Briefing to the Incoming Minister of Health

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Executive Summary

Improving New Zealanders' health outcomes and raising the quality of health services while living within a lower growth path are the main challenges for the health and disability sector over the next three years.

This briefing has been prepared against a background of renewed uncertainty about the world economy and its likely impact on New Zealand. To improve the economy's resilience, the Government's fiscal strategy projects a return to surplus by 2014–15. This will require clear prioritisation across all areas of government activity. Health is the second largest area of public spending after social security so the path of health spending will play a key role in fiscal sustainability. Choices Ministers make about health spending will affect the choices they make in other areas of public spending.

The Ministry of Health provides whole-of-sector leadership for the health and disability system. The goals that guide the advice provided in this briefing are to:

- improve the health, wellbeing and independence of New Zealanders
- improve the quality of health and disability services in a sustainable manner.

This briefing identifies seven possible directions through which to achieve these goals and takes into account the commitments in your post-election action plan.

Our health and disability system compares well with other countries

Our health spending per person is lower than the OECD average. Despite this, we achieve similar life expectancy to other OECD countries that spend more.

We have a responsive primary care system with high enrolment rates. Results from international studies show that New Zealanders report high levels of same day or next day access to primary care. Almost 90 percent of New Zealanders report being in good health, placing us second highest in the OECD (OECD 2011).

Life expectancy and healthy life expectancy continue to increase

Life expectancy in New Zealand is now 78 years for males and 82 years for females. The number of years the average New Zealander can expect to live in full health is now 67 years for males and 69 years for females. The rate of disability in the population remained stable over the 10 years to 2006, despite the fact that the population is ageing.

There is a diversity of need within New Zealand's population, including a rising number of older people with multiple conditions

There are substantial differences in health outcomes, particularly for Māori and Pacific peoples. For example, rates of some illnesses such as rheumatic fever, and skin infections are much higher among Māori and Pacific peoples.

While people are living longer in full health, many are entering older age with multiple long-term health conditions such as cardiovascular diseases (CVDs) or cancer. More people are living beyond 85 and need the support of the health and disability system. The prevalence of dementia is increasing.

Non-communicable diseases and mental health issues pose challenges

Non-communicable diseases (NCDs) such as CVDs and cancer are the leading causes of mortality. Other significant NCDs include diabetes and chronic respiratory disease. Lifestyle factors such as smoking, diet, physical inactivity and harmful use of alcohol are the main risk factors for NCDs.

Mental health problems are a significant issue, particularly for young people who have the highest prevalence rates for most major mental illnesses. New Zealand's youth suicide mortality rate is the highest in the OECD. Mental health problems can also be associated with alcohol and drug misuse.

Improving the quality of health and disability services has to be achieved by making better use of existing resources

The health and disability system has already adapted to a lower rate of annual increases in spending over the last three years. During this period, performance on a number of measures has improved, and District Health Boards (DHBs) have reduced their deficits. Changes at a national level are helping the system adjust to a lower growth path. These include the establishment of the National Health Board, Health Workforce New Zealand and the refocused role for the National Health Committee.

The publicly reported health targets have been effective. For example, 145,353 elective surgical discharges were provided in 2010/11, 4 percent more than planned. Access to cancer services, emergency department waiting times, immunisation rates, provision of assistance to quit smoking, and access to assessment and services for CVD and diabetes have also improved.

Further improvement is likely to come from a system that is predominantly based around better community and primary care. This focus would assist people and their families to manage their own health in their own home, and would be supported by specialist services delivered in community settings as well as hospitals.

Accelerating the pace of change

Better integrated, more convenient and people-centred services will provide a better experience for patients. These changes can also potentially decrease the demand for higher cost hospital based care, decrease the average cost per intervention, and make better use of our specialist workforce and expensive technologies.

Seven directions run throughout the advice in this briefing. They provide options for achieving the Government's aims for the health and disability system in a sustainable way.

- **Moving intervention upstream** – increasing our focus on **proven** preventative measures and earlier intervention. For example, to reduce the impact of NCDs and the associated risk factors, while increasing the cost-effectiveness of services.
- **Meeting the diversity of needs within the population** – responding to demographic change, particularly the ageing and increasingly diverse population. For example, providing home-based, wraparound services for older people with multiple long-term conditions.
- **Driving investment towards better models of care** – designing services to meet individual needs will require new models of care which should guide investment in workforce, capital and information. For example, investment in information systems such as shared electronic records, to enable coordination between primary care services.
- **Integrating services to better meet people's needs –** supporting health professionals, service providers and DHBs to better coordinate and integrate care, by placing patients and carers at the centre of service delivery, while reducing waste, harm and unjustifiable variation in the quality of care and service performance.
- **Improving performance** – incremental change to improve existing services is necessary, but is unlikely to be sufficient to meet the simultaneous challenges arising from the fiscal position and the changing needs of New Zealanders. New incentives, financial and non-financial, may be needed to deliver better performance.
- **Strengthening leadership while supporting front-line innovation** – effective leadership ensures that the sector is moving in the same direction and working collaboratively. For example, the shift towards a regional planning approach via DHB Regional Service Plans is beginning to re-orientate the sector.

  The role of central government is to make local and regional change possible. The clinical workforce is the key agent in delivering better health care at the front line, and needs to be effectively engaged in designing and implementing change.
- **Working across government to address health and other priorities** – many people's health and wellbeing requires coordinated action across government. For example, the health of children is influenced by their household's living conditions, income and education levels. The Ministry and the wider sector need to work with other government agencies to secure improvement. Whānau Ora and activities advanced by the Social Sector Forum are examples of current initiatives.

Health also has a role to play in contributing to other government priorities such as reform of the welfare system and addressing risk factors (such as alcohol and drug use) for criminal behaviour.

Introduction: Meeting the Sustainability Challenge

Improving health outcomes while lifting the quality of services within a sustainable growth path is the major challenge for the health and disability sector over the next three years. Historically, health spending has grown at a faster rate than the economy as a whole, although the rate has slowed over the last three years. Managing health spending is a challenge for New Zealand as for most countries. An ageing and increasingly diverse population with more complex health needs will put pressure on services. Meanwhile, public expectations are rising as new health treatments become available.

Current services are configured around historical patterns of population demand. Fast growing urban areas need new services, while in other parts of the country populations are declining, which may require adjustments to existing models of care. Innovation is needed to respond to changing patterns of demand in a sustainable manner.

Changes in technology, rising wage costs, capital availability and increasing public expectations are expected to be the biggest challenge to containing spending growth (The Treasury 2010). These factors affect both demand for and supply of services.

The health and disability system has adapted to lower annual increases in spending over the last three years. We need to continue to adapt and to increase the pace of change in order to address these challenges.

Accelerating the Pace of Change

The health and disability sector is already evolving towards a system that is more focused on community and primary care. This focus can assist people and their families to better manage their own health, in their own home. A more integrated system would better coordinate care within an expanded model of primary care, and connect services across the system, for example, by specialist services being delivered in community settings as well as hospitals.

Better integrated services not only provide a better experience for patients, they will be more sustainable, with the potential to decrease the demand for higher cost hospital-based care, decrease the average cost per intervention and make best use of our specialist workforce and expensive technologies.

We have identified seven possible directions for change.

1 Moving intervention upstream

Increasing our focus on **proven** preventative measures and earlier interventions is important, for example, to reduce the impact of non-communicable diseases (NCDs), the associated risk factors and increase the cost-effectiveness of services.

Why is this important?

- Four NCDs – cancer, cardiovascular diseases (CVDs) diabetes, and chronic respiratory diseases – make up 80 percent of the disease burden for the total population.[1] NCDs are largely preventable. The main risk factors are smoking, diet, physical inactivity and harmful use of alcohol.
- Improving mental health outcomes is a challenge, particularly for young people aged 15–24 years, when the onset and prevalence of most major mental illnesses peaks (though there is a second increase in older age). New Zealand's youth suicide mortality rate is the highest in the OECD. Mental health problems can be associated with alcohol and drug misuse, and can have long-term costs for both the individual and society.
- While people are living longer, many are entering older age with multiple long-term health conditions. Three out of four older adults have at least one major physical or mental long-term condition, and 19 percent have three or more. Dementia prevalence is increasing by at least 4 percent per year, which is a 2.5-fold increase in numbers over the 25 years from 2006–2031.

[1] The World Health Organization identifies the main NCDs as CVDs, diabetes, cancers and chronic respiratory diseases.

Health systems worldwide have traditionally been geared towards treatment and acute models of health care, rather than prevention, early intervention and effective management of long-term conditions. These arrangements are no longer well suited to the long duration and generally slow progression of chronic NCDs, as when NCDs progress or if complications arise, they may require a more expensive hospital based model of care.

International evidence indicates that the wider economic implications of NCDs are significant. The increasing prevalence of NCDs, including mental illness, not only puts pressure on health and disability funding, but can reduce economic growth through lower workforce participation and labour productivity (Busse at al 2010).

Current examples of our response

Three of the publicly reported national health targets focus on prevention and early intervention. They are 'increased child immunisation', 'better help for smokers to quit' and 'better diabetes and cardiovascular services'.

Smoking rates have been declining since their peak in the 1970s. Even so, one in five people smoke and it remains the single greatest cause of preventable death in New Zealand. Smoking is a major risk factor for many cancers and CVDs, and its prevention is critical for good maternal and child health. The recent drive in hospitals and primary care to provide smokers with advice and cessation support is a major shift in practice, as previously smoking status might not have been routinely managed or recorded in patient notes. The success of the smoking health target depends on a range of supporting measures, including subsidised medications, removal of product displays, public education, regulation of sales and tax increases.

The National Cervical Screening Programme aims to screen 80 percent of women aged 20–69 years to detect precancerous cell change for the prevention of cancer development. The current screening rate is 72 percent. Since the introduction of the programme in 1990, incidence has fallen by about 50 percent and mortality by 60 percent. The improvement has been much greater for Māori women, although differences persist.

Policy choices

Prevention and early intervention approaches could be pursued or extended in a number of areas where there is clear evidence that interventions are cost-effective and have a large impact on health and wellbeing across the population.

Hypertension (high blood pressure) is a risk factor for multiple conditions, including stroke and heart disease. CVDs remain the leading cause of mortality in New Zealand. There are a number of modifiable risk factors for hypertension including salt and alcohol intake, and hypertension can be effectively controlled with medication. Data shows that only about half of adults being treated have their hypertension under control (Ministry of Health 2011).

We know that of the approximately 223,000 adults with diabetes in New Zealand, 65,000 are undiagnosed, and only half of those diagnosed have good diabetes control (Ministry of Health 2011). Major international clinical trials show that improved diet and physical activity sharply decrease the chance of someone with pre-diabetes going on to develop the disease (National Institutes of Health and Centre for Disease Control and Prevention 2011). Brief interventions in primary care such as advice on good nutrition for pregnant women, and physical activity programmes in schools, can be provided as early interventions to target the four main risk factors for NCDs.

Alcohol is a major risk factor for NCDs. Harmful alcohol use can be associated with poor mental health and other social issues, such as unintentional injury. There is good international evidence that brief interventions to reduce the harmful use of alcohol can be cost-effective (Vos et al 2010).

We have made good gains in mental health and addiction services for people with high and complex needs. Without losing sight of the importance of services to meet these needs, we could increase our focus on new models of care in primary and community services, particularly for young and older people. The review under way of the Blueprint for Mental Health Services will examine these options.

Compared to other OECD countries, New Zealand children experience high rates of infectious disease, injury, maltreatment, and overall mortality (OECD 2009). We know that many adolescent difficulties including crime, substance abuse and mental health problems can be linked back to early childhood. Prevention and early intervention strategies are more effective in altering outcomes and reap more economic returns over the life course than those used later in life. This includes interventions prior to and during pregnancy, newborn screening, immunisation, Well child checks and injury prevention strategies (Office of the Prime Minister's Science Advisory Committee 2011).

Ministers also have a number of choices about how the sector as a whole can be designed to better focus on prevention, early intervention and management of long-term conditions. Health and disability systems are re-orientating towards prevention and early intervention through the shift towards an expanded model of primary and community care, by placing greater emphasis on assisting people and their families to manage their own health in their own homes, and on enabling people to make healthy choices. This shift is discussed throughout this briefing.

2 Meeting the diversity of needs within the population

High quality services are responsive to demographic change, particularly the ageing population, increasing diversity of need and poorer health outcomes for Māori and Pacific peoples.

Why is this important?

Overall, the health of New Zealanders continues to improve. New Zealand has made large gains in life expectancy in the last 30 years. Growth in life expectancy between 1980 and 2010 was 7.6 years. We now rank in the middle third of OECD countries with life expectancy at 78 years for males and 82 years for females. Health expectancy also continues to increase. In the decade 1996–2006 it increased by 2.7 years for males to 67.4 years, and 1.7 years for females, to 69.2 years.[2]

In the decade 1996–2006, the prevalence of disability requiring assistance in the total population has remained stable at about ten percent. The challenge is to ensure increased life expectancy is not accompanied by living longer with disability. Achieving this requires delaying the onset of long-term conditions through prevention, earlier intervention and more effective management.

Compared to many OECD countries New Zealand has a small and geographically dispersed population. We also have an increasing level of diversity, which means each region faces different patterns of demographic change. Although the national picture of health is positive, there are substantial variations in outcomes, particularly for Māori and Pacific peoples. For example:

- the rates of some illnesses such as rheumatic fever, and skin infections, are much higher among Māori and Pacific children
- between 2001 and 2010, the rate of ambulatory sensitive hospitalisations (ASH) increased by 6 percent for Māori and by 21 percent for Pacific peoples. At the same time, the rate decreased by 11 percent for other populations.[3]

The impact of these differences is likely to increase in future because the Māori and Pacific populations in New Zealand will make up a greater proportion of the total population.

At the same time, the population is ageing and the baby boomer generation is now moving into older age. More people are living beyond the age of 85 than ever before and need the support of the health and disability system. While we are living longer and longer in full health, many people are entering older age with multiple long-term conditions.

[2] Health expectancy measures the number of years a person can expect to live in good health, capturing two dimensions of health: quantity of life (mortality) and quality of life (morbidity).

[3] Ambulatory Sensitive Hospitalisations (ASH) are those that might have been avoided if health services had been delivered more effectively or if patients had accessed services provided in a community setting, including primary health care.

Current examples of our response

We have a responsive system where people are enrolled to receive subsidised general practice services. New Zealanders report high levels of access to primary care on the same or next day as their need arises (The Commonwealth Fund 2010).

However, analysis of the regularity of primary care contact shows that people with high health needs make less use of primary care than the general population.[4] There are many reasons for low levels of access, including: availability, transport, cost, poor health literacy and responsiveness.

We have made significant improvement in the number of people accessing both cancer and elective services (145,353 elective surgical discharges were provided in 2010/11, 4 percent more than planned) through the use of national health targets for District Health Boards (DHBs) and implementation of the Cancer Control Strategy.

The introduction of the child immunisation health target demonstrated that improvement for different population groups is possible when a uniform target intervention rate is set across all populations. DHBs needed to improve their efforts to reach Māori children as part of achieving the overall target.

Twenty-four million dollars will be invested in access to rheumatic fever services, including school-based sore throat clinics, improving training for health workers and community workers, and support for research and monitoring.

There are now more than 150 service providers pursuing a Whānau Ora approach. A cross-government, integrated approach to the delivery of health and social services, Whānau Ora is designed to empower families to be self-managing and live healthy lifestyles, linking provider accountability to outcomes.

Investment in the health of older people has been prioritised. Initiatives include investment in dementia services, guidelines for DHBs for an integrated approach to mental health and addiction services for older people and people with dementia, investment in respite care, and the introduction of comprehensive clinical assessment.

Policy choices

Addressing the needs of older people who may be frail and have more than one long-term condition, and responding effectively to an increasingly diverse population are important drivers for the directions of travel outlined in this briefing.

Taking into account Government initiatives that address specific health needs, such as further investment in rheumatic fever services, this section discusses how the whole sector could be oriented to better respond to the diverse needs in the population.

[4] Defined for the purpose of this analysis as people living with NZDep quintile 5 and Māori and Pacific populations.

Access and responsiveness

A high quality health and disability system is accessible and responsive, particularly for people with persistently low access, or who need high levels of ongoing care and support. New models of care being trialled here and internationally are focusing on providing a wider range of services in the community through the primary care sector.

New Zealanders consider that we have responsive primary care services. However, access to a GP is only one of the models of care described in this briefing. An expanded model of primary care might include general practitioners (GP), pharmacy, phone triage, after-hours and ambulance services.

This approach is a necessary part of moving intervention upstream and in controlling the cost of health care. For example, an expanded model of primary care should be able to provide alternative responses for acute need and contribute to a reduction in the growth of acute demand. It could also assist in implementing brief interventions for harmful alcohol use, provided by GPs and emergency departments, as proposed by the Government. Incentivising the whole sector to anticipate need, respond rapidly and in the most cost-effective way remains important to further improvement in performance.

In order to be effective, new models of care need to be accompanied by measures to improve health literacy and communication between an individual and their health professional, through information technology (IT) such as email.

Continuing to improve access and waiting times for elective services is also very important. Elective surgery can improve the quality of life of older people and assist people to get back into employment. Improving the consistency and effectiveness of referral and clinical prioritisation, and implementing the Government's commitment to extend its focus on waiting times to include access to diagnostics, are important elements of future elective services policy.

CVDs and cancer are the leading causes of mortality in New Zealand. Building on progress in access to cancer services and increasing our focus on stroke services are, therefore, a necessary part of our response to the future disease burden.

Increasing care coordination and integration, through effective clinical relationships, is a means to achieving better access and responsiveness. This is discussed further in Section 4 of this briefing.

New models of care

We can adjust and re-develop each part of the model of care used (*where* a service is provided, by *whom*, and *how*) to improve our response to the needs of different groups. The perspective of the person using the service should be at the centre of decisions about the model of care.

For older people, this may mean shifting the care setting from residential care to supported home living, developing the skills of the aged care workforce to move from task-orientated to people-centred care, and introducing IT to allow older people to remain independent in their own homes for longer.

Individualised funding or 'self-directed purchasing' for people with disabilities eligible for home and community support services, has the potential to increase a person's choice, control and community participation. Self-directed funding is a more flexible model of care and of service delivery. It is one option Ministers might like to consider for the delivery of other disability support services and for people with long-term conditions.[5]

The next section of this briefing discusses the investment challenges and choices Ministers have available to them regarding workforce, capital and IT, in order to support the model of care that will best meet the future needs of the population.

3 Driving investment towards better models of care

Designing services to meet individual needs will require new models of care which should guide investment in enablers such as workforce, capital and information. For example, investment in information systems such as shared electronic records would enable coordination between primary care services.

Why is this important?

Ministers have choices about managing public health spending. Workforce and capital are particular pressures. Investments need to support the sustainable growth of the health sector within the Government's overarching fiscal strategy, and the development of a system that is robust enough to deal with unanticipated increases in costs or emergency events such as the swine flu epidemic or Canterbury earthquakes.

Equally important is supporting the clinical sustainability of services. Specialised services, or those provided in small communities or remote areas may be vulnerable because of the need to sustain the necessary workforce and capital.

Current examples of our response

The Ministerial Review Group (MRG) Report (Ministerial Review Group 2009) noted the need to consider service configuration in New Zealand to ensure we maintain a sustainable system. A number of the Report's recommendations have been implemented over the last three years, including:

- bringing together at the centre planning functions for capital, workforce and IT under the direction of the National Health Board
- establishing Health Benefits Ltd to establish shared services and joint procurement, including for back-office functions
- re-tasking the National Health Committee (NHC) to improve value for money and fiscal sustainability through the provision of advice on cost-effectiveness of new and existing technologies and interventions, prioritisation and disinvestment

[5] The Ministry of Health currently funds home and community support services, for people with disabilities who have been assessed as able to manage a budget and direct how services are provided.

- analysis of the most effective configuration of services at national, regional and local levels, such as for paediatric oncology and neurosurgery
- a series of workforce service reviews with clinicians that feed in to service planning and delivery, and successful voluntary bonding and advanced trainee fellowship schemes have been run by Health Workforce New Zealand.

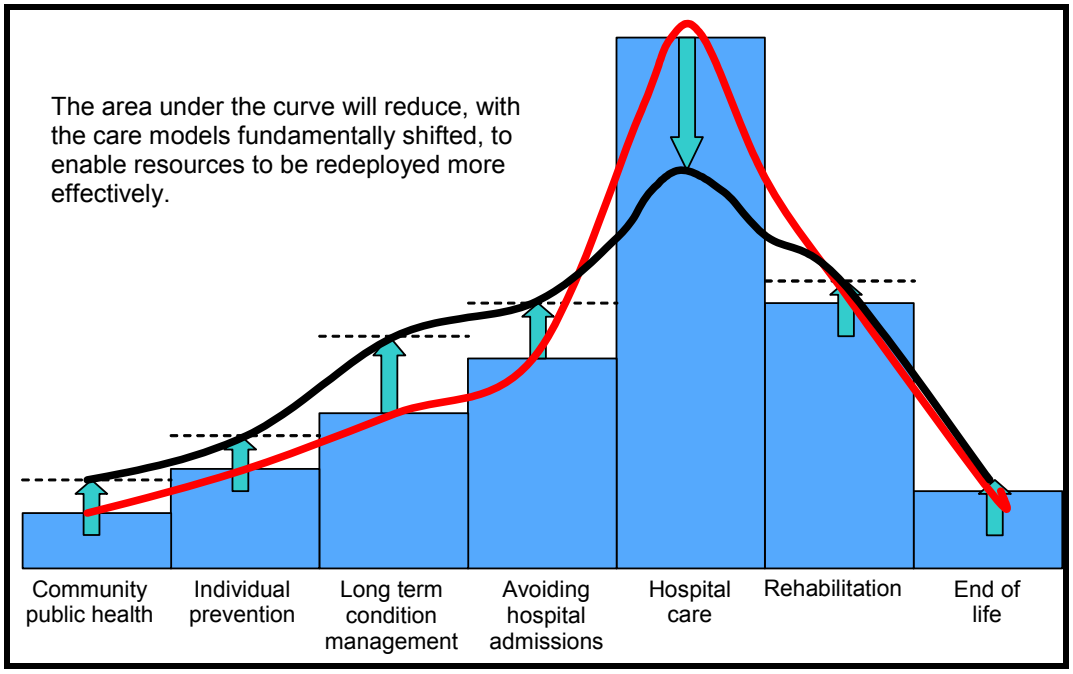
These are the building blocks to a more sustainable and cohesive approach to long-term planning for investment. However, given current pressure on public health spending, if Ministers wish to meet the objective of sustaining high quality services, progress will need to be significantly accelerated.

Policy choices

Investing in models of care

New models of care are being trialled here and internationally that could support New Zealand to develop a more sustainable system and improve the cost-effectiveness of services. The essential elements of any 'model of care' are *where* we deliver a service, *who* delivers it, and *how*. We can adjust these factors within a model of care to meet future needs.

The diagram below is a representation of a growth in services delivered in public health, primary care settings and a reduction (in relative terms) in hospital based services. This approach could contribute to reducing not only costs, but acute demand and length of hospital stays. It would be supported by role substitution and increased use of a generalist workforce (supported by specialist care). Individual elements of this shift are discussed below.



Source: Bevan 2011.

Workforce

The health and disability sector is labour intensive. Making up about two-thirds of Vote Health expenditure, it is a large part of the sector. Any change to the cost of the workforce has a significant impact on overall growth of health spending – each one percent increase in hospital sector wages is estimated to cost $45 million per year. The wage settlement process is critical to the Government's ability to manage the cost of the workforce.

How we develop the workforce and incentivise productivity improvement must be central features of our approach to wage settlements in the future. An example of a joint approach to achieving productivity gains and how this can be linked to clinical leadership is the Joint Quality and Patient Safety Improvement Plan recently agreed between DHBs and the Association of Salaried Medical Specialists.

Workforce demand is likely to increase, although at variable rates across different professions. Demand will be driven by demographic change, with the pressures of an aging population (and workforce), geographical dispersion, decline in rural areas, and the increasing need for long-term care.

As well as continuing to increase workforce numbers, it is desirable to review the role and mix of professionals. HWNZ's long-term policy is to 'unify and simplify' workforce development (discussed further in section 6). Within this approach, options to support future workforce demand include role substitution and developing new roles within models of care, continuing the establishment of regional training hubs and development of further incentives to direct training and placement choices.

Capital

The Capital Investment Committee (CIC) was established in 2010 to develop a centrally-led process for the prioritisation and allocation of health capital funding that is linked to workforce and IT planning. The CIC has improved the process for the submission of DHB-submitted business cases, and the requirement for regional sign-off has encouraged DHBs to plan more collaboratively. Capital planning tends to be reactive to demographic growth and demand for refurbishment of existing assets; most investment comes from DHB balance sheets.

Much tighter capital planning, accompanied by consideration of a wide range of options for sources of capital investment would assist us to manage within the significantly lower level of capital funding available within the public sector. This is both an immediate and long-term challenge for the Ministry and sector. The recovery plan and re-build required as a result of the Christchurch earthquakes is an immediate priority for Canterbury DHB and the Ministry.

Important parts of our approach to capital in the future include focusing on investment in community and primary care, improving the efficiency and productivity of services via capital investment, and exploring opportunities for engagement with the private sector.

Medicines

After the workforce, the largest area of health spending is medicines. PHARMAC manage the introduction and cost of medicines through tools such as contestable pricing and evidence based analysis of effectiveness. International comparisons suggest that New Zealand purchases medicines at a significantly lower cost than other countries (Spinks 2011). Since PHARMAC's establishment in 1993, expenditure growth has averaged approximately 3 percent per year. Since 2000, cumulative total savings of $4.7 billion have been delivered for DHBs.

Information

Good information is critical to the Ministry and the sector, to share best practice and innovation, to measure quality and performance and to understand different markets for services. It is also important to the public, to increase health literacy and inform choice.

The IT Health Board and sector are working towards more effective information sharing through use of IT (such as email, a shared central electronic patient record and tele-diagnostics) which can make a big difference to the model of care we use. For example, people can connect with their GP from home and care teams can better coordinate treatment and support.

We could make better use of existing information collected from and by DHBs and providers. DHBs hold a breadth of information that if aggregated could be used to benchmark performance, share learning and innovation, and to inform strategic direction. The use of information for benchmarking and public reporting for example, is further discussed in section 5.

4 Integrating services to better meet people's needs

Supporting health professionals, service providers and DHBs to better coordinate and integrate care by placing patients and carers at the centre of service delivery, reduces waste, harm and unjustifiable variation in the quality of care and service performance.

Why is this important?

There is a growing body of international evidence that care coordination and clinical integration bring both benefits to patients and control over the cost of health care.[6] Integration may be 'horizontal', between different types of primary and community services, or between hospitals in clinical networks. It may also be 'vertical', through Alliance Leadership Teams that link community, primary and secondary care services.

[6] Including literature from The King's Fund, The Nuffield Trust, John Ovretveit and The Commonwealth Fund.

Continuity of care is valued both by patients and clinical professionals because it builds a relationship of trust. It reduces the cost of multiple clinical (and administrative) transactions, and diminishes the risk of harm arising from multiple handovers between treating clinicians, which are known to be associated with medication and other treatment errors as a consequence of inadequate and incomplete clinical information. It can mitigate the risk of hospital admission.

The easy exchange of clinical information and clinical engagement across care pathways are recognised as prerequisites for progress. The development of coordinated, integrated models of care can lead to organisational and system level integration; and should drive investment in enablers such as workforce, capital and IT, as outlined in section 3.

Current examples of our response

A number of local initiatives in New Zealand are successfully coordinating care, integrating services and bringing primary care organisations together. Recently this includes the increasing development of Integrated Family Health Centres (IFHCs). For example, the Tararua Health Group offer integrated care for older people so that care is provided in or closer to a patient's home by a range of fully coordinated health professionals. The Group invested in fibre optic cables so that four different community sites are linked, to enable high speed transmission of digital x-rays and sharing of patient records.

Together, the Midlands Health Network's IFHCs are a unified team of primary health care professionals committed to delivering integrated primary health care to nearly 500,000 people in the central North Island. The Network has shifted from a reactive to a proactive model of care, to prevent serious and urgent cases. Where possible, people are seen as close to their home as possible. For example, in non-urgent cases, telephone and virtual consultations can be a safe and higher quality alternative to GP appointments.

The development of primary care networks across a community can be greatly enhanced when these networks also link into hospitals. For example, general medical specialists, paediatricians and geriatricians can all support quality service delivery in a community setting whilst providing continuity of care into secondary and tertiary services. Alliance Leadership Teams and locality networks such as Greater Auckland Integrated Healthcare Network (GAIHN) are growing in some parts of the country. These are an important mechanism to enable the design of people-centred services.

New Zealand is characterised by large metropolitan areas surrounded by provincial rural areas. Clinical and hospital networks across the boundaries of communities and DHBs are central to overcoming clinical isolation and maintaining vulnerable services. Examples include the Regional Cancer network, the National Cardiac Surgery Network and the South Island Neurosurgery Service.

Key dimensions of the success of these initiatives include strong clinical and management leadership and the development of regional partnerships and networks across the system to build capacity. Such pockets of innovation are beginning to resemble the coordinated care and clinical integration models discussed in the international literature. If Ministers wanted to embed integration as best practice, there are a number of policy choices (including the use of incentives) to accelerate adoption of this approach across New Zealand.

Policy choices

In New Zealand, care coordination and clinical integration has grown out of local innovation and is sustained through local relationships. In this context the role of the centre is to enable local innovation within clear parameters. Key areas for central action include:

- an appropriate accountability and performance management framework
- funding settings which create the right financial incentives and reduce local transaction costs
- support for innovative approaches to contracting for integrated services
- institutional settings which create non-financial incentives to reward team work and adherence to best practice guidelines or patient pathways
- identifying national outcome measures that are likely to be affected by integration, and
- investment in continuous quality improvement, including information for peer review and public scrutiny (levers to improve quality are discussed further in Section 5) (Goodwin and Smith 2011).

A key role for the centre is in changing financial and non-financial incentives to make it easier for local innovators to ‘do the right thing’. These changes might operate directly through rewards and penalties, or by signalling direction and/or reducing transaction costs.

Using incentives to focus on integration and outcomes

How we define services is part of incentivising better care coordination and clinical integration. A large range of contracting methods is used across the sector. Some encourage the provision of single units of activity, or focus providers on process, rather than on the health outcome of the person receiving care or support. Whānau Ora is a recent example of outcomes-focused contracting.

To adjust the incentives operating within primary care, and focus providers on delivering outcomes rather than following process, the National Primary Health Organisation (PHO) agreement might be examined.

At service level, integrated or 'bundled' contracts covering community, primary and secondary care can promote more connected services around a patient pathway. These contracts might be for particular service or population groups (for example, maternity services, Well child services) or for particular conditions (for example, chronic obstructive pulmonary disease).

Funding streams (and risk) could be devolved and pooled to remove funding and accountability silos, to encourage optimal referrals and to promote cooperation in service provision (including provision of self-care).

Other countries such as Germany, the United States and the Netherlands are using outcomes-based contracts and bundled payments to encourage:

- multi-disciplinary practice, for example, extended primary care health teams
- role substitution, to make the best use of the clinical workforce
- reduced hospital admissions through tariffs covering the continuum of care and payable whether services are provided in home or in hospital.

The performance indicators used in a contract can also incentivise integration. Examples include: indicators measuring reduced readmissions, an increased number of older people with complex needs receiving care at home, reduced rates of hospital admissions and bed-days for patients with ambulatory-sensitive conditions (for all patients, or targeted at Māori and Pacific peoples).

Investment in the right premises

This briefing suggests that providing a wider range of services through the primary care sector is the best approach to meeting our changing health needs and that our investment in the system needs to meet this shift. A key policy choice is how to incentivise investment in the primary and community sectors. To encourage investment via public-private partnerships (PPPs), certainty about future income flow may be necessary. For example, draft 'Model of Care Revenue Agreements' between IFHCs and DHBs are under consideration in some places, to give certainty about revenue when services shift out of hospitals. Such agreements may need to cover a longer time horizon than usually followed in the public sector.

E-Health

Financial incentives can be used to encourage the adoption of IT. For example, in some United States initiatives, incentives have been introduced in three phases: first, rewards for using the technology: second, rewards for recording information relevant to outputs (services provided): and third, rewards directly related to improved patient outcomes likely to be associated with adoption of IT.

5 Improving performance

Incremental change to improve existing services is necessary, but as this briefing has proposed, is unlikely to be sufficient to meet the simultaneous challenges arising from the fiscal position and the changing needs of New Zealanders. New incentives, financial and non-financial, will be needed to deliver better performance.

Why is this important?

Two of the directions of travel discussed in this briefing – an expanded model of community care provided through the primary care sector, and increasing care coordination and clinical integration – can contribute to improved performance. Examples include the reduction of higher cost hospital based care, to reduce the average cost per intervention and more effectively use our finite specialised workforce and expensive technologies.

Given the current economic climate it is essential that we continue to examine and improve the value we get from services and organisations. This section discusses further levers to improve quality, efficiency and productivity.

Improving DHB performance (as purchasers and providers) is the first part of lifting the performance of the sector. Annual planning is a core process through which DHBs can lift their performance.

Lifting the performance of private and non-governmental organisations (NGOs) is the other major component of sector performance. Vote Health funds approximately $6.5 billion of services provided by private providers and NGOs, representing about 50 percent of total spending, of which primary care represents about $2.1 billion.[7]

Current examples of our response

The health and disability system has adapted and innovated to meet the increasing demand for treatment and care, and has remained responsive to individual and population needs. Performance has improved on a number of measures.

- DHBs have successfully kept on the deficit reduction track, reducing combined deficits from $155 million in 2008/09 to $55 million in 2011/12.
- Between 2001 and 2010, average length of stay in hospital decreased from 4.4 bed days to 4.1, which is low by international standards. This suggests hospitals are becoming more efficient, as a shorter stay can shift care from expensive in-patient settings, reducing cost per discharge.
- The publicly reported health targets have lifted DHB performance, particularly in providing access to services, because they made transparent comparative DHB performance, and were set in measurable and achievable areas.

[7] Figures calculated as of October 2011.

- The Elective Productivity and Workforce Development Programme aims to improve productivity and efficiency to support increased capacity for electives and projected surgical requirements. The programme includes implementing innovative care pathways and alternative models of care.
- Individualised Funding packages of home and community support services (for people with disabilities) have been developed at a lower cost than has been previously possible. In combination with smart allocation of price increases, better targeting of equipment and modification services, and reduced variation in support packages, use of Individualised Funding has also improved the allocation of funding.

Policy choices

Levers to improve quality

Health systems worldwide are tackling the question of how to improve quality alongside care coordination and clinical integration, while maintaining efficiency.

The MRG recognised the importance of improving patient safety and quality of care. As a result, the Health Quality and Safety Commission (HQSC) was established as an independent national quality agency to assist the sector to improve service safety and quality. The Ministry retains regulatory, funding and performance monitoring responsibilities. Ensuring coherence between the overarching goals of the HQSC, the Ministry and DHBs, and incentivising a focus on priority areas are aspects of the relationship that could be developed further over the next three years, as a building block to developing a stronger quality improvement culture.

Examples of other levers available to Ministers include:

- developing health targets for patient safety in areas such as healthcare acquired infection, medicines safety and falls prevention
- designing provider payment mechanisms that incentivise quality improvement alongside care co-ordination and integration
- using DHB performance and planning processes to gather data, to allow DHBs to benchmark their performance, to reduce variation in quality
- publicly reporting performance on quality indicators, including patient experience
- incentivising DHBs to link financial planning and provider contracting to quality improvement, for example, by setting explicit cost reduction targets within quality and safety initiatives and monitoring quality in tandem with measures to reduce costs
- supporting clinician involvement in management and governance via clinical networks and leadership.

Levers to improve efficiency and productivity

Improving the efficiency and productivity of services and organisations is critical to achieving value for money and maintaining increasing service volumes within a tight fiscal environment. Labour productivity is particularly important in the health sector. Presently we use a number of partial indicators to understand efficiency and productivity. For example:

- average length of stay has decreased on average at a rate of 0.9 percent per annum between 2001 and 2010
- between 2001 and 2010 the average rate of surgical procedures carried out as day cases (in DHBs) increased from 53 to 57 percent.

These results point towards changes in the model of care and resource use, indicative of productivity gains. However, understanding sector-wide productivity improvement and its relationship to the quality of services remains complex. Extending our metrics to the broadest possible range of activity funded from Vote Health is one of the Ministry's priorities.[8] Increasing use of DHB benchmarking would reveal variation in performance and the potential for improvement towards the most efficient point of production.

Fifty percent of Vote Health funding goes to private providers and NGOs. Levers such as contracting for bundles of services and pooling funding streams, as discussed in the context of integration, would also assist the Ministry and DHBs to get the best value from services and improve provider performance. Smarter contracting and funding approaches must be underpinned by good intelligence about costs and price.

System productivity is also affected by the range of wider choices discussed in this briefing about resource allocation, how services are configured, the models of care used, how we train and distribute the workforce, and investment in quality improvement (for example, to reduce waste).

Wider use of contestability

One lever Ministers could explore to lift performance is contestability.[9] Contestability can be used to facilitate choice (for clinicians and service users), improve quality, stimulate innovation, contain costs and change local monopolies in individual DHBs. It can be applied to public and private sector activity.

The degree to which contestability is already being employed varies across services and DHBs. Examples include: the national procurement of pharmaceuticals and vaccinations, joint procurement of back office functions by Health Benefits Ltd, and competitive pressure in markets for aged residential care and mental health and addiction services.

[8] Two efficiency and productivity metrics are reported on in the *Director-General of Health's Annual Report on the State of Public Health* (known as the Health and Independence Report) contained in the Ministry of Health's Annual Report for the year ended June 2011.

[9] The term 'contestability' describes a particular market structure with low barriers to entry, where it is possible to get the benefits of competition even with only one or few existing providers.

Effective use of contestability relies on good information and a sound understanding of the market in which services are being purchased and provided. Careful consideration must be given to the potential impact on the quality of services, including whether access will be maintained.

Electives and diagnostics are particular service areas where there are opportunities to explore use of contestable mechanisms. Ministers could also consider using contestability in the context of incentivising integration, for example, for enrolment in primary care, and in bundling services within the interface between community, primary and secondary services.

Improving prioritisation

Everyday, professionals make decisions about who will receive health services and when people will receive them. Fair and timely referral is one of the principles guiding the delivery of elective services in New Zealand, whereby people with similar needs should receive similar treatment. Consistent and fair prioritisation for services was one of the areas identified by the Office of the Auditor-General in 2011 as a priority for improvement.

At a system-wide level, the NHC has been re-tasked to provide independent advice to the Minister of Health on priorities for investment and dis-investment in health technologies and interventions. The NHC oversees an innovation fund of $3 million per year to pilot new technologies and models of care. The NHC will play an important role in advising on funding and prioritisation decisions that contribute to the quality of health care and system sustainability.

Performance of the Ministry of Health

The Ministry of Health is improving its performance through the following measures.

- Reducing the $204 million that the Ministry currently spends on its internal operations each year. Our baseline reduces to $198 million from 2012/13, building upon a 12.2 percent reduction in full-time-equivalents between 30 June 2009 and 30 June 2011.
- A three-year organisational development framework. Through an effective leadership culture that lifts the performance and accountability of the Ministry year-on-year, the framework will have a direct impact on engagement, employment brand, decision making and collaboration of staff.
- Participating in the performance improvement framework, a joint central agency initiative that considers how well State services organisations are delivering on the Government's priorities and their core business. It also assesses leadership, direction and delivery, external relationships, people development, and financial and resource management.

Our long-term focus is to improve the quality and prioritisation of our work, while further managing costs down. To this end, we are improving the delivery of the health services we manage (such as the approach to disability support services discussed earlier) and our output planning and measurement.[10]

6 Strengthening leadership while supporting frontline innovation

Good leadership ensures that the sector is engaged and moving in the same direction. The role of central government is to make local and regional change possible. For example, the introduction of Regional Service Plans for DHBs is beginning to re-orientate the sector to make more collaborative decisions about service planning and delivery. Change starts within communities, is lead by the health professionals within them, and relies on sustained local relationships.

Why is this important?

Effective leadership from the Ministry, DHBs and within the sector is critical to accelerate progress along the directions of travel outlined in this briefing.

Health professionals hold the expertise and experience to understand people's health care and support needs, and to lead the design of new models of care for the improvement of health outcomes. We need to deepen clinical engagement and leadership to drive a shift in ways of working, towards greater coordination and integration.

Any new approaches to planning, investment and service delivery need to be guided by a clear narrative from the Ministry, the National Health Board and the central bodies tasked with major planning responsibilities, such as HWNZ and the NHC.

Current examples of our response

Clinical networks have been established or formalised in a number of priority areas such as cancer and cardiac services, and for vulnerable services such as paediatric oncology and neurosurgery.

Pockets of innovation across the sector demonstrate the importance of leadership and relationships. For example, an initiative under the Canterbury Clinical Network (CREST) to provide alternatives to hospital admission for people with acute and urgent needs has been successful because cooperative relationships within a clinical network were established, with support from the DHB and primary care organisations.

Ko Awatea, a Counties–Manukau DHB initiative, is establishing centres for excellence in research, knowledge, information management, workforce capability, leadership, and quality improvement. It aims to connect community health care with world-class innovation and ideas. DHB governance and management support has been valuable in its establishment.

[10] The Ministry will also provide a status report on its response to the *Policy Expenditure Review*, as directed by Cabinet, as part of this briefing process.

The Ministry has worked closely with DHBs to establish the first Regional Service Plans as a platform for decisions about service configuration and investment in capital and workforce, and has led the implementation of health targets that have successfully lifted DHB performance. Alongside this, the Health Sector Forum is establishing stronger communication between the Ministry, DHBs, and other bodies such as the NHC and PHARMAC.

Policy choices

Some of the building blocks of significant change are now in place. However, our ability to step up the level of innovation required to improve the quality of services in a sustainable manner is reliant on the value of the relationships between key factors in the system.

Clinical leadership and engagement

Clinical leadership and engagement are vital in accelerating and spreading innovation and best practice across the sector. As mentioned above, the Ministry and DHBs have begun placing formal structures and support around clinical leadership and networks, and increasing the expectation that clinicians are involved in decision making. Momentum needs to be maintained to create a wider cultural change in the role of health professionals in decision-making.

HWNZ's long-term policy is to 'unify and simplify' workforce development. This is about ensuring the sector has the flexibility to respond to future demand and adapt to new models of care.

- Unify – to create the environment and incentives for collaboration and integration, and unify workforce training and development.
- Simplify – to build a training and development framework that produces a flexible workforce with more generic skills and streamlined training requirements.

As well as clinical leadership participating in the progress of the sector as a whole, clinicians are at the centre of the development of new models of care. This could involve adopting a flexible approach to working over a range of care settings, adapting to the introduction of new workforce roles (such as the 'practice assistant' in primary care) and removing barriers to the extension of scopes of practice, for example, diabetes nurse prescribing.

District Health Boards

DHBs are statutorily required to assess the needs of their population and seek the optimum arrangement for the most effective and efficient delivery of health services.[11] They are the main agent in the development of accountability, governance and decision-making capacity to implement regional planning. They are a key player in planning the shift towards an expanded primary and community sector that is integrated with secondary services.

[11] Refer to sections 22 and 23 of the New Zealand Public Health and Disability Act 2000.

The development of new models of care is suggested as the main vehicle through which to meet the increasing diversity of the population and emerging mix of health status trends outlined earlier in this briefing. DHBs play a central role in building momentum in the development of models of care, and in ensuring the ongoing clinical and financial sustainability of services. Leadership of the primary care sector with other primary care organisations is particularly important.

Section 3 highlighted that on average, DHBs have decreased the length of hospital stays and increased day surgery rates, which indicates productivity and efficiency gains. However, there is variation in performance between DHBs, which suggests there is further room for progress.

7 Working across government to address health and other priorities

Many of the influences on people's health outcomes lie outside the direct ambit of the health and disability system. For example, the health of children is influenced by their household's living conditions, income and education levels. There are clear links between health and social issues, such as mental health, alcohol use and unemployment.

Health has a role to play in contributing to other government priorities such as reform of the welfare system, and addressing risk factors (such as alcohol and drug use) for criminal behaviour.

Current examples of our response

Recent examples of a cross-government approach to health include:

- combined investment in alcohol and drug treatment services and extended use of drug courts in the justice sector
- the Whānau Ora programme (led by Te Puni Kōkiri) supports health and social service providers to respond more seamlessly to whānau/family needs, and improve the quality of those services
- the Youth Mental Health project led by the Department of the Prime Minister and Cabinet
- whole-of-government planning for the 2009 A(H1N1) influenza pandemic, led by the Ministry, which supported the effective coordination of national responses.

Policy choices

If Ministers wished to pursue better integration of primary and community health and social services as described in section 4, this could be enhanced by actively pursuing opportunities to also work across government portfolios where there are strong links between health and social issues, and between providers.

Many providers in the health and disability sector receive funding from more than one government agency, which can lead to duplication of effort, fragmentation of services and differences in eligibility. Improving this situation is closely linked to the shift towards a more integrated health and disability system.

Two proposals for cross-Government funding and purchasing of services highlight similar concerns about the need to improve the integration of services and the value the public gets from them that are raised throughout this briefing with regards to the health and disability sector. They are, the Government's proposal establish a stand-alone commissioning agency responsible for an annual Whānau Ora appropriation, and the Social Sector Forum has proposed the use of 'Departmental Joint Ventures' as a way of bringing together funding and accountability for cross-Government initiatives.

Some of the main issues that pose challenges to government and span wider than the Health portfolio include:

- addressing child and maternal health within the broader context of child poverty, development and education
- the interface between ACC and the public health and disability system. ACC funds around $1.7 billion of health services per annum, so changes in ACC's policy settings and direction have a real impact on Health. There are opportunities for information sharing and learning
- the different funding streams and assessment processes for disability support services across government portfolios (including ACC)
- impacts on the health and disability system arising from welfare reform, such as investment in the mental health and rehabilitation workforces.

Conclusion

Improving health outcomes while lifting the quality of services within a sustainable growth path is the major challenge for the health and disability sector over the next three years.

Current services are configured around historical patterns of population demand. Fast growing urban areas need new services, while in other parts of the country populations are declining, which may require adjustments to existing models of care. Innovation is needed to respond to changing patterns of demand in a sustainable manner.

The health and disability sector is already evolving towards a system that is more focused on community and primary care. This focus can assist people and their families to better manage their own health, in their own home. A more integrated system would better coordinate care within an expanded model of primary care, and connect services across the system, for example, by specialist services being delivered in community settings as well as hospitals.

Better integrated services not only provide a better experience for patients, they will be more sustainable, with the potential to decrease the demand for higher cost hospital based care, decrease the average cost per intervention and make best use of our specialist workforce and expensive technologies.

This briefing has discussed seven directions of travel through which you could pursue your goals for the health and disability system. The Ministry looks forward to working with you to achieve your goals.

Annex A: Indicators of Health, Wellbeing and Independence

Indicator (year)	Current level	Number	Age variation	Ethnic variation	Trend	International comparison	Source
Whole of life							
Health expectancy at birth (2006)	M: 67.4 years F: 69.2 years	N/A	N/A	Māori 6–7 years lower	✓	..	1
Life expectancy at birth (2007–2009)	M: 78.4 years F: 82.4 years	N/A	N/A	Māori 8–9 years lower	✓	OECD: middle third	2,11
Disability (any disability) (2006)	M: 17% F: 16%	660,300	Peak age 65+ years (45%)	Māori higher	?	..	2,11
Infancy							
Infant mortality rate, <1 year old (2007)	4.8 deaths per 1000 live births	312	Peaks early neonatal (0–7 days)	Māori and Pacific 1.8x higher than non-MP	✓	OECD: worst third	2
Youth							
Teenage birth rate, 15–19 year old women (2009)	29.4 births per 1000	4641	N/A	Māori 2.4x higher than total	?	Higher than UK, Australia, Canada; lower than US	2,11
Morbidity and mortality – CVD and diabetes							
IHD prevalence,* 15+ years (2006/07)	M: 6.1% F: 4.3%	161,000	Peak age 75+ years (26%)	Māori 1.6x higher	..	..	3
IHD mortality rate (2008)	M: 97.4 per 100,000 F: 51.9 per 100,000	5554	Peak age 65+ years	Māori 2x higher	✓	OECD: worst third	4
Cerebrovascular mortality rate (2008)	M: 30.9 per 100,000 F: 32.9 per 100,000	2611	Peak age 65+ years	Minimal	✓	OECD: middle third	4
Diabetes prevalence (includes undiagnosed), 15+ years (2008/09)	M: 8.4% F: 5.6%	223,000	Peak age 71+ years (M 24%, F 17%)	Māori females 1.9x higher than non-Māori females; Pacific females 2.8 x higher than non-Pacific females	×	..	5
Diabetes uncontrolled (among those diagnosed), 15+ years (2008/09)	M: 51.9% F: 51.1%	59,000	Peak age 30–50 years males (61%)	Māori males 2x higher than non-Māori males	..	..	5

Indicator (year)	Current level	Number	Age variation	Ethnic variation	Trend	International comparison	Source
Morbidity and mortality – cancers							
Total cancer registrations (2008)	M: 374.2 per 100,000 F: 320.4 per 100,000	20,317	Peak age 80–84 years	Māori higher than non-Māori	✓	..	7
Total cancer mortality (2008)	M: 154.9 per 100,000 F: 115.3 per 100,000	8566	Peak age 85+ years	Māori higher than non-Māori	✓	WHO: F in top 10 highest; M in top 30 highest	4
Lung cancer registrations (2008)	M: 33.7 per 100,000 F: 27.2 per 100,000	1864	Peak age 80–84 years	Māori higher than non-Māori	✓ M × F	..	7
Lung cancer mortality (2008)	M: 30.1 per 100,000 F: 22.6 per 100,000	1634	Peak age 80–84 years	Māori higher than non-Māori	✓ M × F	WHO: F in top 10 highest; M in top 40 highest	4
Colorectal cancer registrations (2008)	M: 49.8 per 100,000 F: 39.7 per 100,000	2801	Peak age 80–84 years	Non-Māori higher than Māori	✓	..	7
Colorectal cancer mortality (2008)	M: 23.5 per 100,000 F: 15.8 per 100,000	1280	Peak age 85+ years	Minimal ethnic variation	✓	OECD: worst third	4
Breast cancer registrations (2008)	M: 0.7 per 100,000 F: 93.3 per 100,000	2732	Peak age 85+ years	Māori higher than non-Māori	=	..	7
Breast cancer mortality (2008)	M: 0.2 per 100,000 F: 19.1 per 100,000	624	Peak age 85+ years	Māori higher than non-Māori	✓	OECD: worst third	4
Prostate cancer registrations (2008)	M: 103.3 per 100,000	2939	Peak age 70–74 years	Non-Māori higher than Māori	?	..	7
Prostate cancer mortality (2008)	M: 21.5 per 100,000	670	Peak age 85+ years	Minimal	?	WHO: M in top 20 highest	4
Melanoma registrations (2008)	M: 43.0 per 100,000 F: 37.4 per 100,000	2256	Peak age 80–84 years	Non-Māori higher than Māori	×	..	7
Melanoma mortality (2008)	M: 7.2 per 100,000 F: 3.2 per 100,000	317	Peak age 85+ years	Non-Māori higher than Māori	?	WHO: F in top 10 highest; M in top 10 highest	4
Morbidity and mortality – respiratory							
Asthma (medicated) prevalence,* 2–14 years (2006/07)	M: 15.5% F: 14.1%	109,900	Minimal age variation	Māori 1.4x higher than total	..	..	3
Asthma (medicated) prevalence,* 15+ years (2006/07)	M: 9.3% F: 12.9%	348,400	Minimal age variation	Māori 1.3x higher than total	?	..	3
COPD prevalence,* 45+ years (2006/07)	M: 5.6% F: 7.5%	96,100	Peak age 75+ years (10%)	Māori 2x higher than total	..	..	3

Indicator (year)	Current level	Number	Age variation	Ethnic variation	Trend	International comparison	Source
Morbidity and mortality – infectious diseases							
Rheumatic fever notifications (2010)	M: 3.7 per 100,000 F: 4.0 per 100,000	168	Peak age 10–14 years (25.4 per 100,000)	Most cases Māori and Pacific	×	..	8
Measles notifications (2010)	1.1 per 100,000	48	Peak age 1–4 years (3.6 per 100,000)	Minimal	×	..	8
Pertussis notifications (2010)	20.0 per 100,000	873	Peak age <1 year (135 per 100,000)	Minimal	✓	..	8
Meningococcal disease notifications (2010)	2.2 per 100,000	97	Peak age < 1 year (42 per 100,000)	Māori and Pacific higher	✓	..	8
Skin infection hospitalisations, children 0–14 years (2009/10)	M: 668 per 100,000 F: 520 per 100,000	5618	Peak age 0–4 years	Māori higher than non-Māori	×	..	6,9[#]
Morbidity and mortality – other							
Arthritis prevalence,* 15+ years (2006/07)	M: 13.0% F: 16.3%	460,500	Peak age 75+ years (47%)	Minimal	?	..	3
Alzheimer's disease prevalence (2006 modelled)	~1%	28,300	Increase with age	..	..	..	13
One or more major long-term conditions[¥] prevalence,* 15+ years (2006/07)	M: 39.5% F: 45.7%	1,332,500	Peak age 75+ years (77%)	Minimal	..	..	3[#]
Three or more major long-term conditions[¥] prevalence*, 15+ ears (2006/07)	M: 4.6% F: 6.4%	171,600	Peak age 75+ years (19%)	Minimal	..	..	3[#]
Any mental disorder (12 month) prevalence, 16+ years (2003/04)	M: 17.1 % F: 24.0 %	702,000	Peak age 16–24 years	Māori and Pacific higher than total	..	..	10
Suicide mortality (2008)	M: 16.9 per 100,000 F: 5.8 per 100,000	497	Youth 15–24 years (18.6 per 100,000)	Small numbers	✓	OECD: worst third	4
Motor vehicle accident mortality (2008)	M: 12.7 per 100,000 F: 5.8 per 100,000	396	Peak age 20–24 years	Māori higher than non-Māori	✓	..	4

Indicator (year)	Current level	Number	Age variation	Ethnic variation	Trend	International comparison	Source
Risk factors – biological							
Obesity prevalence, 2–14 years (2006/07)	M: 8.0% F: 8.7%	61,800	Similar across age groups	Pacific 1.4x and Māori 2.8x higher than total	= since 2002	OECD: worst third for combined overweight/obesity	3
Obesity prevalence (BMI ≥ 30), 15+ years (2008/09)	M: 27.7% F: 27.8%	900,200	Peak age 51–70 years (35%)	Pacific 2.3x and Māori 1.9x higher than total	×	OECD: worst third	5
Total hypertension† prevalence, 15+ years (2008/09)	M: 32.9% F: 27.2%	971,400	Peak age 75+ years (74%)	Minimal	..	Similar to Scotland, England and USA	5#
Total: HDL cholesterol ratio ≥4.5, 15+ years (2008/09)	M: 37.2% F: 16.9%	861,300	Peak age 45–54 years (34%)	Minimal	..	..	5#
Risk factors – lifestyle							
Daily cigarette smoking prevalence,* 15+ years (2006/07)	M: 19.3% F: 17.0%	565,000	Peak age 15–24 years (25%)	Māori 2x and Pacific 1.2x higher than total	✓	OECD: best third	3
Hazardous drinking pattern prevalence,* 15+ years (2006/07)	M: 25.6% F: 10.4%	551,300	Peak age 15–24 years (34%)	Māori 1.6x higher than total	?	..	3
Inadequate vegetable intake (<3 servings per day) prevalence,* 15+ years (2006/07)	M: 42.4% F: 30.0%	1,121,300	Peak ages 15–24 years (49%)	Pacific 1.5x and Asian 1.4x higher than total	=	..	5
Inadequate fruit intake (<3 servings per day) prevalence,* 15+ years (2006/07)	M: 49.5% F: 31.2%	1,247,000	Peak age 15–24 years (45%)	Minimal	✓	..	5
Insufficient physical activity (includes sedentary) prevalence,* 15+ years (2006/07)	M: 46.0% F: 52.7%	1,494,800	Stable until older age 75+ years (65%)	Asian higher than total	=	..	3
Sedentary (<30 minutes physical activity per week) prevalence,* 15+ years (2006/07)	M: 7.7% F: 12.0%	308,900	Stable until older age 75+ years (32%)	Pacific and Asian higher than total	✓	..	3

Guide to interpretation

- Indicators – the list of indicators is not exhaustive, but key health status indicators we have recent data for are included. Note that health system performance indicators are not included. Unless otherwise stated in the indicator description, the indicator is for the total population.
- Current level – where possible, data are presented for males and females separately (M = male, F = female).
- Number – this is the total number of cases/deaths in the population (sexes combined). Note that for survey data (source 3 and 5) the number is approximate and therefore rounded to the nearest 100.
- Age variation – where possible, the age group with the highest rate is identified. Note that age groups vary by data source.
- Ethnic variation – where possible, significant ethnic differences are noted.
- Trend – where possible, the trend for the total population is summarised as follows: ✓means trend is favourable, × means trend is unfavourable, = means no change, ? means trend is unclear, and .. means trend data unavailable. Note that the number of years and/or data points used to indicate a trend varies depending on the data source.
- International comparison – most comparisons are with OECD countries and are summarised as best, middle or worst third.
- Source – the source of data corresponding to the number in this column is provided at the end of table. Note that provisional (unpublished) data are indicated by a hash (#) after the source number.
- Survey data (source 3 and 5) – the target population for surveys excludes those living in non-private dwellings such as institutions. Survey data that are based on self-report have an asterisk (*) after the indicator description. Note that self-report of a doctor diagnosed condition can reflect differences in health service utilisation.

Sources

1 Ministry of Health
2 Statistics New Zealand
3 New Zealand Health Survey, Ministry of Health
4 Mortality Collection, Ministry of Health
5 New Zealand Adult Nutrition Survey, Ministry of Health
6 New Zealand Health Tracker, Ministry of Health
7 Cancer registry, Ministry of Health
8 Institute of Environmental & Science Research
9 O'Sullivan et al. 2011. The epidemiology of serious skin infections in New Zealand children; comparing the Tairawhiti regions with national trends (unpublished manuscript to date)
10 Te Rau Hinengaro. The New Zealand Mental Health Survey
11 The Social Report 2010 (MSD)
12 World Health Organization, Cancer Mortality Database.
13 Ministry of Health modelling, Tobias et al 2008

Notes

N/A Not applicable
* Self-reported. For physical and mental health conditions, this refers to doctor-diagnosed conditions (participants are asked "have you ever been told by a doctor you have X").
† Hypertension = systolic blood pressure ≥140 mmHg or diastolic blood pressure ≥ 90 mmHg or currently taking medication for high blood pressure.
¥ Includes IHD, stroke, diabetes, asthma, COPD (45+ years), arthritis, osteoporosis, mood disorder, anxiety disorder.
Provisional (unpublished) estimates.
✓ Trend favourable
× Trend unfavourable
= No change over time
? Trend unclear
.. Unavailable

References

Bevan H. 2011. *Delivering Cost Reduction Through Quality Improvement: A one day master-class for senior leaders*. NHS Institute for Improvement and Innovation.

Busse R, Blümel M, Scheller-Kreinsen D, et al. 2010. *Tackling Chronic Disease In Europe: Strategies, Interventions and Challenges*. Denmark: World Health Organization.

Goodwin N, Smith J. 2011. *The Evidence Base for Integrated Care*. United Kingdom: The King's Fund and Nuffield Trust.

Ministerial Review Group. 2009. *Meeting the Challenge: Enhancing sustainability and the patient and consumer experience within the current legislative framework for health and disability services in New Zealand*.

Ministry of Health. 2011. *A Focus on Nutrition: Key Results of the 2008/09 Adult Nutrition Survey*.

National Institutes of Health and Centre for Disease Control and Prevention. *Diabetes Prevention Programme*. Accessed 24 November 2011.
URL: http://ndep.nih.gov/resources/ResourceDetail.aspx?ResId=132

OECD. 2009. *Doing Better for Children*. Accessed 26 January 2012. URL: www.oecd.org/els/social/childwellbeing

OECD. 2011. *Health at a Glance 2011: OECD indicators*. Accessed 26 January 2012. URL: www.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-2011_health_glance-2011-en

Office of the Prime Minister's Science Advisory Committee. 2011. *Every Child Thrives, Belongs, Achieves: The Green Paper for Vulnerable Children*.

Spinks JM, Richardson JRJ. 2011. Paying the right price for pharmaceuticals: a case study of why the comparator matters. *Australian Health Review* 35: 267–72.

The Commonwealth Fund. 2010. *2010 Commonwealth Fund International Health Policy Survey*. Accessed 26 January 2012. URL: www.commonwealthfund.org/Surveys/2010/Nov/2010-International-Survey.aspx

The Treasury. 2010. *Challenges and Choices: Modelling New Zealand's Long-term Fiscal Position*.

Vos T, Carter R, Barendregt J, et al. 2010. *Assessing Cost-Effectiveness in Prevention (ACE-Prevention): Final report*. Brisbane: University of Queensland, Melbourne: Deakin University.