure 3.10: Number of clients seen per month by team type


Figure 3.11: Percentage of clients seen by team type 2002

Source: NZHIS Mental Health Information National Collection as at 28 August 2003.

Activity by category – clients seen, contacts, bed nights

The following table shows the services provided by all providers (33 non-government organisations and 21 DHBs) supplying information to Mental Health Information National Collection during 2002.
Table 3.5: Services provided during 2002 by service type

<table>
<thead>
<tr>
<th>Service provided</th>
<th>Bed nights</th>
<th>Contacts</th>
<th>Clients seen</th>
<th>Average contacts or bed days per person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crisis attendances</td>
<td>0</td>
<td>70,253</td>
<td>20,647</td>
<td>3</td>
</tr>
<tr>
<td>Individual treatment attendances</td>
<td>0</td>
<td>969,649</td>
<td>78,155</td>
<td>12</td>
</tr>
<tr>
<td>Group programme attendances</td>
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<td>43,887</td>
<td>5,404</td>
<td>8</td>
</tr>
<tr>
<td>Care co-ordination contacts</td>
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<td>33,897</td>
<td>6</td>
</tr>
<tr>
<td>Early psychosis intervention attendances</td>
<td>0</td>
<td>23,774</td>
<td>1,868</td>
<td>13</td>
</tr>
<tr>
<td>Support needs assessment attendances</td>
<td>0</td>
<td>5,506</td>
<td>3,336</td>
<td>2</td>
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<td>Court liaison attendances</td>
<td>0</td>
<td>4,175</td>
<td>1,684</td>
<td>2</td>
</tr>
<tr>
<td>Substance abuse detoxification attendances (social)</td>
<td>0</td>
<td>1,605</td>
<td>515</td>
<td>3</td>
</tr>
<tr>
<td>Methadone treatment specialist service attendances</td>
<td>0</td>
<td>43,608</td>
<td>4,045</td>
<td>11</td>
</tr>
<tr>
<td>Methadone treatment specialist service attendances (clients of authorised GPs)</td>
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<td>2,454</td>
<td>812</td>
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<td>Day treatment programme attendances</td>
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<tr>
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<td>Work opportunities programme attendances</td>
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<td>Home-based care contacts</td>
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<td>1,436</td>
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</tr>
<tr>
<td>Contact with family/whānau</td>
<td>0</td>
<td>13,979</td>
<td>4,903</td>
<td>3</td>
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<tr>
<td>Intensive care inpatient occupied bed days</td>
<td>33,345</td>
<td>0</td>
<td>2,668</td>
<td>12</td>
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<tr>
<td>Acute inpatient occupied bed days</td>
<td>172,118</td>
<td>0</td>
<td>7,481</td>
<td>23</td>
</tr>
<tr>
<td>Sub-acute inpatient occupied bed days</td>
<td>25,418</td>
<td>0</td>
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<tr>
<td>Psychiatric disability rehabilitation occupied bed days</td>
<td>61,962</td>
<td>0</td>
<td>643</td>
<td>96</td>
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<tr>
<td>Crisis respite care occupied bed days</td>
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<td>0</td>
<td>574</td>
<td>5</td>
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<tr>
<td>Respite care occupied bed days</td>
<td>5,056</td>
<td>0</td>
<td>511</td>
<td>10</td>
</tr>
<tr>
<td>Substance abuse detoxification occupied bed days (medical)</td>
<td>4,826</td>
<td>0</td>
<td>539</td>
<td>9</td>
</tr>
<tr>
<td>Substance abuse residential service occupied bed days</td>
<td>16,073</td>
<td>0</td>
<td>437</td>
<td>37</td>
</tr>
<tr>
<td>Maximum secure inpatient occupied bed days</td>
<td>8,608</td>
<td>0</td>
<td>37</td>
<td>233</td>
</tr>
<tr>
<td>Medium secure inpatient occupied bed days</td>
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<td>362</td>
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</tr>
<tr>
<td>Minimum secure inpatient occupied bed days</td>
<td>25,291</td>
<td>0</td>
<td>150</td>
<td>169</td>
</tr>
<tr>
<td>Forensic pre-discharge hostel occupied bed days</td>
<td>5,486</td>
<td>0</td>
<td>37</td>
<td>148</td>
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<tr>
<td>Community residential long term occupied bed days</td>
<td>16,467</td>
<td>0</td>
<td>95</td>
<td>173</td>
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<tr>
<td>Community residential level 4 occupied bed days</td>
<td>32,500</td>
<td>0</td>
<td>203</td>
<td>160</td>
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<tr>
<td>Community residential level 3 occupied bed days</td>
<td>62,913</td>
<td>0</td>
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<td>189</td>
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<tr>
<td>Community residential level 2 occupied bed days</td>
<td>32,830</td>
<td>0</td>
<td>133</td>
<td>247</td>
</tr>
</tbody>
</table>

Source: NZHIS Mental Health Information National Collection as at 28 August 2003.
Māori

While mental illness is an issue for the whole population, it is a major issue for Māori, and more and better services for Māori is one of the major objectives of the Mental Health Strategy.

Historical data from 1993, based on inpatient activity only, suggested major differences in the way Māori used mental health services. Māori were seen as accessing services later, and with greater severity at the point of entry. More recent data from the Mental Health Information National Collection show that Māori males aged 15–19 and 20–64 are significantly higher-than-average users of mental health services. Further analysis is needed to understand the service patterns for each ethnic group.

Table 3.6: Clients seen during 2002 by age, sex and ethnicity, per 100,000 population

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Sex</th>
<th>Age ranges</th>
<th>0–9</th>
<th>10–14</th>
<th>15–19</th>
<th>20–64</th>
<th>65+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Māori</td>
<td>Male</td>
<td></td>
<td>668</td>
<td>2,164</td>
<td>3,374</td>
<td>3,990</td>
<td>1,329</td>
<td>2,766</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td></td>
<td>251</td>
<td>1,233</td>
<td>2,833</td>
<td>3,279</td>
<td>1,510</td>
<td>2,219</td>
</tr>
<tr>
<td>Pacific</td>
<td>Male</td>
<td></td>
<td>186</td>
<td>666</td>
<td>1,790</td>
<td>1,864</td>
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<td>53</td>
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<td>1,366</td>
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<td>1,237</td>
<td>981</td>
</tr>
<tr>
<td>Other</td>
<td>Male</td>
<td></td>
<td>1,164</td>
<td>3,117</td>
<td>2,956</td>
<td>2,609</td>
<td>1,435</td>
<td>2,341</td>
</tr>
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<td></td>
<td>Female</td>
<td></td>
<td>516</td>
<td>1,644</td>
<td>3,487</td>
<td>2,553</td>
<td>1,862</td>
<td>2,214</td>
</tr>
<tr>
<td>Total</td>
<td>Male</td>
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<td>945</td>
<td>2,701</td>
<td>2,956</td>
<td>2,745</td>
<td>1,428</td>
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</tr>
<tr>
<td></td>
<td>Female</td>
<td></td>
<td>405</td>
<td>1,452</td>
<td>3,200</td>
<td>2,587</td>
<td>1,835</td>
<td>2,143</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>683</td>
<td>2,091</td>
<td>3,075</td>
<td>2,664</td>
<td>1,656</td>
<td>2,241</td>
</tr>
</tbody>
</table>

Source: NZHIS Mental Health Information National Collection as at 28 August 2003.

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38 Population is based on population projections for July 2001 from 1996 census.
39 ‘Other’ includes ethnicity ‘unknown’.
40 Excludes very small numbers of sex ‘unknown’.
41 Age as at end of period.
42 Specialist mental health services for older people were funded by DSS in the Central and Southern region. These figures exclude these clients seen in those services.
**Disability Support Services**

Disability Support Services (DSS) are a range of support services for people with disabilities and their families and whānau. The Ministry’s current direct funding role in relation to DSS contrasts with most other Vote Health-funded services which have been devolved to District Health Boards (DHBs).

In October 2003, DSS provided to older people (mostly people who are 65 years and over) were separated from DSS for people with long-term disabilities (mostly people under 65 years). Funding for DSS for older people was devolved to DHBs on 1 October 2003. DHBs are expected to develop an integrated continuum of care for older people, across both health and support needs. The Ministry of Health will continue to fund DSS for people with long-term disabilities.

The devolution of aged care to the DHBs has taken considerable Ministry resources over the past year and priorities have included:

- separating the two funding streams for the different age groups and creating viable arrangements (including the devolution of DSS for older people) around these funding streams, so that the vision for older people (in the Health of Older People Strategy) and the strategic direction for younger people are established
- ensuring that, throughout this transition, ‘business as usual’ service provision and improvements to the national consistency of services, data and policies occur, so there is as little disruption as possible to people with disabilities.

The information presented in this report includes DSS information combined for people both under and over 65 years.

**The population**

In 2001 approximately 743,800 New Zealanders reported some level of disability, a 6 percent increase since the 1996/97 surveys of households and residential facilities. However, the overall rate of disability in the population did not change between the two surveys, with around one in five people reporting a disability43 (Statistics New Zealand 2002).

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43 Statistics New Zealand conducted post-censual disability surveys in 1996/97 and 2001 providing extensive data about people with disabilities in New Zealand.
Twenty percent of people living in households reported some type of disability compared to 97 percent of people residing in residential facilities. Two-thirds of the estimated 27,300 adults with disability living in residential facilities in 2001 were women. Most people with a disability in residential facilities (96 percent) had multiple disabilities. Thirty-two percent of all New Zealand women aged 85 years or more had disabilities and were living in residential facilities. Eighty-three percent of adults with disability living in residential facilities had severe disability requiring daily assistance from someone else. This compares to 12 percent of people with disability living in households who needed daily assistance from someone else.

The proportion of people with a disability in the population increases with increasing age. In 2001, approximately 11 percent of children were reported as having a disability compared to 13 percent of adults aged 15–44 years and 25 percent of adults aged 45–64 years. Over the age of 65 years more than half (54 percent) reported having a disability.

**Figure 3.12:** Disability rates, by age group and gender, 2001


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44 Three percent of people in residential facilities were not classified as having a disability. This means that they were not defined as having a long-term (lasting six months or more) functional limitation in the ability to carry out one or more activities specified by the disability survey screening questions. It may be they have no activity limitation as defined in the survey, or their disability is unlikely to last for more than six months, or be due to a classification or coding problem or other unknown reasons.

45 Survey respondents were defined as having a disability if they gave a positive response to questions about activity limitation. The person may or may not require assistance for the disability. A person was not counted as having a limitation if the limitation was completely eliminated or corrected by items such as hearing aids, glasses, contact lenses or medication.
The 2001 New Zealand Disability Survey estimated that there were 106,500 Māori and 27,700 Pacific people with a disability, including 28,500 Māori and 5700 Pacific children. The Asian/Other ethnic group contained an estimated 21,100 people with a disability, including 2200 children.

Māori had the highest age-standardised\(^{46}\) rate of disability (24,100 per 100,000). The Asian/Other group had the lowest rate (13,400 per 100,000).

For Māori, in each age group disability rates were higher than the national population rates. Fifteen percent of Māori children aged under 15 years reported a disability, as did 34 percent of Māori in the 45–64 years age group, increasing to 61 percent for Māori aged 65 and over (Figure 3.13).

The disability rate reported for Pacific children (aged under 15) was lower, at 8 percent, than the national rate for children. Disability rates for Pacific peoples within the older age group were similar to those for the total New Zealand population (Statistics New Zealand 2002).

**Figure 3.13:** Prevalence of disability for Māori, Pacific and other ethnicities, by age group, 2001

![Bar chart showing prevalence of disability by age group and ethnicity](image)


About 60 percent of people with disabilities have more than one disability. People with disabilities living in residential facilities are more likely to report multiple disabilities.

\(^{46}\) Standardised to WHO world standard population.
Physical disability was the most common type of disability affecting adults (66 percent), followed by sensory (sight and hearing) disabilities at 42 percent and ‘other’ at 40 percent. Physical disabilities were defined as involving some restriction of movement or loss of agility, such as walking, carrying an object a short distance or grasping objects. The ‘other’ category included speaking, learning and remembering disabilities.

The level of severity of disability is defined by the level of assistance required. People with moderate disabilities require special equipment relating to their limitation or assistance with some tasks. People with severe disabilities require daily assistance with tasks such as bathing or preparing meals. In 2001 those with a severe disability made up 15 percent of all people aged 15 years and over who reported some sort of disability.

The severity of disability increases with increasing age, with the highest proportion of moderate and severe disabilities in the oldest age groups (Figure 3.14).

**Figure 3.14:** Level of severity of disability, by age group, ages 15 years and over, 2001

![Figure 3.14](image_url)


The Ministry of Health was responsible for leading the development of the New Zealand Disability Strategy and overseeing its implementation, as well as funding disability support services. The New Zealand Disability Strategy aims to reduce barriers to participation faced by people with disabilities in their communities. On 1 July 2002 the Ministry’s role in relation to the New Zealand Disability Strategy shifted to the Ministry of Social Development’s Office for Disability Issues.
DSS constitute a complex and individualised range of services, from home-based support to residential support services. While the Ministry of Health is the predominant government funder of DSS, other support services are funded through agencies such as the Ministry of Education, ACC and the Ministry of Social Development’s work and income service.

**How are DSS accessed?**

In order to access DSS, a person with a disability must meet the Ministry’s definition of disability; that is, be assessed as having either a physical, intellectual, sensory, psychiatric or age-related disability, or a combination of these, where the disability is likely to:

- continue for a minimum of six months
- result in a reduction of independent function to the extent that ongoing support is required.

Once eligibility for DSS is established, three interlinked processes form the basis for access to specific publicly funded DSS (the DSS framework). The Ministry of Health funds these processes within a ring-fenced budget and requires auditable boundaries between them.

**Services to support people with disabilities**

Disability support services (DSS) can be categorised into five main service areas (covering 86 percent of 2002/03 expenditure).

- Residential care for older people, and for people with intellectual, physical or sensory disabilities (residential care may be provided in either institutional or community settings).
- Assessment, treatment and rehabilitation.
- Home-based support.
- Carer support (e.g., respite care).
- Environmental support.

DSS are funded largely from tax revenue, but consumers pay part charges for some services. DSS are generally free for children up to the age of 16 or until they qualify for an Invalid’s Benefit. Access without charges for some services depends on income and asset levels. Support from not-for-profit organisations, or Lottery Grants Board and charitable funding, may supplement services funded by the Ministry of Health.

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47 The DSS framework requires that individuals have their needs assessed and undergo service co-ordination to access DSS.

48 The ‘DSS ring-fence’ refers to a separate DSS non-departmental output class (NDOC).
DSS are predominantly community-based and delivered by private and not-for-profit providers. Providers vary in size from large national providers such as IHC, to small owner-operated local enterprises. A small proportion of the services is provided by hospitals, although these account for a significant portion of DSS expenditure.

An analysis of New Zealand’s disability workforce, published in 2003, identified that a large support workforce is employed to provide support in people’s own homes, and in residential, day care and community settings (Clinical Training Agency 2003). As yet there is no robust information about the total numbers employed. The Health Workforce Advisory Committee 2001 stocktake estimated 30,000 people were employed in providing home-based support, such as home help, independent living support, personal care and home-based rehabilitation support (Health Workforce Advisory Committee 2002a), but many in the sector consider this to be an underestimation.

Residential care

Aged residential care

Almost all older people live in their own homes, many without assistance. In the 2001 household and residential facility disability surveys, 74 percent of people aged 65–74 were living at home without assistance. The majority of people aged 85 and over were still living at home (72 percent) but with higher levels of assistance (15 percent without and 57 percent with). Although the proportion of older people in residential care at any one time is relatively low – around 5 percent in developed countries – the proportion of people in residential care increases with age (27 percent of people aged 85 and over compared to 1.8 percent of people aged 65–74).

Total government expenditure on residential care services comprised 56 percent of the DSS budget during 2002/03. Most of this funding was for residential care services for people over 65 years old. However, only about six percent of older people go into residential care; most receive services at home (eg, home support) or are cared for by relatives. This proportion has remained relatively constant, although residents now have higher care needs than in the previous decade.

In June 2003 19,941 people were receiving full or partial age-related subsidies for rest homes or continuing care hospitals. This represents about 4 percent of people aged over 65 years.

The ageing of the country’s population is increasing the demand for residential services. At the same time, the pattern of how that care is provided is changing. For example, subsidised age-related continuing hospital care is growing more quickly than rest home care. In 2002/03 the state subsidised approximately 7.08 million days of rest home and continuing hospital care. A full day’s care, including overnight, is termed a ‘bed day’. The majority of care is provided in rest homes, but since 1996/97 rest home use has remained fairly constant, while aged care hospital bed days have increased steadily from 2.15 million in 1996/97 to 2.78 million in 2002/03 (Figure 3.15). Dementia unit bed days have also increased over the period, from 365,300 to 674,510.
This pattern of utilisation may reflect later entry to residential care, with correspondingly higher levels of disability or frailty. This pattern is consistent with the policy to promote ageing in place, which is expected to result in older people staying longer in their own homes, possibly with higher levels of disability and with integrated support services in place.\textsuperscript{49} There has also been a substantial increase in expenditure on home support, enabling more people to remain in their own homes, which would support this explanation.

**Figure 3.15:** Residential care bed day utilisation, by facility type, 1996/97–2002/03

![Graph showing residential care bed day utilisation, by facility type, 1996/97–2002/03](image)


**Community residential care for people with intellectual or physical disabilities**

The Ministry of Health funds community residential services for people with intellectual, neurological, sensory and/or physical disabilities. These services provide 24-hour support at the level necessary for people to have a safe and satisfying home life. The level of support can be provided through a combination of services that are determined by an individualised needs assessment.

The Ministry of Health has registered 644 community homes which provide 3956 beds for people with intellectual, neurological, physical and/or sensory disabilities. Many of the homes are registered to provide services to people with different combinations of need. This compares to 632 community homes and 4080 beds which were registered in 2002.

\textsuperscript{49} Ageing in place is defined as the ability to make choices in later life about where to live, and to receive the support needed to do so.
Beyond deinstitutionalisation

Twelve institutions for people with intellectual or psychiatric disabilities have closed since 1987 and approximately 3700 people with intellectual disabilities have moved to community-based services.

Resettlement plans are being implemented for the remaining two large institutions for people with intellectual disabilities: the Kimberley Centre in Levin and Braemar Hospital in Nelson.

In late 2002 there were approximately 362 people living at the Kimberley Centre. As at October 2003, 10 people had left Kimberley. The Service Co-ordination Team (LIFE Unlimited) reports that it has completed transition plans for a further 50 people. It is anticipated these clients will have left Kimberley by the end of 2003.

Some people leaving Kimberley are choosing to relocate to vacancies in established homes. The majority of people, however, are expected to choose a new home. Housing New Zealand Corporation is currently setting up 20 homes for the project. These are in North Island locations chosen by the individual and their families.

Braemar’s resettlement is expected to take less time than Kimberley’s. In mid-2003 there were 69 residents at Braemar. In 2002/03, six residents were settled into the Nelson community.

Intellectual disability compulsory care support services

The Intellectual Disability (Compulsory Care and Rehabilitation) Act was passed by Parliament in October 2003. In preparation for the enactment of the legislation, the Ministry of Health continued to develop services that will be required for the intended client group.

This includes the development of community-based services which are part of the high and complex service network. This includes Regional Intellectual Disability Care Agencies, Regional Intellectual Disability Secure Accommodation Services and Regional Intellectual Disability Secure Services. Regional Intellectual Disability Care Agencies address the needs of people with intellectual disabilities who have high and complex behavioural support needs. In addition, the Ministry of Health purchases services from four regional forensic services. An initial hospital-level secure service, Te Huia, began operation from 1 July 2002. Overall, as at January 2003, 87 people were supported by this range of services.

Some services are yet to be put in place. These include hospital-level assessment beds, regional community liaison teams and a second hospital-level secure service.

Auckland College of Education is providing a training programme for care co-ordinators and care managers. The second programme commenced in February 2003.
Assessment, treatment and rehabilitation

Assessment, treatment and rehabilitation (AT&R) services are co-ordinated multidisciplinary services customised to meet the complex needs of people with disabilities and/or people with age-related needs. Their aim is to restore the functional ability of people and enable them to live as independently as possible.

Almost all AT&R services funded by the Ministry are provided by the DHBs. The services are provided across a spectrum of settings, including specialist inpatient units, services to people in their usual living or working environments, outpatient clinics and day hospitals. Geriatric AT&R services are generally located in inpatient units in the main hospital for the district, with outpatient clinics often provided at the same site. Community-based AT&R services are provided on a smaller scale with a greater focus on assessment rather than on treatment or rehabilitation.

During 2002/03, approximately 82 percent of all AT&R discharges were for age-related services, 10 percent were for psychogeriatric services and 8 percent were for non-age related services. These proportions are similar to previous years.

The table below shows that total bed days increased by 6 percent between 1998/99 and 1999/2000. The 27 percent decline between 2000/01 and 2001/02 was due to the exclusion from the figures of services that were transferred to the responsibility of ACC for funding from 1 July 2001. Between 2001/02 and 2002/03 there has been little change in total bed days (1 percent decline).

On 1 July 2001 ACC took responsibility for funding inpatient services for people eligible to receive ACC-funded services. Excluding ACC discharges, a total of 291,887 AT&R bed days were recorded for 15,841 discharges (13,840 clients) in 2002/03. Around three-quarters (74 percent) of the bed days and 82 percent of the discharges were for age-related services.

Table 3.7: Total bed days for AT&R by service type, 1998/99–2002/03

<table>
<thead>
<tr>
<th>Year</th>
<th>Age-related AT&amp;R</th>
<th>Non-age-related AT&amp;R</th>
<th>Psychogeriatric AT&amp;R</th>
<th>Grand total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998/99</td>
<td>289,615</td>
<td>38,150</td>
<td>26,533</td>
<td>354,298</td>
</tr>
<tr>
<td>1999/00</td>
<td>290,158</td>
<td>44,720</td>
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</tr>
<tr>
<td>2000/01</td>
<td>287,135</td>
<td>41,635</td>
<td>43,650</td>
<td>372,420</td>
</tr>
<tr>
<td>2001/02</td>
<td>224,170</td>
<td>28,191</td>
<td>41,391</td>
<td>293,752</td>
</tr>
<tr>
<td>2002/03</td>
<td>217,190</td>
<td>31,980</td>
<td>42,717</td>
<td>291,887</td>
</tr>
</tbody>
</table>


Note: From 1 July 2001 ACC cases are excluded, so data are not comparable with previous years. Data prior to 2002/03 were revised by NZHIS this year so some of these figures may differ from those previously published.
Home support

Home support services promote and maintain the independence of people with disabilities by enabling them to remain in their own homes or other private accommodation in the community. It is estimated that over 30,000 semi-skilled people (predominantly women) provide Ministry of Health-funded home help and personal care services in what is considered to be an unregulated environment. These figures do not include unpaid carers (eg, family members).

As noted earlier, the increase in home support expenditure between 1995/96 and 2002/03 reflected implementation of strategies to support people with disabilities in their own homes (rather than in residential care), when home-based care is an appropriate and safe option.

Carer support

Carer support consists of a range of services to give full-time unpaid caregivers relief from the caring role. In many cases carer support is given in the home of the person with the disability, but it may also be provided in the home of the relief carer or, in the case of day care, within a facility. Informal carers are defined as unpaid carers, including whānau and family members and friends who are providing care for people with a disability.

Access to carer support services is through needs assessment and service co-ordination. A specified number of days are allocated to each carer annually and they can use them as they wish. The allocation is reviewed annually. Carer support payments are intended to reimburse the costs of providing relief care. They are not a salary or wage. Support for informal (unpaid carers) has been developed, providing a range of training and other support services, such as networking.

Needs assessment and service co-ordination

Needs assessment identifies and prioritises all of a person’s care and support needs (including needs that may be met by other agencies), irrespective of funding constraints and the availability of services. Service co-ordination or planning identify the most appropriate services and support options to meet assessed needs and outcome goals, within available funding. It may require prioritising access to some funded services through means testing based on assets and/or income, or using particular criteria to determine waiting times for some services. The service co-ordinator may assist people to access support from other agencies’ services.

The task of needs assessment and service co-ordination (NASC) services is to assist people with a disability to participate in society and maintain their independence. NASC services work with people with a disability to assess their goals and needs, and then to find ways of providing solutions. In February 2002 new guidelines, the Support Needs Assessment and Service Co-ordination Policy, Procedure and Information Reporting Guidelines, were published to assist NASC services to operate effectively. Training support was provided so that the guidelines were understood and accepted as a means of achieving consistent practice nationwide.
Environmental support
The Ministry of Health funds a range of environmental support services including:

• home modifications (eg, bathroom alterations)
• vehicle grants and vehicle modifications
• equipment for daily living (eg, shower chairs)
• wheelchairs and other mobility equipment (eg, walking frames, standing frames)
• seating solutions (eg, wheelchair cushions)
• communication and information technology equipment (eg, speech synthesisers, computers)
• hearing equipment (eg, hearing aids)
• vision supplements (eg, magnifiers).

Over the period from 1999/2000 to 2002/03, a prioritisation system was introduced to target approved applications on the waiting list with the greatest level of need to better manage allocation and demand for Environmental Support Services. As at June 2003, there were no people who had been assessed and were waiting for funding for environmental support services.

During 2002/03, work was progressed to ensure existing access and eligibility criteria, used to assess clients’ needs for environmental support services, are nationally consistent. This included:

• developing a national protocol between NASCs and accredited assessors. The protocol is being implemented in late 2003
• reviewing regional variations in existing access and eligibility criteria, in order to ensure that people with disabilities receive a more equitable service throughout the country
• modifying the criteria to enable people with disabilities undertaking voluntary work to have better access to equipment.

In 2003, work also commenced on a more comprehensive review of environmental support services.

Spectacle Subsidy
On 1 March 2003, the age of eligibility for the spectacle subsidy was increased to include children under the age of eight years, up from six years. Further, the subsidy was increased to $281.25 (GST inclusive) per annum, including a $135 frame subsidy, for each child who holds, or whose family holds, a Community Services Card or a High User Health Card.

These changes were widely communicated to relevant health professionals such as optometrists, ophthalmologists, public health nurses, NASC agencies, GPs and Plunket.
Hearing aids

From late 2003 the Ministry intends to review the framework that hearing aid assistance is provided under. This will include the current criteria for state-funded hearing aids and the hearing aid subsidy scheme. At present, hearing aids are only fully funded when the hearing aid is essential to enable the person to undertake full-time education, vocational training or full-time employment. Hearing aids may also be funded for people with a hearing impairment who are the primary carers of dependent children and require hearing aids to undertake this role.

Some work has already commenced, for example, in February 2003 the hearing aid subsidy was increased from $89.10 (GST inclusive) to $198 (GST inclusive) for a monaural fitting (one ear) and $396 (GST inclusive) for a binaural fitting (two ears).
Chapter 4: What Have Our Health and Disability Support Services Achieved?

This chapter examines the contribution of the health and disability support system to the health and independence outcomes for New Zealanders, and to the achievement of key goals and strategies of the sector. In particular, this chapter identifies:

- measurable changes in health status or degree of independence, some of which are as a result of publicly funded health or disability support services, both in average terms and in their distribution through the population
- alignment of activities and outcomes of the health and disability support system with the goals of major strategies.\(^{50}\)

Indicators of overall system achievement

The approach taken in this section is to examine ‘high-level’ outcomes that depict health status and health sector performance across a range of health and disability conditions. These can be divided into two broad groupings, as follows.

**Group 1**: Broad, whole-of-life health and disability status outcome measures. These measures are a record of the result of events that occur throughout the lives of individuals. Changes in these measures through time reflect changes in social, economic, environmental and other factors, as well as a contribution from our health and disability support services. The measures used are:
- life expectancy at birth
- disability requiring assistance
- independent life expectancy.

**Group 2**: Measures that tell us more directly about the overall performance of our health services. The measures used are:
- avoidable hospitalisation
- avoidable death.

Indicators that are specific to certain diseases or risk factors are examined in more detail in the section titled ‘Progress towards goals’. Of particular focus in the ‘Progress towards goals’ section are the 13 goals of the New Zealand Health Strategy.

The following section of the *Health and Independence Report* draws from material in the forthcoming publication *An Indication of New Zealanders’ Health* (to be published in 2004), as well as other data provided by the Ministry of Health. The annual publication *An Indication of New Zealanders’ Health* brings together a wide range of indicators to examine changes in the health of New Zealanders over time.

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\(^{50}\) He Korowai Oranga: the Māori health strategy, is the subject of Chapter 5, together with discussion of services for Māori and Māori health outcomes.
Whole-of-life health and disability status measures

Life expectancy at birth

Life expectancy at birth refers to the average estimated number of years that people born now can expect to live if current mortality rates persist for the whole of their lives. Life expectancy is a summary measure of population health, reflecting mortality at all ages from all causes.

Trends

Life expectancy data presented for each year is based on registered deaths in the three years centred on the reporting year. For example, life expectancy data presented for 2001 is estimated by the Ministry of Health on deaths registered in 2000–2002. In 2001 life expectancies for males and females were 76.3 years and 81.1 years respectively. Life expectancy at birth for the total population was 78.7 years. During the last two decades of the 20th century, the female advantage in life expectancy has decreased, as males’ life expectancy has improved more than that of females (Figure 4.1).

Life expectancy at birth has improved at a generally increasing rate over the last two decades. There has been an average annual gain in life expectancy over the last 20 years of 0.25 years.

Prior to the 1980s relatively high infant deaths impacted substantially on life expectancy at birth. During the past decade most of the improvement in life expectancy has occurred at older ages (especially at ages 65 years and over) (Ministry of Health 1999a).
Figure 4.1: Life expectancy at birth, by gender, 1960–2001


Notes:
1 Vertical axis starts at 65 years of age.
2 Before 1996 the denominator for life expectancy data is the estimated de facto population of New Zealand. From 1996 the denominator is the estimated resident population of New Zealand.

Ethnicity

The Decades of Disparity report (Ajwani et al 2003) noted a steady increase in life expectancy at birth for non-Māori non-Pacific people, for both males and females, between 1980-84 and 1996-99 (Figure 4.2). However, the rates of increase for non-Māori non-Pacific males and females were higher than for Māori or Pacific males and females.
**Figure 4.2a:** Life expectancy at birth, males, by ethnicity, 1980–84 to 1996–99

Note: y-axis starts at 55.

**Figure 4.2b:** Life expectancy at birth, females, by ethnicity, 1980–84 to 1996–99

Note: y-axis starts at 55.
Disability requiring assistance

Functional and/or role limitations (in the context of health experiences) substantially affect New Zealanders quality of life. Disability can be categorised according to three mutually exclusive categories according to the level of assistance required (Health Funding Authority and Ministry of Health 1998).

- **Level 1** (mild disability) represents those who have a functional disability but who do not report requiring any assistance.
- **Level 2** (moderate disability) represents those who have a functional disability and require assistance but do not require this assistance on a daily basis.
- **Level 3** (severe disability) represents those who have a functional disability and require daily or continuous assistance.

People in Levels 2 and 3 are identified as having a ‘disability requiring assistance’ (DRA).

Current levels and trends

Overall, approximately 12 percent (crude percentage) of New Zealanders had a disability requiring assistance in 2001 (Ministry of Health in press).

Figure 4.3 shows a comparison between disability levels in 1996 and 2001. Overall, ‘disability requiring assistance’ (levels 2 and 3) has increased among males between 1996 and 2001 and decreased among females, although the change is small in both genders.
**Figure 4.3:** Disability prevalence (%), all ages, by gender and level of disability, total population, 1996 and 2001

Source: Ministry of Health, in press

Note: Age-standardised to WHO world standard population.

**Differences by gender and ethnicity**

In 2001, the age-standardised prevalence of males of all ages with disability was an estimated 18 percent with 10 percent having a DRA (Figure 4.3). Seventeen percent of females of all ages had a disability with 9 percent having a DRA (age-standardised).

Māori aged 0-85 years have a higher prevalence of disability requiring assistance compared to non-Māori aged 0-85 years (14 percent) (Ministry of Health in press).

**Table 4.1:** Prevalence (%) of disability requiring assistance (0–85 years), 2001

<table>
<thead>
<tr>
<th></th>
<th>Māori</th>
<th>Non-Māori</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>13.5</td>
<td>9.4</td>
<td>9.7</td>
</tr>
<tr>
<td>Female</td>
<td>14.2</td>
<td>8.6</td>
<td>8.9</td>
</tr>
<tr>
<td>Total</td>
<td>13.9</td>
<td>9.0</td>
<td>9.3</td>
</tr>
</tbody>
</table>

Source: Ministry of Health, in press

Differences in the definition and measurement of disability between different countries make international comparisons difficult.
Analysis of Disability Support Services has traditionally focused on inputs and outputs, and the Ministry of Health has not yet developed an agreed set of outcome measures to allow the quality and effectiveness of service funding and provision to be routinely monitored. Moving to system outcome measures, it will be important that the measures reflect the outcomes that matter to people with disabilities, and that there is increasing emphasis on individual outcomes. Some services have already moved to an individual outcome focus.

**Independent life expectancy**

Independent life expectancy (ILE) brings together fatal and non-fatal health outcomes (ie, combines life expectancy and DRA). ILE at birth measures the number of years a newborn can expect to live independently, that is, life free of disability requiring assistance. Māori have a lower ILE than non-Māori. In particular, the difference in ILE between Māori females and non-Māori females is much greater than the difference between Māori males and non-Māori males.

<table>
<thead>
<tr>
<th></th>
<th>Māori</th>
<th>Non-Māori</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male</strong></td>
<td>57.5</td>
<td>65.0</td>
<td>64.6</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td>58.6</td>
<td>68.1</td>
<td>68.4</td>
</tr>
</tbody>
</table>

Source: Ministry of Health (provisional data), 2003.

**Measures of the overall performance of our health services**

**Avoidable hospitalisations**

All hospitalisations can be categorised as either potentially avoidable or unavoidable (Ministry of Health 1999a). However, the distinction is a theoretical one based on the patient’s main diagnosis and does not necessarily reflect individual circumstances. Beyond the age of 75 the classification becomes increasingly problematic due to the increasing prevalence of co-morbidities, so the calculations used in this section are restricted to deaths of people under the age of 75. The two types of avoidable hospitalisations are:

1. **population preventable** hospitalisations, which could be prevented through population health strategies.
2. **ambulatory-sensitive** hospitalisations, which result from diseases and conditions sensitive to interventions delivered through primary health care and are, therefore, avoidable.

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51 This parallels a worldwide move to try to develop workable disability and rehabilitation outcome measures that apply across a diverse range of services and disability and age groups.

52 Excludes hospitalisations preventable by strategies for injury prevention.

53 A list of conditions for which hospitalisations were considered as preventable is given in Appendix 3 of *Our Health, Our Future* (Ministry of Health 1999a).
Population preventable hospitalisations have increased steadily since 1995/96 at a rate of 2.4 percent per year.

By definition the rate of ambulatory-sensitive hospitalisations can be considered an outcome measure for primary health care. As shown in Figure 4.4, age-standardised discharge rates for ambulatory-sensitive hospitalisations increased at a rate of 2.9 percent per year between 1988/89 and 2000/01.

The general increase in ambulatory-sensitive hospitalisations indicates that more people are being hospitalised for conditions that could be treated through primary health care. The most likely reasons for the increase are changes in incentives to refer to admit patients, a rise in the prevalence of some chronic conditions, and barriers to primary health care for some sectors of the population (Ministry of Health 1999a).

A major government response to these observations is the Primary Health Care Strategy (Minister of Health 2001). This is discussed in Chapter 3.
Differences by ethnicity

Figure 4.5 shows that rates of population preventable hospitalisations increased for all ethnic groups between 1996/97 and 2001/02. However, the rate of increase has been three times higher in Māori and Pacific peoples than for Europeans/Others. Part of the increase for Māori and Pacific peoples may be due to improvements in coding of ethnicity. However, given the increase over time across all ethnic groups, the trends shown in these figures are likely to be broadly correct.

**Figure 4.5:** Standardised discharge rates for population preventable hospitalisations, by ethnicity, 1996/97–2001/02

The rise in ambulatory-sensitive hospitalisations has differed across ethnic groups (Figure 4.6). Between 1996/97 and 2000/01 ambulatory-sensitive hospitalisations for Māori and Pacific peoples increased annually by 1.7 percent and 7.1 percent, respectively, compared with only a 0.7 percent increase for Europeans/Others. However, there has been a reduction for all three ethnic groups between 2000/01 and 2001/02, although it remains to be seen if this is indicating the beginning of a narrowing of inequalities. These data suggest that Māori and Pacific peoples may not be getting appropriate access to primary health care.
Figure 4.6: Standardised discharge rates for ambulatory-sensitive hospitalisations, by ethnicity, 1996/97–2001/02


Differences by area deprivation score

Ambulatory-sensitive hospitalisations increase with high levels of area deprivation (Figure 4.7). People living in the most deprived quintile have ambulatory-sensitive hospitalisation rates twice that of those living in the least deprived quintile.
Avoidable mortality

Focusing on deaths that could hypothetically have been avoided or prevented highlights the gains that can be made through health promotion, disease prevention and treatment.

The concept of avoidable mortality includes deaths that are potentially preventable through population-based interventions (health promotion) as well as those responsive to preventive and curative interventions at the level of the individual. As with avoidable hospitalisations, a cut-off age of 75 years has been applied.

Trends

The total avoidable mortality rate decreased by approximately 40 percent between 1980 and 2000 (Figure 4.8). During the same period the rate of unavoidable mortality also decreased by 20 percent.
Figure 4.8: Avoidable and unavoidable mortality (0–74 years), rate per 100,000, 1980–2000

Source: Data extracted from NZHIS mortality collection, 2003.
Note: Rates are age-standardised using the WHO world standard population.

Almost 80 percent of all avoidable deaths occur in the 45–74 year age group, dominated by the emergence of chronic diseases such as ischaemic heart disease, diabetes and smoking-related cancers (Ministry of Health 1999a).

Ethnicity
Māori have higher avoidable and unavoidable mortality rates than non-Māori (Table 4.3). In addition, males have higher avoidable and unavoidable mortality rates compared to females in all ethnic groups.

Table 4.3: Avoidable and unavoidable mortality, 2000, rate per 100,000

<table>
<thead>
<tr>
<th></th>
<th>Māori</th>
<th>Non-Māori</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Avoidable</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>485</td>
<td>219</td>
<td>242</td>
</tr>
<tr>
<td>Female</td>
<td>357</td>
<td>136</td>
<td>155</td>
</tr>
<tr>
<td>Total</td>
<td>418</td>
<td>177</td>
<td>198</td>
</tr>
<tr>
<td><strong>Unavoidable</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>179</td>
<td>99</td>
<td>106</td>
</tr>
<tr>
<td>Female</td>
<td>120</td>
<td>61</td>
<td>66</td>
</tr>
<tr>
<td>Total</td>
<td>148</td>
<td>80</td>
<td>86</td>
</tr>
</tbody>
</table>

Source: Data extracted from NZHIS mortality collection, 2003.
Note: Rates are age-standardised using the WHO world standard population.
Deprivation

Avoidable and unavoidable mortality rates both increase with increasing deprivation, with the gradient being steeper for avoidable mortality. People living in the most deprived quintile have almost twice the rate of avoidable mortality compared to people living in the least deprived quintile.

Figure 4.9:  Avoidable and unavoidable mortality, by deprivation quintile, 2000

Source: Data extracted from NZHIS mortality collection, 2003.
Progress towards goals

This section examines some of the key strategies guiding the health sector, and examines the extent to which the activities and outcomes of the health and disability support system are aligned with the goals of these strategies. This chapter also discusses many of the specific outcome measures that are indicative of the contribution of the health and disability support system to the health and independence of New Zealanders.

New Zealand Health Strategy

The New Zealand Health Strategy (NZHS) (Minister of Health 2000) was launched in December 2000 following significant consultation with health professionals and the public. The strategy provides the overall direction for the health system and the framework for the development of associated strategies. As discussed in Chapter 1, the NZHS identifies seven fundamental principles to be reflected across the health sector, supported by 13 population health objectives for implementation in the short to medium term. In this section progress towards attainment of the 13 health goals is explored, together with the contribution that the health sector is making towards their achievement.

Reducing smoking

The most recent data on smoking (Ministry of Health 2003) indicates prevalence of smoking (measured by the percentage of the population aged over 15 years who were smoking) has generally levelled off since 1996, but still appears to be trending downwards. Since 1999, tobacco smoking prevalence has decreased slightly from 25.5 percent to 24.5 percent in 2002. This is lower than smoking levels in 1990 when smoking prevalence was at 28 percent (Figure 4.10), and maintains a trend of decreasing smoking since 1983 (when the surveys of smoking featured in Figure 4.11 began).

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54 He Korowai Oranga: the Māori health strategy, is the subject of Chapter 5, together with discussion of services for Māori and Māori health outcomes.
While prevalence has been largely constant over the past decade, tobacco consumption (measured by ‘tobacco products released into the New Zealand market’) has decreased by one-third – one of the biggest decreases of any OECD country (where data were available). The latest international figures show New Zealand’s consumption being the third lowest only to Australia and Finland (Figure 4.11). However, in 2002 there was a slight increase in consumption. A factor in the increased consumption could be competitive pricing by the tobacco industry which is making the product more affordable. It is yet to be seen if this is a blip on a general downward trend, or the start of a trend towards increased levels of tobacco consumption.
Youth smoking in New Zealand is also in decline. The prevalence of daily and (at least) weekly smoking by secondary school students has declined between 1999 and 2002 for both males and females. The increases that were apparent in the 1990s have been reversed and youth smoking has started to trend downwards.

Of concern is a continued high prevalence among adult Māori of 49 percent of the adult population (aged 15 years and over) in 2002. Māori smoking rates have been consistently higher than those of Pacific peoples, and non-Māori non-Pacific people (Figure 4.12). This is also reflected in the high rates of young Māori women smoking. The ASH National Fourth Form Survey (of 14 and 15-year-olds) shows that prevalence has dropped for all groups other than Māori females. Forty-two percent of female Māori students reported being at least weekly smokers in 2002 (Ministry of Health 2003I).
The successes of New Zealand’s tobacco programme have been achieved by a mix of tobacco legislation, taxation, health promotion and cessation support. This mix of initiatives is recommended by the World Health Organization which holds New Zealand up as an example of a country that has an effective and comprehensive tobacco control policy (World Health Organization 1996). It is anticipated that the passage of legislation strengthening the Smoke-free Environments Act 1990 will create new momentum for a reduction in smoking in the population.

**Improving nutrition, increasing levels of physical activity and reducing obesity**

**Nutrition, physical activity and obesity data**

The *Nutrition and the Burden of Disease* report (Ministry of Health and University of Auckland 2003) indicates that there is considerable scope for improvement in the dietary intakes of New Zealanders. For example, low vegetable and fruit consumption is estimated to have contributed to 6 percent of all deaths, based on the 1997 National Nutrition Survey data (Ministry of Health and University of Auckland 2003). Wider implementation of the Food and Nutrition Guidelines, including increased rates of fully breastfed infants, would result in improved nutritional status and better health for New Zealanders.
Provisional findings from the 2002/03 New Zealand Health Survey indicate that two-thirds of New Zealanders aged 15 years and over eat at least three servings of vegetables per day and one in two eat at least two servings of fruit per day (Ministry of Health 2003j).\textsuperscript{55}

The 1997 National Nutrition Survey showed that people living in more deprived areas were more likely to have poor nutrition. People in these households were more likely to report running out of food or being unable to eat properly because of a lack of money than households in less deprived areas (Russell et al 1999). The costs of a healthy diet are monitored annually at different locations by the University of Otago, using specified amounts of foods needed for one week, based on the Food and Nutrition Guidelines (Department of Human Nutrition 2003). The surveys use the same supermarkets each year to enable comparison. These estimates appear to be increasing annually and support the concept that the cost of a healthy diet is not affordable for all people, including many families in New Zealand (Parnell 1997).

The most recent data available on physical activity (provisional findings of the New Zealand Health Survey 2002/03\textsuperscript{56}) indicate that three-quarters of New Zealanders (74 percent) take part in more than 2.5 hours of physical activity each week (an intensity equivalent to brisk walking) (Ministry of Health 2003j). Half of all adults in the 2002/03 Survey reported doing at least 30 minutes a day of physical activity on five or more days of the week (Ministry of Health 2003j).\textsuperscript{57}

Although these figures are high by international standards, analysis of the New Zealand Sport and Physical Activity Surveys between 1997/98 and 2000/01 indicates that activity levels for young people (5–17 years) may be declining overall, from 69 percent in 1997/98 to 66 percent in 2000/01. There was also an increase in the proportion of young people who were sedentary (those who have not undertaken any activity in the past two weeks) from 8 percent in 1997/98 to 13 percent in 2000/01. There was a decline in the proportion of Māori young people who were active, from 75 percent in 1997/98 to 66 percent in 2000/01.

The New Zealand Sport and Physical Activity Survey indicated that while a majority of both adults and young people would like to be more active, significant barriers exist to restrict individuals’ physical activity. These include personal or social barriers (such as cultural and social perceptions, disability or health status, time commitments, feelings of inadequacy and lack of motivation); structural or environmental barriers (such as transport, location, personal safety, access and facilities); and interpersonal barriers (such as family commitments) (SPARC 2003b).

\textsuperscript{55} Current recommendations for vegetable and fruit intake are at least three servings of vegetables and two servings of fruit per day.

\textsuperscript{56} At the time of the publication of the Health and Independence Report 2003 only provisional data were available from the 2002/03 New Zealand Health Survey. More detailed information will be published in mid-2004.

\textsuperscript{57} Current recommendations for physical activity are for 30 minutes a day of moderate intensity physical activity on at least five days of the week.
Obesity is a major public health problem in New Zealand. Provisional data from the 2002/03 New Zealand Health Survey indicate that one in five adults (20.7 percent) are obese (males 19 percent, females 21.2 percent). A further 35 percent of adults are overweight (males 40.5 percent, females 27.4 percent) (Ministry of Health 2003i). These provisional findings indicate an increase in the prevalence of obesity and no change in the prevalence of overweight since 1997, when 17 percent of adults were obese and a further 35.2 percent were overweight (Russell et al 1999).

2002 Children’s Nutrition Survey

The 2002 National Children’s Nutrition Survey surveyed over 3000 children aged 5–14 years (Ministry of Health 2003f). Findings on children’s nutrient intakes and food choices included the following.

- Protein intake was in excess of requirements for all groups; carbohydrate contributed 54 percent of energy and total fat 33 percent of energy.
- For younger children (aged five to six years), and New Zealand European/Other children, intakes of vitamins and minerals were in general satisfactory. However, some older children and other subgroups had vitamin and mineral intakes that were less than satisfactory. This was contributed to by proportionately lower intakes of food sources providing both \( \beta \)-carotene (vegetables) and retinol (milk).
- Iron status was satisfactory for most children, apart from girls who had reached the age of menstruation.
- Iodine status indicated mild iodine deficiency among New Zealand children, reinforcing the importance of ensuring that when salt is used it is iodised salt.
- Older children (aged 11–14 years) were at a greater risk of having inadequate selenium intakes than younger children. Fish and seafood are primary sources for selenium.
- Three out of five children (57 percent) met the recommended number of servings of vegetables (three or more per day).
- Only two out of five children (42 percent) met the recommended number of servings of fruit (at least two per day).
- Chicken was the most commonly eaten food from the meat, fish and poultry food group. White bread was the most commonly eaten bread. Approximately half used margarine or margarine blends on their bread.
- The most commonly eaten convenience snack was noodles.

Data on food patterns included that:

- 86 percent of girls and 79 percent of boys usually had something to eat before they left home in the morning for school. These figures are lower for Māori and Pacific children. Those children who are living in more deprived areas (based on the NZDep2001 index of deprivation) were less likely to have breakfast before leaving home in the morning.
- 78 percent of parents/caregivers reported that their household could always afford to eat properly.
Physical activity data included that:

- walking at least 15 minutes per day was the most frequently reported activity by about 64 percent of children
- males were more likely than females to be in the highest activity quartile
- approximately one in six children reported no physical education class in the previous week
- no weekend physical activity was reported by 12.5 percent of children, and this was highest among females aged 11–14 years (22.8 percent)
- 72 percent of children watched fewer than two hours of television or videos per day during the week
- approximately 60 percent of children did not play computer or video games at the weekend or during the week.

The survey showed overweight and obesity is a significant issue among New Zealand children, particularly Māori and Pacific children (Table 4.4).

Table 4.4: Overweight and obesity among New Zealand children aged 5–14 years, by gender and ethnicity, 2002

<table>
<thead>
<tr>
<th></th>
<th>Percentage of males</th>
<th>Percentage of females</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Māori</td>
<td>Pacific</td>
<td>Other</td>
</tr>
<tr>
<td>Overweight</td>
<td>19.6</td>
<td>33.9</td>
<td>18.4</td>
</tr>
<tr>
<td>Obese</td>
<td>15.7</td>
<td>26.1</td>
<td>4.7</td>
</tr>
</tbody>
</table>

Source: NZ Food: NZ Children (Ministry of Health 2003f)

Achieving progress on nutrition, physical activity and obesity

Personal health services are funded through Vote Health principally to deliver treatments to individuals to improve or protect their health, as and when required. In contrast, public health services are focused at the population level and seek to build activity across a range of sectors to improve and protect health, and to promote positive health behaviours. Activities undertaken or funded by the Ministry of Health to improve nutrition, reduce obesity and increase physical activity levels in New Zealand are consistent with this public health approach.

Nutrition, physical activity and obesity are cornerstones of the New Zealand Health Strategy, and their inclusion in the strategy is recognition of the need for action in these three areas to achieve ongoing improvements in population health. The Healthy Eating – Healthy Action framework was developed to forge an integrated approach to improving population health in these three areas. Healthy Eating – Healthy Action identifies key policy priorities for the Ministry of Health and will guide the funding of programmes and services by DHBs and other providers, and research priorities for the Health Research Council and other funders (Ministry of Health 2003c).
The strategy emphasises the need for partnerships outside the health sector, and recognises the importance of addressing environmental modification as well as behavioural change to improve nutrition, increase physical activity and reduce obesity.

Reducing the rate of suicide and suicide attempts

Trends in suicide are affected by a number of economic, social, cultural and individual factors. While the health sector has a significant role in the prevention of suicide, it is difficult to determine the impact of particular interventions on the rates of suicide deaths due to the multifactorial nature of suicide and it being a statistically rare event.

In 2000 (the most recent year data are available) there were 458 suicides, down from 516 in 1999 and 577 in 1998. This is the lowest number since 1986 and the lowest rate since 1985 (Figure 4.13). The female rate was the lowest since 1961, while the rate for both the 45–64 age group and the 65 and over age group was the lowest recorded since 1948.

The youth suicide rate, as at 2000, had decreased for five consecutive years. In 2000, a total of 96 young people aged 15–24 years died by suicide, compared with 120 in 1999 and 140 in 1998 (Ministry of Health 2003k).

Figure 4.13: Suicide death rate, 1981–2000

Suicide deaths have reduced in non-Māori, but have remained almost the same in Māori. In 2000, the rate of suicide in Māori was 13.1 per 100,000 compared with 10.7 per 100,000 in non-Māori.
Eighty Māori died by suicide in 2000. While Māori males still have higher rates of suicide than non-Māori males (23.3 per 100,000 compared with 17.5 per 100,000), the overall rate of Māori suicide has nevertheless declined over the past few years from 19.2 per 100,000 in 1998 to 13.1 per 100,000 in 2000. In 2000 Māori females had a lower rate of suicide than non-Māori females (3.6 per 100,000, compared to the non-Māori rate of 4.0 per 100,000) (Figure 4.14).

**Figure 4.14:** Māori and non-Māori suicide death rates, 1996–2000

Source: *Suicide Facts* (Ministry of Health 2003k).

**Alcohol and illicit drug use**

The most recently available national trend data on alcohol and other drug use are from the 1998 and 2001 National Drug Surveys (Wilkins et al 2002). The survey findings showed stability in use of some drugs. Alcohol was the most widely used drug, used in the last year by 85 percent of respondents aged 15–45 years in both 1998 and 2001. In both surveys, 20 percent of respondents had used cannabis in the previous year.

However, there were increases in use of ecstasy and stimulants such as methamphetamine. Also of concern was an increase between 1998 and 2001 in young men and women aged 15–17 years who had consumed enough alcohol to feel drunk on at least a monthly basis (Wilkins et al 2002). There were also increases in more frequent use of cannabis (10 or more times in the last month) by young people aged 15–17 years.
As part of the Ministry of Health’s health monitoring programme, another national survey of drug use has been undertaken in 2003, the findings of which will be reported in 2004.

Strategies to prevent and reduce drug-related harm need to take into account three interacting components:

- the characteristics of individual drug users (eg, their age, gender and ethnicity)
- the environment in which drug use occurs (eg, the social, physical and economic context)
- the characteristics and effects of the drug which is being used (eg, its psychoactive properties, type, amount and dependence-producing effect).

The National Drug Policy aims to minimise the harmful effects of drug use by using a balance of supply control and demand reduction measures. It recognises that there is a continuum of harm associated with drug use and that no single approach or set of strategies can adequately address the possible range of harm. As indicated in Chapter 2, activities to minimise harm from alcohol and other drugs in New Zealand use a variety of approaches, including regulatory intervention, community action programmes, collaboration between the various relevant agencies from the government and non-government sectors, and education.

**Reducing the incidence and impact of cancer**

Cancer is a generic term used to describe a group of over a hundred diseases that occur when malignant forms of abnormal cell growth develop in one or more body organs. Approximately 16,000 people develop cancer each year and approximately 7500 die from cancer annually. Cancer accounts for 29 percent of deaths from all causes (Minister of Health 2003d).

In this section, general trends in cancer prevalence are briefly examined. Discussion then turns to progress in three areas that are related to goals of the New Zealand Cancer Control Strategy: primary prevention activity, the national cancer screening programmes underway in New Zealand, and progress in oncology treatment nationally.

Figure 4.15 indicates generally declining mortality for both males and females until 2000, and increasing rates of cancer registration.
Figure 4.15: Registrations and death rates per 100,000 for all cancers, by sex, 1990–2000

Source: Data extracted from National Minimum Data Set, NZHIS, 2003.
Note: Because of the introduction of the Cancer Registry Act 1993, registrations from 1995 onwards may not be comparable with those from earlier years. Rates are age-standardised. Data for 2000 are provisional.

Cancer is the leading cause of death for Māori women and the second most frequent cause of death for Māori men. Cancer mortality is making an increasing contribution to the life expectancy gap for both Māori and Pacific peoples. Overall cancer mortality rates have increased over time among Māori, compared to a steady decrease among non-Māori, non-Pacific people (Ajwani et al 2003).

Primary prevention

Primary prevention of cancer is a key element of the New Zealand Cancer Control, Strategy. The strategy emphasises the following prevention activities.
- reducing smoking
- improving nutrition and reducing obesity
- increasing the level of physical activity
- minimising alcohol harm
- reducing skin cancer due to UV radiation exposure
- reducing infection-related cancers
- reducing occupational-related cancers.
The first four of these are also specific priority population health objectives of the New Zealand health strategy aimed at improving the health status of New Zealanders and reducing the preventable disease and death, and have considerable work programmes in place to achieve this. The objectives will have significant impact on reducing the impact of some cancers through primary prevention.

Reducing the number of people who develop cancer due to tobacco use and second hand smoke is unequivocally the top prevention activity. Tobacco use is responsible for about 25 percent of all cancer deaths in New Zealand. Lung cancer is a significant cause of illness and death in all New Zealanders, particularly among Māori. Māori lung cancer mortality rates are currently three times higher than non-Māori rates.

**National Cervical Screening Programme**

One of the goals of the Cancer Control Strategy is to ensure effective screening and early detection to reduce cancer incidence and mortality (Minister of Health 2003d). Key outcomes for the National Cervical Screening Programme (NCSP) relate to the achievement of targets for reduction in cervical cancer mortality and incidence, and targets for programme coverage and participation.

Overall, both the annual number of new cervical cancer cases and the annual number of cervical cancer deaths of women of all ages have declined over the 10-year period between 1990 and 1999. In 1990 249 cervical cancer cases were registered and 101 women died from cervical cancer. In 1999, 222 cervical cancer cases were registered and 71 women died from cervical cancer (Independent Monitoring Group of the National Cervical Screening Programme July 2003).

The NCSP is able to demonstrate reducing incidence and mortality from cervical cancer in comparison with increasing programme coverage. Figure 4.16 shows the declining incidence and mortality from cervical cancer, alongside developments in cervical cancer screening since the 1988 Cartwright Inquiry. Figure 4.17 displays the expansion of the NSCP’s coverage from 1991, alongside the decline in cervical cancer incidence.
Figure 4.16: Cervical cancer incidence and mortality since 1980

Note: The graph shows key dates in the programme history, for information only.

Figure 4.17: Cervical cancer incidence and NCSP coverage, New Zealand, 1980–2001

BreastScreen Aotearoa

International evidence has shown that breast screening delivered through a properly organised programme is effective in reducing mortality from breast cancer for women aged 50–69 by 30–35 percent. At least 70 percent of eligible women need to be screened for a breast screening programme to make a significant impact on breast cancer mortality (Blamey et al 2000, Blanks et al 2000, Breast Screen Aotearoa Monitoring Group March 2002, O’Bryne et al 2000). Accordingly, BreastScreen Aotearoa (BSA)’s programme target is to screen 70 percent of all eligible women (aged 50–64), over a two-year screening period, to achieve a mortality reduction of 30 percent or more in the eligible population. In the 24 months to December 2002, the BSA programme screened 62.6 percent of these eligible women (188,797 women). Figure 4.18 shows the rolling 24-month coverage of the proportion of eligible women who have received a screen within BSA in the 24-month period.

The BSA coverage rate compares well with BreastScreen Australia which has a coverage rate of 58.6 percent after 10 years. However, Māori and Pacific coverage rates for the 24 months to December 2002 are approximately 42.5 percent and 42.4 percent, respectively. These coverage rates are significantly lower than the general population (see Figure 4.18 below).

Preliminary information indicates that, in the 24 months to June 2003, approximately 196,572 women aged between 50 and 64 had had one or more mammograms in BreastScreen Aotearoa and approximately 1221 breast cancers were detected (Breast Screen Aotearoa Monitoring Group December 2002).

The age standardised rate of death from breast cancer reduced from 27.1 per 100,000 in 1989 to 22.7 in 1999. It should be noted however that these statistics relate to a period prior to the full commencement of BSA. The impact of BreastScreen Aotearoa on reducing the number of breast cancer deaths will take a number of years from its establishment to determine.

Oncology treatment

As discussed in Chapter 3, a goal of the Cancer Control Strategy is to ensure effective diagnosis and treatment to reduce cancer incidence and mortality. The increasing rate of cancer – currently estimated at 7 percent per annum – and the subsequent increasing need for treatment are putting pressure on New Zealand’s cancer services. In addition, there is an international cancer workforce shortage. All publicly funded health care systems, such as those in the UK, Canada and Australia, are experiencing similar issues.

Access to radiation oncology treatment has been a specific focus of performance monitoring in the 2002/03 year. In September 2002, the Ministry of Health decided, with the six regional cancer centres, to revise and extend the way radiation oncology waiting times are collected and reported nationally. Before this, the waiting times had recorded the interval for patients from their first specialist assessment by an oncologist to the start of radiation treatment. The new waiting times measure the interval between the patient’s referral from a medical practitioner to the oncology department and the beginning of radiation treatment.
These new data are intended to contribute to a more comprehensive indication of the most clinically relevant interval from time of diagnosis to treatment. DHBs are now providing these additional figures which appear on a monthly basis on the Ministry of Health website (http://www.moh.govt.nz/cancerwaitingtimes). Figure 4.19 below indicates the percentage of patients at cancer treatment centres nationally waiting more than eight weeks between first specialist assessment and the start of radiation treatment (between September 2002 and June 2003). Over the period from September 2002 to June 2003 more than 80 percent of patients in most regional cancer centres waited less than eight weeks between first specialist assessment and start of radiation treatment. In June 2003, from the information provided to the Ministry, only 3 percent of patients had waited for more than 12 weeks for radiotherapy.

Radiation treatments are grouped into four categories: category A (urgent); category B (curative); category C (palliative and other radical); and category D (combined chemotherapy and radiation treatment). Of these four categories, A and B have the highest priority, and are treated within four weeks. Category D patients receive radiation treatment following chemotherapy, and their treatment is also prioritised. Patients in category C may experience delays in treatment greater than four weeks, and waiting times for these patients are reported in Figure 4.19.

**Figure 4.19:** Percentage of patients waiting more than eight weeks between first specialist assessment and start of radiation treatment

![Percentage of patients waiting more than eight weeks between first specialist assessment and start of radiation treatment](image)

Source: Aggregated Cancer Centre data, Ministry of Health 2003.

Note: Excluding category D patients who have their radiotherapy co-ordinated with their chemotherapy.
Reducing the incidence and impact of cardiovascular disease

This section on cardiovascular disease (CVD), and the section on diabetes later in this chapter, explore in detail the contribution of health services to reducing the incidence and impact of the two diseases which was not possible in the more general overview of personal health services in Chapter 2. Through public health programmes focusing on reducing smoking, improving nutrition, reducing levels of obesity and improving levels of physical activity, and through interventions in primary care settings, there is considerable potential to build on existing momentum to reduce the incidence and impact of both CVD and diabetes.

Cardiovascular disease in New Zealand

Cardiovascular disease is the leading cause of death in New Zealand, accounting for 41 percent of all deaths in 1999. CVDs are diseases affecting the heart and circulatory system. Of the CVDs, coronary artery disease is the major cause of death, followed by stroke which is the greatest cause of disability in older people.

Although CVD mortality rates have been declining, mortality from all cardiovascular diseases is higher among Māori than the general population, with coronary heart disease being the leading single cause of death for Māori. There are also higher mortality rates for coronary heart disease among those with lower socioeconomic status and for all CVD, especially stroke, among Pacific peoples. There are population differences and individual risk factors that contribute to people’s risk of developing CVD. The major risk factors for CVD are cigarette smoking, hypertension, high cholesterol levels, diabetes, obesity and physical inactivity. These factors work synergistically to increase CVD risk.

Services and treatments for cardiovascular disease

The estimated expenditure on hospital cardiac services in 1999 was over $150 million, not including the substantial costs from those components of GP visits, public health initiatives and Māori provider contracts devoted to CVD. In addition, the costs for people admitted to hospital with a first stroke in 2002 were estimated at around $138 million. The estimated expenditure on all cardiovascular drugs for 2002/03 is over $110 million (PHARMAC 2003b). A further $8.27 million is allocated to public health programmes to improve nutrition and physical activity levels and reduce levels of obesity.

A major advance in the management of CVD has been the de-restriction of statins: lipid-lowering drugs that help reduce the risk of subsequent cardiovascular events. This has contributed to a 99.5 percent increase between March 2002 and May 2003 in the number of people receiving the drug. The likely benefits of using statins for the rest of the patient’s life are an extra two years of quality-adjusted life expectancy for those at high risk but with no prior diagnosis of coronary heart disease (CHD), and more than five years for those with established CHD.
New technologies are constantly being introduced for the treatment of cardiovascular diseases. Recent advances include new types of stents for use in percutaneous transluminal coronary angioplasties, drug-eluting stents and a new minimised procedure for coronary artery bypass graft surgeries.

A range of services is currently available in New Zealand for the management of CVD. Population-based public health services target many risk factors for cardiovascular disease, including smoking, poor nutrition and low levels of physical activity. Primary health care services, which include PHOs, Independent Practice Associations and GP practices, manage the primary and secondary prevention of CVD. In hospitals, a range of cardiology and cardiac surgery services are available covering acute and elective treatment of CVD and cardiac rehabilitation. PHARMAC subsidises a range of pharmaceuticals used in the treatment of cardiovascular disease at all levels of the health care system. Charitable organisations such as the National Heart Foundation and the Stroke Foundation of New Zealand provide practical support, information and preventive programmes on CVD at a community level. Providers such as Whānau Ora and Mobile Nursing Disease Management also provide community-based services targeted at Māori communities that address CVD and other diseases.

A comprehensive set of evidence-based CVD guidelines and consumer resources have been developed for health providers to better manage CVD, covering CVD risk, assessment and management of CVD, management of atrial fibrillation, cardiac rehabilitation and stroke. These guidelines will inform development of CVD and stroke services. For example, a new set of stroke guidelines and a service framework have been developed that recommend the reorganisation of existing services into units with designated beds, multidisciplinary teams, and rehabilitation programmes that extend from hospital to the community. International research indicates that, compared to other arrangements, such stroke units are no more expensive to run, and contribute to decreased mortality and increased independence.

**Cardiovascular disease hospitalisations**

Of all CVDs in 2001/02, the highest numbers of hospitalisations were for acute myocardial infarction (AMI) (7863), and stroke among those 55 years and older (7045), followed by congestive heart failure (5266).
Figure 4.20: Standardised discharge rates per 100,000 for major cardiovascular diseases, by ethnicity, 1997/98–2001/02

4.20a  Ischaemic heart disease

4.20b  Stroke, age 55 and over

4.20c  Acute myocardial infarction

4.20d  Congestive heart failure

4.20e  Acute rheumatic fever

4.20f  Chronic rheumatic heart disease

Source: Data extracted from National Minimum Data Set, 2003.
Figure 4.20 shows that hospitalisation rate trends in most CVDs increased for all ethnic groups over the five years to 2000/01, but there are disproportionately high rates of hospitalisation for cardiovascular diseases among Māori and Pacific peoples. The figures show that while Māori had the highest hospitalisation rates for acute myocardial infarction, congestive heart failure and chronic rheumatic heart disease, Pacific peoples had the highest hospitalisation rates for stroke, with Māori also over-represented. Although AMI hospitalisations increased for all ethnicities over the five-year period, the increase appears to be greatest for Pacific peoples. Congestive heart failure hospitalisation rates for Māori were nearly three times that of others in 2001/02 and the rates for Pacific peoples were nearly twice that of others.

Although hospitalisations for rheumatic fever and chronic rheumatic heart disease are relatively uncommon with only 91 and 465 admissions, respectively, in 2001/02, Figure 4.20e shows that the majority (86 percent) of hospitalisations for rheumatic fever among those under 30, and a high proportion (41 percent) of those for chronic rheumatic heart disease, are for people of Māori or Pacific ethnicity. These diseases are most prevalent in the Auckland DHBs, as well as Taranaki, Waikato, Bay of Plenty and Hawke’s Bay. Also of concern, and especially in the Auckland region, is the fact that there are still readmissions for rheumatic fever. Readmissions should not occur if adequate preventive measures are undertaken following the first admission.

Figure 4.21: Standardised discharge rates per 100,000 for cardiothoracic procedures by ethnicity, 1997/98–2001/02

4.21a Coronary artery bypass graft (CABG) 4.21b Angioplasty


There has been an increase in standardised discharge rates for most cardiovascular procedures over the five years to June 2002. Figure 4.21b shows that although the rates of angioplasty have increased for all ethnicities, the disparities between groups have not improved. The trends for coronary artery bypass grafts show a different picture. The gap between ethnicities has narrowed for coronary artery bypass grafts.

Overall, rates of cardiothoracic procedures (also including pacemaker and valvular procedures, not shown) are improving for Māori and Pacific peoples but, because those ethnic groups have much higher rates of incidence and mortality from CVDs, there are likely to be many people in these groups who do not receive the appropriate treatments.
Cardiovascular outcomes

Although mortality from cardiovascular disease has decreased over the last twenty years as shown in Figure 4.22, it is still the leading cause of death in New Zealand. The figure highlights that while cardiovascular mortality rates for non-Māori males and females have steadily decreased over time, the decrease has been less for Māori and Pacific peoples. By 1996–99 cardiovascular mortality rates were three times higher for Māori males and 2.5 times higher for Pacific males compared to non-Māori and non-Pacific males. The mortality rates are also higher for Māori and Pacific females compared to non-Māori and non-Pacific females.

Figure 4.22: Age-standardised cardiovascular disease mortality rates, per 100,000, by (gender and) ethnicity, ages 1–74 years

4.22a Male 4.22b Female


One of the 13 population health objectives in the New Zealand Health Strategy is to reduce the incidence and disease impact of cardiovascular disease. As cardiovascular disease is the major cause of mortality in New Zealand, an expert cardiovascular advisory group was established to assist the Ministry of Health to identify priority areas aimed at reducing cardiovascular disease in New Zealand, particularly in Māori and Pacific peoples. A Cardiovascular Action Plan was produced that is being implemented over a number of years. The focuses of the Action Plan are the priority areas of cardiovascular risk screening and management, acute coronary syndromes, secondary prevention, cardiac rehabilitation, organised stroke care and cardiovascular disease and Māori and Pacific peoples.

As a result of the plan, a comprehensive set of cardiovascular and stroke guidelines will be produced for providers. These guidelines will provide the basis for consumer information and the development of cardiovascular services. The plan also addresses inequalities, a goal that ties in with Reducing Inequalities in Health 2002 and the Reducing Inequalities Toolkit, and workforce issues.
Reducing the incidence and impact of diabetes

Diabetes as a marker of health system effectiveness

Achieving the New Zealand Health Strategy's objective of 'reducing the incidence and impact of diabetes' will require a combination of environmental, social, behavioural and medical interventions that extend across almost all sectors of government and non-government activity.

Diabetes remains important in its own right as an accelerating cause of morbidity and premature death, but it is also a good indicator of the responsiveness of a health system for people most in need. Diabetes indicators are sensitive measures of the overall progress of the New Zealand Health Strategy and, perhaps most specifically in future, the Primary Health Care Strategy.

There are a broad range of outputs required from any health sector to reduce the incidence and impact of diabetes. New Zealand has adopted a disease-management approach across the full spectrum of services, from community-based health promotion on diabetes prevention, through to pancreas and kidney transplants in tertiary hospitals.

The public health approaches to promoting healthy nutrition and physical activity are outlined in other sections of this report. Environmental and social approaches such as these are likely to have the greatest long-term impact, but they should be supplemented by behavioural interventions to identify and help people at high risk of developing type 2 diabetes.

Diabetes in New Zealand

Diabetes is a heterogenous collection of metabolic disorders characterised by raised blood glucose levels. There are two major types: type 1 is an autoimmune disorder which onsets in children and young adults; and type 2 most often develops in adults who are overweight.

Diabetes is an accelerating epidemic in every developed country. Globally there are 300 million people estimated to be at risk of diabetes, and the economic impact could exceed that of the AIDS pandemic (18th Congress of the International Diabetes Federation 24–29 August 2003). The major increase is in type 2 diabetes and is associated with increases in physical inactivity and obesity.

In New Zealand there are an estimated 115,000 people with diagnosed diabetes in 2003 and up to a similar number with undiagnosed diabetes. More than 7000 people will be diagnosed with diabetes in 2003 and diabetes will cause nearly 1700 deaths each year (Ministry of Health 2002d).
Diabetes is responsible for approximately 25 percent of the current disparity in life expectancy between Māori and Pacific peoples, and New Zealand Europeans (Ministry of Health 2002d). Māori and Pacific peoples currently have more than a 25 percent chance of developing diabetes during their lifetime. Once diabetes has developed they lose on average 12 years of life (the corresponding figures for New Zealand Europeans are 10 percent and 7 years of life lost, respectively). The relative increase in the diabetes burden is forecast to be greater for Māori and Pacific peoples than for New Zealand Europeans because of changing demographics (a greater proportion of Māori and Pacific peoples and changes in age distribution).

Type 2 diabetes is largely preventable with improvements in nutrition and physical activity. An estimated 80 percent of diabetes deaths are attributable to being overweight (Prentice 2001). Lifestyle interventions could reduce the increase in obesity and so prevent hundreds of deaths from diabetes each year. There is also increasing recognition of the importance of fibre in the diet and avoiding sugar-containing soft drinks by children. These are consistent with promoting increased fruit and vegetable consumption as part of the Healthy Eating – Healthy Action strategy.

Diabetes detection

Even with effective public health and diabetes prevention programmes, people will still develop type 2 diabetes. It is important to ensure that diabetes is detected early and is followed by reliable access to high quality health care. New Zealand has established a system that monitors access to ‘free annual checks’ in primary care organisations, including all PHOs as they become established. These allow people with diagnosed diabetes the opportunity to check – with their GP or nurse – that the important tests and examinations have been completed each year, their treatment is appropriate and they have agreed a plan for the year ahead. This indicator is a measure of access to good quality primary care. Aggregate information (that is, totals with no identifiable details) is reported to local diabetes teams in every DHB as a basis for DHB planning.

Depicted below are ‘radar plots’ to indicate effectiveness of diabetes detection programmes and cholesterol testing in reaching different ethnic groups. In reading radar plots, it is important to note that:

- if the polygon is larger it indicates better overall system performance
- if the polygon is symmetrical it indicates equitable performance for all ethnicities
- the axis is distance from the centre
- actual numbers are in brackets.
In 2001 there were 32,432 people with diabetes who had a free check, but in 2002 this had increased by 71 percent to 53,461. DHBs exceeded the overall target for the total population they had agreed with the Ministry of Health. Māori access to free checks increased by 91 percent, but is still lower than for Pacific and New Zealand Europeans. For 2003 DHBs have set targets that would result in further improvement and would reduce the differences for Māori.

The best proxy measures of diabetes outcomes in future are the HBA1c blood test for blood sugar and cardiovascular risk factors. Selected proxy outcome indicators are reported to local diabetes teams from the free annual check programmes.

Cardiovascular disease has the greatest impact on people with diabetes, and in 2002 the quality indicators for this important aspect of care improved. It is particularly impressive that the quality indicators improved most markedly for Māori and Pacific peoples and inequalities observed in 2001 were reduced or eliminated (see Figure 4.24 below). In 2001 only 60 percent of Māori had a record of a cholesterol test and this increased to 89 percent in 2002. Of these, over 21 percent in 2001 had very high cholesterol levels (more than 9 mmol/l) and by 2002 this had improved to less than 1 percent (the same as for New Zealand Europeans).
The proportion of people with diabetes who have a free check and who have satisfactory or better blood sugar control fell slightly in Māori and Pacific peoples. It will require more focus and innovation if the existing inequality for Māori and Pacific peoples in this indicator is to improve. Smoking and eye screening also remain issues offering opportunities for further improvement.

**Complications associated with diabetes**

Lower limb amputation is a complication of diabetes and is responsive to improvements in health care. In the 2002/03 year 495 people with diabetes had a lower limb amputation (Figure 4.25). However, despite the increasing number of people with diabetes, there has not been an increase in lower limb amputations in people with diabetes over the last six years. Several District Health Boards have improved funding for foot-care programmes in their communities and hospitals. It is important to note that in proportion to the number of people with diabetes, Māori and Pacific people with diabetes are no more likely to have a lower limb amputation than New Zealand Europeans with diabetes.
Renal failure is another recognised complication of diabetes. The number of people with diabetes starting on dialysis each year is increasing, entirely as a result of type 2 diabetes. Māori and Pacific peoples with diabetes are about 10 times more likely to develop renal failure and require dialysis than New Zealand Europeans, and their diabetes care should be tailored specifically to reduce the risks of renal failure.

A potentially important initiative to address the incidence and impact of diabetes in the future is the National Diabetes Research Strategy, a joint initiative of the Ministry of Health and the Health Research Council. The first priority of the initiative is to develop and test community-based programmes for preventing diabetes in people at high risk. It is possible to identify these people before diabetes develops and offering them intensive support can reduce their chances of developing type 2 diabetes by at least 50 percent over a three-year period. The initiative is planned for a three-year period and, if it is successful, will form the foundation for proven diabetes prevention programmes in future.

**Improving oral health**

Diseases of the teeth and gums are among the most common health problems and are experienced by all New Zealanders at some stage of their life. Dental problems cause much pain and discomfort and can often contribute to a loss of self-esteem. Dental caries, or tooth decay, is a disease caused by bacteria on the surface of the teeth. The bacteria ferment carbohydrates, especially sugars, producing acid that damages the hard tooth exterior. If left untreated, it will eventually lead to cavities and tooth loss.
In the 15 years to 1988, dental disease in New Zealand children aged 5 to 13 years fell from one of the highest levels in the developed world to a very low level. Caries rates in New Zealand children continued to decrease until the early 1990s (National Health Committee 2003).

Most dental disease is preventable. New Zealand has a strong history of innovation in oral health, especially for children and adolescents, dating back to the School Dental Service in 1921 and water fluoridation since 1954. The vast improvement in children’s oral health over the last 30 years is due to the improvement in social conditions and the introduction of preventive measures such as fluoridation, fluoride toothpastes, clinical application of fluoride and fissure sealants, as well as health promotion, health education and regular dental care through the school dental service.

Fluoridation of water supplies is an important contributor to oral health. Between 1998 and 2002 water fluoridation continued to expand across New Zealand from 93 to 118 area water supplies, supplying almost 2 million people or 52 percent of the population.

The lifetime benefit of exposure to water fluoridation is estimated to be the prevention of a total of 2.4 to 12.0 decayed, missing or filled teeth for the average individual (Public Health Commission 1994). At a population level, it is estimated that water fluoridation prevents between 58,000 and 267,000 decayed, missing or filled teeth in New Zealand per year (Public Health Commission 1994). Based on levels of 50 percent of the population receiving fluoridated water, it was estimated that in 1995 the annual cost savings were up to $14.3 million (Public Health Commission 1995).

Figures 4.26 and 4.27 present the percentage of caries-free five-year-olds and children at Year 8 since 1993, distinguishing between areas that are fluoridated and those that are not fluoridated. There was no breakdown by fluoridation in 1998 and 1999. Measured in this way, oral health status is better in areas with fluoridated water. As indicated in these graphs, from the early 1990s dental caries rates remained largely static.
Figures 4.26 and 4.27 present the caries-free percentage of five-year-old children and Year 8 children, respectively. There was no breakdown by fluoridation in 1998 and 1999. These graphs also indicate that oral health status is better in fluoridated areas than in non-fluoridated areas, moreover this difference appears to have increased marginally since 2000. The average decayed, missing or filled teeth score for both five year olds and Year 8 children living in fluoridated areas has dropped since 2000.
There are also well-documented inequalities in oral health. Māori and Pacific children have a higher prevalence and severity of dental caries. There is also substantial evidence of poorer oral health being experienced by people of lower socioeconomic status, compared to people of higher socioeconomic status. Evidence from New Zealand indicates that fluoridation reduces the extent of ethnic and socioeconomic differences in oral health (National Health Committee 2003).
Reducing violence in families, schools and communities

Interpersonal violence is a common experience for many New Zealanders, with severe and long-term effects on mental and physical health. The Family Violence Project is a Ministry of Health Reducing Inequalities initiative that seeks to:

- increase health sector responsiveness to family violence by development of clinical guidelines and provision of training
- achieve long-term family violence prevention through implementation of a family violence prevention action plan.

The Ministry of Health has developed two new intervention guidelines for health providers which are Family Violence Intervention Guidelines: Child and partner abuse (2002) and Recognising and Responding to Partner Abuse: A resource for general practice (2003). The guidelines outline effective health professional responses to victims of family violence. The guidelines include an integrated six-step model for identifying and responding to family violence within health care settings. Research suggests that, without routine screening, partner abuse is rarely identified, so a key recommendation of the guidelines is to routinely screen female patients for partner abuse. Seven thousand copies of these guidelines have been distributed.

Training contracts have been established from 2002–05 targeting key health professions, including general practice staff; midwives; sexual health clinicians, obstetricians and gynaecologists; Family Planning Association staff; and staff from every DHB Child Health and Emergency Department.

The project is linked to the Te Rito: Family Violence Prevention Strategy, an across-government strategy produced in February 2002 by the Ministry for Social Development. An action plan is under development by the Ministry of Health for the prevention of family violence.

Trend data on family violence have not been reliably collected over time. The Ministry of Social Development is investigating development of data collection in this area.

Improving the health status of people with severe mental illness

Moving towards measurement of mental health service outcomes is a key focus of the Ministry of Health. The Ministry is funding development work in a number of areas.

- Māori outcome measure – Hua Oranga
- an adult consumer measure
- child and youth outcome measures
- an alcohol and other drug outcome measure.

In addition, District Health Board clinical services are being asked to make progress towards systematically recording outcomes for consumers.
The primary reason for collecting outcome measures is to enhance the recovery process and services that are provided to consumers. There is not (and probably never will be) one perfect measure due to the complexity of mental illness and the limitations of measurement. In an ideal world the unique experience and views of consumers, cultural issues, clinical factors and contextual issues would be gathered in assessing recovery.

Ensuring access to appropriate child health care services

The New Zealand Health Strategy provides the strategic direction for improving, promoting and protecting the health of New Zealand children. It is consistent with the Child Health Strategy (launched in 1998) (Minister of Health 1998) and provides the context for He Korowai Oranga, the Pacific Health and Disability Action Plan, and the Primary Health Care Strategy. Youth Health: A guide to action (Minister of Health and Minister of Youth Affairs 2002) provides direction for adolescent and young adult health care.

There is a considerable weight of evidence pointing to significant and growing inequalities among New Zealand children; Māori and Pacific children, as well as children from lower socioeconomic families, experience relatively poor health. These inequalities are largely the result of differences in the distribution of and access to material resources such as parental income, education, and employment, and housing. Differential access to health care services and differences in care for those receiving services also has a considerable impact.

Socioeconomic factors act throughout life and across generations to influence health and the risk of premature death. For example, poor maternal nutrition, arising from inadequate economic resources, is a risk factor for poor birth outcomes, which in turn are risk factors for ill-health in childhood and adulthood. Thus, the impact of social disadvantage and poor health accumulates across the life course.

Population preventable hospitalisations

Population preventable hospitalisations are those admissions to hospital that are preventable through public health approaches (for example, focusing on smoking, physical activity and obesity). Reducing the inequalities between different groups of children for preventable hospitalisations will improve the overall health status for all children. Figure 4.30 shows an increasing national trend in preventable hospitalisations between 1988/89 and 2000/01 for the under-five age group and children aged 5–14 years. The most dramatic increases are for Pacific children, although the rates for other children and for Māori children also increased over time. However, following significant growth in hospitalisations leading up to 2000/01, the discharge rates appear to level off between 2000/01 and 2001/02. Further data is required to confirm if the increasing trend of the 1990s has been halted or reversed.

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60 As discussed earlier in this chapter, part of the increase for Pacific children may be due to improvements in hospital coding of ethnicity. However, the increase over time across all ethnic groups indicates that the trends shown in these figures are broadly correct.
**Ambulatory-sensitive hospitalisations**

Ambulatory-sensitive hospitalisations are potentially preventable by appropriate primary care (including out-patient services) and therefore provide an indication of access to, and the effectiveness of, primary health care. Figure 4.30 shows that child hospital admissions, for conditions that are amenable to treatment on an outpatient, community or primary health care basis (for example, cellulitis, respiratory admissions including asthma, gastroenteritis and dental extractions) are steadily increasing. Ambulatory-sensitive hospitalisations indicate improvements are needed in health sector co-ordination to avoid unnecessary costs to the health system and to communities (including distress for the family with a sick child, and unmeasured opportunity costs for parents with time off work).

Figure 4.31 shows that, for both the under-five age group and the 5–14 age group, there was a national trend of generally increasing admissions between 1996/97 and 2000/01 for Māori and for European/Other ethnic groups. Admissions for these age and ethnic groups declined between 2000/01 and 2001/02 (with the exception of Pacific children aged under five years).


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**Figure 4.30:** Discharge rates for population preventable hospitalisations, 1996/97–2001/02

4.30a Children under 5 years old

4.30b Children aged 5–14 years


**Figure 4.31:** Discharge rates for ambulatory-sensitive hospitalisations, 1996/97–2001/02

4.31a Children under 5 years old

4.31b Children aged 5–14 years

Low birth weight

Low birth weight is a major cause and correlate of perinatal and infant mortality. Infants born under 2500 g are more likely to have poor health outcomes and increased disabilities. In New Zealand low birth weight infants were 23 times more likely than other infants to die in the post-natal period. Low birth weight infants have been shown to be more susceptible to serious illness during infancy and early childhood and in adulthood. It is expensive for DHBs to meet the immediate needs of these babies and to provide the long-term care that some will need throughout life. There are also significant costs to other sectors. Families also have to bear significant financial and emotional costs. Figure 4.32 shows consistently higher rates of low birth weight babies among Māori.

Many of the risk factors that impact on low birth weight are interrelated and include low maternal socioeconomic status, a younger or older mother, living with an abusive partner, maternal smoking, maternal alcohol use and poor maternal nutrition. Low birth weight is also related to obstetric complications and lack of prenatal care. From a health system perspective, low birth weight can be seen as a marker of the extent to which the comprehensive population health approach of the New Zealand Health Strategy is being effectively implemented. This includes:

- primary prevention through health promotion programmes and health education by lead maternity carers and general practitioners
- secondary prevention by health by lead maternity carers and general practitioners through such actions as identification of medical conditions that can increase the risk of preterm labour and helping women to understand the signs and symptoms of preterm labour and intervening to prevent it where necessary
- tertiary prevention by specialists to minimise the impact of low birth weight on individual babies’ future quality of life.

**Figure 4.32:** Discharge rates for low birth weight babies, by ethnicity, 1996/97–2001/02

![Graph showing discharge rates for low birth weight babies by ethnicity](image)

Action to improve child health

The government’s emphasis is on reducing these inequalities, while improving the overall health of New Zealand children. This is being achieved through:

- a greater focus on health promotion, prevention and early intervention, where services are focused on building on the strengths of families, whānau, hapū, iwi and communities to facilitate health promoting environments aimed at keeping children well and maximising their potential
- ensuring all children and their families have equitable access to maternity, Well Child care and primary health care services, and that all communities have access to effective public health interventions, such as fluoridation and injury prevention programmes
- identifying health problems and intervening early in both the life course and the course of illness to restore and maintain health
- better co-ordination, where services are organised around the needs of the child and their family and whānau, rather than around the needs of providers
- a focus on key development transitions, from preconception, pregnancy and birth; infancy to preschool; home to school; childhood to adolescence; and adolescence to adulthood to break the cumulative impact of social disadvantage on health and to ensure effective handover from one service to the next as children move through different developmental stages
- implementing the Child Health Information Strategy to improve children’s health and reduce inequalities by making clinically useful, appropriate, up-to-date and accurate health information available at every contact between a child and a health professional
- workforce development to ensure the child health workforce is adequately trained and qualified to deliver services that meet the needs of children and their families and whānau
- developing a sector that is committed to continuous quality improvement, evidence-based interventions, and effective management, policy and planning practices.

Primary Health Organisations (PHOs) are key to improving children’s health and reducing health inequalities between different groups of New Zealand children. Through closer co-ordination across all primary health care services and with hospital services PHOs can be more effective in keeping children well and in managing children that are unwell. Extra funding has been made available to those Primary Health Organisations covering areas of high need in order for them to:

- offer low fees for all their patients
- provide services to ensure care gets to where it is most needed
- include services to improve and maintain health as well as to restore health
- move to fairer funding allocations on a population needs basis.
In addition, the Government aims to fully subsidise access to primary care for children under six years of age, and partially subsidises care for children and young people up to 18 years of age.

Improving population health and reducing inequalities, especially in the child population, lends itself to working intersectorally. This is an approach that seeks to influence the many determinants that impact upon health from outside the health sector by working collaboratively with sectors such as education, housing, transport, employment and justice to improve health and disability outcomes.

Primary Health Care Strategy

The Primary Health Care Strategy aims to improve the health of New Zealanders through a strong primary health care system that is easy to access, takes a population health approach, gives more emphasis to health education/health promotion and encourages multi-disciplinary approaches and co-ordination (Minister of Health 2001). The Strategy has six key directions. They are to:

- work with local communities and enrolled populations
- identify and remove health inequalities
- offer access to comprehensive services to improve, maintain and restore people’s health
- co-ordinate care across service areas
- develop the primary health care workforce
- continuously improve quality using good information.

The vehicles for achieving the Strategy’s aims are Primary Health Organisations (PHOs). PHOs are the local structures that are being progressively introduced across New Zealand to deliver primary services, bringing together a wide array of primary health care services. PHOs are charged with tackling ill-health and improving the management of chronic disease for their enrolled populations. PHOs are funded by DHBs for the provision of primary services to those enrolled in their organisations.

PHOs bring together a wide variety of people and organisations involved in the provision of primary health care including:

- Māori organisations (such as iwi health service groups)
- general practitioners (GPs) and primary health care nurses
- community-owned organisations (such as union health clinics).

The total appropriation for primary care in 2001/02 was estimated at $1,063 million. Over the three years from 2002/03, $479 million in funding will be allocated to the implementation of the Primary Health Care Strategy over three years. In 2002/03, $50 million was allocated to the implementation of the Strategy, increasing to $165 million in 2003/04 and to $264 million in 2004/05 as the coverage of the strategy expands.
Additional funding for PHOs serving high-need populations

An Access formula is available to PHOs in high-need parts of New Zealand. The Access formula allows PHOs to charge low fees, or no fees, without the need for Community Services Cards for GP visits. The Access formula is available to PHOs or individual practices within PHOs that have an enrolled population of over 50 percent Māori or Pacific people, and/or people living in areas of high deprivation (New Zealand Deprivation Index deciles 9 and 10).

All PHOs receive funding for health promotion and services that will improve access for high need population groups. All PHOs also received increased funding for enrollees with High Use Health Cards. In 2004 the ‘Care Plus’ programme will be rolled out nationally. This initiative targets the 5 percent of the population who need intensive management in primary health care (at least two hours of clinical time in the next six months) and will ultimately replace the High Use Health Card.

Progressive reductions in cost of access to primary care

For PHOs with a lower level of health need, an Interim funding formula is available. Interim funded PHOs continue to charge the fees they did before becoming a PHO, including reduced costs for Community Services Card holders. Over time, the levels of funding through the Interim formula will be raised so that in the long term all New Zealanders will receive low-cost access to primary care. The process of increasing the Interim formula began in October 2003 for children and young people aged 6–17 who are the first to benefit from low patient fees if enrolled in a PHO funded under the Interim formula.

Table 4.5 provides ethnic and deprivation index profiles of the populations that were enrolled in PHOs across New Zealand, at the end of the 2002/03 fiscal year (June 2003), under both the Access and Interim formulae. Although the table does not indicate utilisation, it indicates the types of populations that PHOs established by the end of the 2002/03 year were serving. The table confirms the emphasis in the first year of operation on establishment of PHOs under the Access formula, targeting areas of high need.

Table 4.5: Enrolments in PHOs, by ethnicity and funding formula, June 2003

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Access formula</th>
<th></th>
<th></th>
<th>Interim formula</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Deprivation Index score</td>
<td>Total</td>
<td></td>
<td>Deprivation Index score</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1–8</td>
<td>9–10</td>
<td>Total</td>
<td>1–8</td>
<td>9–10</td>
<td>Total</td>
</tr>
<tr>
<td>Māori</td>
<td>96,349</td>
<td>103,969</td>
<td>200,318</td>
<td>18,574</td>
<td>7,084</td>
<td>25,658</td>
</tr>
<tr>
<td>Pacific Island</td>
<td>50,295</td>
<td>101,629</td>
<td>151,924</td>
<td>8,998</td>
<td>5,356</td>
<td>14,354</td>
</tr>
<tr>
<td>Non-Māori, non-Pacific</td>
<td>243,850</td>
<td>77,897</td>
<td>321,747</td>
<td>180,893</td>
<td>22,672</td>
<td>203,565</td>
</tr>
<tr>
<td>Ethnicity not stated</td>
<td>67,309</td>
<td>31,874</td>
<td>99,183</td>
<td>56,253</td>
<td>7,308</td>
<td>63,561</td>
</tr>
</tbody>
</table>

Source: HealthPAC PHO enrolment data, Ministry of Health 2003

Note: High deprivation index scores indicate higher levels of deprivation
**PHO progress since July 2002**

Progress in establishing PHOs has been rapid since the first two formed in July 2002. The rapid expansion of the Primary Health Care Strategy meant that within the first quarter of the 2003/04 fiscal year (that is, shortly after the period in which the data in the table above were based on) approximately 860,000 people were funded under the Access formula and 835,000 people were funded under the Interim formula through PHOs. Figure 4.33 shows the actual and forecast populations enrolled with PHOs.

**Figure 4.33:** Actual and projected PHO enrolments 2002/03–2005/06

![Graph showing actual and forecast PHO enrolments from July 2002 to July 2006.](image)


At October 2003 an estimated 2 million New Zealanders (approximately 50 percent of the total population) were enrolled in PHOs. Those enrolled in Access-funded PHOs who receive low or reduced cost access to general practice services in most cases pay less than $20 per visit.

The Ministry of Health now estimates that between 85 and 90 percent of the population will be enrolled with a PHO by the end of the 2003/04 financial year. By reducing the cost of accessing primary care, removing cultural and other barriers, and improving the quality of primary health care services, it is expected that PHOs will make a significant contribution to reducing health inequalities and better health for New Zealanders.
Innovations in primary health care delivery

PHO funding is intended to allow innovations in the mix, distribution and education of the primary care workforce and innovations in the development of team approaches to the delivery of primary care services. The underlying drivers for these innovations are the need to focus care around the needs of the populations and individual consumers and the need to develop a continuous quality improvement culture so that interventions are as effective as possible. For example, team approaches to primary care services for consumers with high and complex health needs could involve pharmacists, nurses, general practitioners and specialists working collaboratively to develop, manage, monitor, review and update a care plan tailored to that consumer’s particular needs. Funding for PHOs to deliver services to improve access for disadvantaged populations offers potential for the involvement of a range of primary health care professionals, such as nurses, general practitioners, pharmacists, community health workers, public health educators and aligned health practitioners, to collaborate to deliver services in innovative ways to those populations that have been missing out.

Evaluating the Primary Health Care Strategy

The Health Research Council, the Ministry of Health and ACC are funding a number of evaluations and related research focused on the implementation and impact of the Primary Health Care Strategy over three years from 2003. The evaluations all have a strong formative component, so that findings of the evaluation programme will be used to inform further developments in primary care throughout the course of the evaluation period.

The evaluation portfolio reflects the complex nature of the strategy and the changes it seeks. The heart of the portfolio is the evaluation of the implementation and intermediate outcomes of the Primary Health Care Strategy, jointly funded by the Health Research Council, the Ministry of Health, and ACC. The objectives of this research are to:

• describe the implementation of Primary Health Care Strategy with a specific focus on PHOs, including describing the structural, governance, funding, workforce and contractual issues that impact on the establishment of PHOs
• evaluate the implementation of PHOs against the objectives of the Primary Health Care Strategy, and other Ministry of Health, DHB and ACC objectives, in particular by reaching an in-depth understanding of the experience and activities of PHOs and their member providers in responding to the Primary Health Care Strategy
• identify and analyse change in programmes, processes and intermediate health outcomes during the adoption and implementation of the PHCS
• assess the impact of the Strategy on reducing health inequalities involving Māori, Pacific peoples and the financially disadvantaged
• analyse the net costs of the strategy at the national and the PHO level, and the extent to which expenditure changes over time, by population group and service type
• identify positive and negative influences on PHO achievement and the critical success factors for delivery of effective, accessible primary health care

• disseminate results in a timely manner from the evaluation to government agencies, DHBs, PHOs, and other PCOs.

The portfolio also includes a number of other projects including:

• a survey to determine consumers’ experience of and responses to the strategy

• an evaluation of the implementation of the Care Plus funding initiative

• monitoring and evaluating the use of funds to increase access by PHOs and other primary care organisations

• an evaluation of 11 primary health care nursing initiatives.

Findings from the evaluations will be reported in future editions of the Health and Independence Report.

Waiting times for elective services

Thus far, this report has tended to focus on outcomes of the health sector in terms of their contribution to different measures of health status and disease incidence. However, waiting times for elective (non-emergency) services provide an important indicator not only of the effectiveness of the health system in improving the health of New Zealanders needing elective surgery, but also as a marker of trust and security in the health system. The New Zealand Health Strategy recognises that appropriate access to elective services is important for ensuring confidence in the health system generally.

In the past, many patients seeking elective services were placed on waiting lists for an indeterminate period of time. Some waited without a plan of care, a clinician responsible for their care or a date at which their condition would be reassessed or treated. In June 1996, approximately 89,000 New Zealanders were waiting in this state of limbo on residual waiting lists.

To improve this situation, the Government’s strategy, Reduced Waiting Times for Public Hospital Elective Services, set out the following objectives.

• All patients with a level of need which can be met within the resources available are provided with surgery within six months of assessment.

• Delivery of a level of publicly funded service which is sufficient to ensure access to elective surgery before patients reach a state of unreasonable distress, ill-health and/or incapacity.

• National equity of access to electives so that patients have similar access to elective services, regardless of where they live.

• A maximum waiting time of six months for first specialist assessment.
These objectives are designed to ensure that all patients have certainty of treatment status and a plan of care.

Table 4.6 shows that the number of patients receiving publicly funded surgery has remained reasonably stable between the 2001/02 and 2002/03 financial years.

Table 4.6: Number of publicly funded surgical inpatient discharges (acute and elective), 1998/99–2001/02

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<tbody>
<tr>
<td>151,662</td>
<td>160,574</td>
<td>161,438</td>
<td>157,795</td>
<td>157,754</td>
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Source: Data extracted from National Minimum Data Set, 2003.
Note: Approximately 50,000 of the discharges each year are acute. This figure has been stable for surgery over the period.

Table 4.7 indicates that there has been a significant increase in the total number of cardiac and cataract procedures undertaken between 1996/97 and 2002/03. However, the level of major joint replacements (hips and knees) has remained reasonably static despite additional funding being allocated to this service.

Table 4.7: Number of key marker discharges by procedure (acute and elective, includes WTF), 1996/97–2001/02

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</thead>
<tbody>
<tr>
<td>Cardiac procedures</td>
<td>3,090</td>
<td>3,265</td>
<td>4,097</td>
<td>4,284</td>
<td>4,883</td>
<td>4,975</td>
<td>5,306</td>
</tr>
<tr>
<td>Major joint replacements</td>
<td>4,570</td>
<td>4,739</td>
<td>5,252</td>
<td>5,441</td>
<td>5,328</td>
<td>4,878</td>
<td>4,481</td>
</tr>
<tr>
<td>Cataracts</td>
<td>6,593</td>
<td>6,523</td>
<td>7,831</td>
<td>8,832</td>
<td>8,260</td>
<td>7,782</td>
<td>7,329</td>
</tr>
</tbody>
</table>

Source: Data extracted from National Minimum Data Set, 2003.

First specialist assessment

Table 4.8 shows progress in meeting the Government’s commitment to first specialist assessments within six months of referral. Newly introduced referral and primary care management guidelines are helping to ensure that only patients who require specialist assistance are referred to secondary care.

Increased primary care management of patients with common conditions has required some quite fundamental changes in the way that specialists and GPs work together. The establishment of primary-secondary liaison groups and the appointment of GP liaisons within DHBs have been critical to this process.

Table 4.8: Numbers waiting greater than six months for first specialist assessment at 30 June, 1998/99–2002/03

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<tbody>
<tr>
<td>35,774</td>
<td>46,669</td>
<td>36,541</td>
<td>39,690</td>
<td>26,525</td>
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</table>

Sources: Outputs Collection Programme and National Booking Reporting System Data Warehouse.
Improving certainty for patients

Government policy requires that patients are told whether and when they will receive treatment. Where patients cannot be treated within available resources, they are to be provided with a plan of care that includes:

- their probable diagnosis
- an agreed plan of care
- the next action planned
- who to contact if there is a problem.

Table 4.9 shows the number of patients remaining on residual waiting lists with neither certainty nor a plan of care. The numbers have fallen substantially as a result of either receiving publicly funded surgery or, for patients assessed as having lower priority circumstances, other forms of care.

Table 4.9: Numbers waiting on residual waiting lists at 30 June, 1998/99–2002/03

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<tbody>
<tr>
<td>1998/99</td>
<td>50,422</td>
<td>37,133</td>
<td>14,477</td>
<td>12,171</td>
<td>1,702</td>
</tr>
</tbody>
</table>


More equitable delivery of elective surgery

To improve equity of access to elective surgical services, nationally consistent referral and assessment tools have been developed for primary and secondary services. The tools support GPs and specialists to make consistent and transparent decisions about their patients’ priority for assessment and treatment. They provide a framework to assess each patient’s relative priority based on a range of medical, social and complicating factors.

Reassuring gains have been made in improving access to elective services. As patients are increasingly treated in order of priority, with the assistance of the clinical priority assessment tools, individuals from populations with a comparatively poorer health status, such as Māori, stand to gain substantially increased access to elective services. As illustrated in the Figure 4.34 below, this appears to be happening for coronary artery bypass operations which have some of the best developed prioritisation processes.

Figure 4.34 shows standardised discharge ratios that have been adjusted for age and deprivation to enable a comparison between Māori and non-Māori access to elective services. The standardised discharge ratios for non-Māori New Zealanders are calculated as 1, so increases towards 1 (or beyond) indicate improving levels of utilisation of elective services by Māori relative to non-Māori.
**Figure 4.34:** Standardised discharge ratios for Māori access to all surgery and to coronary artery bypass operations, 1997/98–2002/03

![Bar chart showing standardised discharge ratios for Māori access to all surgery and to coronary artery bypass operations from 1997/98 to 2002/03.](chart.png)

Source: Data extracted from National Minimum Data Set, 2003.

**Treatment within six months (all New Zealanders)**

Table 4.10 displays progress in meeting the Government’s objective that patients assessed as eligible for treatment receive it within six months of assessment.

The increase between 2001/02 and 2002/03 indicates that some DHBs have committed to treat more patients than they have the capacity for. DHBs will implement systems to ensure their offers of treatment and ability to follow through are more closely aligned in the future.

**Table 4.10:** Numbers waiting greater than six months for treatment at 30 June, 1998/99–2002/03

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<tbody>
<tr>
<td>######</td>
<td>34,555</td>
<td>29,027</td>
<td>17,306</td>
<td>6,675</td>
<td>9,577</td>
</tr>
</tbody>
</table>

Sources: National Minimum Data Set and National Booking Reporting System Data Warehouse.

Patients assessed as just below the threshold are placed in active review to ensure that if their condition changes they can be offered timely and clinically appropriate treatment.
New Zealand Disability Strategy

The New Zealand Disability Strategy is an intersectoral strategy which aims for a fully inclusive society that values the lives of people with disabilities. The strategy identifies 15 objectives that will reduce the barriers to disabled people participating fully in their communities. The New Zealand Disability Strategy was developed by the Ministry of Health, with the Office for Disability Issues in the Ministry of Social Development having ongoing responsibility for overseeing the implementation of the strategy.

As discussed earlier, outcome measures for disability support services are being developed. However, the Minister for Disability Issues also reports annually to Parliament on progress in implementing the New Zealand Disability Strategy (Minister for Disability Issues 2002). The Ministry of Health provides a progress report on implementation of the Strategy by the Ministry to inform the Minister’s report. The Ministry of Health also develops an annual implementation plan, with each plan building on previous years’ progress towards implementing the New Zealand Disability Strategy. The Ministry promotes implementation of the strategy across the health sector. For example, DHB annual plans are expected to indicate how the boards will be implementing the New Zealand Disability Strategy within their organisation and activities.

Within the Ministry of Health there are a number of initiatives that have been implemented in 2002/03 as a result of the New Zealand Disability Strategy. These include:

- ensuring that breast screening services are accessible to disabled women. As a result of consultation, the Breast Screening National Policy and Quality Standards now contain references to ensure facilities and processes are in place to optimise access to breast screening services for disabled women
- establishment of an internal Carers Interest Group to support family and whānau carers of disabled people. The Group oversees and develops initiatives to support carer organisations and carer training programmes. A range of new support services for family and whānau carers have been implemented
- establishment of a ‘VIP’ (Valued, Included and Participating) project within the Ministry’s Northern Office which aims to implement the New Zealand Disability Strategy through encouraging and educating for a non-disabling society and fostering leadership by disabled people. A number of initiatives have been developed under the umbrella of the Project including the development of a calendar, which suggests ways that the New Zealand Disability Strategy can be implemented, and a service excellence programme
- intersectoral work on disability issues, such as the development of intersectoral needs assessment and service co-ordination research trials with other government agencies.
Pacific Health and Disability Action Plan

The Pacific Health and Disability Action Plan and the Pacific Provider Development Fund are the health sector’s response to reducing inequalities and improving the health status of Pacific peoples in New Zealand (Minister of Health 2002). These two approaches constitute the key framework for implementing a comprehensive and co-ordinated plan to achieve effective, holistic and integrated programmes within the health and disability sector. The Pacific Health and Disability Action Plan identifies six priority areas which address the major barriers for Pacific peoples’ participation so that they can achieve their full potential.

- Priority 1: Pacific child and youth.
- Priority 2: Promoting healthy lifestyle and wellbeing.
- Priority 3: Pacific primary health care and preventive services.
- Priority 4: Provider and workforce development.
- Priority 5: Promoting participation of disabled Pacific peoples.
- Priority 6: Health and disability information and research.

The Pacific Provider Development Fund is a Pacific-specific policy, funding and contracting framework developed and run in partnership with Pacific priority DHBs. The Fund gives emphasis to the sustainability of Pacific providers in areas of governance; leadership; building and strengthening Pacific workforce capacity and capability; support co-ordination and integration of culturally appropriate Pacific primary care services; and to support the establishment of Pacific PHOs. Two Pacific PHOs have been established in Auckland in the last year.

Intersectoral partnerships are recognised in the Pacific Action Plan. A strategic link to co-ordinating integrated high-quality services for Pacific populations across all sectors is the role undertaken by the Ministry of Pacific Island Affairs. The Ministry of Health is supporting the development of a state sectorwide Pacific Workforce Development Strategy.

Improving the health of Pacific peoples

This year is the second year of implementation of the Pacific Health and Disability Action Plan. It is, therefore, difficult to identify health outcomes that are attributable to the Action Plan. However, important developments have occurred in primary care that are consistent with the goals of the Action Plan.

Investment in Pacific primary health care services is a key approach to reducing high incidences of preventable illness and injury among Pacific children and youth. Health promotion initiatives and services tailored to a range of Pacific populations and settings have been identified as an effective approach to creating awareness, strengthening family-based and community action and creating supportive environments. The integration of primary care prevention and treatment services within PHOs is a positive response to ensuring that services are co-ordinated and integrated in a way that responds to Pacific peoples’ health needs.
The poor health status of Pacific peoples is being better documented and is a common theme throughout this report. However, the causes are complex and are far from being fully understood. Issues of access continue to be a concern. The compounding complexity of the disease states and population demographics of Pacific peoples makes it difficult to isolate the impact of various barriers to appropriate levels of access. The three main barriers for Pacific peoples accessing primary care services are:

- economic (for those services that require payment or co-payment by consumers, specifically general practice services and other costs required to reach point-of-service delivery)
- language and Pacific values and beliefs around health and wellbeing
- fragmentation of services.

The Ministry’s Pacific National Cultural Competencies Framework currently in progress provides a guideline to achieve organisational cultural responsiveness and a competent Pacific health and disability workforce within the Pacific health sector and mainstream health organisations. The framework – supported by training – addresses the cultural barriers that influence Pacific peoples’ decisions to access the range of health services and, in particular, primary health care services. It also supports non-Pacific health organisations in reorienting their services for a diverse Pacific population.

The Primary Health Care Strategy aims to improve access to primary care for Pacific peoples by targeting areas of high need. Many Pacific people will live in areas that are covered by PHOs funded under the Access formula, and will therefore be eligible for low patient fees. To date, two Pacific-led PHOs have been established which add to the small but growing role of Pacific providers in the health sector. PHOs also need to demonstrate effectiveness in meeting the needs of any Pacific communities that they serve and identify mechanisms for addressing health inequalities. Chapter 1 also discusses strategies to address shortages of Pacific peoples in the health and disability support workforce.

**Disability support services for Pacific peoples**

In 2001, one in seven Pacific people reported having a disability, compared to one in five for all New Zealanders. Explanation of this difference requires further analysis; possibilities include the younger age structure of Pacific peoples and potential under-reporting due to different perceptions of disability. There is clearly a need to gather more comprehensive information about the levels of access and support needs of Pacific peoples with disabilities and their families.

Specifically relevant for Pacific peoples with disabilities within the Pacific Health and Disability Action Plan is Priority 5: ‘to promote participation of disabled Pacific peoples’. Related to Priority 5 are identified key objectives for the Ministry. These include: to increase access to, and quality of, disability support services; and to encourage Pacific communities to consider disability issues and perspectives, and for this to be valued and considered in developing community-based disability support services.
Work under way to support these objectives includes:

- the Disability Empowerment, Advocacy and Support Service contract with PIASS Trust which is largely led and managed by Pacific peoples with disabilities. This service is improving the participation and leadership of Pacific peoples with disabilities within communities.

- Capital Support (NASC) developing a Pacific Advisory Forum that works intersectorally and is currently developing an action plan on how to best provide needs assessment and service co-ordination for Pacific peoples with disabilities in the Wellington region.

- four disability support services providers being identified that actively target and support Pacific peoples with disabilities and their families, and many mainstream disability support services providers also supporting Pacific people with disabilities.
Chapter 5: Māori Health

This chapter specifically examines Māori health status and the contribution of health services to Māori health. These are discussed in the context of the Treaty of Waitangi and in relation to the Māori Health Strategy, He Korowai Oranga, and Whakatātaka, the Māori Health Action Plan.

He Korowai Oranga provides a framework for the health and disability support sector to take responsibility for its role in supporting the health status of whānau. He Korowai Oranga was released in 2002 and is a long-term strategy requiring fundamental change over time. Whakatātaka, an action plan for the first two years of the strategy’s implementation, was also released at the same time. It set out some first practical steps for the Ministry of Health and DHBs to take to initiate the changes required by He Korowai Oranga.

He Korowai Oranga and Whakatātaka

Building whānau ora (healthy Māori families) and Māori health is integral to a health and disability support sector that must demonstrate change to reflect the aim of He Korowai Oranga. Whānau ora means Māori families that are supported to achieve the fullness of health and wellbeing within te ao Māori and New Zealand society as a whole.

He Korowai Oranga sets out to achieve self-sustaining change at the system and process level, rather than introducing ad hoc programmes and initiatives. It seeks to build on the strengths and assets of whānau and Māori communities rather than focusing solely on problems.

Three key threads woven throughout the strategy are:
• acknowledging Māori aspirations for rangatiratanga (control) over their own lives
• maintaining and building on the gains already made in Māori health
• reducing the inequalities that currently exist between the health and wellbeing of Māori and other population groups.

Whānau ora will be achieved through actions along four pathways:
• development of whānau, hapū, iwi and Māori communities
• Māori participation throughout the health and disability support sector
• effective health and disability support services
• working across sectors.

He Korowai Oranga and Whakatātaka also recognise that the greatest benefit comes not from trying to change the behaviour of individuals, but from changing the environment – especially the social and economic environment – within which individuals and whānau make their choices.
He Korowai Oranga asks the health and disability support sector to recognise the interdependence of people and that the health and wellbeing of people is influenced and affected by their ‘collective’ as well as their individual existence. Recognition of the importance of working with people in their social contexts is required, rather than just with their physical and behavioural symptoms.

**Figure 5.1:** Framework for He Korowai Oranga

Source: Minister of Health and Associate Minister of Health 2002a

**The Treaty of Waitangi**

The Government is committed to fulfilling the special relationship between iwi and the Crown under the Treaty of Waitangi. The principles of partnership, participation and protection (derived from the Royal Commission on Social Policy) will continue to underpin that relationship and are threaded throughout He Korowai Oranga.

- **Partnership:** working together with whānau, hapū, iwi, and Māori communities to develop strategies for Māori health gain, and appropriate health and disability support services.

- **Participation:** involving Māori at all levels of the sector in decision-making, planning, development and delivery of health and disability support services.

- **Protection:** working to ensure Māori have at least the same level of health as non-Māori and safeguarding Māori cultural concepts, values and practices.
Challenges
It is recognised that working to achieve whānau ora requires fundamental change in the health and disability support sector, as well as other sectors, which will take time to effect. At present the effectiveness of approaches to achieving whānau ora are often judged by measures that do not reflect Māori spiritual, emotional and family dimensions (Durie 1994). These measures often focus on individuals rather than collective measures of whānau ora, and often reflect government priorities rather than those of whānau, hapū, iwi and Māori communities. There is also a lack of exploration of differences between Māori and non-Māori health data requirements. Most measures of health status are either population based or individually based, and many aspects of whānau ora lie between these two extremes.

A key challenge is the development of indicators that measure the impact of government strategies on whānau ora and reflect the views of whānau, hapū, iwi and Māori communities.

The following sections are based on information currently available rather than the indicators of whānau ora envisaged by He Korowai Oranga.

Māori population trends
The Māori population is diverse and is increasing in size. One significant demographic challenge facing the health and disability support sector is planning for a very young Māori population when the New Zealand population as a whole is ageing. In future decades, the Māori population will continue to have a much younger age structure than the total New Zealand population.

Key statistics from the 2001 Census of Population and Dwellings are detailed below (Statistics New Zealand 2003a).

- One in seven people (526,281) were counted in the Māori ethnic group, an increase of 21 percent since 1991.
- The Māori population made up 14.7 percent of the total New Zealand population.
- The majority of those who indicated they were of Māori ethnicity gave Māori as their only ethnicity (51.5 percent). The next largest group chose two ethnicities – Māori and European (32.8 percent).
- Most Māori continue to live in the northern regions. Nearly 90 percent live in the North Island and nearly 60 percent of Māori live in Northland, Auckland, Waikato and the Bay of Plenty. However, the number of Māori people in the South Island has increased 38 percent since 1991 to 64,650.
- While one in four people of Māori ethnicity speak the Māori language, nearly one half of Māori language speakers are under 25 years of age.
- The median annual income for Māori adults was $14,800 for the year ended 31 March 2001, with Māori between 45 and 49 years of age having the highest median income for all Māori at $21,800. One in twenty Māori adults have an annual income of more than $50,000.
The Māori population is a youthful population, with over a third (37.3 percent) aged less than 15 years of age compared to one fifth (20.4 percent) of non-Māori. The total population is expected to grow to 749,000 by 2021, an increase of 163,000 (28 percent) over this 20-year period. This increase is linked to the higher fertility rates for Māori women who have 2.59 births per woman, compared to 1.96 for the total New Zealand population and 1.77 for European women (see Table 5.1).

The Māori population is ageing, with the median age of people of Māori ethnicity increasing to 22 years from 20 years in 1991. Whereas, 10 years ago, 1 in 40 Māori people were aged 65 years and over, 1 in 30 are now in this age range.

Only 3.4 percent of Māori were aged 65 and over compared to 13.5 percent of non-Māori. The median age for the Māori population in 2001 was 22 years compared to 35 years for the total population (see Table 4.1).

The fastest growth will occur for Māori aged 65 years and over as the current working-age population moves into the older age groups. This age group will grow from 3 percent in 2001 to 8 percent of the Māori population in 2021.

The median age for the Māori population in 2021 is projected to be 27 years of age compared to 40 years for the total New Zealand population.

Table 5.1: Population characteristics, by ethnicity

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>European</td>
<td>2,783,028</td>
<td>3</td>
<td>36.8</td>
<td>1.77</td>
</tr>
<tr>
<td>Māori</td>
<td>434,847</td>
<td>21</td>
<td>21.9</td>
<td>2.59</td>
</tr>
<tr>
<td>Pacific</td>
<td>167,070</td>
<td>39</td>
<td>21.0</td>
<td>2.94</td>
</tr>
<tr>
<td>Asian</td>
<td>99,756</td>
<td>139</td>
<td>28.3</td>
<td>1.67</td>
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<td>Total</td>
<td>3,373,926</td>
<td>11</td>
<td>34.8</td>
<td>1.96</td>
</tr>
</tbody>
</table>

Source: Statistics New Zealand.

Note: Census counts are based on total response for each ethnic group. Therefore, they do not sum to the total.

Table 5.2 shows the distribution of Māori by DHB. Most Māori live in Counties Manukau, Waikato, Bay of Plenty and Northland. While other DHB regions contain fewer Māori, they still make up a significant proportion of the DHBs’ populations. For example, less than four percent of the total Māori population inhabit the Tairawhiti area, yet they represent 44 percent of the DHB’s population.
Table 5.2: Distribution of Māori by DHB

<table>
<thead>
<tr>
<th>DHB</th>
<th>Māori population</th>
<th>Total population</th>
<th>Māori population as a percentage of total DHB population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northland</td>
<td>40,734</td>
<td>140,130</td>
<td>29.1</td>
</tr>
<tr>
<td>Waitemata</td>
<td>39,687</td>
<td>429,756</td>
<td>9.2</td>
</tr>
<tr>
<td>Auckland</td>
<td>29,139</td>
<td>367,734</td>
<td>7.9</td>
</tr>
<tr>
<td>Counties Manukau</td>
<td>61,395</td>
<td>375,534</td>
<td>16.3</td>
</tr>
<tr>
<td>Waikato</td>
<td>64,293</td>
<td>317,751</td>
<td>20.2</td>
</tr>
<tr>
<td>Lakes</td>
<td>30,360</td>
<td>95,994</td>
<td>31.6</td>
</tr>
<tr>
<td>Bay of Plenty</td>
<td>42,636</td>
<td>178,164</td>
<td>23.9</td>
</tr>
<tr>
<td>Tairawhiti</td>
<td>19,365</td>
<td>43,971</td>
<td>44.0</td>
</tr>
<tr>
<td>Taranaki</td>
<td>14,592</td>
<td>103,023</td>
<td>14.2</td>
</tr>
<tr>
<td>Hawke’s Bay</td>
<td>32,454</td>
<td>143,547</td>
<td>22.6</td>
</tr>
<tr>
<td>Whanganui</td>
<td>14,097</td>
<td>63,597</td>
<td>22.2</td>
</tr>
<tr>
<td>MidCentral</td>
<td>23,625</td>
<td>154,983</td>
<td>15.2</td>
</tr>
<tr>
<td>Hutt</td>
<td>19,581</td>
<td>131,850</td>
<td>14.9</td>
</tr>
<tr>
<td>Capital and Coast</td>
<td>24,252</td>
<td>245,880</td>
<td>9.9</td>
</tr>
<tr>
<td>Wairarapa</td>
<td>5,403</td>
<td>38,208</td>
<td>14.1</td>
</tr>
<tr>
<td>Nelson-Marlborough</td>
<td>9,891</td>
<td>122,472</td>
<td>8.1</td>
</tr>
<tr>
<td>West Coast</td>
<td>2,547</td>
<td>30,294</td>
<td>8.4</td>
</tr>
<tr>
<td>Canterbury</td>
<td>28,728</td>
<td>427,083</td>
<td>6.7</td>
</tr>
<tr>
<td>South Canterbury</td>
<td>2,841</td>
<td>52,785</td>
<td>5.4</td>
</tr>
<tr>
<td>Otago</td>
<td>9,873</td>
<td>170,739</td>
<td>5.8</td>
</tr>
<tr>
<td>Southland</td>
<td>10,776</td>
<td>103,371</td>
<td>10.4</td>
</tr>
<tr>
<td>Area outside DHB</td>
<td>18</td>
<td>420</td>
<td>4.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>526,281</strong></td>
<td><strong>3,737,277</strong></td>
<td><strong>14.1</strong></td>
</tr>
</tbody>
</table>

Source: Ministry of Health

Note: Totals differ from Statistics New Zealand census totals due to only including usual residences and not taking into account post-enumeration survey undercounts.

Māori health status

With Māori expected to account for a larger proportion of the total population in the future, a continuation of social and economic disparities (particularly disparities in health outcomes) between Māori and non-Māori will have an increasingly significant effect on New Zealand society as a whole.

The National Health Committee in 1998 noted that Māori health has improved over the past four decades, yet Māori still experience significant premature morbidity and mortality compared to non-Māori (National Advisory Committee on Health and Disability 1998). Recent information from the release of Decades of Disparity show that gaps are more marked than previously thought (Ajwani et al 2003).
Overall, non-Māori non-Pacific people experienced a steady decline in mortality rates during the 1980s and the 1990s, but Māori and Pacific peoples experienced a slower decline.

From 1980–84 to 1996–99 life expectancy for non-Māori non-Pacific males increased by 4.8 years (from 70.9 to 75.7 years), whereas life expectancy for Māori males increased by only 1.2 years (from 64.6 to 65.8 years).

Over the same period, life expectancy for Māori females increased by 1.6 years from 69.4 to 71.0 years compared to an increase of 3.6 years for non-Māori non-Pacific females (from 77.2 to 80.8 years).

As a result the disparity in life expectancy between ethnic groups progressively widened over the last 20 years.

Although life expectancy for Māori has improved less rapidly than for non-Māori non-Pacific people in the last two decades, Māori have experienced declining rates of mortality from cardiovascular disease, unintentional injury and respiratory disease. However, even for diseases where there have been decreasing rates for all ethnic groups (such as cardiovascular disease), rates for Māori have decreased to a lesser extent. Therefore, relative disparities between Māori and non-Māori non-Pacific people have increased. Furthermore, the gains made in the rates of cardiovascular disease, respiratory disease and unintentional injuries have been partially offset by increasing mortality rates for all major types of cancer (Ajwani et al 2003).

As discussed throughout this report, a number of health disparities between Māori and non-Māori are evident.

Diabetes appears to make a sizable contribution to disparities in life expectancy. Māori and Pacific peoples have more than a 25 percent chance of developing diabetes in their life compared to 10 percent for New Zealand Europeans.

Tobacco use is another major contributor to illness, and this is particularly so for Māori. This is likely to a factor in the higher rates of illnesses such as lung cancer, heart disease and respiratory related infections experienced by Māori. A high percentage of Māori smoke (50 percent) and this is particularly marked amongst Māori women.

Suicide rates increased for all population groups during the 1980s and 1990s, especially among Māori males (and to a lesser extent females). In 2000 the suicide rate was 13.1 per 100,000 for Māori compared to 10.7 per 100,000 for non-Māori.

There is evidence of disparities within mental health, which is a major issue for Māori. Historical data and inpatient evidence indicate that Māori have accessed services later and with more severe conditions at point of entry than non-Māori.
Broader determinants

There is increasing agreement that higher levels of Māori morbidity and mortality are, to a large extent, a result of the poorer social and economic status of Māori. Health is a consequence of a variety of factors including social, economic, cultural and political influences. For instance, factors such as employment, income, education, deprivation and housing are strongly related to health status (National Advisory Committee on Health and Disability 1998, Pomare 1995). There are persisting health inequalities as a result of the unequal distribution of these socioeconomic factors in New Zealand, as discussed below.

Socioeconomic characteristics

Recognising the effects of the economic restructuring of the 1980s is important for understanding the current position of Māori. These changes had a disproportionate impact on Māori compared to the rest of the population. The 1980s were marked by considerable job losses, particularly in the manufacturing sector and state industries (especially railways and public works) where a significant proportion of Māori employment was concentrated. This resulted in rising unemployment, falling labour force participation and increasing long-term unemployment for Māori. Additionally, during this period the real income of Māori households fell and the 1990s saw a significant reduction in the resources going to communities (Ajwani et al 2003). By the end of the 1990s marked social disparities existed between Māori and non-Māori. Māori were less likely to participate in early childhood education, left secondary school with lower levels of qualifications and had lower rates of participation in tertiary education.

However, since the early 1990s the economic position of Māori has shown signs of improvement.

- There has been an increase in Māori participation at all levels of education. In 2002 16.8 percent of Māori aged 15 and over were enrolled in formal tertiary education, an increase from 11.1 percent in 2000 and 9.9 percent in 1997 (Ministry of Social Development 2003). However, Māori remain more likely to leave school with a low level of qualifications and low level of tertiary participation than non-Māori.

- There has also been a significant increase in the number of Māori in employment in the last few years. However, Māori continue to have a high unemployment rate compared to non-Māori, and youth and long-term unemployment remain of concern. Data from the Household Labour Force Survey shows that the age-standardised unemployment rate for Māori in the 2003 June quarter was 9.7 percent (Statistics New Zealand 2003b). The youth unemployment rate was 24.2 percent which is over twice that for non-Māori (11.7 percent).61

61 The sample size for Māori in the June quarter of the Household Labour Force Survey was 12 percent. Because Māori comprise such a small proportion of the sample, results are only a broad indicator of trends.
The position of Māori in the labour force is in part related to age structure. As a relatively youthful population, Māori are less likely to have full-time work experience and skills (Te Puni Kokiri 2002). Discrimination may also be a contributing factor. Alexander et al found that variations in age, education and experience only explain 40–50 percent of the differences in the labour market experience between Māori and non-Māori (Alexander et al 2000).

Income and housing are key influences on health status. Indeed, it has been argued that income is a better indicator of health status than other socioeconomic factors (Davis et al 1997). Housing conditions have an impact on health, particularly levels of household crowding, housing quality and the external economic and market influences that impact on housing (Te Puni Kokiri 2000).

The difference in the levels of deprivation for Māori and non-Māori is very significant. Studies have found that Māori have lower living standards than the population as a whole and that these disparities remain even when the differing age structures are taken into account (Ministry of Social Development 2002).

Given the connection between socioeconomic status and health (Howden-Chapman and Tobias 2000), improving all societal outcomes for Māori is crucial for improving health and disability outcomes and addressing disparities between Māori and non-Māori.

The Reducing Inequalities Intervention Framework developed by the Ministry of Health provides a guide for the development and implementation of comprehensive strategies to improve health and reduce health inequalities. 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.

**Progress along the pathways of He Korowai Oranga**

**Pathway one: whānau, hapū, iwi and community development**

Consistent with the role and status of Māori in New Zealand under the Treaty of Waitangi, He Korowai Oranga supports whānau, hapū, iwi and Māori communities to control the direction and shape of their own institutions, communities and development as a people. This section examines the contribution of the health and disability support sector to achieving whānau, hapū, iwi and Māori community development.

The launch of He Korowai Oranga has provided a focal point for discussions on whānau ora and whānau development across the health sector and with other sectors. A number of other government agencies, including Te Puni Kōkiri; Child Youth and Family Services; and Internal Affairs, are also working to support whānau whakapumau or models of Māori development. The Ministry of Health will continue to collaborate on effective models for whānau development with those agencies over the next year as well as with hapū, iwi and Māori communities.
Building on Māori models of health and traditional healing is an important facilitator of whānau ora. The Ministry of Health has been undertaking consultation with key stakeholders, including Ngā Ringa Whakahaere (the association of traditional Māori healers), DHB Māori managers, rongoā service providers and other government and non-government organisations.

Completion of the Māori Disability Action Plan is a key milestone. The plan has been completed by the Disability Services Directorate of the Ministry of Health and includes action plans for Ministry of Health operational services. This plan is being integrated into the Disability Services Directorate Annual Plan for 2003/04.

Pathway two: Māori participation in the health and disability support sector

Māori leadership through participation throughout the sector and at all levels of decision-making – DHB governance and management, the health workforce and service provision, and policy and research – is a key pathway to improving planning and service delivery and outcomes for Māori.

The New Zealand Public Health and Disability Act 2000 recognises the importance of such participation through its requirement for Māori membership of DHB boards. It is also necessary for DHBs to develop processes to involve Māori in strategies to improve Māori health and to support the development of Māori capacity to provide for their own needs.

Progress in this pathway has been varied. It is too soon to assess the impact of Māori DHB board membership and partnerships between Māori and DHBs on decision-making. However, this is one issue being evaluated by the Health Reforms Evaluation funded by the Ministry of Health.

Māori participation on DHB boards

Each DHB board is required to have Māori membership that is ideally proportional to the number of Māori in the DHB’s population, and in any event is not fewer than two Māori members (NZPHD Act 2000 section 29(4)). This ensures boards have the necessary expertise, skills and knowledge to achieve their statutory objectives of improving Māori health and reducing inequalities between Māori and other population groups. DHB boards have 11 members, seven of whom are elected by the local communities and four appointed by the Minister of Health. The Ministry of Health facilitates training for DHB board members to ensure they develop effective governance skills and acquire the skills and knowledge necessary to understand Māori health issues and the principles of Treaty of Waitangi as they apply to DHB business.

Table 5.3 shows Māori membership of DHBs as at October 2003.
Table 5.3: Māori membership of DHB Boards, October 2003

<table>
<thead>
<tr>
<th>DHB</th>
<th>Total population 2001*</th>
<th>Māori population 2001*</th>
<th>Māori as percentage of total population</th>
<th>Number of Māori Board members proportional to population</th>
<th>Required number of Māori Board members (proportional or 2)</th>
<th>Māori elected in 2001 DHB Board elections</th>
<th>Appointed Māori Board members</th>
<th>Total Māori Board members (October 2003)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northland</td>
<td>146,700</td>
<td>46,700</td>
<td>32</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Waitemata</td>
<td>445,500</td>
<td>44,700</td>
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<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Auckland</td>
<td>391,500</td>
<td>35,800</td>
<td>9</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Counties Manukau</td>
<td>387,500</td>
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<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Waikato</td>
<td>329,500</td>
<td>71,200</td>
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<tr>
<td>Hawke’s Bay</td>
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<td>35,700</td>
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<td>Wairarapa</td>
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<td>2</td>
<td>2</td>
<td>0</td>
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<tr>
<td>MidCentral</td>
<td>161,000</td>
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<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
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<tr>
<td>Capital and Coast</td>
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<tr>
<td>West Coast</td>
<td>32,300</td>
<td>3,200</td>
<td>10</td>
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<td>2</td>
<td>1</td>
<td>2</td>
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<td>Canterbury</td>
<td>440,000</td>
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<td>0</td>
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</tr>
<tr>
<td>South Canterbury</td>
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</tr>
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<td>Otago</td>
<td>176,000</td>
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<td>Southland</td>
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<td>595,300</td>
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<td>51</td>
<td>5</td>
<td>46</td>
<td>51</td>
<td>51</td>
</tr>
</tbody>
</table>

Source: Ministry of Health


As Table 5.3 illustrates, elections have not proved a successful mechanism for ensuring Māori membership on DHB boards. Whereas nearly 120 Māori stood for the 2001 DHB elections, only five successful candidates identified themselves as Māori in a Ministry of Health post-election stocktake. The majority of the 51 Māori board members were consequently appointed by the Minister of Health in consultation with iwi and Māori organisations.

The second DHB elections in 2004 will use the proportional representation voting system of Single Transferable Voting rather than the first-past-the-post system used in the first elections. Single Transferable Voting is expected to improve the election outcome for Māori and smaller population groups.
Partnership between DHBs and Māori

Sixteen DHBs have formalised relationships with iwi and Māori organisations in their areas to date, with the remaining boards working towards such relationships. These relationships ensure DHB planning and service delivery is effective in improving outcomes for Māori and takes account of the aspirations of iwi and Māori communities in the region. Each DHB-iwi/Māori relationship is different for a variety of reasons. In most cases, iwi/Māori are represented at Board level and participate in decision-making in the sub-committees of the Board. In some areas, they meet regularly with the DHB and are very involved in the decision-making, planning and implementation process. In other areas, the DHB and iwi/Māori are still developing their relationships.

The relationships are based on the principles of the Treaty of Waitangi: partnership, participation and protection. These principles provide the basic framework for iwi/Māori to participate in strategic health planning, implementation, decision-making and service delivery at both governance and operational levels. Many Māori consider this a crucial development for iwi/Māori because it is the first time for many that they have been involved to this degree in the overall improvement of Māori health status and the reduction of inequalities within health.

The DHB-iwi/Māori relationships build on those established previously by the Regional Health Authorities and the Health Funding Authority. The three MAPO (Māori co-purchasing organisations) originally set up by the Northern Regional Health Authority and continued by the Health Funding Authority along with other Treaty-based relationships, have their formal relationship with the Ministry of Health, but work closely with the northern DHBs on governance issues. These relationships are currently being reviewed. Those that remain with the Ministry will develop terms and conditions consistent with the current health legislation.

The Health Reforms 2001 Research Project found that some informants believed including the Treaty of Waitangi in the Act was significant and see it as a platform that Māori can use to build relationships with DHBs and to improve Māori health outcomes. Participation by Māori at a governance level, through the appointment of two Māori Board members on each DHB, is seen as a welcome step forward. However, shifting the Treaty-based relationship from the Minister or Ministry of Health to a crown agency, through the requirement that DHBs develop relationships with local iwi and Māori communities, was seen by some as an abdication of kawanatanga responsibilities that was not consistent with the intent of the Treaty (Health Reforms 2001 Research Team 2003). Some informants considered Māori had a long history and confidence in dealing with central government, but had not fared well at the hands of local government. However, there was a concern that the 21-DHB structure requires at least 21 Māori partners. Some districts may have difficulty in putting forward people with the appropriate knowledge and skills to fulfil the partnership relationship.
Māori provider development

*He Korowai Oranga* envisages a health and disability support sector that offers whānau a range of provider organisations and health workers equipped to meet their needs. Strong and effective Māori providers are particularly important in the primary health care and community-based areas, including disability support services and mental health, which are most often accessed by whānau (recognising that over 97 percent of health and disability service funding goes to mainstream providers, which are also responsible for improving access, effectiveness and outcomes for Māori).

There is now a wide range of Māori providers, largely in the primary and community sector (including primary health care, health promotion, whānau support, disability support, mobile disease state management, rongoā and mental health services). One Māori community trust operates a small rural hospital alongside its community services, and another operates inpatient mental health services. Other Māori providers are now operating significant services for non-Māori as well as Māori, such as disability support needs assessment and coordination and mental health services. A number of Māori providers have joined or are working actively with PHOs (see section ‘Moving Forward’ later in this chapter).

This pathway of *He Korowai Oranga* builds on the developments during the past 10 years that have seen the number of Māori providers increase from 25 in 1992 to 233 in 2003 (see Figure 5.2 below).

**Figure 5.2:** Number of Māori providers, by year and authority/board

![Figure 5.2](image)

Source: Ministry of Health
Emphasis has now shifted from increasing the number of Māori providers to building sustainable and high-quality services, and increased service coverage. PHOs are one key avenue for such development, although continued support for Māori providers outside PHOs remains important. The Māori Provider Development Scheme, operating since 1997, allocates $10 million per year (GST inclusive) to support Māori provider and workforce development.

Expenditure on Māori providers since 1992 has increased from $330,000 to $136 million, with an additional $22 million allocated to services provided by mainstream organisations but targeted specifically at Māori. Tables 5.4 and 5.5 set out reported Māori health expenditure by funder, provider type and service category for 2002/03.

The majority of Māori provider contracts have been devolved from the Ministry of Health to DHBs with the exception of some disability support, public health and Māori traditional healing services.

Table 5.4: Reported Māori service funding 2002/03 by funder (Ministry of Health and DHBs) (GST inclusive)

<table>
<thead>
<tr>
<th></th>
<th>Disability</th>
<th>Māori</th>
<th>Mental</th>
<th>Personal</th>
<th>Public</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Health</td>
<td>$20,810,225</td>
<td>$9,583,503</td>
<td>$2,155,315</td>
<td>$4,233,703</td>
<td>$22,513</td>
<td>$36,805,259</td>
</tr>
<tr>
<td>District Health Boards</td>
<td>$1,695,706</td>
<td>$37,775,310</td>
<td>$44,480,953</td>
<td>$33,485,644</td>
<td>$3,755,404</td>
<td>$121,193,017</td>
</tr>
<tr>
<td>Totals</td>
<td>$22,505,931</td>
<td>$47,358,813</td>
<td>$46,636,268</td>
<td>$37,719,347</td>
<td>$3,777,917</td>
<td>$157,998,276</td>
</tr>
</tbody>
</table>

Table 5.5: Reported Māori service funding by type of service provider, 2002/03 (GST inclusive)

<table>
<thead>
<tr>
<th></th>
<th>Disability</th>
<th>Māori</th>
<th>Mental</th>
<th>Personal</th>
<th>Public</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Māori provider</td>
<td>$22,505,931</td>
<td>$42,693,854</td>
<td>$34,870,121</td>
<td>$34,925,013</td>
<td>$861,440</td>
<td>$135,856,360</td>
</tr>
<tr>
<td>Targeted Māori services</td>
<td>$4,664,958</td>
<td>$11,766,147</td>
<td>$2,794,334</td>
<td>$2,916,477</td>
<td>$22,141,916</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$22,505,931</td>
<td>$47,358,813</td>
<td>$46,636,268</td>
<td>$37,719,347</td>
<td>$3,777,917</td>
<td>$157,998,276</td>
</tr>
</tbody>
</table>

Reported DHB expenditure on Māori health and disability support services (both those provided by Māori providers and those provided by mainstream providers but targeted specifically at Māori) ranges from approximately $50 for each Māori in the DHB population to nearly $350, with an average of just over $200.

The interim report of the Health Reforms 2001 Research Project identifies concerns in the sector that investment in Māori providers and other community-based services could be a lower priority under the DHB structure (Health Reforms 2001 Research Team 2003). This might arise for a number of reasons, as key informants felt that DHBs may focus on funding and developing their own services, on reducing their deficits rather than funding other services and on reducing transaction costs by encouraging amalgamations of smaller providers.
Figure 5.3 sets out trends in reported Māori health expenditure since 1998 (both services provided by Māori providers primarily for Māori communities, and services provided by mainstream services but targeted specifically at Māori (‘Māori-specific services’)). These indicate a strong increase in expenditure on Māori provider services until 2000/01 when the HFA was disestablished. While DHB data are unavailable for 2001/02, reported expenditure on Māori providers in 2002/03 was similar to 2000/01. However, reported expenditure on Māori-specific services appears significantly lower. This may reflect differences in the way DHBs reported information, particularly in relation to services funded through PHOs. The information does, however, lend some weight to concerns that funding for Māori providers, particularly those that do not join PHOs, may plateau under DHBs.

![Figure 5.3](image_url)

**Figure 5.3:** Reported expenditure on Māori health and disability support services, 1998/99–2002/03

Source: Ministry of Health

Note: Data are unavailable for 2001/02.

** The establishment of PHOs during this period affected the way services for Māori were reported.

**Issues for Māori provider development**

The Ministry of Health has been seeking the views of Māori providers, DHBs, and other stakeholders on priorities and options for Māori provider development. These views will be incorporated in plans to support ongoing Māori provider development and to align the Māori Provider Development Scheme with He Korowai Oranga.
The *Iwi and Māori Provider Success* research found that Māori providers had concerns regarding funding arrangements (International Research Institute for Māori and Indigenous Education 2002). Providers consistently requested a more certain policy environment and flexibility in their funding arrangements. The short-term nature of funding, the competitive funding model that typifies the provider sector, and under-resourcing were seen to be compromising the stability of provider organisations. Providers considered that a collaborative policy-making environment that included input from themselves, whānau, hapū, iwi and Māori communities would positively impact on Māori wellbeing. Respondents in the Health Sector Reforms evaluation also thought whānau, hapū and iwi and Māori communities should all have direct input into service planning and delivery (Health Reforms 2001 Research Team 2003).

All parties that participated in the *Iwi and Māori Provider Success* research expressed a common desire for long-term sustainable relationships, predicated on transparency, trust and exemplary relationship conduct. Above all, there was recognition that for any relationship to be successful, it must be perceived as valuable in that it returns mutual advantages and reciprocal benefits to all parties. It was, however, notable that provider responses indicated a tendency to invest heavily (relative to their level of resourcing) in relationship management.

Evaluation was an area of significant and common interest to both providers and government. Both parties supported the notion of collaborative approaches to evaluation. It is of note that while government officials interviewed stated an interest in collaborative evaluation, providers held consistent views that these evaluations were, in fact, not collaborative. Rather, they were planned and implemented with little provider input and less consideration of the particular operating context of the provider (International Research Institute for Māori and Indigenous Education 2002).

**Māori health workforce**

The health and disability workforce continues to employ low numbers of Māori in almost all areas. The need to improve the Māori workforce is well documented (Health Workforce Advisory Committee 2003). The proportion of Māori in the health workforce remains at approximately 5 percent (excluding informal support workers and alternative complementary health practitioners). In terms of numbers, it is striking to note that only between one and eleven Māori are working as optometrists, dispensing opticians, dietitians, chiropractors, medical laboratory technologists, medical radiation technologists or medical officers of special scale professions. Māori working as registered nurses and midwives working in nursing and midwifery are numerically larger at 1,857 but still make up less than 6 percent of this profession. Only 3 percent of active medical practitioners are Māori. Strategies to increase workforce shortages in general are discussed Chapter 2.
### Table 5.6: Selected health professional workforce in New Zealand, 2002

<table>
<thead>
<tr>
<th>Profession</th>
<th>Māori</th>
<th>Non-Māori</th>
<th>Māori as percentage of total</th>
<th>Total (survey)</th>
<th>Licenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optometrists</td>
<td>3</td>
<td>402</td>
<td>0.7</td>
<td>405</td>
<td>538</td>
</tr>
<tr>
<td>Dispensing opticians</td>
<td>1</td>
<td>74</td>
<td>1.3</td>
<td>75</td>
<td>117</td>
</tr>
<tr>
<td>Chiropractors</td>
<td>5</td>
<td>180</td>
<td>2.7</td>
<td>185</td>
<td>254</td>
</tr>
<tr>
<td>Dietitians</td>
<td>10</td>
<td>310</td>
<td>3.1</td>
<td>320</td>
<td>394</td>
</tr>
<tr>
<td>Medical laboratory technologists</td>
<td>11</td>
<td>824</td>
<td>1.3</td>
<td>835</td>
<td>1365</td>
</tr>
<tr>
<td>Medical radiation technologists</td>
<td>25</td>
<td>1035</td>
<td>2.4</td>
<td>1060</td>
<td>1593</td>
</tr>
<tr>
<td>Occupational therapists</td>
<td>26</td>
<td>1074</td>
<td>2.4</td>
<td>1100</td>
<td>1535</td>
</tr>
<tr>
<td>Podiatrists</td>
<td>5</td>
<td>156</td>
<td>3.1</td>
<td>161</td>
<td>233</td>
</tr>
<tr>
<td>Physiotherapists</td>
<td>38</td>
<td>1410</td>
<td>2.6</td>
<td>1448</td>
<td>2621</td>
</tr>
<tr>
<td>Registered psychologists</td>
<td>43</td>
<td>864</td>
<td>4.7</td>
<td>907</td>
<td>1270</td>
</tr>
</tbody>
</table>

Source: New Zealand Health Information Service 2003b

Note: The ethnicity of active selected health professionals in New Zealand was self-identified. The ethnic groups chosen were then prioritised. The data for this publication is based on a workforce questionnaire that accompanied the Annual Practising Certificates or Annual Licenses invoice sent by the respective Boards Secretariat or the actual Board for each profession. The invoices were sent in February 2002 to those on the register for each health profession on behalf of the New Zealand Health Information Service. The data are based on surveys that have varying response rates, so they should not be interpreted as a definitive description of each profession.

### Table 5.7: Active Māori medical practitioners, 2000

<table>
<thead>
<tr>
<th>Medical Practitioner</th>
<th>Māori</th>
<th>Māori as percentage of total</th>
<th>Non-Māori</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active medical practitioners</td>
<td>198</td>
<td>2.3</td>
<td>8417</td>
<td>8615</td>
</tr>
<tr>
<td>Active house officers</td>
<td>41</td>
<td>4.6</td>
<td>853</td>
<td>894</td>
</tr>
<tr>
<td>Active registrars</td>
<td>40</td>
<td>3.3</td>
<td>1187</td>
<td>1227</td>
</tr>
<tr>
<td>Active medical officers of special scale</td>
<td>5</td>
<td>1.8</td>
<td>272</td>
<td>277</td>
</tr>
<tr>
<td>Active general practitioners</td>
<td>63</td>
<td>2</td>
<td>3103</td>
<td>3166</td>
</tr>
<tr>
<td>Active specialists</td>
<td>36</td>
<td>1.4</td>
<td>2617</td>
<td>2653</td>
</tr>
</tbody>
</table>

Source: New Zealand Health Information Service 2001

### Table 5.8: Māori nurses and midwives, 2000

<table>
<thead>
<tr>
<th>Nurse/Midwife</th>
<th>Māori</th>
<th>Māori as percentage of total</th>
<th>Non-Māori</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active registered nurses and midwives working in nursing and midwifery</td>
<td>1857</td>
<td>5.7</td>
<td>30,819</td>
<td>32,676</td>
</tr>
<tr>
<td>Active enrolled nurses working in nursing</td>
<td>459</td>
<td>10.7</td>
<td>3841</td>
<td>4300</td>
</tr>
<tr>
<td>Active nurses and midwives with midwifery qualifications working in nursing and midwifery</td>
<td>193</td>
<td>5.3</td>
<td>3425</td>
<td>3618</td>
</tr>
<tr>
<td>Direct-entry midwives</td>
<td>26</td>
<td>14.4</td>
<td>154</td>
<td>180</td>
</tr>
</tbody>
</table>

Source: New Zealand Health Information Service 2002
The Ministry of Health supports Māori workforce development through the Māori Provider Development Scheme (including individual scholarships) and the Clinical Training Agency (CTA). CTA-funded Māori workforce development programmes totalled $3 million (GST exclusive) in 2002/03. The effectiveness of the CTA in identifying and addressing the Post Clinical Education and Training Māori workforce needs will be assessed by Te Puni Kōkiri in 2003/04. The Ministry also invested $2,430,000 (GST inclusive) in Māori mental health workforce development in 2003/04.

The Health Workforce Advisory Committee also identified a need for further research on Māori workforce issues development (Health Workforce Advisory Committee 2002b). A joint venture between the Ministry of Health and the Health Research Council will fund three research projects beginning in 2003/04 which will explore three issues related to Māori participation in the health and disability workforce: barriers to people entering the Māori health workforce; retention issues, that is, factors which encourage or discourage Māori with necessary skills staying in the health workforce; and an evaluation of Māori workforce development initiatives to identify those which are most effective.

Pathway three: effective health and disability support services

This pathway aims to ensure that whānau receive timely, high-quality, effective and culturally appropriate health and disability support services to improve whānau ora and reduce inequalities. While broader socioeconomic factors are fundamental to health outcomes, differences in access to, and the quality of, health care also make an important contribution to the inequalities experienced by Māori. Evidence suggests that there are obstacles to Māori accessing timely, high-quality, effective and culturally appropriate services.

- The ratio of Māori to non-Māori mortality for all adult cancer is higher than the same ratio for disease incidence (Ministry of Health 2002c). This indicates higher case fatality rates among Māori compared to non-Māori once they have cancer. Ajwani et al also cite evidence that, despite higher mortality from cardiovascular disease, there is evidence that Māori receive fewer cardiac interventions than would be expected, and these differences remain even after controlling for gender, age and deprivation (Ajwani et al 2003).

- The 2001 Commonwealth Fund Survey found that Māori were more likely than those of European descent to report problems accessing health care. Māori were also more likely to cite cost as a factor in going without health care in the past year and were more likely to report general problems with obtaining care, such as accessing a specialist or getting care on nights and weekends. Even when controlling for income, Māori were more likely to report problems accessing health care (Schoen et al 2002). Taking the Pulse: The 1996/97 New Zealand health survey found that adults with below-average income were more likely to report having gone without care due to cost (Ministry of Health 1999b).

As discussed in Chapter 4, ambulatory-sensitive hospitalisations increased for Māori from 1996/97 to 2000/01 at a higher rate than that of Europeans/Others (3.8 percent and 2.4 percent respectively). These data indicate that Māori may not be getting appropriate access to primary health care.
Attitudes to Māori by health providers may influence access to services. A small qualitative study of tauwi (non-Māori) GPs’ attitudes found that these GPs tended to blame Māori for their condition and felt they were non-compliant compared to the rest of the practice population (McCreanor and Nairn 2002).

While there is still some way to go, there is evidence that levels of elective procedures for Māori are improving in some areas. Figure 5.4 shows standardised discharge ratios that have been adjusted for age and deprivation to enable a comparison between Māori and non-Māori access to elective services. The standardised discharge ratios for non-Māori are calculated as 1, so increases towards 1 (or beyond) indicate improving levels of elective procedures for Māori, relative to non-Māori. (Because of higher Māori morbidity rates, in most cases the desirable intervention rate would be higher than 1.)

The figure shows improving levels of access for Māori to all surgery, and generally improving levels of access to coronary artery bypass operations and angioplasties (with further progress required). Intervention rates for major joint replacement (hips and knees) for Māori have generally been similar to non-Māori, although they decreased slightly over the past five years. Access to cataract operations is considerably higher among Māori than non-Māori, reflecting a relatively higher level of need among Māori for such interventions.

**Figure 5.4:** Standardised discharge ratios for Māori access to all surgery, and to coronary artery bypass, angioplasty, cataract and major joint replacement operations, 1997/98–2002/03

Source: Data extracted from National Minimum Data Set, 2003.
Expenditure on health services for Māori

As stressed in He Korowai Oranga and discussed earlier in this chapter, the determinants of health inequalities are broad; health and disability support services alone will not remove all health inequalities. However, they have an important role to play in treating problems that have arisen, and in preventing further where they can. This section examines the expenditure on services for Māori, Pacific peoples and non-Māori non-Pacific people against levels of need.

The Ministry of Health estimates that in 2002/03 approximately $1,105 million (GST inclusive) was spent on services for Māori. This was 14.7 percent of total expenditure on health and disability support services in that year. $6,210 million (GST inclusive) was spent on services for non-Māori non-Pacific people.

Figure 5.5 sets out estimated expenditure on Māori compared to Pacific peoples and non-Māori non-Pacific people by age group and gender. It shows that health services expenditure per person is slightly higher on average for Māori than for other groups at most ages. Higher per person expenditure rates on Māori are to be expected given the lower health status of Māori, and are reflected in population-based funding formulae for DHBs and PHOs. It is unlikely, however, that the amount spent on services for Māori fully reflects the higher levels of need for health and disability support services experienced by this population group. This is discussed below.

Figure 5.5: Estimated health service expenditure 2002/03 by ethnicity, age and gender

Females

Expenditure is estimated using a mix of methodologies for each major service group. Some of the data, including hospital discharge and other service utilisation data, are reasonably robust. Others are a ‘best guess’ based on population, age, gender and deprivation profiles.
Higher Māori need for health and disability support services results in part from the lower socioeconomic position of Māori on average. Adjusting the raw expenditure data for deprivation (Figure 5.6 below) shows a similar pattern to Figure 5.5, although there is some narrowing of the differences.
Figure 5.6: Estimated health service expenditure 2002/03, by ethnicity, age and gender, adjusted for deprivation

Source: Ministry of Health
The publication *Social Inequalities in Health: New Zealand 1999* shows marked life expectancy differences between Māori and non-Māori non-Pacific within deprivation deciles (Howden-Chapman and Tobias 2000). Given the association between population ill-health and lowered life expectancy we would expect to need higher expenditure on services for Māori within deprivation deciles, as is reflected in Figure 5.6. However, is the extra expenditure shown there commensurate with the size of the inequalities in health? It is difficult to answer this conclusively. Nonetheless, the analysis below provides a starting point for reviewing the equity of resource distribution.

Figure 5.7 shows the raw expenditure data adjusted for mortality differentials by age as a proxy for ill health and, consequently, a need for expenditure on health services. However, this is only one method of adjusting health expenditure data for need and the results should be treated with caution. The use of an indicator, in this case mortality, as a proxy for need for expenditure on health services, has its limitations and these data should be viewed as an exploratory analysis.

Figure 5.7 suggests that health and disability support services are spending comparatively less per person on Māori relative to their health needs than they are on other population groups. For under 5-year-olds, females aged 25–39 years, and people aged over 55, estimated expenditure relative to need is considerably higher for non-Māori non-Pacific people than for Māori.

**Figure 5.7:** Estimated health service expenditure 2002/03 by ethnicity, age and gender, adjusted for mortality differentials

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63 The raw expenditure data for each ethnic group have been divided by the age-standardised relative risk of death compared to the non-Māori non-Pacific group. Age-standardisation is to Segi’s world population. Total population figures have been used to avoid small number effects.
Figure 5.7 indicates a need for further investigation. *Decades of Disparity* noted that most of the increase in mortality inequality over the past twenty years has arisen from widening differentials in chronic disease mortality in middle and old age (Ajwani et al 2003). The apparent lower relative per person expenditure for Māori in these age groups is, therefore, of particular concern. Given the importance of early childhood health with regard to health status later in life, there is also a need to look at the apparent lower relative levels of spending on services for Māori children.

It is not only a question of how much is spent on services for Māori given their greater level of need, but also of the effectiveness and responsiveness of the services. As shown in this chapter and in Chapter 4, the level of interventions for Māori are improving in some areas, while there are others where it is not; further effort is required.

**Moving forward**

Improvements in the health status of Māori will be achieved by improving the delivery of mainstream services for Māori, as well as through ongoing Māori provider development. The Primary Health Care Strategy, launched in early 2001, has provided a clear direction for the future development of the primary health care sector. Key components of the vision include a greater emphasis on population health and the role of the community, health promotion and preventive care. The aims of the strategy are being achieved through the establishment of Primary Health Organisations (PHOs) with services organised around the needs of defined groups of people. The focus is on population health, community involvement, and improving the accessibility, affordability and appropriateness of services. Initial priorities include reducing barriers to health care, especially financial barriers, for populations with the greatest need, and supporting the development of services by Māori providers.

Several different models for involving Māori in PHO development have emerged across the country. These include PHOs that operate as networks (where Māori providers retain their other contracts), Māori-led PHOs, and PHOs where Māori providers are included in the newly developed organisation. Governance models include a mix of 50/50 governance between Māori and general practitioners, organisations where Māori providers have a 30 percent weighting in governance, and models where local community representatives are a part of the governance. Seven PHOs have identified themselves as Māori PHOs. Eleven PHOs have identified 50 percent Māori governance represented at this level.

Many of these models are working well, although some Māori providers have raised concerns about funding and a perceived loss of autonomy and potential invisibility within PHOs. Respondents in the Health Sector Reforms evaluation thought that while the development of PHOs was seen as positive because of increased access to primary care, it was noted that there are risks for Māori health providers (Health Reforms 2001 Research Team 2003). Many key informants forecast that Māori would be at risk of being coerced into relationships with mainstream providers who do not share their strategic orientation and openness to working in a multidisciplinary manner. Concern was also expressed that funders would fail to recognise the strategic strengths of Māori providers in that many Māori providers already have a mix of services within their organisation.
The implementation of the Primary Health Care Strategy is intended to play a key role in improving Māori health status and reducing health inequalities. The implementation of the Primary Health Care Strategy is being evaluated and future Health and Independence Reports will provide information on the effectiveness of the strategy for Māori.

There is evidence to suggest that health and disability support services provided by Māori for Māori can have a positive impact on the health and wellbeing of Māori. An evaluation of Aukati Kai Paipa, a smoking cessation programme for women and their whānau, found that the programme is especially effective in assisting women to quit smoking (Ministry of Health 2003a). The quit rate for the programme is 29 percent, compared with the latent quit rate\textsuperscript{64} of 12.5 percent. The evaluation also found that the programme was effective in delivering services to those who do not choose to, or may not be able to, access other smoking cessation programmes. Some providers were able to deliver mobile and flexible services that eliminated almost all barriers to access.

The Health Research Council of New Zealand, the Ministry of Health and the Accident Compensation Corporation have developed a Māori Health Joint Venture. This seeks to undertake collaborative research to generate a targeted programme of research to develop an evidence base for improving Māori health outcomes, and thus reduce disparities. Research that focuses on Māori consumer use and experience of health and disability support services will provide knowledge about what types of services are required and the nature and quality of service interaction between consumers and service providers, as experienced by consumers themselves.

Improving the quality of ethnicity information has been a focus for the sector. Mortality and census records now have consistent ethnicity questions and this alignment of all vital records with the census has contributed to increasingly accurate ethnicity data. The challenge for the health and disability support sector is to improve the quality of the administrative ethnicity data they collect. This should be assisted by Ethnicity Data Protocols that were implemented across the sector in December 2003.

**Pathway four: working across sectors**

The Māori health and disability support sector will take a leadership role in bringing services from different sectors together. These services will provide a base from which a range of intersectoral initiatives can be accelerated and grown. Working across sectors has been a focus for the Government. The health and disability support sector is working at the national, regional and local level with other agencies to bring together services from a range of sectors.

Public health has a key role in developing healthy communities and population wellbeing. The completion of Māori Public Health Action Plan has been an important milestone under this objective.

\textsuperscript{64} The latent quit rate is the quit rate that occurs in a population without a particular intervention programme.
Chapter 6: How Well is the System Operating?

As is evident from the analysis and discussion presented so far in this report, the health and disability support system is complex and addressing this question requires a multifaceted response.

New Zealand’s health and disability support system is a major component of government policy and expenditure, claiming 20 percent of total expenditure budgeted for 2002/03. Public sector funding accounted for 78 percent of all health expenditure in New Zealand. The health workforce includes some 67,000 employed workers in the sector, along with an estimated 30,000 informal workers providing home-based services. Underpinning the health and disability support system is a substantial information base, which is progressively enhancing its capacity to inform practice and policy.

The complexity of the health and disability support system, and the breadth of its activities, means that interventions from the different arms of the system can impact throughout the life of New Zealanders. The health and disability support system itself is presented with the challenge of providing services to an increasingly ethnically and socially diverse society. As a result of these complexities of the system, cause and effect are often difficult to identify, and assessment of the performance of the system as a whole is similarly difficult to quantify.

Even with these limitations, however, the information presented in this report provides some indication of how different aspects of the health and disability support system are contributing to the health and independence of New Zealanders. Drawing on the information presented in the report, this chapter:

- reviews information from earlier chapters of the report to identify general findings in outcome measures that are indicative of aspects of system performance
- reviews different aspects of the performance of New Zealand’s health and disability support system in the light of international studies of system performance
- summarises findings of evaluations of sector activities.

Indicators of system performance

The variety of measures of the health and independence of New Zealanders that have been used in this report provide some insights into the performance of the health and disability system. Chapter 4 presented a range of outcome measures that indicate the health and independence of New Zealanders throughout their lives. For these measures, health and disability support services play a contributory role, but other factors throughout individuals’ lives in social, economic, environmental and other circumstances also have considerable impact. Population-wide indicators such as life expectancy at birth, cardiovascular disease mortality, smoking and suicide all indicate improved outcomes. Levels of disability requiring assistance in the population have overall remained static. In other outcome areas, however, there are some trends of concern, particularly with regard to many indicators of child health, as well as alcohol and drug-related behaviours and harm in the adult population.
A range of health indicators provided benchmarks of the performance of the health sector. Ambulatory-sensitive hospitalisations (which can be considered to be an outcome measure of primary health care) steadily increased through the 1990s, but this increase was not evident between the 2000/01 and 2001/02 years. Avoidable mortality (which indicates effectiveness of population-based interventions and individual treatments) has shown a significant decline since 1980. On the other hand, population preventable hospitalisations (which could be prevented through population health strategies) steadily increased from 1996/96 through to 2001/02, suggesting further population health measures may be warranted.

In some areas, the available data indicate health services are responding effectively to issues of concern. This is particularly true of diabetes, where many quality indicators of system responsiveness have improved in recent years. Similarly, since the inception of the National Cervical Screening Programme in 1991, and as coverage of the programme has expanded, there have been marked reductions in cervical cancer incidence and mortality.

Throughout this report, it is apparent that the benefits of generally improving health status are not equally shared across the population. In particular, Māori and Pacific peoples have consistently poorer health outcomes in comparison with non-Māori non-Pacific people. These health outcomes occur in high-level outcome measures, such as life expectancy, avoidable hospitalisations and avoidable mortality, as well as specific health outcomes, including cardiovascular disease, diabetes and indicators of child health. Poorer health outcomes are also patterned by socioeconomic status with people in higher deprivation categories more likely to suffer ill-health.

For some data, there is a lag between data collection and reporting. A key reference is the Decades of Disparity report (Ajwani et al 2003) which was released in mid-2003, but draws on data that only extend to 1999. Some of the data used in this report, which are more recent than 1999, indicate some inequalities may no longer be widening, but nevertheless persist.

All of the strategies initiated in recent years, particularly the central New Zealand Health Strategy, New Zealand Disability Strategy and He Korowai Oranga, are intended to address the concerns presented by the health outcome measures discussed in this report. It is important to note that these strategies have been in place for only a relatively short time, and many of their key directions were established in response to the issues that the different measures highlight. This report provides important baselines against which progress can be measured. Further analysis of data over time will provide a more comprehensive picture of the achievement of key strategic goals.
There are some encouraging signs of these inequalities being rectified in certain health service areas, particularly in elective services, where there are improvements in services reaching Māori, relative to non-Māori, and in diabetes programmes, where service indicators for Māori and Pacific peoples are also showing improvement. It is anticipated that implementation of the Primary Health Care Strategy over time will help address health inequalities by taking a population approach, giving a greater emphasis on health education/health promotion, and changing the ways in which primary care practitioners provide for Māori and Pacific peoples.

**International comparisons of system performance**

Comparison of trend data over time provides a useful indication of the extent to which a health system is displaying improved performance. Such analyses are limited, however, by using the system’s previous performance as the sole yardstick. By comparing aspects of health system performance between countries, it is possible to identify areas where performance could be improved, drawing on the lessons, experiences and strategies of other nations.

New Zealand is an active participant in a range of health system reporting activities. This section draws on analyses from five initiatives to benchmark system performance against differing groups of countries (Blendon et al 2002, Blendon et al 2003, Booth et al submitted, Nolte and McKee 2003, Organization for Economic Cooperation and Development 2003b). It is important to note that the time lag limitations that were apparent with reporting in earlier chapters are even more relevant with international comparisons; the gap between data collection, compilation and reporting becomes more pronounced as the number of nations being compared grows.

This brief overview of international studies indicates that:

- New Zealand’s public expenditure on health, as a proportion of total health expenditure, lies in the upper half of OECD countries
- the health status of New Zealanders is, in general, relatively good, but with scope for improvement in some areas, including cancers and ischaemic heart disease
- at a total population level, New Zealanders report relatively few problems in access to health care when needed, but share common difficulties with other countries in accessing elective services
- New Zealanders rate their quality of health care highly in comparison with other nations
- among those surveyed no country appears to have a consistently better performing health system overall.
Health expenditure

Comparisons of health expenditure between nations are not in themselves measures of comparative system performance. However, such comparisons provide information on what health systems have to work with to achieve system goals. The percentage of health expenditure that is government expenditure is an indication of how governments choose to organise their health systems.

Health expenditure is a result of a mix of social, political and economic factors; there is no single figure that represents the ‘right’ amount to spend on health for all nations. Care must be exercised when comparing data on international health expenditure, as these comparisons do not indicate whether:

- a country should spend more or less on health
- the mix of health care services is appropriate
- the production of health care services is technically efficient
- quality of care, equity and access considerations are appropriate
- value for money is being obtained from the expenditure
- the right quantity of health care reaches the right consumers.

There is also a lack of consistent and reliable time series information on health expenditure for some countries.

Table 6.1 shows the trends in publicly funded health expenditure as a proportion of total health expenditure. Overall in the OECD, publicly funded health expenditure accounts for about three-quarters of total health expenditure. In 2001 Luxembourg had the highest share of public expenditure as a proportion of total health expenditure (93.3 percent) and the US had the lowest (44.7 percent). New Zealand had the ninth highest proportion for public funding at 77.7 percent of total health spending, which was slightly higher than the mean proportion (75.3 percent).

Among OECD countries there was a shift during the 1960s towards more public funding of health care. This pattern stabilised during the late 1970s and early 1980s, then reversed slightly in more recent years. New Zealand has followed this trend.

In 2001, total health expenditure as a percentage of GDP was 8.2 percent. This was similar to such OECD countries as Italy, Norway and Denmark. This was also higher than the United Kingdom (7.6 percent) and lower than the United States (13.9 percent) (Organization for Economic Cooperation and Development 2003b).
This section focuses briefly on a range of health indicators reported by the OECD. As is evident in earlier chapters, health status can be measured in a multitude of ways.

**Table 6.1: Publicly funded health expenditure as a percentage of total health expenditure, 1990–2001**

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**Health status**

As is evident in earlier chapters, health status can be measured in a multitude of ways. This section focuses briefly on a range of health indicators reported by the OECD.

In 2000, New Zealanders' life expectancy was 75.7 years for males and 80.8 years for females (Figure 6.1). This ranked New Zealand at ninth out of 30 OECD countries for males, and 14th for females (Organization for Economic Cooperation and Development 2003a).
Figure 6.1: Life expectancy at birth in OECD countries (years), 2000

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<td>United States</td>
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<td>Denmark</td>
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<td>Turkey</td>
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Note: 1 = 1999

Life expectancy at age 65 (measured as the average number of years remaining to a person at age 65) is often used as a proxy indicator of the health of older people. However, as the OECD points out, 'it only measures the quantity of remaining years of life that a person reaching that age can expect to live (given current patterns of mortality), not the health-related quality of life during these years' (Organization for Economic Cooperation and Development 2003a). In most OECD countries, life expectancy at age 65 has been improving steadily, which the OECD attributes to such factors as advances in medical care, greater access to health care, healthier lifestyles and living conditions before and after people reach age 65 (Organization for Economic Cooperation and Development 2003a). Among OECD countries, New Zealand ranks relatively highly, at 16.4 years for males (ninth out of 29 countries) and 19.8 years for females (eighth). These rankings placed New Zealand among countries such as Sweden, Spain, Luxembourg and Norway.
Across a range of specific health outcome indicators, New Zealand shows mixed performance alongside other OECD countries. New Zealand’s mortality rate from all cancers, at 189 per 100,000 in 1998, was relatively high by OECD standards, ranking eighth highest out of 26 reporting countries, and similar to the United Kingdom and the Netherlands. Mortality from ischaemic heart disease was similarly high (seventh highest for males and eighth for females), and similar to those of Germany and the United Kingdom.

However, AIDS incidence rates were relatively low in New Zealand, at 0.7 new cases per 100,000. This was the twelfth lowest among 30 OECD nations, and similar to those of Sweden and the Netherlands.

**Access to health services**

Access to health services is a multidimensional concept and can include service availability, service use, affordability, cultural appropriateness and geographic access. One measure of health service availability is the number of practitioners per head of population. Analyses of OECD data indicate that New Zealand had a relatively high number of practising and certified nurses in the late 1990s, sitting in the top third of OECD nations with 9.6 per 1000 population, alongside Austria, Germany and Norway. New Zealand also had relatively high rates of general practitioners (0.8 per 1000 population), comparable to Luxembourg, the United States and Norway. However, New Zealand was in the lower third of OECD nations in the number of practising physicians, at 2.3 per 1000 population, alongside Poland, Ireland and Australia (Organization for Economic Cooperation and Development 2001, Organization for Economic Cooperation and Development 2003b).

The New York-based Commonwealth Fund commissions and reports on research examining health policy and practice in five industrialised nations: Australia, Canada, New Zealand, the United Kingdom and the United States. A 2001 Commonwealth Fund study examined a range of dimensions of access, and found New Zealand respondents reported the fewest problems of accessibility to some aspects of care. About two-thirds of respondents in New Zealand and Australia reported that they were able to see a doctor the same day they needed it, compared to about one-third of respondents in Canada, the United Kingdom and Australia (Blendon et al 2002). New Zealanders were also least likely to report difficulties getting care on nights or weekends. They were also least likely to report that getting emergency care was a big problem.

However, one in four respondents (among those needing elective surgery in the past year) in New Zealand, Australia and Canada, and one in three respondents in the United Kingdom, reported waiting over four months for elective surgery, compared to only 5 percent in the United States. One in four respondents from the United States, and one in five New Zealanders, reported that they did not get health care due to cost in 2001, compared to only 3 percent of respondents from the United Kingdom (Blendon et al 2002).

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65 The definition of physician varies between OECD countries. In most cases, including New Zealand, the data include non-practising and foreign physicians, but not those who have retired.
Delivery of health services

Immunisation coverage is one population-level marker of the effectiveness of health service delivery. OECD data from 2000 indicate New Zealand has relatively lower rates of immunisation for measles, diphtheria, tetanus and pertussis (whooping cough) than other OECD nations (Organization for Economic Cooperation and Development 2003b). In 2000, 85 percent of children were immunised for measles (comparable with France, Turkey, the UK and Portugal), and 89 percent of children were immunised for diphtheria, tetanus and pertussis (comparable to the UK, Australia and Italy).

Another means of measuring health service delivery is by directly surveying health system users. A survey commissioned by the Commonwealth Fund in 2002, of ‘sicker adults’, found the experiences of this group of respondents were often more positively recorded in New Zealand than other countries (Blendon et al 2003). Physician care was rated more highly in New Zealand than the United Kingdom and the United States, particularly in terms of spending enough time with patients and being accessible by telephone or in person. New Zealanders were also more satisfied with diagnoses, attentiveness and being treated with dignity and respect than all countries except Australia where ratings were equal.

Ironically, in this study high rating of personal physicians in New Zealand ‘coexisted with high levels of dissatisfaction with the health care system overall’. No conclusive reasons could be provided for this finding. The authors hypothesise that the level of dissatisfaction with the system is possibly the result of several restructurings. However, there are no questions relating to this in the survey, and indeed the United Kingdom, where only 31 percent were dissatisfied, has also undergone frequent changes to the health system over recent years.

A preliminary study of a New Zealand hospital, with a peer group of hospitals from the United Kingdom, indicates potential for exploration of cross-country comparisons using inpatient data (Booth et al submitted). The study found that although the New Zealand hospital had a higher average level of severity of inpatient admissions than the UK hospitals, the New Zealand hospital had a lower percentage of deaths. The New Zealand hospital did not, however, perform as well in some other quality areas, with higher patient misadventure rates and higher adverse reactions to therapeutic substances. Although the use of only one hospital from New Zealand limits the interpretation of data at a system level, this study indicates that if different classification systems and definitions of patient events can be reconciled, and if similarity of case-mixes and matching benchmarking practice can be achieved, international comparisons of hospital data are possible and could contribute to our knowledge base for enhancing system performance.
Health outcomes of health services

In earlier chapters, this report examined performance within New Zealand of two measures that indicate the contribution of health services to health outcomes: population preventable hospitalisations (hospitalisations that could be prevented through population health strategies) and ambulatory-sensitive hospitalisations (which are potentially preventable through primary care interventions). A study of 19 OECD countries used the indicator ‘mortality amenable to medical/health care’ (Nolte and McKee 2003). This indicator is based on standardised death rates of a variety of causes of death considered amenable to health care interventions, as an indicator of health system performance.

In this study, which generally used 1998 data (for the population aged under 75 years) from each of the countries surveyed, New Zealand was ranked 15th out of the 19 countries. This was similar to Japan, Austria, Greece and the Netherlands, and higher than the United States and Ireland. A further analysis included ischaemic heart disease in the definition of amenable mortality, which placed New Zealand at fourteenth. This change in definition also substantially altered the position of other countries, such as Finland, which fell from eighth to fifteenth, and Japan, which rose from thirteenth to third. As the authors noted, these findings highlighted that rankings based on summary measures are sensitive to the definitions and concepts underlying them (Nolte and McKee 2003).

Evaluations of sector activities

This section draws together the summarised findings of a range of evaluations and analyses of health and disability support sector activities. Evaluation activities often use a range of methodologies and draw on multiple data sources, so as to build a comprehensive picture of service or programme implementation and/or impact. The importance of these evaluations is in identifying aspects of services and programmes that are functioning well or that require improvement, so as to inform development and operation of related activities across the sector.

The section begins with a report on the first stage of an ongoing evaluation of the implementation of the health reforms begun in 2001. Following this sector-wide evaluation, discussion then turns to findings from a selected range of evaluations and service reviews, exploring personal health services, public health services and disability support services in turn.
Evaluation of the 2001 health reforms

The logic of the reforms

The 2001 reforms were motivated primarily by a desire to move from the previous competitive models to a more collaborative health system model, which it was felt would more adequately address the health needs of New Zealanders. There was also a concern that the public was losing trust in the health system (Minister of Health 2000). The key goal of the 2001 health sector reforms was to focus the sector on population health, which emphasises primary and preventive health care in addition to hospital services. The structure of the health system under the reforms reflects this goal:

- DHBs, the majority of whose members are elected, focusing on the health of a geographically defined population
- community involvement in decision-making
- a more transparent and open system than was the case previously.

From 2002, Primary Health Organisations were progressively established across New Zealand with the aim of delivering accessible and affordable primary care to an enrolled population.

In working towards this goal, the health system under the reforms represents a shift away from the ‘quasi-market’ model of the 1990s which required Crown Health Enterprises to operate as businesses and compete with other service providers for contracts with the four Regional Health Authorities (subsequently a single national Health Funding Authority) which purchased services. Under the New Zealand Public Health and Disability Act model, funding for most health services was devolved to DHBs which purchase and provide hospital care and contract primary and community care. National priorities were established by overarching strategies, especially the New Zealand Health Strategy and the New Zealand Disability Strategy. DHBs are accountable to the Minister of Health through the Ministry of Health.

The research project

The Health Reforms 2001 Research Project was undertaken to evaluate the progress of the health reforms under the New Zealand Public Health and Disability Act 2000 (the Act) as they were implemented (Health Reforms 2001 Research Team 2003). The research is a three-year evaluation and has a strong formative component with interim findings being fed back to the sector as the evaluation progresses.

The evaluation is focused on the themes that have been identified as central to the 2001 health reforms. These include:

- governance, funding, purchasing and contracting, and devolution
- strategic decision-making and implementation of key strategies
- the Treaty of Waitangi and Māori health
- Pacific peoples’ health
- capacity and capability
- adaptation of the Ministry of Health to a new role.
Research methods include a public telephone survey, document analysis of DHB documents, policy and Cabinet papers, interviews with a range of key informants (including Chairs, CEOs, and Planning and Funding Managers in DHBs and national stakeholders and commentators), and postal questionnaires to DHB Board members. In-depth research using interviews of senior DHB staff and key stakeholders, including providers, document analysis and Board meeting observations is also being carried out in five case study DHBs.

This summary is of the findings of the first year of the evaluation for which governance under the DHB model is a major focus. Data were collected between January 2002 and May 2003.

**Representation**

Each DHB board has up to 11 members: seven elected by the community and up to four appointed by the Minister of Health. A key point of difference between the DHB model and the previous health system is the emphasis placed on community involvement in decision-making. DHB elections are one aspect of this and, although the electoral process does not by itself guarantee good representation or local participation in decision-making, the number of people choosing to stand in Board elections is seen by some to vindicate the model. Although 50 percent of the eligible population participated in the 2001 DHB elections (Ministry of Social Development 2003), this is consistent with turnouts for local body elections.

One concern noted by the evaluation was the low number of Māori candidates that have been elected to date on to DHB boards. While it is thought that a move to a Single Transferable Vote system in 2004 could improve representation, the provision in the Act for the Minister to appoint up to four board members allows gaps in representation to be addressed, and allows imbalances in the skills and expertise of elected members to be offset. Thus, the DHB election and appointment process balances community input into the make-up of the board with the need for boards to have a suitable mix of skills, expertise and backgrounds. The Act requires the Minister to endeavour to ensure that Māori membership of each board is proportional to the number of Māori in the DHB’s resident population, and that each DHB board has at least two Māori members. This requirement has often been met through the Minister appointing Māori members to boards.

Although DHBs as a whole are accountable to the Minister of Health, the evaluation noted that elected members acknowledge accountability to the community as well as to the Minister. The majority of appointed members felt principally accountable to the Minister. A number of people interviewed for the evaluation felt that the mix of accountabilities, in conjunction with DHBs’ dual roles of implementing national policies and making resource allocation decisions, would generate tensions. With respect to which segment of the community members see themselves as representing, some members felt they represented a local geographical area, while others felt they represented one or more groups within the community.
The evaluation noted that the inclusion of the Treaty of Waitangi in the NZPHD Act is felt to be significant, and is seen to be something which Māori and DHBs can build on to improve the health status of Māori. The Act requires the establishment of Treaty relationships, and this has raised some concerns for Māori, as the implications of these relationships are currently unclear. There was a concern that some districts may have difficulty in putting forward people with the appropriate knowledge and skills to fulfil the partnership relationship.

The evaluation noted that the health reforms are a positive development for Pacific health. While further research is needed on the impact of the reforms on Pacific peoples and their health, a number of features of the reforms are viewed positively by the Pacific community and Pacific providers. These include the non-competitive model for providers, the development of the Pacific Health and Disability Action Plan, and the identification within this plan of seven DHBs with high Pacific populations as priority Boards. However, there was a general feeling that the electoral process did not work for Pacific communities, as no Pacific representatives were elected onto Boards. Pacific Board members also feel they are lone voices and find it difficult to get Pacific issues presented.

Community involvement

In addition to DHB elections, community involvement in the health system is given effect through open DHB meetings and inclusion of community input in strategic planning. Feedback from DHB CEOs to the evaluation team suggested that open meetings manage community expectations, but can constrain debate and possibly do not contribute as much to community involvement as more structured consultation processes. Furthermore, public attendance at DHB meetings is typically very low. However, the provision for members of the public to attend meetings if they wish does contribute to the transparency of the Act’s model.

Community consultation as a part of preparing District Strategic Plans (DSPs) is mandatory under the Act. As mentioned above, CEOs see the structured consultation that is a part of the DSP process as a more effective means of involving the community than open meetings or elections. Most boards feel that they have established processes for involving the community in strategic decision-making, although it is evident that input into DHB planning only came from a small number of organisations and people.

Health needs assessment

As a part of their strategic planning, DHBs are required to carry out a Health Needs Assessment of their populations. These assessments allow DHBs to set priorities in accordance with the needs of their local population in a justifiable manner, and reflect the population health theme of the reforms. The evaluation noted that Government Strategies appeared to have a strong influence on prioritisation.
Strategy implementation

The focus on population health under the reforms is reflected by the development of the *New Zealand Health Strategy*, *New Zealand Disability Strategy*, *Primary Health Care Strategy*, *He Korowai Oranga* and other population-based strategies. With respect to the New Zealand Disability Strategy, DHBs have a requirement to enact it both as a service provider and as an employer. However, the evaluation noted that there appears to be some confusion in the sector regarding the *New Zealand Disability Strategy*, and some DHBs appear to have been slower in recognising their responsibilities in implementing the Strategy. Disability support services funding has been split into two groups, and DHBs were devolved responsibility for disability support services for people 65 years and over on 1 October 2003. The needs of this group are primarily health-related, whereas younger people with disabilities have needs that are broader than health alone. Under the Act, DHBs are required to have a Disability Support Advisory Committee. The evaluation noted that the role of these committees has been unclear. The implementation of the NZHS will be reported on at a later stage of the evaluation.

The Primary Health Care Strategy exemplifies many of the goals and expectations of the 2001 reforms through a focus on those who have not been well served by primary care and extending the provision of primary health care into population health. The evaluation found that while those working in the sector typically agree with the principles and objectives of the strategy, some dissatisfaction has been expressed regarding the development and implementation of the strategy. Many of these concerns are around funding, workload and uncertainty regarding the new arrangements. Some structural issues were identified, such as uncertainty surrounding the role of PHOs and how the roles of DHBs and PHOs relate to each other.

DHB/Ministry of Health relationship

The evaluation noted that most DHB CEOs view their relationship with the Ministry of Health as being good or else improving, and it is expected that the relationship between the Ministry and DHBs will develop over time. However, some concerns were also expressed. There were calls for more co-ordination within the Ministry, strong leadership and policy development and less interference in implementation.

General conclusions

The evaluation noted that overall there is support in the sector for the reforms and, on the whole, perceived weaknesses are seen to be manageable. There is provision for community involvement, even if actual uptake by the public is limited at this stage.
The evaluation noted that the model is generally supported within the sector. The emphasis on local need and community involvement, a focus on inequalities, and the identification of primary health care as a priority are all seen to be strengths of the model. CEOs suggested that most weaknesses of the model are manageable and difficulties will be overcome with time. The fact that major change is not recommended at this stage may also be related to ‘change fatigue’ and a desire to let the new structure settle in and evolve gradually. Many participants in the evaluation thought there were too many DHBs, but none suggested how any amalgamation should proceed. From the Ministry’s perspective, DHBs were established around existing entities (Health and Hospital Services), in order to keep the cost of implementing the model to a minimum. The Ministry envisages DHBs will evolve over time, and notes that there are already several initiatives underway between DHBs to share knowledge, planning and services.

Future evaluation activities

At this stage the evaluation has not yet reported on some topics included in the research. These include implementation of the New Zealand Health Strategy and DHB performance. Further findings of this research project will be discussed in future editions of the Health and Independence Report.

Evaluations and service reviews of personal health services

Family Start evaluations

Family Start is a child-centred, family-focused, high-intensity, early intervention parent support and development programme (discussed in Chapter 3). The Ministry of Health is the lead agency for this programme. It is a home visiting model with the goal of achieving better outcomes for New Zealand’s most at-risk families in 16 locations around New Zealand. The Family Start programme is based around home visiting by a family/whānau worker who works with the family to achieve integrated and comprehensive solutions to identified health, education and social needs. It is targeted to the 15 percent of the population most at risk of poor life outcomes in order to ensure that the 5 percent at highest risk receive the programme. Family Start services are provided at three levels of intensity and duration depending on the level of need.

Process evaluation

The Family Start Process Evaluation covered the period 1999–2001 and evaluated the development and implementation of Family Start in three prototype locations that opened in late 1998. In summary, the process evaluation highlighted the quite different ways the Family Start Programme Operating Guidelines have been implemented in the three prototype sites. All sites provided services to families that met the guidelines, but the establishment and success of those services was influenced by a number of factors, including:
• establishment time
• stability of governance and management
• establishing good relationships with referral agencies and community agencies, and gaining the confidence of these agencies
• recruitment and retention of families
• availability of appropriate staff and subsequent credibility of the service
• timeliness of training in the use of information systems
• quality of delivery of the Parents as First Teachers programme.

It was not clear to what extent these factors impacted on service delivery, nor to what extent variations were a product of the demand of a particular community or were the product of the extent to which sites were able to progress beyond the immediate demands of establishing the core infrastructure, skills and credibility. There was a strong impression that those sites which had moved through initial establishment smoothly were able to expand their focus on the wider family/whānau sooner.

Impact evaluation
At the time of publication of the Health and Independence Report, the impact evaluation was close to completion. The three main aims for the Family Start Impact Evaluation have been to:

• determine the short-term outcomes for families and children who participate in the Family Start programme
• identify how Family Start influences and is influenced by other service delivery agencies in the local community and the possible effects of this on outcomes for families and children
• identify ways in which the Family Start programme can be altered or improved to better meet the needs of at-risk families and their children.

The final results from the impact evaluation are not expected until January 2004.

Maternity Services Consumer Satisfaction Survey
In 2002 the Ministry of Health surveyed women who had given birth in February and March of that year to assess women’s perceptions of maternity services (Ministry of Health 2003e). A similar survey was undertaken in 1999 and the results of the 2002 survey were compared with the 1999 findings. As there was little change in the maternity services model between 1999 and early 2002, improvement in women’s satisfaction is likely to be due to consolidation of the system and improved service delivery.
A postal questionnaire was sent to all women recorded on the Maternal and Newborn Information System as having given birth to a live baby or babies in February and March 2002. 2909 questionnaires were completed and returned, a response rate of 40 percent. Consequently, Māori, Pacific and Asian women were proportionately less likely to respond to the survey, while older women and women having their first baby were more likely to respond.

In order to compare the experience of different groups, women were asked to identify their ethnicity, age range and whether they lived in a rural or urban area. They were also asked to specify whether it was a first birth or a subsequent birth, and whether the birth involved any intervention.

The survey found that women consider certain aspects of maternity care are crucial. These include continuity of the Lead Maternity Carer (LMC), home visits, single rooms in hospitals, availability of primary maternity facilities, a choice of LMC and place of birth, involvement in decision-making and not incurring the costs for any core services.

The 2002 results give an overall improvement of 2 percent on the 1999 findings, based on the number of respondents who agreed or strongly agreed to questions measuring satisfaction levels. The intensity of women’s views has increased, with average improvement since 1999 at 7 percent when based on only those women who strongly agreed.

The survey found that in general there has been relatively small but consistent improvement across all indicators. Women are more informed about maternity services, and are more likely to be involved in the planning of their care. Twice as many people received a copy of their care plan than in 1999. However, breastfeeding advice in hospital received the lowest rating. Women connected this with hospital staffing levels and the pressure from some hospitals for a reduced length of stay.

In terms of differences in the experience of groups of women, the results showed younger women (15–19 years) were less likely to be satisfied with their maternity care, while women who give birth at a primary maternity facility are more likely to be satisfied.

A number of changes have occurred in maternity services since the 2002 survey and it is noted in the survey findings that repeating the survey in two or three years would be beneficial in assessing the impact of these changes on satisfaction levels.

**Intersectoral Community Action for Health**

The Intersectoral Community Action for Health (ICAH) pilot programmes began in 2001 and are funded from the Reducing Inequalities Contingency Fund. They are examples of activities at a local level that seek to both address the determinants of health and also improve equity of access and utilisation of health services. The pilots highlight the links that are possible between personal health, public health services, and other sectors.

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2192 questionnaires were returned in the 1999 survey – a response rate of 47 percent.
The pilots are based in Porirua, South Auckland, Kapiti and the Far North, along with two initiatives to Improve Access to Primary Care Services (IAPC) based in Porirua and Otaki which are managed by local DHBs. All of the initiatives are targeted at areas of high socioeconomic deprivation and significant health inequalities with high proportions of high-need populations (Māori, Pacific and low-income groups). The ICAH programmes have an ongoing budget of $2.55 million annually.

The ICAH initiatives support projects in services and health determinants including crime prevention, educational attainment, housing improvements, nutrition and physical activity, mental health, primary health care including PHO development, diabetes, accident and medical services, youth health and life skills, health of older people, and transport.

Mechanisms to improve determinants of health, reduce inequalities and improve community participation are used by each ICAH initiative. The ICAH initiatives are already having a positive impact on community engagement and effective processes and mechanisms to shape health and disability services policy, planning and service delivery within their communities.

ICAH has been undergoing evaluation since 2001 and a final evaluation report is due in December 2004. Interim ICAH evaluation findings are that the ICAH initiatives are achieving good progress and actively using mechanisms to improve determinants of health and reduce inequalities in their communities. They are providing lessons that are valuable in their own communities and to the whole health sector, including the importance of having key players (including the community) engaged at all stages of design and implementation of services, and the long timeframe needed to achieve changes necessary to improve health outcomes and reduce inequalities.

The ICAH findings concur with overseas evidence that intersectoral initiatives can achieve governments’ goals in areas such as health, but that it takes time to ‘bed in’ processes and mechanisms to improve health outcomes and reduce inequalities. Further evaluation is required to elicit the impact of the ICAH initiatives, in particular the effectiveness of the actions towards meeting the needs of Māori, Pacific and low-income groups.

**Evaluations and service reviews of public health services**

**Auckland pseudo-patrons surveys 2002–03**

Actions to reduce alcohol harm in New Zealand are consistent with public health approaches that seek to modify both individual behaviours as well as the environments that can contribute to harmful behaviours. This happens through a comprehensive, intersectoral approach involving a wide variety of government agencies, non-government organisations (NGOs) and community agencies.
An example of this approach is the Regional Alcohol Project (RAP) under way in the Auckland region. The initiative aims to: reduce alcohol-related harm for young people through reducing off-licence and social supply of alcohol to those under 18; reduce violence in public places; and reduce intoxication of those under 25 in on-licence venues. The Ministry of Health has encouraged police, public health researchers, the Alcohol Advisory Council and local councils to collaborate on the project.

Sale of alcohol to young people is an important health issue as supply of alcohol influences or stimulates demand and has effects on alcohol use and related harm. Adequate enforcement of the purchase age through age verification practices is vital to avoid increases in alcohol consumption and related harm to young people, resulting from the lower minimum drinking age. As a part of the Regional Alcohol Project, the Ministry of Health funded research into ID verification at off-licences in the Auckland region (Huckle et al 2003).

The survey involved 18-year-olds attempting to purchase alcohol from randomly selected off-licences in the Auckland region. Bottle shops, supermarkets and licensed grocery outlets were included in the sample. Approximately 250 outlets were selected. Data were collected on three successive weekends. The survey was first conducted in 2002 and a follow-up survey was undertaken in 2003.

A small number of pseudo-patrons were used in both 2002 and 2003. This minimised inter-person variability which made data collection more consistent and also minimised the number of people who were aware of the project (thereby maintaining a greater degree of confidentiality). Each off-licence was visited twice, once by a male and once by a female.

The research found a significant decrease in the proportion of sales of alcohol made without ID at off-licences visited in the Auckland region between 2002 and 2003. In 2003, 46 percent of sales were made without ID, compared with 61 percent in 2002. The highest proportion of sales without ID were made at grocery stores in both years: 71 percent in 2003 and 80 percent in 2002. Forty-three percent of sales from bottle stores were made without ID in 2003, compared with 59 percent in 2002. Supermarkets had the lowest proportion of sales without ID in both years: 28 percent in 2003 and 53 percent in 2002.

The research also noted an increase in visible age signage in off-licences. Signage was visible in 66 percent of off-licences in 2003, compared with 50 percent in 2002.

The research found that 18-year-olds without ID could purchase alcohol for almost 50 percent of visits they made to off-licences. Although this proportion is of concern, it shows a decrease of 11 percent from the previous year. These results suggest a positive response by retailers to the monitoring of age-verification practices conducted in 2002 and the subsequent actions taken by the police, licensing inspectors and other stakeholders.
These findings inform ongoing media advocacy and intersectoral activities between stakeholders as a formative evaluation component of the Regional Alcohol Project. The findings also feed into the ongoing three-year evaluation of the Regional Alcohol Project as an impact measure.

Evaluation of nutrition and physical activity programmes purchased by the Health Funding Authority/Ministry of Health

Between 1999 and 2002 the Health Funding Authority (later absorbed into the Ministry of Health) contracted Evaluation Associates to evaluate the 15 Northern Region providers of nutrition and physical activity services to:

1. assess if the nutrition and physical activity services and programmes purchased by the Auckland office of the HFA (Ministry of Health) were well planned and implemented, meeting their own objectives and having a positive impact on their target groups
2. assess the current service mix in relation to purchasing guidelines, geographical locations and populations
3. assess how complementary services were, how well providers worked together and what value the national programmes added to regional services.

The results were very positive and concluded that the resources spent by the Ministry of Health in the areas of nutrition and physical activity were delivered to a high standard and that all providers met, and sometimes exceeded, contractual obligations. The programmes and services had a positive impact on target groups. Impacts were diverse in nature and included changes in policies and practices of organisations and in the behaviour of individuals. However, some gaps were identified in the provision of services for the Asian population and for low-income non-Māori and non-Pacific groups. For the most part, providers worked well together and the services that were delivered were complementary.

The insights gained from the evaluation provided the basis for further programme development and innovation.

Green Prescription programme

In April 2003 the results of an evaluation of the Green Prescription programme were published. The Green Prescription programme is a primary health care-based initiative where general practitioners and practice nurses provide advice and counselling to patients on physical activity with follow-up by exercise specialists via telephone and post. The evaluation reported that counselling patients in general practice is effective in increasing physical activity and improving quality of life over 12 months (Elley et al 2003).
There was widespread recognition of Green Prescriptions and awareness among general practitioners and health care professionals. A random survey of GPs in May 2003 indicated that 97 percent of respondents were aware of Green Prescriptions and 69 percent had issued them to their patients. Green Prescriptions were prescribed for the following conditions: weight issues (91 percent), diabetes (71 percent) and high blood pressure (62 percent).

A Green Prescription patient survey conducted in 2003 reported that 77 percent of patients reported a change in their health with 60 percent feeling better and 54 percent losing weight. In addition, 62 percent had made changes to their food/drink intake since receiving a green prescription with 40 percent cutting down on fats consumed (SPARC 2003a).

Finally, a cost-effectiveness study of the intervention (in press) found the cost of physical activity counselling using Green Prescriptions is negligible when reduced health care utilisation costs are taken into account.

**Push Play**

Push Play is a media-led community-wide intervention campaign promoting the message of ‘30 minutes a day’ of moderate intensity physical activity. In addition there were community-level and primary care supporting programmes and events. It was initiated by the Hillary Commission and continued by SPARC. An evaluation of Push Play has found substantial increases in awareness of the Push Play message (29.8 percent in 1999 to 57.2 percent in 2002, p<0.001, and the Push Play logo (13.5 to 52 percent, p<0.001) (Bauman et al 2003). There were significant increases in adults who intended to be more active (1.8 percent in 1999 to 9.4 percent in 2002). No sustained changes in physical activity levels were seen in serial evaluation surveys, but a 3 percent increase in participation was noted in corroborative epidemiological surveys.

**Evaluations and service reviews of Disability Support Services**

**Needs Assessment and Service Co-ordination agencies review**

Creating a long-term support system centred on the individual is a key objective in the New Zealand Disability Strategy. National consistency is critical to this objective which aims to ensure that people with disabilities are able to access support services in an equitable and timely manner.

Needs Assessment and Service Co-ordination (NASC) agencies were established to manage access to disability support services. This includes identifying and prioritising a person’s care and support needs, and identifying the most appropriate services and support options to meet assessed needs and outcome goals within available funding.
In February 2002 the Ministry of Health published guidelines to achieve national consistency between the (NASCs). In October 2002 a developmental review began for each NASC to identify gaps between the ideal and current provision of needs assessment and service co-ordination for people with disabilities. The views of clients, as well as managers, staff and other agencies, were obtained for each review.

Overall, the reviews demonstrated that the NASC framework can work with a number of NASCs assessed as performing well, one as excellent. Despite this, it was apparent that NASCs were working within constraints that compromised high performance. These constraints included a lack of client involvement in NASC services, tensions in the social and medical model of disability, and a lack of flexible funding which can prevent the appropriate support package being put in place.

There was a high level of understanding from the NASCs about the need for the changes recommended as a result of the reviews. NASC managers have been very supportive of the review process and of the Ministry’s commitment to work alongside them to get the process working well for clients.

As a result of the reviews each NASC manager and their Ministry contract manager agreed an action plan which detailed the tasks that both parties needed to undertake for the NASC to fully implement the national NASC guidelines published in February 2003. A national project during early 2004 will provide further support to NASC and Ministry or DHB managers in this implementation, by resourcing them in areas such as mentoring or training.

Overall, NASCs have performed extremely well in implementing the action plans. Constraints still exist in many cases, but generally these are being worked through in a positive way. Many action points were implemented immediately following the review, demonstrating a high commitment to the process.

Review of rehabilitation services and requirements, disabled adults aged 15–64, northern region

The Ministry of Health currently funds a range of rehabilitation and habilitation services for adults aged 15–64 with disabilities in the Auckland and Northland region.

As a funder of services, the Ministry identified that there was a need for a regional rehabilitation strategy to ensure that services were clearly defined, appropriately funded, accountable and responsive to the needs of people with disabilities. As a result, the Ministry sought to review current services to identify gaps and priority areas for future development and to ensure that Ministry funding is optimally utilised to benefit people with disabilities and their family and whānau.

The project, which has been strongly aligned with the philosophies and objectives of the New Zealand Disability Strategy, involved extensive consultation with people with disabilities, advocacy groups, organisations that deliver rehabilitation services in the Northern Region, health professionals and District Health Boards.
The review, which was undertaken by the Disability Resource Centre on behalf of the Ministry, identified a number of gaps for clients and presented a number of recommendations to address these, including the need to:

- review the ‘real cost’ of achieving Ministry of Health and ACC parity of services and funding
- address the reduced emphasis on vocational services for people with disabilities and increase intersectoral collaboration between the Ministry of Health, NASCs, Ministry of Social Development and ACC in purchasing vocational services for people with disabilities
- address the lack of transitional community living and respite care options. It was recommended that the Ministry of Health’s Disability Services Directorate work in collaboration with people with disabilities to develop a Request for Proposal for community-based living services (Disability Resource Centre 2003).

Due in part to this review, and another undertaken in the Central region, the Ministry decided to move rehabilitation under a National Contract Manager in the new Disability Services Directorate structure. This reflects a greater focus on rehabilitation which should result in improved outcomes for clients. The manager will oversee contracts and manage relationships with providers and the sector in regards to funding for rehabilitation services and planning and development.

Also, in response to the recommendations, the Ministry is initiating a development plan for rehabilitation. Further work towards the implementation of recommendations from the review is continuing.

**Home-based support services review**

People with disabilities have consistently expressed the desire to live as independently as possible in their own homes in the community. In keeping with the New Zealand Disability Strategy and the Health of Older People Strategy, there is a need to ensure that the range of community support services available meet appropriate outcomes for people with disabilities and, in particular, are safe, flexible and responsive, and promote the person’s dignity and independence.

There are concerns about the ability to recruit and retain suitably competent workers to support the desired outcomes for people with disabilities. Also, there is a lack of national consistency in the services people receive, and a need to further develop services that are culturally appropriate for Māori, Pacific peoples and other cultures.

The Home-Based Support Services Review aims to address these concerns and, therefore, better enable people with disabilities to live with independence and participate with dignity in their community.
As part of the Review the Ministry and ACC have developed Home and Community Support Sector (H&CSS) Standards. These Standards encourage higher levels of service quality and consistency, develop a formal and rigorous framework for home support providers through audit, and focus on better outcomes for people receiving home support. The Ministry and ACC reviewed 40 contracted providers against the H&CSS Standards, work which was completed in September 2003. It is expected that the data from the review will indicate overall sector capacity and capability in relation to the H&CSS Standard.

Further work under way includes the:

- development of a proposed new purchase framework and service specifications for Home-Based Support Services which is designed to align the purchase framework with the New Zealand Disability Strategy and the Health of Older People Strategy. The proposed model provides a flexible structure for co-ordinating and facilitating services that are highly responsive to the assessed individual support needs of people with disabilities

- Community Support Services Industry Training Organisation developing a nationally recognised and transferable foundation qualification for residential and community support workers within aged care and disability sectors

- Ministry undertaking a survey to gather data on the numbers of support workers in the aged care and disability sectors and their training needs to ensure training development is relevant to them.

**Review of rehabilitation services for acquired and traumatic brain injury in the lower North Island**

Over the past five to eight years there has been an improvement in focus, knowledge and services for people with brain injury. Despite this, it is generally believed that some people with serious and moderate brain injury are misdiagnosed and, therefore, miss vital rehabilitation opportunities. This group is also over-represented in the prison population.

From April to June 2002 the Ministry and ACC jointly commissioned a review of rehabilitation services in the lower half of the North Island\(^\text{67}\) for people aged between 16 and 65 with health (acquired) or injury (traumatic) related brain injury (Acqumen 2002, CGNZ Ltd 2003).

The purpose of the project was to further improve rehabilitation service delivery to this group. This includes ensuring that there is a clear and consistent framework for the delivery of rehabilitation services, co-ordinated service delivery and consistency of service, regardless of whether the funder is the ACC or the Ministry of Health.

The review process included a stocktake of existing services, a summary of data and literature, and structured interviews with sector stakeholders. Most of the service providers interviewed appeared committed to providing a high-quality and rehabilitation outcome-focused service for people with brain injury.

\(^{67}\) This includes Wanganui, Manawatu, Wellington, Hutt Valley, Wairarapa and Hawke's Bay.
The identification of barriers to the provision of such a service, and ways to overcome them, resulted in a number of recommendations being made. These included:

- ACC and the Ministry of Health will work jointly to sponsor and lead a regional service development model to improve brain injury rehabilitation services
- improved research and data collection on rehabilitation to enable benchmarking and outcome measurement in the future
- a workforce development plan being developed and implemented across the full continuum of services (tertiary through to long-term, community-based rehabilitation and maintenance).

Barriers to positive outcomes appeared when some or all of a number of key factors were not in place. This was typically caused by a lack of co-ordination across services, poor boundaries, unclear roles and fragmented relationships.

Recommendations presented in the Review, and in a Ministry and ACC stakeholder workshop focusing on Brain Injury Rehabilitation Services, helped to derive five workstream improvement initiatives that are interrelated.

- Development of a rehabilitation service model for acquired and traumatic brain injuries which represents the full range of services from tertiary to long-term and community-based support and rehabilitation.
- Development of a quality structure and promotion of quality standards and development across the full continuum of services.
- Implementation of a workforce development strategy across the full continuum of services.
- Collection of uniform data and dissemination of useful information, ranging from data collection, analysis and research to individual information for clients.
- A cultural integration strategy that targets cultural communities to identify needs and subsequent service responsiveness.

Each workstream initiative will be developed and implemented within a managed programme of change which will include focus groups, workshops and communication with stakeholders to enable full participation of stakeholders in the development of the process.
Appendix 1: Health System Performance Assessment: Models from Australia, Canada, United Kingdom, and the World Health Organization

This final section describes four international models for performance assessment frameworks as a precursor to work under way in 2003/04 to develop a performance assessment framework for New Zealand.

Assessing the performance of a health system often involves two aspects: monitoring progress towards the stipulated goals of the system, and identifying elements of the system where performance improvement is required. Performance assessment frameworks (PAFs) specify which aspects of performance are assessed and use a set of indicators to provide information on these aspects. Four PAFs are discussed below: the Canadian Institute for Health Information framework (Canadian Institute of Health Information 2003); the Australian national health performance framework (National Health Performance Committee 2002); the NHS performance assessment framework (Department of Health 1999); and the framework used in the World Health Report 2000 (World Health Organization 2000).

Canadian framework

The Canadian PAF provides a comprehensive picture of the standard to which the health system is performing. It not only assesses the performance of the health system in terms of dimensions such as efficiency, but also assesses the health status of the population, non-medical determinants of health and community and health system characteristics. Thus, the framework provides an assessment of the context in which the health system operates and takes into account factors external to the health system that influence health status. This is important for attribution: health system performance should be assessed according to factors that can be attributed to the health system. Otherwise, the performance of the health system may be masked by improvements in living standards, for example.
<table>
<thead>
<tr>
<th>Health status</th>
<th>Human function</th>
<th>Wellbeing</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alterations of health status, which may be a disease, disorder, injury or trauma, or reflect other health-related states</td>
<td>Alterations to body/ functions/structures (impairment), activities (activity limitation), and participation (restrictions in participation)</td>
<td>Broad measures of physical/mental/social wellbeing of individuals</td>
<td>Age- or condition-specific mortality rates and other derived indicators</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-medical determinants of health</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Health behaviours</td>
<td>Living and working conditions</td>
<td>Personal resources</td>
<td>Environmental factors</td>
</tr>
<tr>
<td>Aspects of personal behaviour and risk factors that influence health status</td>
<td>Socioeconomic characteristics and working conditions of population that are related to health</td>
<td>Measures of prevalence of factors, such as social support and life stress, that are related to health</td>
<td>Environmental factors that can influence health</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health system performance</th>
<th>Acceptability</th>
<th>Accessibility</th>
<th>Appropriateness</th>
<th>Competence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care/service provided meets expectations of client, community, providers and paying organisations</td>
<td>Ability of clients/patients to obtain care/service at the right place and right time, based on needs</td>
<td>Care/service provided is relevant to client/patient needs and based on established standards</td>
<td>Individual/s knowledge/skills are appropriate to care/service provided</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Continuity</th>
<th>Effectiveness</th>
<th>Efficiency</th>
<th>Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to provide uninterrupted, co-ordinated care/service across programmes, practitioners, organisations, and levels of care/service, over time</td>
<td>Care/service, intervention or action achieves desired results</td>
<td>Achieving desired results with most cost-effective use of resources</td>
<td>Potential risks of an intervention or the environment are avoided or minimised</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Community and health system characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristics of the community or the health system that, while not indicators of health status or health system performance in themselves, provide useful contextual information</td>
<td></td>
</tr>
</tbody>
</table>

Source: Canadian Institute of Health Information 1999.
In terms of its structure, the Canadian PAF consists of four tiers: health status; non-medical determinants of health; health system performance tiers; and community and health system characteristics. Each of these tiers is divided into a number of dimensions. For example, the health status tier is divided into health conditions, human function, wellbeing and deaths. A set of indicators is used to provide an assessment of each dimension. Together, these dimensions provide an overall picture of the health of the population, non-medical factors that contribute to its health, the performance of the health system and any relevant characteristics of the health system or population, such as the health workforce or population demographics.

The dimensions of system performance assessed by the Canadian framework are: acceptability; accessibility; appropriateness; competence; continuity; effectiveness; efficiency; and safety.

**Australian framework**

The Australian PAF is based on the Canadian framework and uses the same structure of tiers, dimensions and indicators. However, the Australian framework does not consider health system and population characteristics.

The Australian framework includes three questions at each tier of the framework. These questions focus on equity, overall quality of status and performance, and identifying where improvement is required. These questions frame how the information provided by the framework is to be understood and emphasise the purpose of the framework.

Although the tiers of the Canadian and Australian frameworks are not divided into exactly the same dimensions, similar aspects of health status and non-medical determinants of health are assessed in both frameworks. The Australian PAF assesses the same dimensions of system performance as the Canadian framework, but it also assesses the sustainability of the system.
Table A1.2: Australian National Health Performance Framework

<table>
<thead>
<tr>
<th>Health status and outcomes</th>
<th>Human function</th>
<th>Life expectancy and wellbeing</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>How healthy are Australians? Is it the same for everyone? Where is the most opportunity for improvement?</td>
<td>Alterations to body, structure or function (impairment), activities (activity limitation) and participation (restrictions in participation)</td>
<td>Broad measures of physical, mental, and social wellbeing of individuals and other derived indicators such as Disability Adjusted Life Expectancy (DALE)</td>
<td>Age and/or condition specific mortality rates</td>
</tr>
<tr>
<td>Prevalence of disease, disorder, injury or trauma or other health-related states</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Determinants of health

Are the factors determining good health changing for the better? Is it the same for everyone? Where and for whom are these factors changing?

<table>
<thead>
<tr>
<th>Environmental factors</th>
<th>Socioeconomic factors</th>
<th>Community capacity</th>
<th>Health behaviours</th>
<th>Person-related factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical, chemical and biological factors such as air, water, food and soil quality resulting from chemical pollution and waste disposal</td>
<td>Socioeconomic factors such as education, employment, per capita expenditure on health, and average weekly earnings</td>
<td>Characteristics of communities and families such as population density, age distribution, health literacy, housing, community support services and transport</td>
<td>Attitudes, beliefs knowledge and behaviours, eg, patterns of eating, physical activity, excess alcohol consumption and smoking</td>
<td>Genetic-related susceptibility to disease and other factors such as blood pressure, cholesterol levels and body weight</td>
</tr>
</tbody>
</table>

Health system performance

How well is the health system performing in delivering quality health actions to improve the health of all Australians? Is it the same for everyone?

<table>
<thead>
<tr>
<th>Effective</th>
<th>Appropriate</th>
<th>Efficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care, intervention or action achieves desired outcome</td>
<td>Care/intervention/action provided is relevant to the client’s needs and based on established standards</td>
<td>Achieving desired results with most cost effective use of resources</td>
</tr>
<tr>
<td>Responsive</td>
<td>Accessible</td>
<td>Safe</td>
</tr>
<tr>
<td>Service provides respect for persons and is client orientated. It includes respect for dignity, confidentiality, participation in choices, promptness, quality of amenities, access to social support networks, and choice of provider</td>
<td>Ability of people to obtain health care at the right place and right time irrespective of income, physical location and cultural background</td>
<td>The avoidance or reduction to acceptable limits of actual or potential harm from health care management or the environment in which health care is delivered</td>
</tr>
<tr>
<td>Continuous</td>
<td>Capable</td>
<td>Sustainable</td>
</tr>
<tr>
<td>Ability to provide uninterrupted, co-ordinated care or service across programmes, practitioners, organisations and levels over time</td>
<td>An individual’s or service’s capacity to provide a health service based on skills and knowledge</td>
<td>System or organisation’s capacity to provide infrastructure such as workforce, facilities and equipment, and be innovative and respond to emerging needs (research, monitoring)</td>
</tr>
</tbody>
</table>

Source: National Health Performance Committee 2002.
United Kingdom framework

The National Health Service (NHS) PAF has a less detailed and less specific structure than the Australian and Canadian frameworks, although this does not necessarily mean it is any less effective at assessing health system performance. Rather than using a structure of tiers and dimensions of performance assessment, it identifies six aspects of system performance and assesses each of these with a set of indicators. The areas assessed are: health improvement; fair access; health outcomes of NHS care; patient/carer experience; efficiency; and effective delivery of appropriate health care.

Figure A1.1: NHS Performance Assessment Framework

Source: Department of Health 1999.

The fair access, efficiency, patient/carer experience and effective delivery of appropriate health care aspects of the NHS framework are all similar to dimensions of system performance included within the System Performance tier of the Canadian and Australian frameworks. The effective delivery of appropriate health care facet of the NHS framework combines the effectiveness and appropriateness dimensions of the other two frameworks. While patient/carer experience is not explicitly included in the Australian and Canadian frameworks, this aspect is similar in scope to the acceptability dimension of the Australian and Canadian frameworks.
The NHS framework assesses health improvement rather than health status which emphasises a concern with progress in overall health improvement. The description of health improvement in the NHS framework explicitly refers to the goal of reducing inequalities in health outcomes.

While the NHS framework does not identify non-medical determinants of health, it distinguishes between overall improvement in health, which may be influenced by factors other than the health system, and health outcomes of NHS care which assesses improvements in health status that are clearly attributable to the health system.

The six areas of health system performance identified in the NHS framework bear some similarity to the five aspects of a fair and functioning health system identified in the New Zealand Ministry of Health’s Statement of Intent. The common areas are equity and access, effectiveness, quality and efficiency. The Statement of Intent also identifies intersectoral focus as an aspect that recognises the need to address non-medical determinants of health.

**WHO framework**

While the frameworks discussed above are designed to assess the performance of a particular health system in terms of aspects of performance, the framework developed by WHO is used to provide an assessment of health system performance as a whole and compare the performance of health systems. An overall picture of health system performance is obtained by assessing improvement in health, responsiveness of the system to the population’s expectations, and fairness in financial contribution to the cost of health care. The overall distribution of all three components is assessed, as well as the average level of improvement in health and system responsiveness, making a total of five aspects.

**Table A1.3: WHO Performance Assessment Framework**

<table>
<thead>
<tr>
<th>Goals</th>
<th>Components for assessment</th>
<th>Average level</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health improvement</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Responsiveness to expectations</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Fairness in financial contribution</td>
<td></td>
<td>–</td>
<td>✓</td>
</tr>
</tbody>
</table>

Source: Hurst and Jee-Hughes 2000.

Unlike the national frameworks discussed previously, the WHO framework does not use a set of indicators to provide an assessment of health system performance. Instead it uses a single composite indicator that is a combination of the factors mentioned above. The process involved to reach an overall ‘score’ for system performance is discussed below.
Indicator selection

The three national frameworks discussed above each have criteria for the section of the indicators to be used with the frameworks. The common theme of these criteria is that the indicators must be relevant to the goals and strategies of the system while being understandable to those who are required to act. Indicators should also be able to indicate change and highlight trends, so high quality and timely data must be available for them.

There is a significant difference in the number of indicators used in conjunction with the various frameworks. The Canadian indicator set includes more than 80 indicators. The Australian framework uses almost 40 and the NHS framework uses almost 50 indicators. As far as system performance indicators are concerned (rather than health status and non-medical determinants of health indicators), the Canadian framework includes just under 30, while the Australian framework uses fewer than 20. The majority of the NHS indicators assess aspects of system performance.

As mentioned previously, the WHO framework employs a single, composite indicator to assess system performance. The process used by the WHO to arrive at an overall indicator of health system performance involves estimating the actual levels of achievement against the five components mentioned above and combining these into a weighted total. The level of actual achievement is then compared to an estimate of the system’s potential – the level of performance that could be expected of the system given its level of resourcing.

There has been much criticism of the WHO methods. The quality of the data used to reach an overall ‘score’ for system performance has been questioned and limitations in the methods used have been identified (Almeida et al 2001). A Scientific Peer Review Group set up by WHO concluded that while the objectives of the WHO approach were valid, there are serious technical issues that need to be addressed regarding the ranking of health systems using a single composite indicator (Scientific Peer Review Group 2002). These include the weightings used in the composite indicator, the scaling of the component indicators and the treatment of missing data.

The three national frameworks do not attempt to assess system performance in terms of the system’s potential. However, the initial application of the WHO model has been criticised for failing to identify where in a system improvement is required (Mugrove 2003). The approach to system performance assessment used by the national frameworks is more successful at providing information that is action-guiding which is crucial if a PAF is to be useful for decision-makers.
General conclusions

While the PAFs of the three national health systems differ in structure, the frameworks are closely aligned with respect to system performance assessment. A key difference is that the Canadian and Australian frameworks have a wider scope than the NHS framework. The WHO framework is less detailed than the national frameworks, reflecting its objective of providing an overview of a system’s performance. The three national PAFs reflect the principles that health is determined by a complex interaction of factors, rather than solely by medical care and that if a framework is to be useful then it should employ indicators that assist in identifying where in the system improvement is required.

The inputs→outputs→outcomes model used in this report is the starting point for a performance assessment framework. While much of the information included in the Health and Independence Report is of a descriptive nature, information has been included that may be developed and supplemented in the future to provide an assessment of system performance similar to that of the three national frameworks discussed above. For example, in Chapter 4 diabetes is identified as an indicator of health system effectiveness. Indicators such as avoidable hospitalisation, avoidable deaths and life expectancy at birth (see Chapter 4) provide information on health system performance and the performance of health services. Future editions of the report will build on this information to provide a more structured assessment of health system performance.
<table>
<thead>
<tr>
<th>Glossary</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age-standardised rates</td>
<td>rates that have been adjusted to take account of differences in the age distribution of the population over time. Mainly used to compare different populations or groups.</td>
</tr>
<tr>
<td>Ambulatory sensitive hospitalisation</td>
<td>a subcategory of avoidable hospitalisations, comprising hospitalisations of people aged 0–74 years from causes considered to be responsive to interventions delivered through primary health care</td>
</tr>
<tr>
<td>Avoidable hospitalisation</td>
<td>hospitalisation of people aged 0–74 years due to causes considered to be responsive to preventive interventions or ambulatory health care</td>
</tr>
<tr>
<td>Avoidable mortality</td>
<td>deaths of persons aged 0–74 years from causes considered to be responsive to preventive or therapeutic interventions</td>
</tr>
<tr>
<td>Cohort</td>
<td>a group of individuals having a statistical factor (such as age) in common</td>
</tr>
<tr>
<td>Chronic disease</td>
<td>a disease lasting or expected to last for six months or longer. The disease may be continuous or episodic (characterised by alternating remissions and relapses). Unlike acute diseases, chronic diseases are generally multifactorial in causation.</td>
</tr>
<tr>
<td>Crude rate</td>
<td>the frequency with which an event occurs relative to the number of people in a defined population</td>
</tr>
<tr>
<td>Deprivation</td>
<td>a state of observable and demonstrable disadvantage relative to the local community or wider society to which an individual, family/whānau or group belongs</td>
</tr>
<tr>
<td>Determinant</td>
<td>a social, cultural, economic, technological, demographic or environmental variable causally associated with exposure to a risk factor or incidence of a disease or other health condition</td>
</tr>
<tr>
<td>Independent life expectancy</td>
<td>a health expectancy indicator measuring the expectation of life (at any age) free of disability needing assistance. That is, the average number of years an individual of a given age is expected to live independently, if current mortality and (dependent) disability rates continue to apply.</td>
</tr>
<tr>
<td>Infant mortality rate</td>
<td>the number of liveborn infants dying before exact age one year, per 1000 live births</td>
</tr>
<tr>
<td>Life expectancy at birth</td>
<td>a summary statistic estimating the average number of years an individual born now is expected to live if current mortality rates continue to apply throughout their life</td>
</tr>
<tr>
<td>Morbidity</td>
<td>any departure from a state of physiological or psychological wellbeing</td>
</tr>
<tr>
<td>Mortality</td>
<td>death</td>
</tr>
</tbody>
</table>
NZDep96/NZDep2001  a census-based small area index of deprivation, derived by principal component analysis of nine socioeconomic variables from the 1996 and 2001 New Zealand census, using meshblocks (small areas with a median of 90 people)

Outcome  1. health state or level of health
         2. a change in health status attributable to a specific intervention

Population preventable hospitalisation  a subcategory of avoidable hospitalisations, comprising hospitalisations of persons aged 0–74 years from causes considered to be potentially preventable through population-based (health promotion and health protection) interventions

Standardised rates  rates that have been statistically adjusted to enable valid comparisons despite differences (such as age and gender) in the structures of the populations being compared
## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A&amp;E</td>
<td>accident and emergency</td>
</tr>
<tr>
<td>ACC</td>
<td>Accident Compensation Corporation</td>
</tr>
<tr>
<td>ALAC</td>
<td>Alcohol Advisory Council</td>
</tr>
<tr>
<td>AMI</td>
<td>acute myocardial infarction</td>
</tr>
<tr>
<td>AT&amp;R</td>
<td>assessment, treatment and rehabilitation</td>
</tr>
<tr>
<td>BSA</td>
<td>BreastScreen Aotearoa</td>
</tr>
<tr>
<td>CABG</td>
<td>coronary artery bypass graft</td>
</tr>
<tr>
<td>CBF</td>
<td>capitated based funding</td>
</tr>
<tr>
<td>CHD</td>
<td>coronary heart disease</td>
</tr>
<tr>
<td>CTA</td>
<td>Clinical Training Agency</td>
</tr>
<tr>
<td>CVD</td>
<td>cardiovascular disease</td>
</tr>
<tr>
<td>CYF</td>
<td>Child, Youth and Family</td>
</tr>
<tr>
<td>DAP</td>
<td>District Annual Plan</td>
</tr>
<tr>
<td>DHB</td>
<td>District Health Board</td>
</tr>
<tr>
<td>DRA</td>
<td>disability requiring assistance</td>
</tr>
<tr>
<td>DSP</td>
<td>District Strategic Plan</td>
</tr>
<tr>
<td>DSS</td>
<td>Disability Support Services</td>
</tr>
<tr>
<td>FTE</td>
<td>full-time equivalent</td>
</tr>
<tr>
<td>GDP</td>
<td>gross domestic product</td>
</tr>
<tr>
<td>GP</td>
<td>general practitioner</td>
</tr>
<tr>
<td>HPI</td>
<td>Health Practitioner Index</td>
</tr>
<tr>
<td>ILE</td>
<td>independent life expectancy</td>
</tr>
<tr>
<td>IPA</td>
<td>Independent Practitioner Association</td>
</tr>
<tr>
<td>LMC</td>
<td>Lead Maternity Carer</td>
</tr>
<tr>
<td>MHNIC</td>
<td>Mental Health National Information Collection</td>
</tr>
<tr>
<td>MPDS</td>
<td>Māori Provider Development Scheme</td>
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<tr>
<td>NASC</td>
<td>Needs Assessment and Service Co-ordination</td>
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<td>NCSP</td>
<td>National Cervical Screening Programme</td>
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<td>NDP</td>
<td>National Drug Policy</td>
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<tr>
<td>NGO</td>
<td>non-government organisation</td>
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<tr>
<td>NHI</td>
<td>National Health Index</td>
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<td>NIR</td>
<td>National Immunisation Register</td>
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<td>NSU</td>
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<td>NZDS</td>
<td>New Zealand Disability Strategy</td>
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<td>NZHIS</td>
<td>New Zealand Health Information Services</td>
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<td>NZHS</td>
<td>New Zealand Health Strategy</td>
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<td>PAF</td>
<td>performance assessment framework</td>
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<tr>
<td>PHO</td>
<td>Primary Health Organisation</td>
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<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
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<td>SOI</td>
<td>Statement of Intent</td>
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<td>SPARC</td>
<td>Sport and Recreation New Zealand</td>
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<td>WAVE</td>
<td>Working to add value through e-information</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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Online Health and Disability Resources and Publications

Ministry of Health
http://www.moh.govt.nz

Office for Disability Issues
http://www.odi.govt.nz

Health information
New Zealand Health Information Service
http://www.nzhis.govt.nz

Public Health Intelligence Resources, Online Publications and Data
http://www.moh.govt.nz/phi/publications

Demographic information
Statistics New Zealand
http://www.stats.govt.nz

Te Puni Kōkiri factsheets

Health workforce information
New Zealand Health Information Service
Health workforce pamphlets
http://www.nzhis.govt.nz/publications/Workforce-leaflets.html

Selected Health Professional Workforce in New Zealand 2002
http://www.nzhis.govt.nz/publications/healthprofs02.pdf

Māori health providers

Te Puni Kōkiri
Iwi and Māori Provider Success: A research report of interviews with successful iwi and Māori providers and government agencies
Health inequalities

Ministry of Health


Monitoring Ethnic Inequalities in Health
http://www.moh.govt.nz/moh.nsf/ea6005dc347e7bd44c2566a40079ae6f/427d66f8922e2fa2cc256a540078bd80?OpenDocument

Priorities for Māori and Pacific Health: Evidence from epidemiology
http://www.moh.govt.nz/moh.nsf/ea6005dc347e7bd44c2566a40079ae6f/427d66f8922e2fa2cc256a540078bd80?OpenDocument

Nutrition and the Burden of Disease
http://www.moh.govt.nz/moh.nsf/49ba80c00757b8804c256673001d47d0/7b9c6de0d0ac6483cc256d7a00b58ab?OpenDocument

Te Puni Kōkiri

Tikanga Oranga Hauora
http://www.tpk.govt.nz/publications/subject/default.asp#health

Progress Towards Closing Social And Economic Gaps Between Māori and Non-Māori
http://www.tpk.govt.nz/publications/docs/gap00.pdf

Ministry of Women’s Affairs

Māori Women: Mapping Inequalities and Pointing Ways Forward

Determinants of health

Ministry of Social Development

The Social Report 2003

National Health Committee

The Social, Cultural and Economic Determinants of Health in New Zealand: Action to improve health
International organisations

World Health Organization
http://www.who.int

Organization for Economic Cooperation and Development (OECD)
http://www.oecd.org/home/
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