Section C: Services / Ngā Ratonga

5 Service overview / Te tirohanga whānui ki te ratonga

Service delivery context

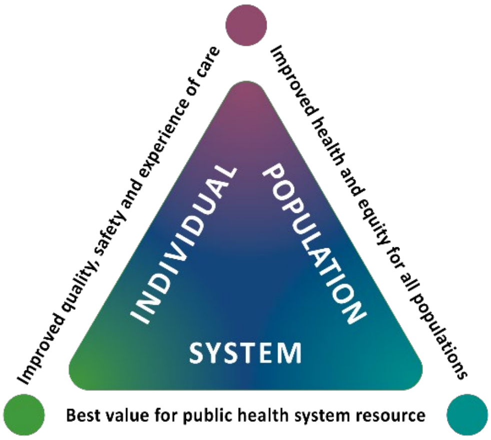
The key vehicle for the provision and funding of health and disability services in New Zealand are the 20 DHBs that were established under the New Zealand Public Health and Disability Act 2000. The primary objectives for DHBs set out in the Act include, but are not limited to:

- improve, promote, and protect the health of people and communities
- seek the optimum arrangement for the most effective and efficient delivery of health services to meet local, regional, and national needs
- promote effective care or support for those in need of personal health services or disability support services
- promote the inclusion and participation in society and independence of people with disabilities
- reduce health disparities by improving health outcomes for Māori and other population groups.

Setting the direction for integrated care and equity focus

DHBs were established with the aim of widening the focus from treatment of illness to improving health and wellbeing and addressing health inequities. The expectation of greater service delivery integration via a mixed model of public and non government organisations was also set out in the Health and Disability Act.

Strategies developed in the early 2000s reinforced these objectives. Many of these strategies have been refreshed recently. The New Zealand Health Strategy is the overarching strategy which sets the vision that all New Zealanders have the right to a system that enables everyone to live well, stay well and get well. It is underpinned by the Triple Aim framework which provides a system approach to improving services.



The three aims of the framework are to:

- improve health and equity for all populations
- improve the quality, safety and experience of care
- ensure best value for public health system resource.

Strong support remains for the Primary Health Care Strategy that was launched in 2001

Of particular importance, is the Primary Health Care Strategy 2001[140] which intended to change the way that primary health care was funded and delivered. There was a recognition at that time that the delivery of primary health care services was not working well for everyone. The concerns raised included:

- poor access to care for some groups in the population, arising from financial, cultural and other barriers to care
- little incentive for practices to promote health or prevent disease;
- a poorly distributed workforce in relation to population
- a bias towards GP care
- an inability for the government to fund according to population health needs.[141]

The aim of the new strategy was to strengthen the role of primary care in order to improve population health and, in particular, be more responsive to the needs of those groups experiencing poor access to health care and poor health outcomes. The vision was for the primary health care sector and local communities to work together to improve the health of all New Zealanders.

To promote these policy objectives, the strategy introduced three major areas of reform:

- increasing primary care funding with the aim of improving access by reducing the fees that patients pay for services, expanding the range of services provided, and extending eligibility for government funding of primary health care to the entire enrolled population
- mandating the development of primary health organisations (PHOs) as local not for profit organisations, to be contracted by DHBs to meet the primary health care needs of their enrolled population.
- changing the method of allocating government funding for primary health care from a fee-for-service subsidy at the practitioner level to (largely) a fixed annual payment for all enrolled patients (capitation).

At the time, the Primary Health Care Strategy was welcomed and well supported across the sector. Eighteen years later, the Primary Health Care Strategy continues to be recognised as a strong piece of government policy, however there is broad consensus that shifts towards a more multidisciplinary model of delivery with more proactive population and patient, family and whānau centred approaches have been slow. In particular, ongoing concerns from Māori about primary care were highlighted in the recent Waitangi Tribunal report. More detail about this is included in chapter 3: Hauora Māori.

Key reasons cited for the slow shift include:

- lack of consistent leadership over time
- a lack of resourcing to lead and roll-out new models
- funding formulas that fail to cover the costs associated with very high needs populations
- the significant proportion of general practice income that is still derived from patient co-payments. This has resulted in practices being incentivised to prioritise patient volume rather than introducing new, more innovative models of care.[142]

Why the changes to the system are important

While progress has been slow, a review of evidence and submissions reaffirms that population health approaches and early community based interventions are critical to the delivery of improved and more equitable health and wellbeing outcomes:

- Population health approaches have led to some of the greatest improvements in wellbeing and life expectancy. Examples include the control of infectious diseases through clean water and improved sanitation, prevention of infectious diseases through immunisation, and the recognition of tobacco use as a health hazard.
- There is now a strong body of evidence to support the case for investing in population health interventions, particularly for diseases and risk factors that contribute to significant health loss and inequity in New Zealand. A 2014 WHO review showed that a wide range of preventative approaches are cost effective, including addressing the environmental and social determinants of health, building resilience and promoting health behaviours.[143]
- A further recent systematic review of a range of public health interventions estimated the mean return on investment (ROI) from a range of existing population health interventions in high-income countries with universal healthcare (including New Zealand) was 14.3 to 1. Some interventions produced rapid returns (for example community based falls prevention), while larger returns were seen over a 10-20 year horizon for other initiatives (for example immunisations against communicable diseases).[144] [145] [146] That review also showed that health protection and legislative interventions at a national level are likely to provide the highest return (mean ROI = 46), although many local level public health interventions are still cost effective.[147]
- In general, evidence also shows that investing in upstream population-based prevention is more effective at reducing health inequities than more downstream prevention[148]

There is also evidence that how we empower and engage patients and deliver services in primary care settings is key to achieving more equitable health outcomes and improving wellbeing. A recent World Health Organization review concluded that there is powerful evidence to suggest that primary care can produce a range of economic benefits including:

- Health outcomes - primary care can improve population health in terms of life expectancy, all-cause mortality, maternal, infant and neonatal mortality as well as mental health outcomes.
- Health system efficiency - primary care can reduce total hospitalisations, avoidable admissions, and emergency admissions and hospitalisations.
- Health equity - primary care improves equitable access to health care and equitable health outcomes.[149]

Life course approaches that are organised around patients and their whānau rather than around providers and single diseases are being demonstrated to be more effective in patient cohorts where comorbidities and patient complexity are high.

Understanding what matters most to patients and their whānau and empowering patients by providing them with the knowledge, skills and confidence to manage their own health and health care will reduce inequities in a health system which has historically underserved Māori and Pacific peoples.

While greater investment in prevention and early intervention will help to slow demand, high quality hospital and specialist services will continue to be needed. Clinical practice, genomics, artificial intelligence and a growing range of technologies will continue to advance the range of diagnostic and treatment services that can be provided. Patient expectations will continue to grow as knowledge of what is available locally and internationally becomes more readily available. It is expected that demand for services will continue to outstrip resources and that we will need to continue to engage in discussions about service prioritisation.

There will also be an increasing proportion of the population who will be living with disability associated with the effects of long term conditions (such as diabetes and arthritis) in adulthood, and increases in the numbers in older age groups who have higher (though not increasing) rates of disability. The system will need to ensure that the needs of this population are understood and services are delivered in a way that enables individuals and their whānau to live well with disability, rather than just providing support for impairment.

Framework for the system review

The Panel is very supportive of the direction set out in the strategies which align with the objectives that have been set for the Review. The delivery of high quality treatment services will always be needed, but there is also a need for the system to better support patient and whānau wellbeing throughout their life and to ensure that the system understands and delivers what matters most to people.

Although there are a multitude of ways to talk about service delivery, the Review has focused its considerations around four main components: population health, Tier 1, Tier 2 and disability. The concept of 'tiers' has been used to place a broad set of parameters around the complexity of service delivery, as well as initiate discussion about how to shape the system for the future (see Figure 5.1).

FIGURE 5.1: SERVICES OVERVIEW

Definitions include:

- **Population health services:** including public health action, public health policy, health promotion, and preventative initiatives such as screening programmes.
- **Tier 1:** The layer of the system focused on a broad range of services and other activities taking place in homes and local communities. This includes:
  - Self-care (maintaining well-being and self–management of chronic conditions within whānau);
  - Other services delivered in the community (including but not limited to general practice, school health services, disability supports, aged care, laboratory and radiology services, maternity care, oral health and allied health that take place outside of hospital settings)
- **Tier 2:** The layer of the system focused on the delivery of public and private hospital and specialist treatment and diagnostic services. This includes, services delivered for the local population or a regional catchment and those provided for more than one region and in some instances all of New Zealand
- **Disability:** Services provided to people with disabilities that support the enable them to live well with disability. The requirement for services varies from short term to life long. The majority of services are delivered in Tier 1, but many people, will also access Tier 2 services at different stages.

There are no definitive boundaries between these service areas and in an effective integrated systems the boundaries will become more blurred. However, for the purposes of these initial discussions, we have used this taxonomy which largely reflects current state service provision arrangements around which many submissions were framed.

Current service delivery arrangements

New Zealand’s health and disability system delivers prevention, care, and treatment through an extensive range of hospital, community and home based arrangements. This includes 83 certified public and 77 certified non-government hospitals, 30 Primary Health Organisations (PHOs), and thousands of community and home based services.

Services are organised in a variety of ways including by:

- condition or issue (e.g. maternity care, mental health and addiction, vision, hearing, speech, family violence, oral health care, palliative care)
- life stage (e.g. Well-Child Tamariki Ora, youth health services, aged residential care)
- service type (e.g. kaupapa Māori, pharmacy, general practice, nursing, social work, Pacific services, occupational therapy, physiotherapy, podiatry, diagnostic imaging, residential care, rehabilitative support, disability services, laboratory services)
- delivery method (e.g. telehealth or e-therapy, school-based service, mobile service, marae based health service, home based service)
- geographic area
- cultural communities they serve.

Utilisation of current services

The health and disability system is used extensively by New Zealanders, with some examples of the broad range of services commonly used, set out below (Figure 5.2).

FIGURE 5.2: SNAPSHOT OF SERVICES, ORGANISATIONS AND HEALTH CARE WORKERS ACROSS THE SYSTEM

IN AN AVERAGE YEAR, THE SYSTEM DELIVERS:

60,000 births	**56,000** B4 school checks	**600,000** telehealth contacts	**70 million** items dispensed
17 million GP and nurse consults	**64,000** accessed disability equipment and modifications	**34,000** accessed disability support services	**33,000** accessed aged residential care
400,000 cervical cancer screenings	**200,000** elective surgeries	**1.2 million** public hospital discharges	**1.3 million** emergency department visits

THESE SERVICES ARE DELIVERED BY NUMEROUS PROVIDERS, SUCH AS:

82 public hospitals	**75** private hospitals	**280** Māori providers	**33** Pacific providers
1,000 general practices	**1,100** pharmacies	**60** aged home support providers	**360** aged residential care providers

AND DELIVERED BY WORKFORCE GROUPS, SUCH AS:

63,000 kaiāwhina	**30,000** disability support workers	**430,000** unpaid carers	**20,000** volunteers
56,000 nurses	**30,000** Allied workforce	**16,000** doctors	**3,000** midwives

6 Population health / Te hauora taupori

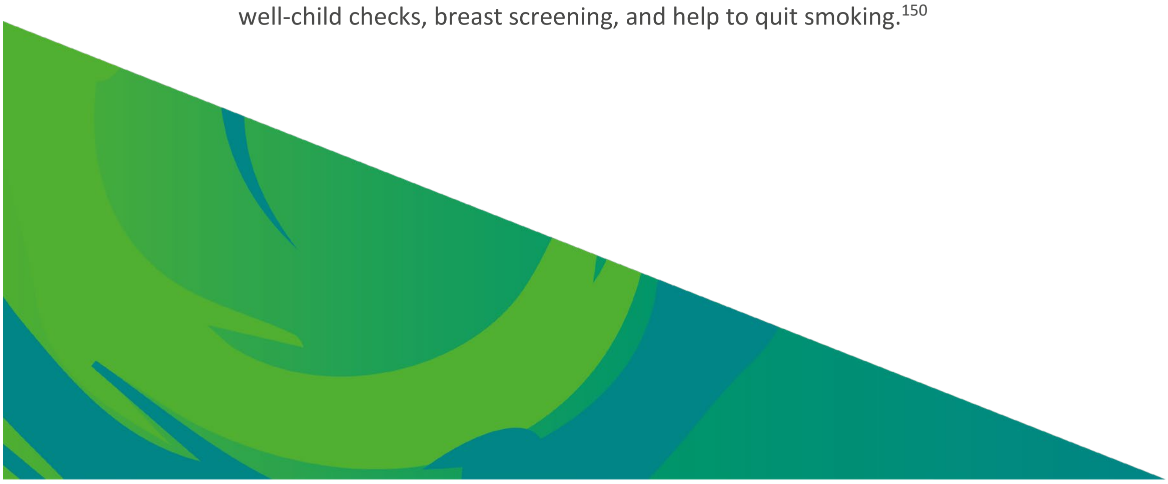
> *A core role of the health system is to not only support and treat people when they are unwell or injured, but to prevent illness and promote health and wellbeing. This will be essential if the New Zealand system is to remain financially sustainable in the future. This section looks in more detail at how the system delivers population services, where the funding comes from, how effective they have been in changing behaviours, and why such services should take a stronger leadership role in the future.*

What is population health

The terms 'public health' and 'population health' are often used interchangeably even though they have specific meanings. In this report, to avoid confusion with the terms 'public health system' and 'publicly funded health system', we use the term 'population health' with the understanding that it incorporates the broad definition and meaning of 'public health'.

Population health uses various approaches to reduce health inequities, keep communities safe, create healthier environments, and encourage healthy behaviours. The core functions of population health in New Zealand have been described as comprising:

- **health assessment and surveillance:** gathering evidence about health status, health determinants, how illness is distributed across the population, and how to improve it
- **population health capacity development:** enhancing the system's capacity and ability to improve population health
- **health promotion:** working with a range of sectors (including health) and communities to create physical, social and cultural environments that support health and wellbeing
- **health protection:** organising to protect communities against population health threats and hazards
- **preventive interventions:** population programmes delivered to individuals such as immunisation, well-child checks, breast screening, and help to quit smoking.[150]



The evidence is clear, as discussed in the earlier chapter, that the effective delivery of population health functions can add value to the whole health and disability system, by both reducing demand for health care services over the long term and promoting greater health and wellbeing throughout our lives.

Population health is a core system enabler, contributing to improved health and wellbeing outcomes and improved equity, with flow-on effects for society.

Strong mandate for a population health approach but accountability lacking

The Health Act 1956 is New Zealand's core piece of population health legislation, setting out the roles and responsibilities of specific organisations and individuals to safeguard population health. These include the Ministry of Health, the Director of Public Health, and designated officers for public health. The Health Act contains provisions for managing environmental health, infectious diseases, health emergencies, and the National Cervical Screening Programme. This Act is considered by many to now be outdated and in need of review.

The New Zealand Health and Disability Act 2000 provides an explicit legislative mandate for a population health approach. The purpose of this Act is the improvement, promotion, and protection of the health of all New Zealanders. The Act sets out that the role of the Ministry of Health is to provide leadership and stewardship of the health and disability system and the role of DHBs is to:

- improve, promote, and protect the health of people and communities
- seek the optimum arrangement for the most effective and efficient delivery of health services to meet local, regional, and national needs
- reduce health disparities by improving health outcomes for Māori and other population groups.

Current population health service arrangements

- Many agencies and providers are engaged in providing population health services. The key entities and their roles are set out below.

KEY AGENCIES AND PROVIDERS OF POPULATION HEALTH SERVICES

MINISTRY OF HEALTH:

- *The Ministry provides national leadership on all public health issues. Under the Health Act 1956, the Director of Public Health has a statutory role to advise the Director General of Health and Minister of Health "on matters relating to public health".*
- *The Ministry's policy and regulatory functions span a broad variety of issues such as emergency response, communicable disease control, environmental health, drinking water, border health, population screening, immunisation, tobacco control, population health monitoring, oral health, public health workforce, climate change and health, nutrition and physical activity, health promotion, public health policy development and implementation, capability development of statutory officers, and international obligations.*
- *The Ministry plays a significant role in planning, commissioning, and monitoring population health services at national, regional, and local levels. It also performs the critical role of working with other government agencies on issues that impact on population health.*

DHBS:

- *Play a significant role in planning, commissioning, and monitoring population health services at a local level. They incorporate, in their normal operations, elements of all of the key population health functions including funding and delivering population health interventions such as screening and immunisation services.*

PUBLIC HEALTH UNITS:

Thirteen units are 'owned' by their host DHBs, but funded directly from the Ministry. They deliver a variety of population health services that are expected to:

- *respond to legislative requirements, international obligations and Government priorities*
- *maintain critical mass, in terms of the infrastructure, and the multi-disciplinary, specialised workforce required to deliver core public health functions*
- *maintain adequate pandemic and emergency preparedness and responsiveness*
- *respond to changing demographics (population growth, distribution and diversity)*
- *contribute to the provision of comprehensive public health responses to address the growing health and fiscal burdens associated with non-communicable and communicable diseases.*[151]

CROWN ENTITIES:

- *The Ministry funds several Crown entities to deliver population health services. For example, it funds the Health Promotion Agency, which delivers health promotion services and has legislated functions in relation to researching and advising on the sale, supply, consumption, misuse, and harm of alcohol; the Institute of Environmental Science and Research, which provides scientific, analytical, and advisory services; and the University of Auckland to provide immunisation advisory services.*

REGIONAL AND LOCAL SERVICES:

- *A large number of organisations, most of which are non-government organisations, deliver population health services at local levels. These providers and their approaches vary, reflecting the geographic, social, and cultural contexts they work within.*

PRIMARY HEALTH ORGANISATIONS (PHOS):

- *The PHO agreement contains provisions for the delivery of health promotion interventions but this is not standardised. Each DHB and PHO determines the types of services required to be delivered each year*

OTHER GOVERNMENT AGENCIES AND LOCAL GOVERNMENT:

- *Various government agencies, as well as local government, have important roles in delivering population health functions, including the Ministry for Primary Industries, the Ministry for the Environment, the Ministry of Housing and Urban Development, WorkSafe New Zealand, Sport New Zealand, the Accident Compensation Corporation, the New Zealand Transport Agency, the Ministry of Education, the Environmental Protection Agency, the Ministry of Justice, and the Ministry of Social Development.*

Fragmentation of roles and accountabilities

Despite the legislative mandate for public health functions, we heard a common theme in our engagement of a lack of clarity in the roles, responsibilities, and accountabilities across these functions.

> *Currently, public health is unnecessarily fragmented and complex given New Zealand's small size. (Organisation submission)*

We understand the fragmentation is due, in part, to the partial devolution of population health services to DHBs. When the DHBs were established in 2001, the Ministry of Health retained overall responsibility for planning and funding population health services, with the intention that DHBs would progressively assume these functions. The intended full devolution of local or regional population health services to DHBs has not occurred, and the Ministry continues to hold responsibility for planning and funding most population health services at national and local levels.

The configuration, scope, and volume of activities each public health unit delivers varies considerably. This is particularly so for non-regulatory services, such as health promotion, and is not surprising given the population served by each unit varies from around 250,000 to almost 2 million, the number and type of borders (for example, ports and international airports), the mix of other population health service providers in the area of coverage, and the demographics and needs of the populations served. The extent to which each unit's activities are integrated with their DHB's planning and service delivery also varies.

> *[Public health units] are diverse in size, specialisation, service scope, levels of service provision, and ability to deliver services across the five core public health functions. (Organisation submission)*

The configuration of services at national, multi-DHB, and single DHB or local levels is summarised in Table 6.1.

TABLE 6.1: CONFIGURATION OF HEALTH FUNDED POPULATION HEALTH SERVICES

Level	Function or service
National	*Ministry of Health functions or services delivered directly, such as:* ▶ administration of public health legislation (including regulations) ▶ leadership of key programmes (for example, screening, environmental health, and tobacco) ▶ interagency and cross-government collaboration ▶ participation in global initiatives ▶ policy, advice, and guidelines ▶ health status surveillance and analysis ▶ service contracting and monitoring ▶ development of health resources ▶ leadership and coordination of emergency response ▶ participation in international agreements and global initiatives. *Lead organisations the Ministry contracts with to deliver national services, such as:* ▶ Health Promotion Agency (health promotion campaigns and resources) ▶ Institute of Environmental Science and Research (scientific, analytical, and advisory services) ▶ Tertiary education institutions, such as the University of Auckland for delivery of immunisation advisory services ▶ some DHB-based public health units, such as the Auckland Regional Public Health Service, which is the lead organisation for national refugee screening services for all new refugees ▶ non-government organisations (NGOs), such as the National Heart Foundation (heart health promotion initiatives), AIDS Foundation (prevention programmes, HIV testing, and support services), and Mental Health Foundation (mental health promotion). Hapai Te Hauora Tapui Ltd, which provides guidance and support to the four regional lead providers and 20 DHBs to implement the National SUDI Prevention Programme (for prevention of sudden and unexpected death in infancy. *National services that are part of a wider (often nationwide) programme delivered by a variety of providers, such as:* ▶ national screening programmes, such as the five national population-based screening programmes (for breast, bowel, and cervical cancer and for metabolic screening and hearing of newborns) ▶ Healthy Families NZ (10 initiatives in local communities) ▶ Community Action on Youth Alcohol and Drugs (18 initiatives in local communities) ▶ Kia Piki te Ora Māori suicide prevention programmes (initiatives in 9 DHB regions).
Multi-DHB	*Services delivered to more than one DHB region that the Ministry, DHBs, or public health organisations (PHOs) contract and may be delivered by:* ▶ a DHB (for example, the four SUDI prevention services and regional public health networks, such as the South Island Public Health Partnership that facilitates planning and decisions around the delivery of public health unit services for the South Island DHBs) ▶ a PHO (for example, ProCare stop smoking services across Auckland DHB and Waitemata DHB areas) ▶ a public health unit (five of the 13 units cover more than one DHB area) ▶ an NGO (for example, Age Concern NZ Inc delivers regional healthy ageing services in the South Island, Central North Island, and Midlands regions).
Single DHB or local	*Local providers that deliver services within one DHB area, that the Ministry of Health, some DHBs, or some PHOs contract, and that many be delivered by:* ▶ a DHB for its geographical area (for example, the DHB Tobacco Control contract focuses on leadership and implementation of the DHB's Tobacco Control Plan and supporting and monitoring its smoking cessation activity to achieve tobacco control outcomes) ▶ a public health unit (seven units cover one DHB area) ▶ a PHO – a variety of health promotion services are delivered at a local level by primary care services, which deliver population health interventions to individuals, such as smoking cessation, immunisation, and screening) ▶ an NGO (for example, West Fono Health Trust delivers physical activity services to Pacific communities in West Auckland, Pirirakau Hauora Charitable Trust delivers sexual and reproductive health services and mental health promotion services within the rohe (area) of Te Puna and Western Bay of Plenty).

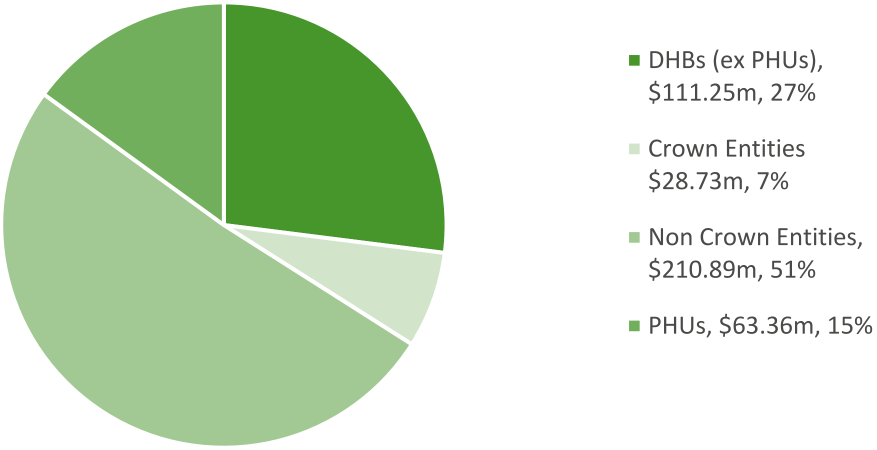
How population health services are funded

It is difficult to have a clear picture of the proportion of government funding going to population health with population health services being funded by the Ministry, DHBs, and primary health organisations (PHOs) and through various government appropriations and government departments.

The Ministry of Health's Public Health Services Appropriation, for example, does not include funding for services that have been devolved to DHBs such as immunisation services; nor does it include funding for health promotion services funded through PHOs or for services that DHBs might choose to deliver out of DHB population-based funding under the Crown funding agreement.[152] Also, over time, some services have been reclassified out of the Public Health Services Appropriation into other appropriations, such as the National Telehealth Service, which moved into personal health appropriations.

Looking, therefore, at just the Public Health Services Appropriation, in 2017/18 $414 million was allocated to funding population health services. Of this amount, half (51%) was allocated to NGOs, 27% to DHBs, 15% to public health units, and 7% to Crown entities.

FIGURE 6.1: PUBLIC HEALTH SERVICES APPROPRIATION ALLOCATION 2017/18



SOURCE: MINISTRY OF HEALTH.

The Public Health Services Appropriation in recent years has received new funding only for specific new services or initiatives, which has left services that are funded through this route with limited ability to respond to changes in population needs or priorities, or respond to cost-pressures. In contrast, other appropriations (such as DHB appropriations) usually receive funding increases to partially cover population growth and cost pressures.

Facing the future: population health challenges

Challenges require reorienting our health system

More than a third of illness and disability New Zealanders experience is caused by known modifiable population-level risk factors, so is potentially preventable. Without significant population health investment, it is likely that this burden of disease and disability will continue to increase year on year.

Diet is the leading modifiable population risk factor, followed by high body mass index (BMI), tobacco use, and high blood pressure.[153] Population health efforts have been, thus far, effective in reducing tobacco use, however, the ongoing impact of tobacco remains significant. Based on current trends, the prevalence of obesity is set to continue to increase presenting significant health and societal challenges.

Throughout our engagement, we heard that the challenges arising from changes in our global, environmental, societal, and technological contexts will require a fundamental shift in focus. A consistent theme was the need for a strengthened system that is better balanced towards wellness, prevention, equity, and sustainability.

> *[We need a] reorientation of the health and disability system to move 'beyond its responsibility for providing clinical and curative services' and embrace a wider mandate for supporting and promoting the wellbeing of our population. (Organisation submission)*

If not tackled comprehensively and early, the health and wellbeing consequences of poverty, racism, alcohol, emerging (and re-emerging) infectious diseases, climate change, changes to our urban environment, depletion of environmental resources, antimicrobial resistance, natural disasters, and the pressures of commercial drivers of poor health, poor mental health, and age-related conditions such as dementia will put significant pressure on our health system.

> *The scale of these [environmental health and infectious disease] threats is growing, with notable examples being recurrent pandemics, the rise of [antimicrobial resistance] … and the effects of climate change and environmental disruption. There is an increasing need to have a co-ordinated and critical mass of specialist expertise and national infrastructure to assess and manage these threats. Core functions include surveillance and monitoring, risk assessment and management, responding to health emergencies, coordination and communication, prevention policy and guidelines, workforce development and infrastructure. (Organisation submission)*

Using evidence to guide action

Given the growing burden of disease from non-communicable diseases internationally, the World Health Organization (WHO) developed a menu of 88 highly cost-effective interventions.[154] This has become known as WHO's 'best buys', with interventions for each of the four key risks for non-communicable diseases (tobacco, harmful alcohol, unhealthy diet, and physical inactivity) and the four disease areas (cardiovascular disease, diabetes, cancer, and chronic respiratory disease).

Here in New Zealand, the Burden of Disease Epidemiology, Equity and Cost Effectiveness Programme (BODE³) at the University of Otago, Wellington, has developed a New Zealand specific health intervention league table that allows researchers, health professionals and policy makers to compare health interventions impacts on health gains, health system costs or cost-effectiveness[155].

The strong body of evidence that prevention is cost effective in both the short and longer terms provides a good rationale for reorienting our efforts towards prevention and to work alongside other sectors to promote, protect, and improve health and wellbeing.[156]

A local example of a successful population health interventions is tobacco control, which is one of the most cost-effective interventions in the health sector.

Twenty years ago, about a quarter of all adults smoked. Most recent figures from the New Zealand Health Survey show this proportion has declined to 15%. For young people aged 15–17, the rate dropped from 16% in 2006/07 to under 4% in 2017/18.

However, smoking rates are still higher for Māori adults and (33%), Pacific (23%) adults. Adults living in the most socioeconomic deprived neighbourhoods are three times more likely to smoke as people living in the least deprived neighbourhoods

Reducing the harm from smoking remains the single most effective method of improving population health and reducing health inequalities.

Clear evidence exists that the combined effect of the components of New Zealand's comprehensive tobacco control programme has resulted in the sharp decline in smoking rates. The components are legislation, including regulation (to prohibit sales to people aged under 18, restrict marketing and the display of products, and promote smoke-free environments), tobacco taxation, mass media campaigns and public education, and smoking cessation support.

Although it is difficult to disentangle the impact of each component, it is clear that raising the price of tobacco products by increasing taxation has been the single most important contributor to, in particular, the decrease in tobacco consumption and the decline in young people smoking.[157]

Working across sectors to influence health and wellbeing

Health and health inequities are shaped by many powerful forces, most of which lie outside the direct influence of the health sector. Evidence shows that tackling the determinants of health and wellbeing will improve equity across a variety of societal outcomes.[158]

An important role of population health action is to actively seek out opportunities at all levels (global, national, regional, and local) to collaborate with and influence other sectors and key stakeholders to improve health and wellbeing. This role requires influencing all the determinants that affect health and wellbeing, in all parts of society, as well as ensuring the country has sufficient capacity and expertise to respond to emerging threats and emergencies.

> *We recognise that the risk factors for ill health and factors that promote health sit largely outside of the health sector. Therefore, all public health agencies must engage with and influence the decision-making and priority setting functions of these agencies for example, housing, urban design, education, air quality, water quality, transport, food safety etc. The [name of organisation] … highly recommends that public health must work across the whole of the government including local government.*
> *(Organisation submission)*

The WHO established the Commission on Social Determinants of Health to compile the evidence on what can be done to promote health equity and to foster a global movement to achieve health equity. The commission's report identified clear actions that need to be taken, underpinned by three principles:

- **improve the conditions of daily life** – the circumstances in which people are born, grow, live, work, and age.
- **tackle the inequitable distribution of power, money, and resources** – the structural drivers of those conditions of daily life – globally, nationally, and locally.
- **measure and understand the problem and assess the impact of action** – expand the knowledge base, develop a workforce that is trained in the social determinants of health, and raise public awareness about the social determinants of health.[159]

Addressing the determinants of health requires working at multiple levels, using tools such as legislation (including regulation) at national levels, and building community partnerships at local levels.

Recent developments placing wellbeing central to a variety of government activities and Treasury's Living Standards Framework should make it easier for a focus on the determinants of health and wellbeing.[160] Opportunities also exist for improved cross-sectoral planning, commissioning, and delivery, particularly for complex issues with shared outcomes.

The 2019 amendments to the Local Government Act 2002 reinstated four aspects of community wellbeing into the responsibilities of local authorities, which will support stronger population health efforts in communities. Councils are now required to "play a broad role in promoting the social, economic, environmental, and cultural well-being of their communities, taking a sustainable development approach".[161] Given the breadth of functions local government hold that contribute to health, this new requirement offers a significant opportunity for the population health sector to work alongside local authorities to lift the health and wellbeing of communities and the health of the environment.

> *Local territorial authorities are important partners in that they are better positioned to engage their community in the discourse on including health in the planning for their communities and promoting innovative ideas. (Organisation submission)*

Through our engagement we heard of positive examples where population health is effective in working across sectors. One framework often cited was Health in All Policies.[162] Health in All Policies has been effectively applied in New Zealand at a regional level, often led by public health units, on issues such as water management, transport, housing, psychosocial wellbeing, and family harm. Another example is He Kainga Oranga, the Housing and Health Research Programme, which examines and clarifies the association between poor housing and ill health. This programme draws together existing and new research to identify effective housing-related interventions to improve individual, whānau, and community health.

Having a focus on the determinants of health will be essential for improving Māori health outcomes and this will require cross-agency collaboration.

Designing a system to meet the challenges

Having the right mix of functions at national, regional, and local levels

Population health functions could be configured in many different ways to better meet current and future challenges. In a recent examination of population health jurisdictions outside New Zealand, Canterbury DHB found that differences in configuration exist despite broadly common objectives of universal access, effective care, improved health outcomes, efficient use of resources, high-quality services, and responsiveness.[163] The DHB noted how population health systems in many developed countries have undergone multiple rounds of reform over the last 20–30 years. It concluded there is little in the literature to suggest one "ideal" configuration for a population health system, but aspects of system configuration can either enhance, or inhibit its effectiveness.[164]

A proposal for how population health functions might be best configured across national, regional and local levels in New Zealand was published in the NZ Medical Journal in 2015. This, alongside international learnings could provide a useful starting point for reassessing current configurations.

NATIONAL SERVICES

For reasons of effectiveness or efficiency, some public health services should be delivered once for the country. These services include:

- legislative oversight and a variety of technical support, including specialised advice, reference laboratory services, and nationally used manuals for communicable disease control and environmental health
- surveillance and analysis of national and international communicable and non-communicable disease trends.
- coordination of inter-district emergency responses
- national programmes, registers, and information systems such as the National Immunisation Register and immunisation policy, screening programmes, and the drinking-water programme
- public health workforce planning and development
- national public health and intersectoral policy analysis and development
- development and maintenance, for the full spectrum of public health services, of a clear strategic direction, consistent service specifications, and a transparent funding model that takes into account the particular public health needs of New Zealand's varied local communities.

REGIONAL SERVICES

Some services should be accessible to all districts and public health providers, but can be provided or supported by regional public health services or networks. Potential exists to improve the coordination of these services across the country to improve efficiency and effectiveness. These services include:

- advanced surveillance and analysis, including the geographic information system (GIS)
- public health policy analysis
- programme design and evaluation
- environmental health technical expertise
- support for outbreak investigation and control, including surge capacity support
- health impact assessments
- development of consistent operational protocols to suit local needs
- public health workforce training.

LOCAL SERVICES

Most public health programmes are provided in partnership by a variety of health and non-health providers. Effective delivery depends on well-supported local public health staff, local relationships, and an understanding of local communities and their needs. Delivery of regulatory services also requires national consistency and strong national links. Local services include:

- identification of locally emerging public health issues
- communicable disease and outbreak control.
- public health emergency response
- regulatory controls on alcohol, tobacco, and the physical environment and associated health promotion
- immunisation coordination
- liaison with and support for local authorities, DHBs, and primary care organisations
- support and coordination for health promotion in settings such as workplaces, education, primary care.
- planning and funding of health care and public health programmes to meet local needs[165].

Population health approach needs to be strengthened and integrated at all levels

While we heard differences in views about how services should be commissioned and configured, one theme was consistent: population health leadership, functions, and accountabilities must be designed and delivered in a way that is coherent, coordinated and agile.

The need for greater population health leadership was the focus of a 2019 book by Sir David Skegg, an eminent New Zealand epidemiologist and professor of preventive and social medicine: [166]

> *"The indispensable requirement is for national leadership and coordination by a critical mass of public health professionals …*
>
> *Without such leadership, New Zealand will keep failing to deal with challenges such as our epidemic of obesity and the continuing burden of smoking-related diseases, and we will not be properly equipped to protect citizens from environmental hazards or to respond to pandemic threats."*

We heard suggestions throughout our engagement for how public health leadership could be strengthened. Some suggested stronger leadership using existing structures and building a wider consortium of population health support throughout the system. Others suggested new roles and entities such as a minister for population health, a separate ministry for population health, and an independent agency or commissioner with the authority to make evidence-based policy recommendations.

> *Strong national public health leadership, articulating a collective vision and providing strong direction will then enable the capacity and direction for more regionally coordinated public health approaches. (Organisation submission)*

Emergency preparedness requires clear accountabilities and strong relationships

Not having a clearly designed system with well-defined roles and accountabilities and a sufficient critical mass of expertise presents a risk to New Zealand's ability to prevent and manage current and emerging environmental health and disease threats. Vulnerabilities in the current system have been exposed. The 2016 campylobacteriosis outbreak in Havelock North was frequently cited as an example of an avoidable population health 'disaster'.

> *Clearer accountability structures are required to ensure an effective response to significant and consequential public health issues. For example, on matters of food safety, [public health units] are focused on outbreak recognition and control, whilst the Ministry [for] Primary Industries … has the primary regulatory role for food safety. It is essential that the responsibility to protect people from food-borne illnesses is prioritised equally by all of the organisations concerned, and that there is a non-negotiable mandate to protect public health. (Organisation submission)*

Clear accountabilities and strong working relationships are most critical in emergency response situations, such as responding to natural disasters (for example, flood, forest fires, and earthquakes) when community action needs to be harnessed rapidly. However, these are equally important for addressing the 'slower burning' population health emergencies such as the obesity epidemic.

Having the right mix of skills and a critical mass of expertise

Looking to the future, it is important that our population health efforts are led by a workforce with the right mix of skills at every level. This means having a strong core, as well as a strong flexible workforce to respond to changing local population needs.

Capacity and capability gaps have emerged in some parts of the system. We heard, for example, of a skill gap in health status assessment and surveillance, which is critical to an intelligent, adaptive system. Population health intelligence functions include monitoring and analysing the changing population, investigating patterns of disease and health, interpreting and providing information to support health and disability service activities, investigating variations in health outcomes, and helping to ensure strategic decisions are taken on the basis of evidence. Greater engagement of senior population health specialists will be important not only for their specific functions and skills but also in influencing the culture of the organisation. These functions need to be agile, smart, and responsive and are essential enablers for health system strategy, governance, and management.

> *A sustainable highly trained workforce is a strategic investment in public health. This investment is critical to be able to address future societal and environmental challenges, including preparedness for public health emergencies and large scale events, as well as providing leadership within and beyond the health sector. Nationally coordinated public health workforce planning and development is essential. (Organisation submission)*

For the leadership functions of population health to be exercised, systematic investment in and development of population health leadership capability that fully reflects the diversity of Māori, Pacific, Asian, and other communities is urgently needed.

Directions for change: Population health

For the system to be more effective in the future, population health needs to be recognised as a foundational element for the entire system. This requires that capacity is both increased and better integrated across the system, and that the system operates more effectively with other sectors.

POPULATION HEALTH IS FUNDAMENTAL TO THE SYSTEM

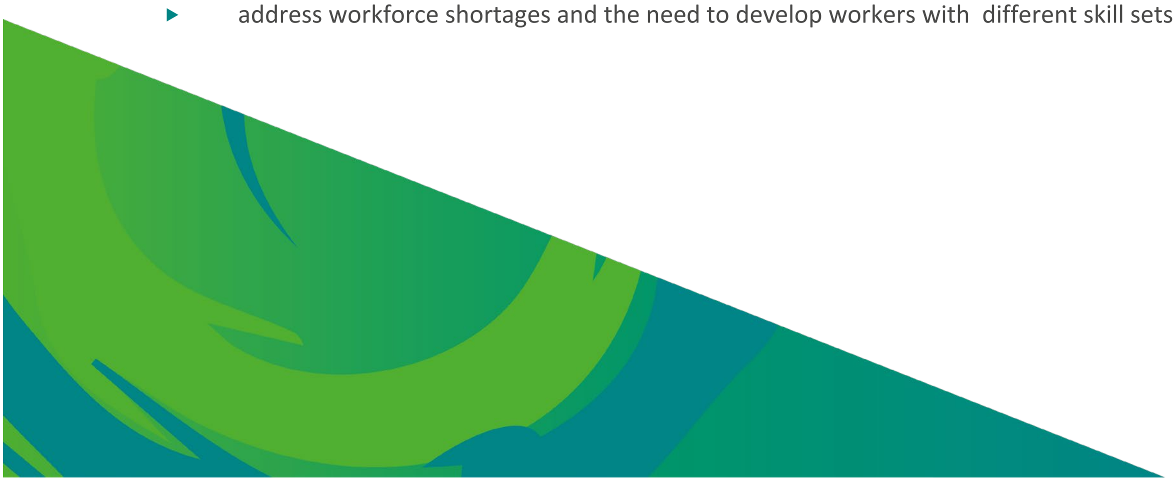
- *The Panel believes that the focus of the system needs to be much more on the population, not just the individual who presents for treatment.*
- *Communities need to be more actively engaged in needs analysis and system planning. Greater emphasis on intersectoral work is also necessary to properly address the wider determinants of health.*
- *A continued focus on the basics, such as clean water, immunisations, and the provision of robust emergency preparedness capacity able to react immediately at the local level, will become more, not less, important as issues such as climate change and antimicrobial resistance, have an increasing impact.*
- *The Panel is well aware of ongoing debates about the desirability or otherwise of recreating a standalone Public Health Agency and consideration of which functions are best undertaken nationally, regionally, and locally. Further analysis and input from stakeholders is needed before we reach a view on this.*

7 Tier 1 / Taumata 1

> *Tier 1 is critical. It is the part of the system offering the greatest opportunity to reduce the burden of disease, improve the health and wellbeing of future generations, and slow the growth in demand for hospital and specialist services.*
>
> *The current system works well for many people. But services are still predominantly delivered within a "western medical model" which leaves Māori facing particular barriers to accessing services to meet their needs.*
>
> *The system has many different funding regimes, different eligibility rules, different business and employment models, all expected to work together. Consumers are often confused and the lack of integration within the Tier means patient pathways are more complicated and less effective than they could be.*
>
> *This section reports on what we heard in Phase One, looks at how the key parts of Tier 1 are currently managed and funded, and questions why it is that the changes promised by the Primary Health Care Strategy have not materialised.*

Common themes from submissions in Phase One include the need to:

- adopt a more holistic approach to care that recognises what patients and their whānau value and better recognises different beliefs
- ensure there is a greater emphasis on Māori health and equity
- improve accessibility, which is not just about the cost of services, but also about the cost of patients' time, travel costs, hours that services are available, and locations of services
- adopt a life course approach that empowers patients and their whānau to make decisions about their care
- ensure the system is less fragmented and is organised in a more comprehensible and service user–oriented way
- ensure there is greater involvement of servicer users, whānau, and communities throughout the planning, service design, and decision-making processes.
- develop different models of service provision to better meet the needs of people who live in rural areas
- address workforce shortages and the need to develop workers with different skill sets.



Overview of current arrangements

Characteristics of services within this level of the system

History, demographics, and geography have all shaped the arrangements under which Tier 1 services are funded and delivered. These services differ across many dimensions as summarised in the following

DIMENSIONS OF TIER 1 SERVICES

Tier 1 services operate in a variety of settings. Services may be delivered in schools and universities, in mobile units, in workplaces, on marae, in places of worship, in health centres and clinics, in sports and recreation centres, in community centres, in residential treatment and care facilities, online, and over the phone.

Tier 1 services are organised in a variety of ways. Services may be organised by:

- condition or issue (for example, maternity care, mental health and addiction, vision, hearing, speech, family violence, oral health care, and palliative care)
- life stage (for example, Well-Child Tamariki Ora, youth health services, and aged residential care)
- service type (for example, kaupapa Māori, pharmacy, general practice, nursing, social work, Pacific services, occupational therapy, physiotherapy, podiatry, diagnostic imaging, residential care, rehabilitative support, disability services, and laboratory services)
- delivery method (for example, telehealth or e-therapy, school-based service, mobile service, marae-based health service, and home-based service)
- the geographic area that they cover
- the cultural communities they serve.

Tier 1 services operate using various business models. Some services operate for profit, others are not-for-profit, some are multi-national corporations and others are small community organisations. Models include:

- individuals directly providing a service as an independent provider (for example, some independent midwives, psychologists, and physiotherapists)
- small businesses (for example, some general practices and pharmacies)
- large corporates (for example, some of the major aged residential care providers and some laboratory services)
- DHB providers (for example, district and community nurses, occupational therapists, and social workers)
- not-for-profit non-government organisations (for example, PHOs, family planning, hospices, rural support trusts, faith-based organisations, iwi providers, kaupapa Māori providers, Pacific services, and refugee support organisations)
- the use of employed staff or volunteers, or a mix.

Funding sources for Tier 1 services are varied. They include Health, ACC, Oranga Tamariki, the Ministries of Social Development, Education, and Justice, New Zealand Police, Te Puni Kōkiri (Whānau Ora) and local government. Non-government funding sources include iwi, lottery and gambling grants, the business sector, the philanthropic/charitable sector, private health insurance schemes, fund-raising, and by the service user as copayments or direct charges for services.

Tier 1 funding methodologies also vary. Some services are funded on a fee-for-service or volume basis, others services are under contracts for delivery to a population group. Some services, such as GP services, are funded in a mixed-model of capitation (funding for the enrolled population), fee-for service from patient copayments, and from the ACC (via a contract or fee-for service).

Contracting arrangements for Tier 1 services vary. Some services are contracted nationally (for example, by the Ministry of Health) to deliver national, regional, or local services. Some are contracted regionally or locally (for example, by DHBs) to deliver national, regional, or local services.

Tier 1 service funding and copayments

Inconsistencies in service coverage

A wide variety of providers deliver Tier 1 services, and considerable variability exists in the ‘rules’ around which Tier 1 services are publicly funded. Some services are fully funded (for example, maternity care) and others are mostly available on only a user-pays basis (for example, adult dental care, podiatry, and talking therapies for people with mild to moderate mental health problems).

Table 7.1 illustrates the diversity of funding sources, including service user contributions, for different Tier 1 services. This table is not exhaustive, but shows the variability in funding approaches.

Around 70% of Tier 1 public health expenditure is accounted for by four services:

- **General practice and PHO services.** Most general practice funding is through a nationally negotiated contract between DHBs and PHOs. In this national contract, funding is provided on a capitated basis to PHOs. PHOs are required to pass around $750 million of this funding through to individual practices on a capitation basis. ACC pays directly to GPs around $150 million for primary care services on a fee-for-service basis. About $395 million is paid by individuals or private insurance companies, again on a fee-for-service basis.
- **Disability support services.** Accountability for purchasing these services remains with the Ministry of Health, with most providers being community-based non-government organisations (NGOs). Access to funded services is based on the outcome of a needs assessment, and for those who meet eligibility criteria there is no copayment. Expenditure on services provided for people who do not meet the eligibility criteria cannot be tracked, but we expect most providers will have a mix of public and private funding.
- **Aged care (residential) services.** Although these services are traditionally thought of as government funded, almost half of their funding comes from the residents in two forms. First, aged residential care subsidies are means and asset tested, with an estimated $240 million being paid by people with assets above the threshold. Second, people falling below the asset threshold have a portion of their superannuation payment paid directly to the residential care facility. Since this money would have been paid to the resident, this is effectively an out-of-pocket payment. In addition, residents can pay extra for additional services and amenities. That spending is not included in Figure 7.1.
- **Aged care (home-based) services.** DHBs are accountable for purchasing these services, with most providers being community-based NGOs, some of which also provide disability support services. Access to funded services is based on the outcome of a needs assessment, and for those who meet eligibility criteria there is no copayment. Expenditure on services provided for people who do not meet the eligibility criteria cannot be tracked.

Figure 7.1 shows the flow of funding into different service areas. Though services are often thought of as being inside or outside the public system, it’s clear that most Tier 1 services are funded through a complex mix of streams.

TABLE 7.1: PUBLIC AND PRIVATE FUNDING SOURCES FOR A RANGE OF TIER 1 SERVICES, 2017/18

	Public Funding $m				Private Funding $m			Total Expenditure $m	
	DHB	Ministry of Health	ACC	**Sub total**	Private insurance	Out of pocket	**Sub total**	Total	Public funding share
General practice and PHO services	1,164		149	1,313	31	364	395	1,708	77%
Pharmaceuticals and community pharmacy[1]	1,312			1,312	8	772	780	2,092	63%
Disability support services[2,4]		1,256		1,256		[4]		1,256	100%
Aged care (residential)[2,3]	1,025			1,025		860	860	1,885	54%
Aged care (home based)[2,4]	678			678		[4]		678	100%
Social rehabilitation			480	480				480	100%
Community mental health	360	41		401		19	19	420	95%
Community referred laboratory services	317			317		3	3	320	99%
Oral health	200		29	229	31	702	733	962	24%
Maternity	64	163		227	7		7	234	97%
Ambulance and other transport		111	101	212		8	8	220	96%
Child health	99	55		154				154	100%
Physiotherapy			143	143		75	75	218	66%
Radiology	74		58	132	128	41	169	301	44%
Vocational rehabilitation			103	103				103	100%
Māori health services	50			50				50	100%
Telehealth		27		27				27	100%
Optometry					22	345	367	367	0%
Total	**5,343**	**1,653**	**1063**	**8,059**	**227**	**3,189**	**3,416**	**11,475**	**70%**
	47%	**14%**	**9%**	**70%**	**2%**	**28%**	**30%**		

Notes:

1 This comprises government contribution of $871 million for pharmaceutical costs and $441 million for community pharmacy services.

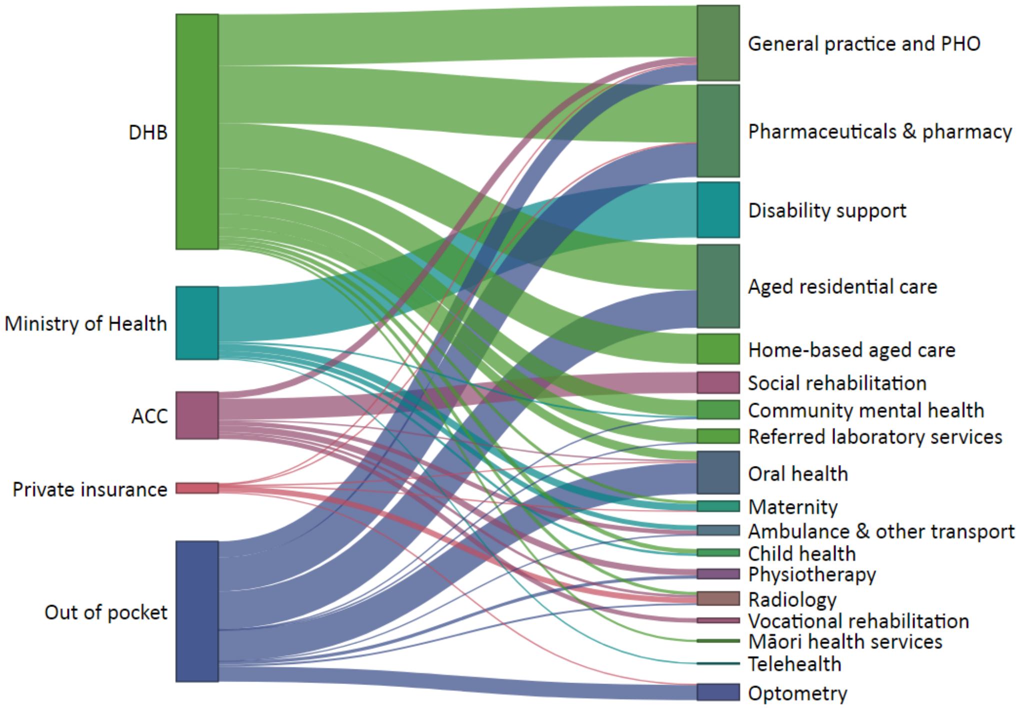
2 Expenditure does not include pay equity costs.

3 Out-of-pocket contribution includes superannuation contributions.

4 Data for out-of-pocket payments is poor. It is likely that some should be attributed to this and other items showing 100% public funding.

SOURCE: MINISTRY OF HEALTH, STATS NZ HOUSEHOLD ECONOMIC SURVEY, ACC, INTERNAL CALCULATIONS.

FIGURE 7.1: FUNDING FLOWS TO DIFFERENT SERVICE AREAS, 2017/18



SOURCE: MINISTRY OF HEALTH, STATS NZ HOUSEHOLD ECONOMIC SURVEY, ACC, INTERNAL CALCULATIONS.

This funding mix makes the system unnecessarily complex. DHBs are in theory responsible for integrating these services together and with hospital services. However, with such an uneven mix of funding sources, it is unsurprising that service delivery remains fragmented. In addition, much of DHB spending in Tier 1 is through nationally negotiated contracts, limiting local control. Even within public funding, some services are funded nationally by the Ministry of Health.

ACC is the primary funder for some services areas, including social rehabilitation, vocational rehabilitation, and physiotherapy. Private insurance covers a significant share of radiology services. These funders are moving towards purchasing integrated bundles of services for their patients. The public system can learn from these efforts. However, the scale of the challenge facing the public system is larger and covers a much wider set of services.

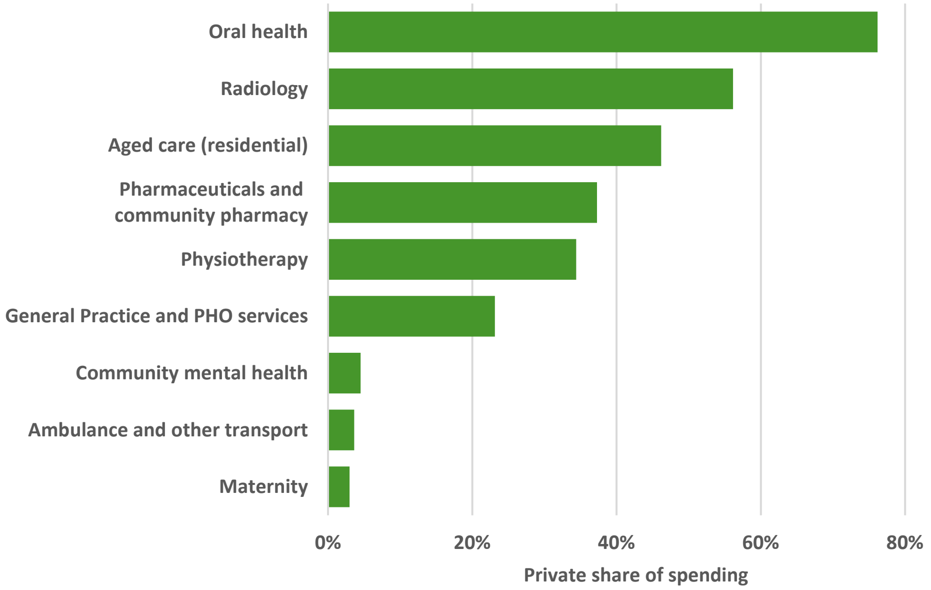
In future, those working within the system will need to collaborate more effectively to deliver integrated, patient-centred services. However, current funding arrangements may be preventing, rather than enabling, this collaboration.

Copayments are significant and affect access

The complex mix of funding in Tier 1 means that patient copayments are required for many services.

Out-of-pocket spending accounts for around 13% of total health spending. As DHBs cannot charge New Zealand residents for hospital services, most of the out-of-pocket spend is on Tier 1 services (see Figure 7.2).

FIGURE 7.2: PRIVATE SHARE OF TOTAL SPENDING ON HEALTH AND DISABILITY SERVICES, 2017/18



SOURCE: MINISTRY OF HEALTH, STATS NZ HOUSEHOLD ECONOMIC SURVEY, ACC, INTERNAL CALCULATIONS.

Evidence exists that cost prevents some people from using these Tier 1 services (this is discussed further below). This contributes to poorer health outcomes and can lead to health conditions becoming more serious or chronic or disabling.

Across Tier 1 a variety of different approaches have been adopted to reduce the cost of health and disability services. Some of the ways in which eligibility for lower costs are determined include whether a person:

- holds a health entitlement card such as a Community Services Card or Prescription Subsidy Scheme
- meets the criteria of a scheme or an initiative, for example, enrolment in a Very Low Cost Access (VLCA) practice entitles individuals to low cost general practice visits
- belongs to a particular group (for example, an age group, a gender, or an ethnic group) for whom services are subsidised (such as free dental services for people aged 0–18)
- has a certain health condition (for example, some health conditions are the basis for free flu vaccinations).

These varying approaches create confusion for people accessing services and a significant administration burden for providers.

> *There is an annual cap to pharmacy co-payments, yet every year, patients forget that early in the previous year they paid co-payments. When the new prescription year begins pharmacists are faced with spending time re-explaining the payment system and overcoming patient resistance to the charges. … many vulnerable patients find their first prescription costs for the year to be greater than $30 when they were expecting to pay nothing and had made no plans to budget for this. While assistance from the Ministry of Social Development is available, this takes time to access and is another barrier to timely healthcare. (Organisation submission)*

Primary Health Care Strategy – new ways of working

The 2001 Primary Health Care Strategy called not only for a move to a more population focus but also for a change in working arrangements for primary care as set out in Table 7.2 which is from the strategy. Submissions generally argued that little progress has been achieved.

TABLE 7.2: DIFFERENCES BETWEEN THEN-EXISTING ARRANGEMENTS AND THE VISION OF THE PRIMARY HEALTH CARE STRATEGY, 2001

Old	New
Focuses on individuals	Looks at health of populations as well
Provider focused	Community and people-focused
Emphasis on treatment	Education and prevention important too
Doctors are principal providers	Teamwork – nursing and community outreach crucial
Fee-for-service	Needs-based funding for population care
Service delivery is monocultural	Attention paid to cultural competence
Providers tend to work alone	Connected to other health and non-health agencies

SOURCE: MINISTER OF HEALTH, 2001, P 6.[167]

New ways of working have made a difference

Significant government funding has contributed to reducing some of the cost-related access barriers for some population groups, and patches of innovative services and models are providing more integrated patient and whānau-focused, and culturally-centred services.

EXAMPLES OF NEW WAYS OF WORKING

- **Taumarunui Community Kōkiri Trust (TCKT) – He Mate Huka Oranga.** TCKT is a kaupapa Māori organisation operating across the Waikato, Ruapēhu, and Waitomo districts. With 3 GP clinics, TCKT serves an enrolled population of 6,800, 52% of which are Māori, and 73% live in quintile 4 and 5 areas. Diabetes was identified as a significant concern with over 500 of their clients aged 45+ being diagnosed with Type 2 Diabetes. A nurse-led improvement team was formed to develop an integrated, whānau ora pathway to improve diabetes outcomes. This is based on a collaborative approach through the Taumarunui Integrated Health care model where every door is the right door, whether by self, internal or external referral. Contact is made and at assessment the holistic needs of a person or family household are identified and the appropriate support services are put in place for them.
- **Farmstrong.** Farmstrong is a nationwide rural wellbeing programme to help farmers and growers live well to farm well. It was launched in 2015 by the founding partners Mental Health Foundation and rural insurer FMG with support from the Movember Foundation. ACC also joined as a strategic partner.[168] The initiative is designed to help farmers identify health and wellbeing changes they want to make. It is based on collaboration and partnerships between individuals and organisations to educate, inform, inspire and motivate. The initiative undertakes audience research to better understand the health and wellbeing needs of farmers and growers and offers practical ways to help them make improvements.[169]
- **Mapu Maia Integrated Health Promotion and Counselling.** An integrated approach to health promotion and clinical interventions (counselling) has been adopted by the team at Mapu Maia where they have dual roles. This allows counsellors to be in the community delivering health promotion messages and engaging and participating in community groups and projects. The interaction builds rapport and trust with the community which in turn leads to the opening of doors for a conversation to happen (a clinical intervention). Allowing counsellors to be immersed in communities, educating and raising awareness increases access to service and decreases stigma. A key aspect of the engagement process includes the use of traditional concepts: Va Nofo (understanding where you sit in a relationship); Va Fealoa'i (understanding how you connect and relate to others from your Va Nofo); Va Tuaoi (understanding cultural speaking protocols); and Va Tapuia (understanding the relationships between people, family, ancestors, the spirits, land and sea, the environment, and all living things). Fundamental to the process of Mapu Maia is talatalanoa, or inclusive, participatory, and transparent dialogue that provides space to share stories, and build empathy and rapport towards building shared outcomes.[170]
- **Atu-Mai / Aunty Dee (Le Va) – Confident and resilient Pacific youth.** Pacific young people embracing their culture to create healthy communities is at the heart of Atu-Mai. It is a violence prevention programme that supports Pacific young people to be confident and resilient, and experience healthy family and social relationships. An online tool supporting the programme is Aunty Dee, an app designed to support young people's wellbeing. Aunty Dee draws on cognitive behavioural therapy, helping people work through real life problems to generate evidence-based solutions and actions. Aunty Dee is assisting Pacific youth in particular to actively solve their problems and learn how to problem solve in the process. Use of the tool is demonstrating some promising outcomes, most significantly, results show that if users indicate suicidality, Aunty Dee is an effective platform to connect them to a free trained counsellor through its webchat function, any time of the day.

  Overall, the Atu-Mai programme combines evidence-based approaches with expert knowledge, community leadership, and co-design with Pacific young people to ensure it is culturally relevant, family-focused and community-led. It is inspired by Pacific values, concepts and identity to change the way issues of violence are addressed using a systems approach to realise meaningful and positive change in a collective and holistic way. This innovative framework measures success by tracking values that are important to Pacific such as family relations and building cultural capital tracked over time.[171]

Changes that have been introduced include:

- workforces are taking on roles previously undertaken by others, for example nurse-led models are being adopted, particularly in rural areas, and nurse prescribers and nurse practitioners are playing an important role in supporting the management of patients with chronic conditions
- kaupapa Māori models that have a more holistic and whānau-focused approach are being adopted to improve health outcomes
- technology is being used to improve access to services, for example e-mental health approaches such as SPARX which is a computerised CBT intervention for treating depression in young people that takes the form of an interactive 3D fantasy game
- peer support, self-management programmes, and coaching models are being adopted particularly to support behavioural change
- changing approaches within existing services – for example there are over 150 general practices now operating the Healthcare Home model. This model bundles several evidence based elements into four core domains, urgent and unplanned care, proactive care, routine and preventative care and business efficiency and sustainability. A collaborative has been developed to support general practices to adopt this model, with developments including telephone triaging of appointments, extended hours, multidisciplinary working, and patient portals.

Māori health provider delivery of whānau-centred models is effective

It is recognised that Māori providers are uniquely placed to deliver on Māori aspirations and concepts of health and wellbeing alongside the delivery of treatment and care.[172] Most commonly, Māori health service providers are iwi or Māori owned and community based, Māori governed, and deeply rooted in Māori values and cultural practices.[173] These providers generally provide services to predominantly Māori high-needs communities.

In particular, recognition is increasing that whānau-centred service delivery can have positive impacts on health and wellbeing outcomes for Māori. Studies show that whānau involvement and recognition of culture in care can improve access and satisfaction in services.[174] [175] [176]Examples of different models and approaches developed to deliver whānau-centred and culturally responsive services to improve Māori health and wellbeing are set out in whānau-centred service delivery.

WHĀNAU-CENTRED SERVICE DELIVERY

- **Te Waka Oranga and Te Waka Kuaka**
  are whānau-centred interventions that enable the combined knowledge, skills, and capacity of whānau and clinicians, working together and using processes embedded in concepts of tikanga and mātauranga, to improve health and recovery after traumatic brain injury. These interventions provide practical strategies for clinicians, are culturally relevant, and are accessible for whānau.[177]
- **Waka Ora on Wheels**
  is a health promotion and education service for tamariki aged 0–8 and their whānau through a mobile tamariki ora wellbeing service. It is available to all children in South Auckland and specialises in supporting children with teen parents. The programme was founded on Te Ao Māori (Māori world view) principles through the infusion of Māori language, concepts, and imagery and the use of stories and songs. Outcomes include improved oral health and nutrition practices, a strengthened sense of identity and cultural connectedness, and support for whānau to enrol tamariki into primary care and early childhood education.[178]
- **Meihana Model**
  is an indigenous model that supports development of cultural competency training for health clinicians and considers the needs of both patients and their whānau in the health assessment process. The model takes a holistic approach to assessment, considering Te Whare Tapa Whā,[179] the environment, and the impacts of colonisation and racism to assist clinicians‘ understanding of the complex needs and contexts of the patient and their whānau when undertaking clinical assessment and developing a plan for their care.
- **Te Oranganui, a Whanganui iwi trust**[180]
  has developed from its roots in primary health to deliver holistic whānau wellbeing support across a wide range of health and social services and community activities. Kaimahi provide one on one support to whānau from pēpē to kaumātua in homes and at marae, community centres and cultural and sporting events through rural Whanganui, Waitōtara, Rangitīkei and Ruapēhu districts. Services span population health and prevention, primary health, housing, family and social services, rangatahi services including free nurse and GP visits up to 24 years, mental health and addiction, and disability support and kaumātua services that range from rest home care to kaumātua lunches. Both Māori and non-Māori whānau are supported. Their Whanganui health centre opens extended hours to suit whānau, and a regular primary health clinic is provided in Waverley. Team sporting events are a major part of the social calendar, engaging marae up and down the river. Te Oranganui delivers whānau ora training and sponsors health practitioner training through a range of summer internships and study grants.

There was a strong call from wānanga participants and in submissions for moving to a whānau-centred model of care. This included the need to support whānau to provide care and support to their members in the treatment and management of health care and for long-term healthcare support. The importance of restoring trusted relationships between whānau and practitioners that recognise and acknowledge the role of whānau in determining their own health needs, and a need to build the health literacy of whānau to empower them to be more involved in decisions about their care was also raised.

Limited progress on delivery of Primary Health Care Strategy vision

While there are examples of change that is making a substantive difference, there is little evidence that innovation is shared or scaled. Primary care funding mechanisms remain complex, and most incentivise throughput. The funding model provides little incentive to adopt more innovative approaches to primary care. The consensus is that change has been limited and slow.

A recent report 'Hauora' from the Waitangi Tribunal articulates claimant concerns about the legislative and policy framework that underpins the primary health care system and its services. In particular, claimants noted that while the Primary Health Care Strategy provided a strong foundation towards pursuing equity in health outcomes for Māori, it had not been adequately implemented to achieve this goal.[181]

A number of submissions also proposed that changes to the system should be focused on equity and improving the way the system works to better meet the needs of those who currently have less equitable outcomes.

> *In changing the model of care in general practice, it is imperative that the sector responds to not just the articulate and demanding, but also reaches out to those population groups whose voices are often not heard and who experience the greatest health inequities. Proposed customer focus initiatives must be assessed to ensure that they address the needs of the vulnerable population groups and hence can be expected to reduce inequities – or at least not worsen existing inequities. (Organisation submission)*

Phase One discussions and submissions noted a variety of issues that made it challenging to move more towards the vision of the Primary Health Care Strategy, including the following:

- Decision-making processes have not sufficiently engaged communities in discussions about what matters most to them, and historical models of service delivery have prevailed. The strong focus on cultural competence and improving equity of outcomes mapped out in the vision has not been fully realised in the implementation of the strategy.
- Providers determine locations and working hours; consumers have limited ability to influence this. This has resulted in higher concentrations of providers in some areas and shortages in other areas, particularly in remote rural and high deprivation areas. There have also been requests for extended hours as part of business as usual.
- Funding for capitation-based general practice services must be channelled through PHOs. This constrains the system's ability to offer consumers different ways of accessing these services that may better suit their needs and makes it challenging to integrate general practice services into other provider models of delivery.
- The complexity and mix of funding and contracting mechanisms in place in Tier 1 have inhibited changes in service delivery arrangements. The scope of services offered by most providers has not broadened significantly over the last 18 years. The focus of PHOs and general practice is still narrow (for example, pharmacy and behavioural services have not generally been embedded in general practice). Likewise, it has been challenging for community pharmacies to broaden the variety of services they offer.
- Changes in the ways Tiers 1 and 2 interact have been limited. In general, access to specialists is still via referral, and transitions of care between Tier 1 and Tier 2 are still unwieldly. The increased use of electronic referrals and tele- and video-links is assisting, but more fundamental change in work practices will be required if this is to grow at pace (see further chapter 9: Tier 2).

- Fragmented IT systems do not make it easy for providers to share information and work together in a seamless way. The introduction of patient portals has improved access for some patients to their records and has facilitated communication with practices. However, the variety of systems being used without guaranteed interoperability does not facilitate the sharing of patient information in the way required for integrated care.
- Public reporting of primary care utilisation and outcomes is seen as an important mechanism for public accountability for the investment in primary health care services. Evidence presented to the Waitangi Tribunal showed that only limited data was provided to DHBs by PHOs and that this data was often incomplete. The Waitangi Tribunal also noted that the paucity of publicly available data limits opportunities to monitor and evaluate the performance of the health sector and in particular that there is a lack of measurement of Māori specific outcomes.

> *'It is difficult to know how the Ministry of Health and DHBs work to hold PHOs to account, including in relation to Māori health, as such research does not, to my knowledge, currently exist.' (p132)*[182]

Service snapshots

The observations set out above are generally common across Tier 1. Alongside this, preliminary analysis and discussions have been undertaken around national contracts that have high levels of public funding. These include:

- Community pharmacy
- Oral health
- Maternity
- Well Child / Tamariki Ora
- Aged residential care
- PHOs and primary care through general practice

Brief summaries of the first five areas are provided below with a fuller discussion of PHOs and primary care. Additional information is included in Appendix G (online).

Community pharmacy

Medicines to prevent, treat or manage illnesses or conditions are the most common intervention in health care. People can purchase some medicines over the counter and can self-refer for advice from community pharmacies. There is also an agreed list of funded medicines that are accessed by a prescription from an authorised prescriber. Many visits to a general practitioner or specialist result in a prescription. In 2017/18 around 72 million items were dispensed, at a total cost of $1,312m. This cost covered both the medicines cost ($871m) and the cost of the community pharmacy services ($441m).

Current arrangements

Community pharmacy services are provided from just over 1,000 community pharmacies, most of which are located in community shopping areas, providing the public with convenient access to their services. All pharmacies are required to operate under the immediate supervision and control of a registered pharmacist. General practitioners cannot own pharmacies and there are restrictions on authorised prescribers of medicines having an interest in a pharmacy.

Community pharmacy services are funded by DHBs through a nationally agreed contract. In the most recent negotiation a new national contract, the Integrated Community Pharmacy Services Agreement (ICPSA), was established. A tiered model has been adopted that cover the provision of nationally agreed core services for the supply of medicines and standardised services, while allowing DHBs scope to commission some services locally.

The bulk of community pharmacy funding remains directly linked to the number of prescription items dispensed. Some additional funding is provided where community pharmacies provide additional pharmaceutical and clinical advisory services to specific populations.

For people who are prescribed medicines, there is a standard prescription copayment of $5 per item for those 14 years of age and above. The Community Service Card (CSC) holders are subject to the same fee as non-card holders. However the prescription copayment is waived for any individual after 20 items have been dispensed to a family in a year.

This Prescription Subsidy Scheme creates a considerable administrative burden for community pharmacies. Its inconsistency with fee subsidy approaches adopted for general practice services creates confusion for patients.

Equity of access

In contrast to many other areas of the health system, there is a single robust process by which PHARMAC determines what medicines will be funded nationally and this list is then used by all providers of community pharmacy services. Extensive independent medical advice is sought, and economic analysis undertaken as part of the consideration of which medicines to fund.

While there is a consistent list of funded medicines that are able to be prescribed, recent analysis has identified that the age-standardised rates (medicines dispensed) by ethnicity (Māori to non-Māori) are similar and so look equal, but when the burden of disease (health need) of Māori is factored in, inequality becomes apparent.[183] This means Māori are not benefiting from medicines in the same way as non-Māori, despite their health need being higher, leading to greater inequities in health.

Cost is a key barrier to accessing medicines. An estimated 257,000 adults (6.6%) in 2017/18 reported they did not collect their prescriptions due to cost in the past year. Around 28,000 children (3.0%) had a prescription that was not collected due to cost in the past year, down from 6.6% in 2011/12, presumably due to the expansion of free prescription access for children. Māori and Pacific adults and children were more than twice as likely to not have collected a prescription due to cost as non-Pacific and non-Māori adults and children respectively, after adjusting for age and gender differences.[184]

> *Pharmaceutical co-payments create access barriers to medicines for our most needy and vulnerable. This leads to avoidable downstream impacts on health outcomes for these populations. (Organisation submission)*

Barriers to medicines are broader than just cost. Recent analysis of the current process for a patient to access a funded medicine points to barriers at each stage that may contribute inequities in medicines access. [185]

There is also research that medicine adherence is poor. Research has shown that as few as 16% of patients who are prescribed a new medicine take it as prescribed, experience no problems and receive as much information as they need.[186] Addressing issues relating to utilisation and adherence will be important in addressing health outcomes across the population.

Opportunities for change

Looking to the future, technology developments, patient expectations for greater convenience and the use of robotics will change the way medicines are dispensed. This technology is already available in New Zealand with some people having funded and non-funded prescription medicines delivered direct to their home. Medicines apps are also being used by some patients that provide medicines instructions and information, daily reminders, and coordinates repeat prescriptions. Internationally, other models such as medicine dispensing robots are being used that allow people to order repeat prescriptions online and pick them up from a secure collection facility which is open 24/7. [187]

Innovations such as these have the potential to improve medicine access and adherence but will also free up pharmacist time to enable them to better utilise their skills and focus on delivering enhanced patient care. They will also likely change the distribution channels for medicines considerably with people choosing home delivery or collection points other than a community pharmacy.

Expanding the role of pharmacists

Historically community pharmacy services have been isolated from other primary care providers. An enhanced role for pharmacists and the need for a pharmacy to be better integrated in the health care system has been a recurrent theme for a number of years. [188] [189] [190] [191]

> *We see an opportunity exists for an increased role for community pharmacy services to support people staying well and in their own homes through more population and personal health initiatives, minor aliment and referral services and complex medicine management services, as well as essential medicine dispensing services for consumers. (Organisation submission)*

The concept of pharmacist integration into general practice has been gaining momentum internationally, such as in Australia, England, Canada and the US. Economic benefits attributed to practice pharmacists have been savings in medication costs and freeing up general practitioner time, alongside improvements to the quality of patient care in terms of reduced medication errors and improvements in chronic disease management.[192]

> *Clinical pharmacists can provide medicine therapy assessments or utilisation reviews. Such services can improve prescribing, particularly for patients with complex long term conditions, and can help to address issues of adherence and patient literacy with medicines. This can be important for the elderly, but also for Māori and Pacific populations that experience a disproportionate burden of long term conditions. (Organisation submission)*

A 2017 study identified 31 pharmacists working in general practice, [193] mainly in the Hawke's Bay, Waikato, Otago and Southland, but this model was very much still in its infancy. There is considerable scope for pharmacists to be a more integral part of team based care, in a variety of roles including, prescribing advice, medicines utilisation reviews and assisting with medicines adherence. In addition some may take on a prescribing role.

Oral Health

> *The World Health Organization defines oral health as:*
>
> *"A state of being free from chronic mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal (gum) disease, tooth decay, tooth loss, and other diseases and disorders that limit an individual's capacity in biting, chewing, smiling, speaking, and psychosocial wellbeing"*[194]

Most oral health conditions are preventable. Preventive interventions include community water fluoridation and promotion of fluoride toothpaste, tobacco and alcohol controls, measures to reduce the consumption of sugary drinks and foods, and health promotion to improve oral health literacy. At the broader determinants level, reducing poverty is also likely to contribute to improved oral health.

Poor oral health is associated with poor general health. Conditions such as diabetes and chronic kidney disease management, cardiovascular conditions, aspiration pneumonia, and medical and pharmacological therapies contribute to increasing the severity of oral health conditions, and poor oral health complicates these and other medical conditions.[195]

Current service provision arrangements

In 2017/18, Vote Health, funded $198m of services which included:

- free basic dental care for pre-school and primary school children (up to and including Year 8) delivered by dental therapists within the Community Oral Health Service largely via school dental services
- free basic dental care for adolescents (Year 9 up to 18th birthday) delivered by private dentists in the community under contract to DHBs. This contract generally also includes special dental services for younger children who require more complex treatment than can be delivered by a dental therapist.

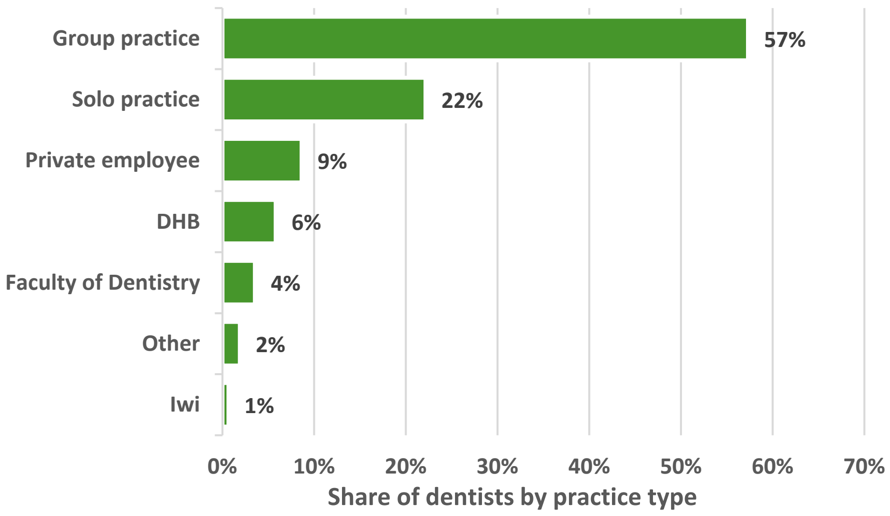
- DHB provided services for:
    - people with a physical or intellectual disability that cannot see a private provider
    - people such as head or neck cancer patients where dental treatment is part of the overall treatment
    - emergency treatment for relief of pain and treatment of infection for low income adults with CSC card (part charges may apply)
    - complex dental services and those that need to be delivered under anaesthetic
- some DHBs also provided free or low cost oral health services through DHB dentist and Māori Oral Health Service providers

ACC funded around $29m of dental care arising from an accident or injury. Some of these services incurred a part charge. In addition the Department of Correction provides primary dental health care for prisoners and the Defence Force provides free oral health care for all service personnel

The Dental Council of New Zealand regulates six professions under the Health Practitioners Competence Assurance Act 2003: dentistry, dental hygiene, clinical dental technology, dental technology, dental therapy and oral health therapy. The Council is appointed by the Minister of Health and has ten members. In 2018 there were 4,845 oral health professionals registered of which there were 2,936 dentists, 517 oral health therapists, 508 dental therapists, 477 dental hygienists and 407 dental technicians.

Based on an analysis of those dentists who provide information on their employment model, the majority of dentists (88%) work in private practice.

FIGURE 7.3: SHARE OF DENTISTS BY PRACTICE TYPE, 2018



SOURCE: ADAPTED FROM DENTAL COUNCIL OF NEW ZEALAND.

The business model is still predominantly private practices owned by dentists, but around 20-25% are now working in some form of corporate model. Lumino the Dentists is the largest dental care organisation, having 15% of the New Zealand market share. Its parent company, Abano Healthcare, is listed on the New Zealand Stock Exchange. Dentists working in Lumino have the option of working as a commission-based employee or as a commission-based contractor.

Inequities

While oral health has been improving in New Zealand, inequities remain:

- An analysis of dental the disease among adults in Australia, Canada, New Zealand and the United States showed that New Zealand had the highest rate for absolute inequality in measures of untreated tooth decay. [196]
- Despite oral health care being free for those up to the age of 18 years, there remains significant disparity of dental service utilisation and outcomes particularly for Māori and Pacific across all age groups and those living in poverty, and in some parts of the country 2018.[197]
- The overall percentage of 5 year olds that are caries free is 60.6% but rates are lower for Māori (42.1%) and Pacific (38.1%).
- The overall percentage of 8 year olds that are caries free is 66.3% but rates are lower for Māori (56.7%) and Pacific (55.0%).
- From age 18 utilisation rates of oral health services rates sharply decline. Cost is a major barrier to accessing adult oral health care.
- People living in areas of high deprivation were almost three times as likely to have completely lost all their teeth, and were much more likely to have teeth with untreated coronal decay or teeth missing due to pathology, compared with people in areas of low socioeconomic deprivation.
- In some parts of New Zealand there are problems with long waiting lists for dental care.

MĀORI ORAL HEALTH SERVICE PROVIDERS

- Māori Oral Health Providers (MOHP) operate under Māori principles of health and provider services that are culturally authentic and responsive to Māori. They deliver a full range of oral health care services from both fixed and mobile clinics to population groups with high health needs, and in high socioeconomic deprivation areas. They take a full-life course approach from infancy to older age, with a view of supporting good oral health for the whole whānau.
- MOHP operate a mixed government-funded and private business model, providing a range of oral health services via contracts and subsidised dental care for people on low incomes at little or no costs, while also providing dental services to the public.
- The MOHP workforce comprises dentists, dental therapists, dental assistants, oral health promoters and educators, and utilises final year Bachelor of Dentistry students through a community-based outplacement programme. There are now MOHPs operating in Kaitaia, Kawakawa, Tauranga, Hamilton, Ruatoria, Tipu Ora (Rotorua – Lakes), Hawkes Bay, and Porirua. [198]

SUPERVISED TOOTH BRUSHING IN NORTHLAND

- A case control study in Northland that assessed the impact of supervised tooth brushing on oral health outcomes for intermediate-age school children, and the feasibility of implementing an in-school tooth brushing programme found that supervised tooth brushing in-school achieved improvements in oral health, reversal of dental caries and lower prevalence of new carious lesions compared with the control group. The study concluded that tooth brushing at school removed all oral health inequalities. [199]

Concerns about access barriers and high levels of untreated dental disease among Māori led to a number of Māori health providers establishing oral health services co-located alongside their existing primary care services as outlined on the previous page.

Addressing equity issues was a key concern raised in Phase One engagement. Many have called for state funded dental care to be increased. Some proposed this should be for all New Zealanders, while other suggested this should be for young adults (generally to 25 years), and to those on limited incomes.

> *Oral health should be fully integrated into the publicly funded health and disability system and treated the same as any other medical area. Oral health care should be free to everyone and the service should be tailored to meet the needs of diverse groups with a particular focus on children and groups that experience health inequities.*
> *(Organisation submission)*

There was also acknowledgement that population health approaches to improving oral health were equally important. Given the preventive nature, stakeholders suggested stated that more needs to be done at a population level to reduce consumption and availability of sugary drinks and foods, improve oral health literacy, and fluoridation in water supplies.

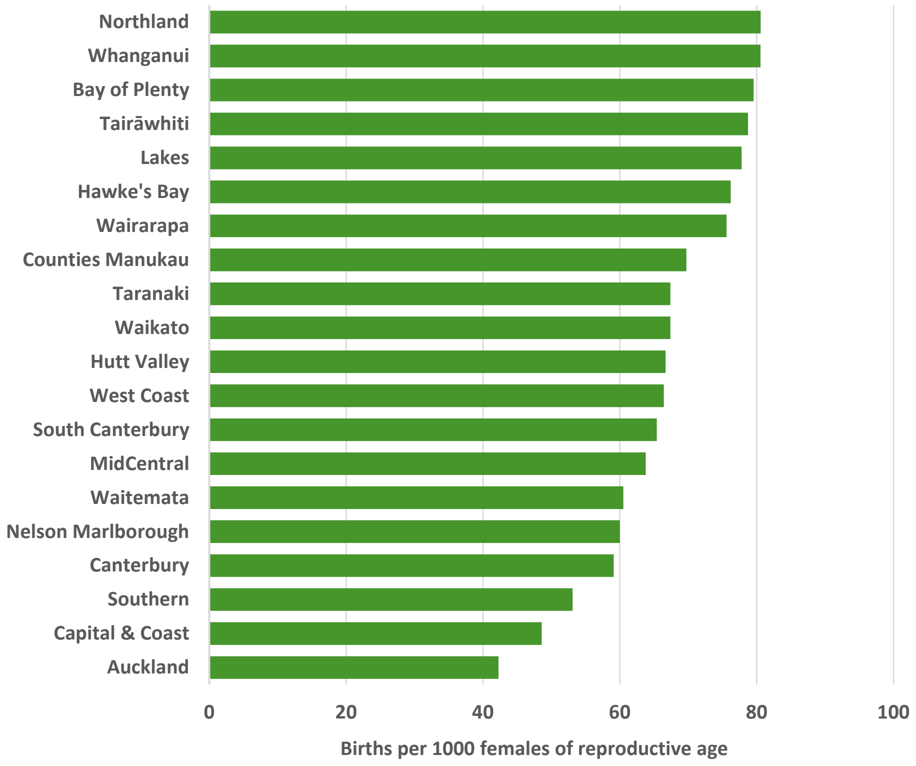
> *It is concerning that the potentially high cost of a widespread adult dental care system simply puts people off even starting to tackle the issue. We submit that universal free dental health care is unlikely to be necessary. Instead, a mixed policy and targeted policy approach could address many of the most urgent oral health needs and have greater likelihood of successfully addressing the underlying equity issues, and at a fraction of the cost. (Organisation submission)*

There is a large body of epidemiological evidence that confirms water fluoridation prevents and reduces dental decay and that the greatest benefits go to those who have the poorest oral health, making Community Water Fluoridation (CWF) a good intervention to improve equity. CWF coverage in New Zealand is much lower than it could be. Public drinking water supplies serve 3.8 million New Zealanders, or about 85% of the population. Of those on public water supplies 60% (or 54% of the total population) receive fluoridated water. A recent report suggests that extending CWF to the rest of New Zealand's networked water supplies would generate net savings of more than $600 million over 20 years – mostly to consumers, and some to Vote Health. [200]

Maternity

There are around 59,000 births annually in New Zealand. The number of births has been declining slightly over the last decade with the total fertility rate at 1.71 being the lowest on record in 2018.

FIGURE 7.4: BIRTHS PER 1000 FEMALES OF REPRODUCTIVE AGE, 2017



SOURCE: MINISTRY OF HEALTH MATERNITY DATA COLLECTION. [201]

There is considerable variation in birth rates, ranging from 42.3 to 80.6 per 1,000 female of reproductive age in different DHB regions. Birth rates per 1000 females of reproductive age were highest for Māori (90.6) and Pacific (83.2), followed by Asian (60.6) and European or Other (50.9).[202]

There is strong evidence that confirms the importance of the first 1000 days (from conception to two years) as a critical period for shaping lifelong health, wellbeing and learning and development outcomes. Many inequities start early in life and compound along the lifelong trajectory. [203]

Current working arrangements

Free maternity care, is in policy if not in practice, universally available to all eligible women. Under the model introduced to New Zealand in the early 1990's, women choose one lead professional (Lead Maternity Carer (LMC)) to provide her and her baby with continuity of care throughout her pregnancy, labour and birth, and the postnatal period up to six weeks after birth. An LMC can be a midwife, an obstetrician or GP (with a diploma in obstetrics).

The vast majority of primary maternity services are provided by independent community midwives (LMCs). In 2017, only 0.2% of LMCs were GPs, and 5.1% were obstetricians. Women who choose an obstetrician LMC will pay a copayment of around $3,000 - 4,000.

The Ministry funds the majority of primary maternity services through the Primary Maternity Services Notice 2009 (often referred as the Section 88 Notice). This is a modular, fee for service model that specifies service expectations and sets fees for LMC and non-LMC services (non-LMC first trimester and urgent care, primary maternity ultrasounds and some specialist services). These fees are the same for every women. Community Midwife and GP LMCs cannot charge women on top of the fee they receive from the Government, but private obstetricians may charge additional fees (copayments), whilst still claiming LMC fees from the Ministry of Health.

DHBs fund and either directly deliver (through its provider arm) or contract all other [public] primary, secondary and tertiary maternity services, including free pregnancy, childbirth and parenting education services. The minimum service requirements for all publicly funded maternity services provided by DHBs are set out in the nationwide service specifications (to provide national consistency).

Key issues and opportunities

On the whole the New Zealand maternity system is well regarded internationally for its outcomes and most women report very positive experiences.   The window of the 'first 1000 days' provides an important opportunity to ensure we have an optimal maternity system in place that promotes the best start to life for the baby and to support parents and whānau.

Phase One engagement raised the following as areas of concern/opportunities for improvement:

- Delays in accessing care - despite having a policy that mandates universal free access to maternity care, there are significant equity issues for Māori, Pacific, and women living in the most deprived neighbourhoods. A particular concern are delays in LMC registrations. In 2017, on average 73.3% of women registered with an LMC in the first trimester registration, but first trimester registration was less common among:
  - young women (47.8% of women)
  - Māori women (55.2% of women)
  - Pacific women (35.5% of women)
  - women residing in the most deprived neighbourhoods (51.9% in quintile 5).
- Need for a more family and whānau centred approach to delivery of services – It was suggested that service delivery should better reflect Māori aspirations, including mātauranga Māori and the provision of kaupapa Māori models of care. Models of care should be more responsive to the cultural needs of women and their families, in particular taking a 'family/whānau-centred' approach.
- Workforce does not reflect the women it is serving - there is continued ethnic disproportionality between the midwifery workforce and the fertile female (15 to 49 years) population of New Zealand. In 2017, 88.5% of the total midwifery workforce were NZ European and other European ethnicities, 5.7% were Māori and 2.2% were Pacific.

- Workforce shortages - There are critical midwifery shortages in many parts of New Zealand. The New Zealand Midwifery Council data shows the number of midwives increased from 3,210 to 3,309 practising midwives (holding an Annual Practicing Certificate) between 2018 and 2019. The current workforce shortages are suggested to be due to more midwives working part-time, intermittently or not at all. There are varying reasons given as contributing factors to this, including, burn out and stress amongst current midwives, working arrangements that generally mean midwives are working as sole practitioners which makes it hard to manage workload and take leave. There are also issues with low completion rates on university midwifery courses.
- Integration and coordination of services could be enhanced - key areas identified were:
  - stronger linkage with Well Child/Tamariki Ora
  - transitions between community and hospital maternity services., particularly for women with complex health and social needs, and for women who live in rural or remote areas
  - referral and liaison with other health and social services (e.g. mental health and addiction, family violence, disability support, housing, education, income support, primary care, oral health, social support, sexual and reproductive health etc.)
- Funding and business model arrangements – concerns have been raised that the current modular payment system for midwives and contract terms do not support holistic models of service delivery. The segmentation of primary maternity care into a national contract does not facilitate integration with well child services or other services required by the mother or baby. There is also confusion about who is accountable for the overall outcomes for women, their babies and their families/whānau.

Well Child / Tamariki Ora

Current arrangements

Well Child / Tamariki Ora (WCTO) is a free health service offered to all New Zealand children from birth to five years. The programme aims to increase protective factors and reduce risks that impact on children's health, development and wellbeing. It aims to provide early identification and referral to targeted specialist health, education and social services for children, families and whānau with additional needs.

The programme provides a universal health assessment, screening, education and support service for all children and their whānau from birth to five years of age. The current WCTO model is based on 13 scheduled 'core contacts' (often referred to as the National Schedule[204].). These include postnatal visits delivered by the lead maternity carer (LMC), newborn and early childhood screening services, the six week check delivered by general practice at the time of the first immunisation, infant and child core contacts delivered by a WCTO provider and the B4 School Check. Additional contacts are based on need.

The service delivery model for WCTO is based on the core contacts being delivered initially in the home setting, and then in a clinic or other setting for whānau who are able to make that transition.

The model aims to achieve 100% enrolment in WCTO services and coverage for all scheduled contacts. It is designed to provide an integrated package of care for each child and their whānau, based on three parallel streams:

- health and development clinical assessment
- family and whānau care and support
- health education.[205]

The B4 School Check was introduced in 2008 to promote health and wellbeing in preschool children, ensure they are prepared for school and to identify any health, behavioural or developmental concerns, and make appropriate referrals to improve health and educational outcomes and reduce inequalities.[206]

WTCO services currently provide 728,500 contacts to 185,000 children in any one year, and around 56,000 children each year receive their B4 School Checks (B4SCs).

Funding and provider arrangements

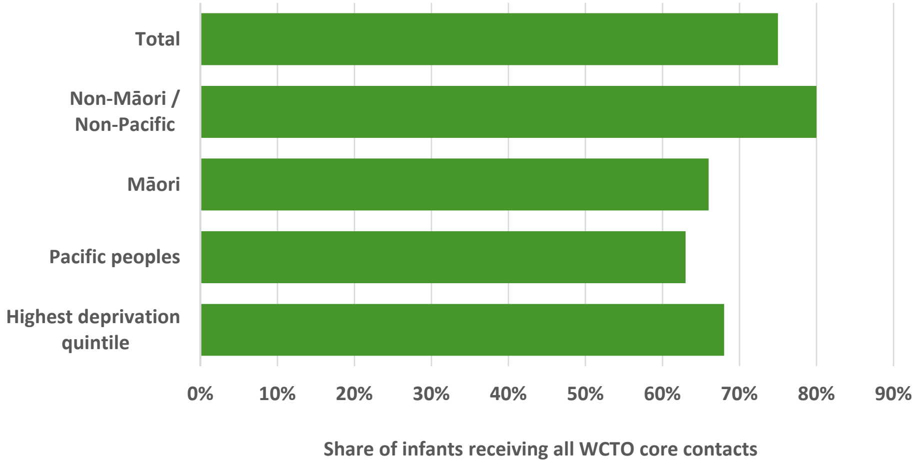
No single provider delivers the entire schedule, and different parts of the schedule are delivered under different funding models and contracting arrangements. There are also a broad range of professionals involved such as midwives, nurses, community health workers, social workers, community kaiawhina, GP or paediatrician, and a variety of organisations.

Funding for these services comes through a national appropriation to the Ministry of Health. The vast majority of funding goes to Plunket which holds a contract directly with the Ministry. The Ministry also contracts with DHBs for WCTO and B4SC services for their populations. DHBs then contract with a large number of community providers, most of which are smaller Māori and Pacific providers, many of whom also deliver other community health services.

WCTO Reviews

Previous reviews of the WCTO programme have identified issues with reach and equity.[207] [208]Māori, Pacific and people living in high socioeconomic deprivation areas have lower uptake of WCTO services.

FIGURE 7.5: SHARE OF INFANTS RECEIVING ALL WCTO CORE CONTACTS, 2018



SOURCE: MINISTRY OF HEALTH.

A further review of the WCTO programme was announced in November 2018. The WCTO Review's objectives are to:

- improve sustainability and performance of the WCTO programme
- drive equitable health and development outcomes for children
- enable the WCTO programme to more effectively contribute to wider child wellbeing
- ensure value for money.[209]

The WCTO Review has a 12 month timeframe to deliver a new equitable funding and service delivery model for the WCTO programme.

The Health and Disability System Review has a longer term and broader focus in regard to how the overall delivery of Tier 1 services will improve equity of outcomes and wellbeing for all populations. In discussions and through submissions we have heard concerns about the fragmentation of purchasing between national and local levels and the challenges that this poses for ensuring services are designed and coordinated to best meet the needs of populations that the system has generally not served well.

> *Most health services are planned, delivered, and coordinated locally through DHBs, but primary maternity services and Plunket, the national provider of Well Child/Tamariki Ora services, continue to be funded centrally by the Ministry of Health. Achieving local integration is difficult when some services are funded and planned centrally from the Ministry of Health in Wellington. (Group submission)*

Aged residential care

As people age, they may become frail, develop significant cognitive or mobility impairments, or have multiple or complex health conditions requiring care. Over the last decade considerable progress has been made supporting more older people to live independently for longer. While the over 65 years age group has increased by 24% since 2012, the number of aged residential care bed-days has increased by only 5%.[210]

However when older people can no longer live safely in their own or whānau home, aged residential care in a rest home or hospital can provide 24-hour supervision.[211] It is available for all people over 65 who are assessed as needing it, on a means tested, user pays basis subsidised by public funding. (This care is also used by some people aged 50-64 with disability or illness who need 24-hour care long-term.)[212]

People using aged residential care

In 2017/18, around 34,000 people were receiving aged residential care. Almost half were receiving the basic level, rest home care. Three higher levels of care (hospital, dementia care, and specialised psychogeriatric hospital care) involve specialised facilities and higher care.

TABLE 7.3: PEOPLE RECEIVING AGED RESIDENTIAL CARE IN 2017/18

Level of care	Rest home	Hospital	Dementia	Psychogeriatric	Total
Number of people*	15,700	13,200	4,300	800	34,000
Proportion (%)	46	39	12	3	100

* numbers rounded

SOURCE: NEW ZEALAND AGED CARE INDUSTRY ASSOCIATION (2018). AGED CARE INDUSTRY PROFILE 2017-18. WELLINGTON: NZACA.

Entry to aged residential care requires an assessment that the person has high or very high needs that are irreversible or indefinite, and they cannot safely be supported within the community. Needs assessment is standardised, independent and repeated regularly. It covers a broad range of clinical, social and housing factors and leads into care planning for the person including care level assignment.[213]

The average age of residents entering aged residential care is 85 years and rising. A growing proportion have cognitive impairment and/or multiple long term conditions. While Māori spend more years of their lives living with disability, they account for only 5.5% of those using aged residential care. Similarly Pacific peoples utilisation is low at 2.6%. Both populations have higher use of home based services.

Stays in aged residential care are becoming shorter over time, with greater need for end-of-life care. The median length of stay is now 18 months.

While the growth trajectory has slowed, the total number of people using aged residential care is still growing slowly. Growth is greater in hospital and dementia level care.

Current funding and payment arrangements

The contract for aged residential care services is between DHBs and providers, but the service specifications, pricing and contract terms are agreed nationally, with the same core contract being used for all providers. The contract provides for small geographic variations to allow for land cost variation around the country, with providers in Auckland city, for example, paid 8.8% more than the lowest value districts. [214]

Providers are paid on an occupied bed day basis, with the price specified for each of the four categories of care. The payment covers accommodation, everyday living services, core support and care services and additional care support provided for residents on an as needed basis. No differentiation in payment is made for higher or lower needs residents within a category. The total amount the provider receives per bed day is the same, regardless of the public/private funding mix.

People pay for their aged residential care, depending on their financial means, up to a maximum contribution.

People's superannuation and other financial assets are used to cover their contribution, under a process run by the Ministry of Social Development.[215] These payments may cover the full cost of basic care. Where residents means are not assessed as sufficient to pay for their care, DHBs pay the provider the gap between the residents contribution and the basic bed day price. DHBs pay the difference between the basic bed day price and the higher prices for hospital, dementia and psychogeriatic care.

In 2017/18, DHBs spent $1.025 billion subsidising care for two thirds of residents, and residents paid a further $840 million towards the cost of their care (at basic level – some also pay extra for “premium” rooms or other additions).[216]

Service provision

Over 38,000 aged residential care beds are provided in some 670 facilities throughout New Zealand. Almost all facilities are run by the private or non-government sectors.

This capacity also provides for assessment, rehabilitation, respite and palliative care services; 96% of facilities offer respite care, the costs of which are also subsidised by government contributions.

Facilities are subject to regular quality and safety review, and are certified for provision of particular care levels. Staffing is by nurses, caregivers and allied health practitioners as well as non-care staff.[217]

TABLE 7.4: MEDIAN STAFFING HOURS PER RESIDENT PER DAY IN 2017/18

	Level of care			
Staff position	**Rest home**	**Hospital**	**Dementia**	**Psychogeriatric**
Registered nurse	0.36	1.00	0.38	1.04
Enrolled nurse	0.21	0.16	0.26	0.35
Caregiver	1.88	2.72	2.63	2.74
Activities co-ordinator	0.21	0.20	0.32	0.32

SOURCE: NEW ZEALAND AGED CARE INDUSTRY ASSOCIATION (2018). AGED CARE INDUSTRY PROFILE 2017-18. WELLINGTON: NZACA.

Flexibility in bed use is increasing. Dual service beds, used for either rest home care or hospital care depending on the needs of the resident, now make up over 31% of beds. On-site retirement units or apartments and co-location with retirement villages is increasing, along with additional facilities such as ensuites or larger rooms for residents who choose to pay. Retirement village units or apartments are now being certified for care provision at rest home, hospital or dementia care level in the person’s own unit. [218]

Integration with other health services

Aged residential care providers are required to meet primary health care costs, and many provide physiotherapy and occupational therapy as part of their operation. Oral health care is not included and may be unaffordable for people with no income aside from the $40 per week (approximately) they can keep from their superannuation.[219]

Primary health care arrangements vary widely, and only a minority of facilities have arrangements for more than a weekly GP visit (for example, for 24-hour emergency support, telephone support, nurse practitioner visits, more frequent GP visits or regular health assessments). [220]

Key themes

Issues identified during Phase One included:

- Concern that linkages and access to Tier 1 services and hospital services needs to be strengthened. However there are also instances of good practice where aged residential care facilities have strong working relationships with general practice or with the DHB's gerontology team
- Most of the growth in beds over the last 5 years has been in larger corporate, often co-located with a retirement village. There has also been consolidation in group operators, and the number of small privately owned aged care hospitals has declined.
- It has been suggested by some stakeholders that the current funding model is not sustainable, particularly for smaller stand alone facilities that tend to have higher running costs per resident. Smaller facilities were seen as being important in maintaining choice such as for culture-driven care, or for care close to people's own communities, especially in small towns and rural areas.
- Some have raised concern that the supply of facilities providing care to people with low personal wealth may not keep up with growth in demand, and that choice may be limited for people from different cultures and from non-English speaking backgrounds.
- While there are some kaumātua rest homes run by iwi, concern was raised that some facilities are not meeting the needs of Māori and Pacific people. A wider range of choices, especially more home-based care, are being sought by older people and families

> *Increase support for kaumātua to access home help; services that are relevant that meet the needs of Māori elders and whānau and rest home access for respite and/or permanent placement. (Group submission)*

- There are challenges attracting and retaining staff. Staff turnover is above 20% in almost all staff groups. Turnover of registered nurses grew to 37.8% in 2017. While pay equity and pay parity settlements will likely improve this situation, difficulties in visa extension remain. Across all facilities, 21% of staff, and in major group care facilities 27%, are working on temporary visas.[221]

PHOs and primary care through general practices

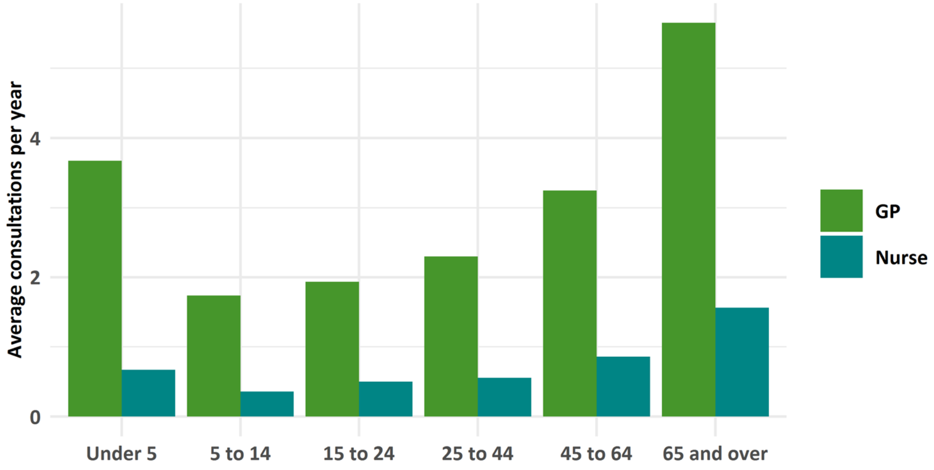
Following the publication of the Primary Health Care Strategy in 2001,[222] PHOs were introduced with the intention of moving towards a more population and prevention focus. Capitation payments replaced the general medical subsidy as a key means of rewarding practices for keeping an enrolled population well, rather than just treating people who are unwell.

Enrolment and utilisation

New Zealand has a high rate of primary care enrolment. Most New Zealanders (94%) are enrolled in a PHO through their general practice. Enrolment is highest among Pacific peoples (over 100%) and lowest among Māori (90%). Enrolment rates have grown steadily over the last five years, with the growth rate for Māori slightly outstripping population growth.[223]

In 2017, around 17 million GP and nurse consultations were delivered in primary care (see Figure 7.6).

FIGURE 7.6: AVERAGE NUMBER OF GP AND NURSE CONSULTATIONS PER PERSON PER YEAR BY AGE GROUP, 2018



SOURCE: MINISTRY OF HEALTH, PHO REPORTING.

The young and the old are the greatest users of primary care services, and as the population ages we can expect the demand for these services to increase.

Between 2008 and 2016, the number of GP consultations increased nearly 12%, which was slightly higher than the population growth of 10.2% in the same period.[224] By ethnicity, growth in GP consultations was higher for Māori, Pacific, and 'other' groups (27%, 29%, and 38%, respectively) compared with European New Zealanders (5%). Māori, Pacific, and 'other' groups also had higher than average population growth. Changing demographics and a growing older population is relevant to understanding demand trends, as this group is likely to have the most ongoing and complex health needs.[225]

Primary care receives funding from a variety of sources

Around 68% of funding for PHOs and general practice comes from Vote Health ($1,164 million). The remaining funding comes through ACC ($150 million or 9%), private insurance ($31 million or 2%), and patient copayments (around $395 million or 23%).

Most public funding is provided through a nationally negotiated contract between DHBs and PHOs (the National PHO Services Agreement). DHBs are required to contract with PHOs for primary care services. South Canterbury DHB is the only DHB that does not contract with a separate PHO. This required ministerial approval.

Around $750 million is paid to PHOs, which is then passed through to individual practices. Payments are made on a capitation basis – based on the enrolled population, regardless of the level of service provided. First-contact capitation rates vary significantly with age, ranging from $70 per year for young adult males to $450 for people over 65.

Around $160 million is also paid on a capitation basis, but held in a flexible funding pool. The PHO services agreement requires this funding to be spent on services agreed to by the local district alliance or on health promotion, management, or services to improve access. There is little information or reporting on how this funding is used, but variation across the country is clear.

The remaining funding ($260 million) is used to fund immunisations, after-hours services, rural sustainability, and services outside the scope of the national agreement.

Impact of funding arrangements

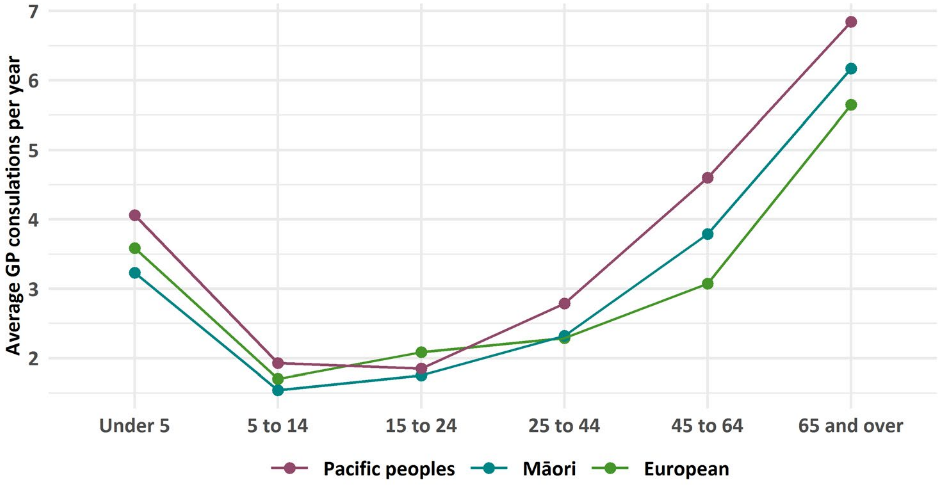
Stakeholder engagement signalled that the funding provided to Māori PHOs and practices with Māori populations is insufficient to meet the higher needs of Māori. This is echoed strongly in the Waitangi Tribunal's report Hāuora, which cites analysis performed by Deloitte and commissioned by the Ministry of Health.[226]

Modelling work undertaken during Phase One suggests that after accounting for lower copayment revenue, practices with larger shares of Māori or Pacific enrolees on average earn no more than other practices. Given that Māori and Pacific populations tend to have higher needs (as demonstrated by higher rates of ambulatory sensitive (avoidable) hospital admissions and higher amenable mortality rates), this supports the argument that funding has not reflected the needs of Māori and Pacific peoples. There is also evidence that VCLA practices are under-funded for their high need populations and much of their populations are Māori or Pacific.

Stakeholders also stated that because first-contact funding is adjusted for only age and gender, it does not meet the higher needs of Māori, Pacific, and high socioeconomic deprivation populations. Some suggested including ethnicity and socioeconomic deprivation as factors on which first-contact funding should be allocated.

However, given the current method for constructing the capitation formula, there is no guarantee that this would result in a more equitable distribution of funding. Capitation funding rates are based on historic service utilisation. Including ethnicity and socioeconomic deprivation as factors would allocate more funding to high needs groups only if they have higher historical utilisation. However, for many age groups this is not the case. Figure 7.7 shows that for groups aged under 45, Māori have the same or lower levels of service utilisation than Europeans. Including ethnicity as a factor could actually reduce the funding allocated for Māori, effectively embedding existing inequities into funding arrangements.

FIGURE 7.7: AVERAGE NUMBER OF GP CONSULTATIONS PER YEAR, BY AGE AND ETHNICITY, 2018



SOURCE: MINISTRY OF HEALTH, PHO REPORTING.

The more fundamental problem is that historic use of GP services is a poor proxy for need because it:

- does not account for the fact copayments are a barrier to access
- does not account for other barriers to access, such as lack of transportation and lack of culturally appropriate services
- is based on only one service type, a standard GP consultation, rather than the more holistic range of services that primary care funding is, in theory, intended to support.

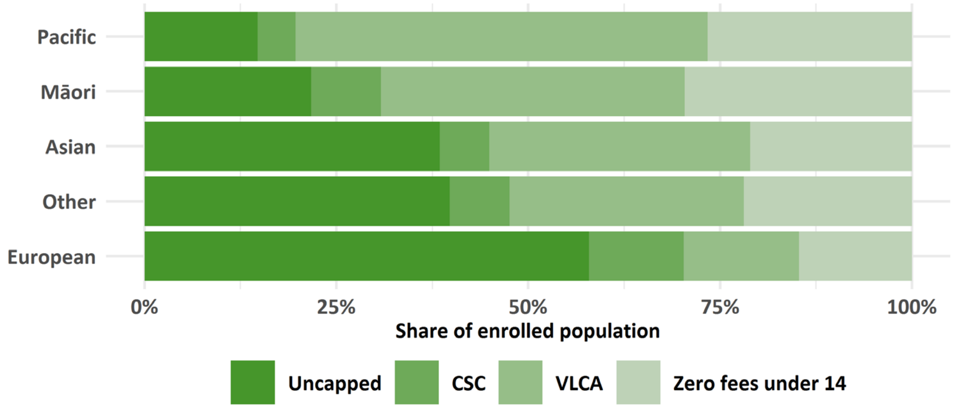
Measures to reduce copayment impacts

Several funding streams have been introduced to cap copayments charged to specific populations. Under the PHO services agreement, these funding streams must be passed on in full to practices. The key schemes are:

- Zero Fees Under 14s, which requires no fees to be charged to people aged under 14
- Very Low Cost Access (VLCA), which caps all copayments charged by a practice (at $19) and includes around a third of practices, which are practices where over 50% of their population is Māori, Pacific peoples, or living in a high socioeconomic deprivation area
- Community Services Card (CSC), which caps copayments charged to CSC card holders and gives those with CSCs access to VLCA copayment rates, regardless of the practice they enrol in.

Figure 7.8 shows the share of different ethnic groups that are charged different fees.

FIGURE 7.8: GENERAL PRACTICE FEES BASED ON ETHNICITY, 2019



SOURCE: MINISTRY OF HEALTH PHO REPORTING, INTERNAL CALCULATIONS.

For groups other than European, over 50% of the population have access to consultations that are free or cost no more than $19.

For Pacific peoples, around a quarter are eligible for free fees through the Zero Fees Under 14s scheme, over 50% are charged up to $19 through Very Low Cost Access and the CSC, with only an estimated 15% of the population charged uncapped fees. For Māori, the proportion charged uncapped fees is estimated to be slightly higher at 21%, with just under half charged up to $19, and around 30% under 14 and eligible for free fees.

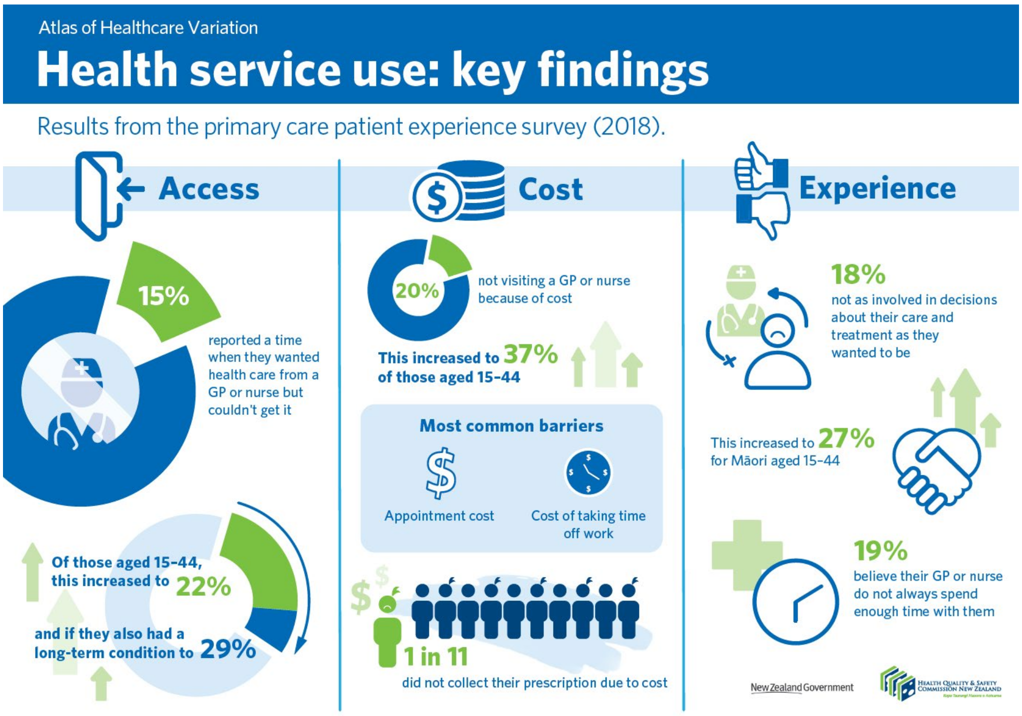
This pattern is similar for different socioeconomic deprivation quintiles, with 80% of those living in the most deprived areas being able to access zero or capped copayments. This suggests:

- the current copayment reduction schemes have been effective in reducing copayments for Māori, Pacific peoples, and people in high socioeconomic deprivation areas
- further efforts to reduce uncapped copayments are likely to predominantly benefit non-Māori and non-Pacific peoples
- reducing copayments within Very Low Cost Access practices or through the CSC scheme may be more effective at targeting Māori, Pacific peoples, and people in high socioeconomic deprivation areas.

Some groups face major access barriers to primary care services

The immediate cost of a copayment can be a barrier to access but there are other barriers including, the availability of appointments, cost of transport, cost of taking time off work to attend the appointment, and availability of child care (see Figure 7.9). Health literacy and cultural factors can also prevent people from seeking help until their condition worsens and they require urgent care.

FIGURE 7.9: ACCESS BARRIERS FROM THE NATIONAL PRIMARY CARE PATIENT EXPERIENCE SURVEY, 2018



SOURCE: HEALTH QUALITY SAFETY COMMISSION, 2018.[227]

Recent survey data shows that a third of New Zealanders aged over 15 experienced one or more types of unmet need for primary health care in the past 12 months. Both the Ministry of Health's New Zealand Health Survey[228] and the Health Quality & Safety Commission's Primary Care Patient Experience survey[229] provide insights into differential access to primary care:

- Māori children are nearly 2.5 times more likely than non-Māori children to have had a medical problem but their parents had not taken them to a GP due to cost.
- Children living in the most deprived neighbourhoods were three times more likely than children living in the least deprived neighbourhoods to have not visited a GP due to cost.
- Transport cost was a barrier for more Māori, at 17% compared with around 8% for Asian and Other ethnic groups.
- Of people aged under 65, 27% reported the cost of taking time off work prevented them from accessing care.
- Of the 10% aged 65 and over for whom cost was a barrier, appointment cost was a barrier for 91%.

The surveys and feedback received during Phase One, suggest that the combined costs of copayment, transport, and time off paid work affects some people more than others. Those worst affected are likely to be those with the greatest health needs and the least ability to navigate the system. The current system does not place a value on consumer time or on the indirect costs that consumers incur when accessing services.

Contracting approaches

Given the many providers involved in the delivery of Tier 1 services and the mix of public and private funding sources, it is not surprising that a large number of contracts are in place. Phase One engagement signalled that some key system-level issues will require further consideration. As discussed below, these issues include national compared with local contracting, constraints under the Commerce Act 1986, and the administrative burden associated with contracting with NGOs.

National versus local contracting impacting integration and accountability

Tier 1 services are purchased using a mix of national and local contracts. The fragmentation of contracting introduces complexity and duplication and can make it challenging to deliver integrated services. DHBs are not party to the negotiations with some important services that are funded nationally (for example, community midwifery and WCTO), yet the integration with local service delivery arrangements is critical if DHBs are to meet the objectives for a child’s first 1,000 days and address local equity gaps.

During Phase One, some argued that the national role in contracting should focus more on stewardship, purchasing highly specialised services, and engagement with national bodies such as ACC and MSD, that are also commissioning health and disability services. Undertaking the remaining activity at local levels was viewed as enabling stronger clinical, iwi, and community engagement in decision making and providing an opportunity to integrate services at a local level by focusing on planning across a full range of services.

Counter views argued that this could lead to unacceptable variation in service delivery and that there may not be sufficient scale and expertise to fulfil the national role cost-effectively.

> *The commissioning task is complex, requiring a team with a high level of strategic and analytical skill, with deep understanding of the challenges of delivering services, and a commitment to addressing health inequity. (Group submission)*

Commerce Act constraints on collaboration

The Commerce Act 1986 states that no person shall enter a contract or arrangement that is likely to substantially lessen competition in a market. This provision applies to Crown entities including DHBs and ACC. Given the significant size of the public health and disability system and ACC as purchasers of health and disability services, this limits the ability for DHBs and ACC to jointly purchase services.

The Accident Compensation Act 2001 contains a specific exception for joint purchasing arrangements for emergency transport services. This allows ACC, the Ministry of Health or DHBs to jointly purchase emergency transport services, even where this would substantially lessen competition (although the Commerce Act restriction on taking advantage of market power remains). Similar exceptions apply in other sectors, such as telecommunications, air transport, and agriculture.

ACC also purchases a variety of other services that are purchased by the health and disability system, including general practice services and elective surgery. As part of its Health Services Strategy, ACC is moving towards purchasing “bundled services for clinical pathways”, and away from paying for isolated inputs.

An opportunity exists for ACC and the health and disability system to collaborate more to smooth boundary issues, reduce actual or perceived cost shifting, and make more effective use of limited resources, such as workforce.

Further analysis is required to determine how ACC and the health and disability system can collaborate more around purchasing and whether Commerce Act exceptions for joint purchasing arrangements may support this collaboration.

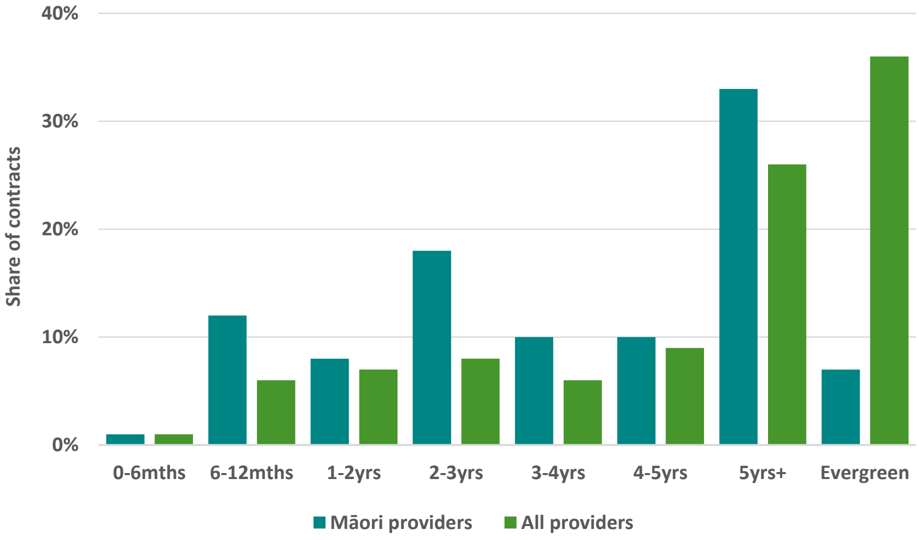
Contracting with non-government entities

We heard that the contracting process can be difficult and costly for small providers.

Contracts are often short and can be highly prescriptive in terms of how services are to be delivered. Providers of holistic services often need to have multiple contracts for individual service lines, which creates less funding certainty and more administrative burden. Organisations that fund services sometimes do not have the cultural capability to assess whether providers are able to meet the needs of Māori.

This was an area of particular concern for Māori. Analysis of contracts held by the Ministry of Health and DHBs shows that providers with contracts for Māori health service delivery are more likely to have contracts with terms less than a year and are less likely to have long-term contracts than the group of all providers.

FIGURE 7.10: SHARE OF CONTRACTS BY TERM OF AGREEMENT, MĀORI PROVIDERS AND ALL PROVIDERS, 2017/18



Note: Māori provider for the purposes Of this analysis is, any provider with a contract in the categories of Māori health, Māori health development, kaupapa Māori mental health, or Māori clinical training

SOURCE: MINISTRY OF HEALTH, CONTRACTS MANAGEMENT SYSTEM.

Analysis also shows that Māori health providers are much more likely to hold multiple contracts. For providers with Māori health contracts, only 15% have one contract, compared with 75% of all providers. Nearly a quarter of providers with Māori health contracts have 10 or more contracts compared with only 2% of all providers.

Several NGOs voiced similar concerns about the administrative burden of multiple contracts and the uncertainty and risk they faced because of the short-term nature of many of their contracts.

Academic research and reviews also support the concerns we heard.

- Māori providers have shorter contracts, higher compliance costs, and are more frequently audited than non-Māori providers.[230]
- He Ara Oranga, the Government Inquiry into Mental Health and Addiction services, noted contracting issues, including short contract terms, onerous compliance and reporting requirements, multiple funders, and a lack of focus on outcomes.[231]
- In 2015 the Productivity Commission described problems with contracting, including the cost of tender processes, the lack of information provided about tendering processes, short-term contracts, and an overall unfairness towards smaller providers due to larger providers being able to bear the cost of navigating complex tender processes.[232]

Business models

There has always been a range of different business model in Tier 1, ranging from individuals who are contracted to deliver a service and are predominantly publically funded (for example midwives) through to corporates that may operate nationally (for example Life Pharmacy, Lumino Dental, Ryman and Somerset) and may have international ownership interests. There are many not for profit organisations operating in the market also, which again vary in size.

Some operate in a discrete geographic area, while others deliver services for a more dispersed population in part of the country or nationally. Some derive most of their funding privately and others are predominantly publically funded.

For many providers that deliver a range of services, or services for more than one DHB this means multiple contracts that may have different services specification, funding mechanisms and reporting requirements.

For smaller providers this creates considerable administrative burden. Some have also indicated that they perceive that competitive contracting processes favour larger organisations.

While it is anticipated that there will continue to be a range of business models operating in the sector, over the last 5 years the following trends have been observed:

- A number of professional groups are moving from self-employed to an employed workforce model
- There is an increasing presence of not for profit and corporate entities.

An overview of business models in PHOs and general practice is discussed below.

PHOs and general practice ownership

The 2001 Primary Health Care Strategy mandated the development of PHOs as local not-for-profit organisations to be contracted by DHBs to meet the primary health care needs of their enrolled population. The institutional characteristics expected of PHOs are summarised in Table 7.5.

TABLE 7.5: INSTITUTIONAL CHARACTERISTICS OF PRIMARY HEALTH ORGANISATIONS

Characteristic	Description
Established by	▶ PHOs were established by the Primary Health Care Strategy 2001. They are non-government organisations and are not established by any particular legislation.
Role under national agreement	▶ The PHO's roles and responsibilities are set out in the national PHO Services Agreement.[1] **Functions:** The agreement says the PHO will: ▶ provide the services (as specified within various schedules to the agreement) ▶ facilitate and promote service development, coordination, and integration ▶ participate in the development and agreement of the DHB's annual plan ▶ promote continuous quality improvement in the delivery of the services ▶ ensure accountability for the delivery of the services ▶ provide infrastructure, administrative, and support services in respect of the services. **Outcomes:** The agreement says the PHO will: ▶ support its enrolled population and other eligible people to stay well ▶ contribute to ensuring the clinical and financial sustainability of the health system ▶ ensure its enrolled population and other eligible people receive quality, coordinated care that is delivered by multidisciplinary teams and is easy to access and provided close to home ▶ support all population groups to achieve optimum health outcomes and reduce disparities ▶ achieve outcomes determined by the alliance.
Funded by	▶ District Health Boards ▶ Ministry of Health
Establishment criteria (set by the Ministry of Health)	▶ PHOs must be not-for-profit bodies with full and open accountability for the use of public funds and the quality and effectiveness of services. ▶ PHOs must demonstrate that their communities, iwi, and consumers are involved in their governing processes and that the PHO is responsive to its community. ▶ DHBs must be satisfied that the PHO's planning, prioritisation, and service delivery will contribute to a reduction in health inequalities.

[1] PHO Services Agreement (version 6), 1 December 2018.[233]

There is wide variation in the size geographic distribution and ownership structure of PHOs.

The five largest PHOs account for over half of all PHO enrolments. The largest PHO, Procare Network Limited, has nearly 900,000 enrolees, which on a population basis makes it larger than any DHB in the country. In contrast, the smallest 20 PHOs account for around one quarter of all enrolees.

There are advantages and disadvantages to having large PHOs. The scale of large PHOs may allow them to make investments in things like workforce development and data analytics. Small PHOs may have a better understanding of their local community and have the flexibility to respond to local needs.

Fourteen PHOs cover areas that cross DHB lines, including National Hauora Coalition which covers five DHB areas. This can lead to coordination problems, as DHBs and PHOs are tasked with assessing the needs of and providing services to overlapping populations. PHOs also do not have set areas, which can lead to 'competition' between PHOs for practices. These boundary issues can be exacerbated in urban areas, as people can live in one DHB area, enrol with a practice in a second DHB area, and that practice can belong to a PHO that primarily works in a third DHB area.

PHOs often have very complex structural arrangements that make it hard to understand who ultimately owns and controls these organisations. For example:

- Many large PHOs are legally owned and controlled by other entities. PHOs can be established as a not for profit "shell entity" that is ultimately owned and controlled by healthcare providers and practitioners within the PHO network. For example, Midlands Regional Health Network Charitable Trust is a PHO that receives around $40 million in revenue.[234] It has zero employees and zero volunteers, and pays the majority of its revenue out to Pinnacle Incorporated and its subsidiaries.[235, 236] Pinnacle Incorporated is a non-profit that has general practitioner members. These members elect an executive committee, which runs the organisation.[237]
- Some PHOs have ownership and governance arrangements that evenly share decision making power between providers and iwi / community groups. For example, Western Bay of Plenty PHO Limited is 50% owned by two iwi, Ngāti Ranginui Iwi Incorporated and Te Runanga o Ngāi Te Rangi Iwi Trust, and 50% owned by Western Bay of Plenty Primary Care Providers Inc, an umbrella organisation for general practice and other providers.[238] The two groups also each appoint half of the PHO's board.[239]
- Three PHOs are owned and controlled by iwi. These three PHOs are also the three smallest PHOs in the country, combined covering less than 40,000 enrolees.

Over the last 10 years there has been considerable consolidation of PHOs, from a peak of 80 PHOs in 2008 to the current 30 PHOs. Analysis of PHOs before this consolidation found that around 30 PHOs were formed from iwi or community groups.[240] Of those, only two exist now in the same legal form. This suggests the other PHOs were either disestablished, or merged with other PHOs (e.g. National Hauora Coalition).

The seven largest PHOs by enrolment account for 60% of enrolments and hold over $100 million of assets[241]. Within the Operating Policy Framework, DHBs are required to monitor PHOs with large or increasing cash balances. Cash balances are necessary to meet short-term liabilities, but could also be used for less appropriate purposes (PHOs are not governed by the Public Finance Act). Where cash balances are large or increasing, PHOs are required to develop forecast expenditure plans.

Many PHOs have broadened their business models beyond funding practices. Several PHOs now directly own practices and are directly providing other services, such as call centre support and information systems. These services are usually not provided by the PHO itself, but by parent companies, or their subsidiaries. Given that most practices are relatively small businesses, these developments may help the sector introduce innovations that require scale. However, there is often little transparency around whether public funding is being used to deliver these services, and how any surplus cash flows are distributed. The public system may need to take a more deliberate approach to how it funds these services.

General practice ownership models are changing

Given the inherent incentives in funding structures and how these influence PHOs as well as GPs, it is valuable to consider changing trends in general practice business models. Limited information is available publicly about GP business models and asset bases given the commercial sensitivity of that information. However, work is under way to gather some aspects of this information as part of research looking at models of care (to compare the Health Care Home approach with more traditional practice models). [242]

In New Zealand, general practices mainly function as small businesses, usually owned by a single doctor or small group of doctors. Results from the 2018 Royal College of General Practitioners Workforce Survey show that almost half (48%) were long-term employees or contractors, while 36% were practice owners or partners.[243] Long-term employees or contractors make up more than 50% of the workforce in all age bands up to 50–54 where it drops to 46%. The practice owner or partner workforce peaks at 57% in the age band 60–64.

A more diverse range of ownership models is seen among rural practices than urban practices. Practices owned by a trust or charity are more likely to have relatively smaller enrolled patient numbers (under 9,000), whereas practices under corporate ownership (9%) are more likely to have enrolled populations of more than 9,000. Other practice types include those fully or partially owned by a PHO or GP organisation (4%), a DHB (1%), iwi (2%), a university (1%), and ‘other’ (5%).[244]

Establishment of Alliances

District alliances between DHBs and PHOs have been introduced to promote greater integration and service planning and integration at a local level. These alliances are clinically led, community engaged fora that bring different parts of the health and disability system together with the aim of transforming services so that they are best for the patient and best for the system. District alliances have been a mandatory requirement through the PHO services agreement since 2013.

Alliances vary significantly in approach, maturity, and function across the country. District alliances do not constitute a new legal entity and are reliant for operations on the legal, contracting, analytical, and other resources of their participants. Many participants have indicated that they must take part in several alliance teams (for example, where geographic boundaries overlap or relating to specific service areas) that often involve the same set of people. Some have questioned the value delivered through the alliancing approach and the fact it is mandated through the national PHO Services Agreement.

Qualitative research involving interviews with sector stakeholders revealed a high degree of variation in feedback about the value of alliances to those participating.[245] Some valued the approach as having provided a platform for relationship building and shared decision making, while others struggled to get arrangements up and running. A key determinant seems to be the maturity of the alliance and the commitment of participants.

It is difficult to assess the impact of these alliances – the nature of the system-level measure as high-level outcomes inevitably will require long-term change to achieve impact and it would be difficult to attribute improvement to any specific mechanism or factor.

> *while there are numerous examples of integrated health services in New Zealand, overall [alliancing] has been a rather dreary story of isolated areas of progress brought about by local leadership that did not diffuse through the system.*[246]

Directions for change: Tier 1

Strengthening the role that Tier 1 services play in the system is critical. This view has been espoused for over 20 years, but progress has been limited. Equity is a priority and New Zealand needs to be more ambitious with Tier 1 services, as there is good evidence that enhanced Tier 1 service delivery can improve equity and support health and wellbeing for Māori and others for whom the current system is not working.

The system is very fragmented with 1000s of provider organisations operating under different pricing and access arrangements. In many instances, service delivery arrangements have not considered the burden of chronic disease, comorbidities and mental health issues that now exist in communities. Nor have these arrangements kept pace with how New Zealanders expect to be able to access services or health information for themselves.

SYSTEM DESIGNED FOR THE CONSUMER AND THEIR WHĀNAU NOT THE PROVIDER

- *The measures of value and cost the system uses needs to reflect much more what consumers and whānau value, not simply what the system deems important.*
- *Services should be established where they best suit the community (now and into the future), rather than allowing the location of services to be determined by the preference of providers alone. More services also need to be available for longer hours.*
- *The system needs to be better integrated so patients can move more readily through it.*

PROMOTING WELLNESS

- *Refocusing the system on promoting wellness rather than principally treating sickness also requires changes in attitudes and for health promotion and behavioural health services to be a much more integral part of the system. A bigger role for Population Health services will be essential in this.*

MULTIDISCIPLINARY COLLABORATIVE TEAMWORK THE NORM

- *A more determined effort is needed to embed more collaborative approaches to service provision, particularly if we are to address the equity issues experienced by Māori, Pacific peoples, disabled people, people living in rural communities, and other vulnerable populations. The sector needs to be less dominated by standalone service providers and be more driven by community-focused, integrated service provision hubs. A culture of collaboration between providers should be encouraged.*
- *The approach of general practices and community pharmacies being largely funded on the basis of throughput is unlikely to be appropriate in areas where the emphasis needs to be on encouraging behavioural change and early intervention.*
- *Different approaches need to reflect not only different business models but also different cultural perspectives.*

ENABLING MĀORI TO PROVIDE BETTER SERVICES FOR MĀORI

- *Māori must have the right to access and develop services that appropriately recognise whānau rangatiratanga and are culturally appropriate. This will require both more Māori providers and more Māori involvement in the governance, planning and development of the system.*

LEARNING FROM RURAL COMMUNITIES

- *For Tier 1 services to be effective, they need to be designed to support the community they are serving. The Panel observed positive examples of rural communities using technology and more flexible working arrangements to provide more comprehensive service coverage. We believe many lessons can be learnt from these examples and applied to make urban services more effective and efficient.*

CLARITY OF MANDATE AND ACCOUNTABILITY

- *The system gives both DHBs and PHOs responsibilities for promoting health and wellbeing for their populations. This sometimes leads to a constructive working relationship between the two and sometimes leads to neither accepting real accountability. Achieving more integration and more effectiveness will require either fewer layers of accountability or that the system is clearer about where accountability for producing results lies.*

CHANGING FUNDING MECHANISMS

- *Dependence on funding mechanisms that incentivise throughput needs to be reduced, and the first priority for change needs to be improving services to the populations for whom the current system is not working well.*
- *Similarly, the lack of any systematic process for determining which services qualify for public funding and which do not needs to be revisited.*
- *The current mix of funding regimes, which leads to a plethora of different charging regimes for consumers, needs to be rationalised so the imposition of charges in some parts of the system does not distort the ongoing development of more holistic services.*

BETTER DATA MANAGEMENT

- *All data generated across Tier 1 services should be covered by system stewardship agreements. These agreements would facilitate shared decision making and more coordinated service delivery and give consumers greater confidence that all providers can access their relevant information.*

8 Disability / Te Huātanga

Disability is an important and growing issue worldwide. New Zealand, like other countries, is working to improve accessibility, inclusion and participation of disabled people and reducing discrimination. Disabled people aspire to be empowered to live the life of their choosing, and to be included in decision-making processes. It is incumbent on the health and disability system to support that effectively.

This section looks at how we define disability, how disability is spread across the population, and how the system is currently funding and providing support. It looks at new approaches being trialled to improve support and considers the issues which still need to be addressed if the system in the future is to be able to sustainably support an aging population. The section also considers the role the health system should play as an employer to improve wellbeing for disabled people and to ensure its workforce is more representative.

What do we mean by disability?

NEW ZEALAND USES THE UNITED NATIONS' DEFINITION OF DISABILITY.

Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.[247]

Disabilities are diverse. Even when people have a similar degree of the same impairment, the impacts for those people can vary substantially. A variety of social, environmental and economic factors can make it much easier or much harder for people to go about their lives. Their environment and amenities that help them navigate it, the attitudes and inclusivity of people around them, and the opportunities available to them are all important.[248]

> *The physical, mental, intellectual and sensory impairments that persons with disabilities experience can hinder … full and effective participation in society and open the way to social exclusion and discrimination. … Physical barriers and societal attitudes contribute to … disability and often result in lower incomes, less fulfilling jobs and exclusion.*[249]

Impairments themselves cover a wide spectrum, with origins often unknown – half of disabled children have impairments since birth. Through life, many more people become disabled through illness or injury and many have more than one impairment or health condition. Overall, across countries, the main sources of disability are illnesses, then injuries, and then those existing from birth.[250]

Who are disabled New Zealanders?

The New Zealand Disability Survey, last undertaken in 2013, shows as many as a quarter of New Zealanders are disabled.[251] Eleven percent of children and 27% of adults have difficulty doing everyday things, even with equipment that helps. Difficulties are in hearing, vision, mobility, agility, intellectual, mental health, speaking, learning, memory (for adults) and developmental delay (for children).

Many people who are disabled find that their impairment has little effect on their ability to function. They may find, however, that societal and environmental structures, and attitudes, create barriers. For example, a person in a wheelchair would find it less disabling if there was smooth and speedy access, power lifting and turning room everywhere and most activities were easy to do at sitting height.

A functional approach is often used to gauge the impacts of disability across the population. Surveys use functional questions to identify disabled people and look into how well they are faring.
Example of functional questions about disability:

1. *Do you have difficulty seeing, even if wearing glasses?*
2. *Do you have difficulty hearing, even if using a hearing aid?*
3. *Do you have difficulty walking or climbing steps?*
4. *Do you have difficulty remembering or concentrating?*
5. *Do you have difficulty washing all over or dressing?*
6. *Using your usual language, do you have difficulty communicating, for example understanding or being understood?*

RESPONSE OPTIONS

a. No – no difficulty at all b. Yes – some difficulty	c. Yes – a lot of difficulty d. Cannot do at all
NOT DISABLED	**DISABLED**

Society can disable people who have differences of any kind, including different abilities.

> *… being Māori and being disabled may not be discreet oppressions, but instead "interconnected" parts of a whole way of looking at the world in which difference is considered inferior and in which unequal relationships are demarcated'*[252]

Disability across the population

Disability affects all population groups and all stages of life. However, the spread is uneven. Higher rates of disability are found in low income families and those living in high socioeconomic deprivation communities. Māori have significantly higher rates of disability across all age bands, Pacific people have slightly higher rates, and Asian peoples have lower rates (see Table 8.1).[253]

TABLE 8.1: DISABILITY PREVALENCE ACROSS ETHNIC GROUPS IN NEW ZEALAND, 2013

	European	Māori	Pacific	Asian
Age-adjusted prevalence of disability (%)	24	32	26	17

SOURCE: STATISTICS NEW ZEALAND. 2014. *NEW ZEALAND DISABILITY SURVEY: 2013.* WELLINGTON: STATISTICS NEW ZEALAND.

Te Ao Māori emphasises living within and contributing to the collective (whānau and hapū). Historically, Māori with disabilities were valued for their contribution and the abilities and strengths they had (including superior strengths such as acute hearing in blind kaumatua).[254] Today, disabled Māori are more likely to be living with whānau, to be living in areas of socioeconomic deprivation, and to have limited access or choice to a range of government services.

Disability support across Government

The Government has committed to reducing or eliminating disadvantages faced by disabled people and aspires to

> *a non-disabling society – a place where disabled people have an equal opportunity to achieve their goals and aspirations, and all of New Zealand works together to make this happen.*[255]

At present, many social and economic factors combine to increase the likelihood that disabled people become more disadvantaged over their lifetime. Similarly, more people in disadvantaged communities and circumstances become disabled across their lifespan (see Table 8.2).

Disabled people have access to a variety of supports and services available to anyone in the community but for which disabled people may have greater need. Social housing, health care and classroom education are examples. For most disabled people, these generally available services are the most significant government-funded or -subsidised services they use.

TABLE 8.2: DISADVANTAGES EXPERIENCED BY DISABLED PEOPLE

Compared with non-disabled people, disabled people have …		
Income	▶	Half the median weekly income
Employment	▶	Half the employment rate; a quarter for those aged 15–24
Education	▶	Half the qualification rate
Housing	▶	Greater likelihood of renting and of damp, weather tightness, and other problems
Health	▶	Less than a third the rate of reporting excellent health
Social connection	▶	Good contact with family and friends but low level of leisure activities
Crime	▶	Twice the likelihood of being a victim of violent crime
Access	▶	Greater likelihood of living in areas of high socioeconomic deprivation with low access to services
Children	▶	Greater likelihood of being in a one-parent home, a low income household, a house that is too small

SOURCES:

Statistics New Zealand. 2014. *Social and Economic Outcomes for Disabled People: Findings from the 2013 Disability Survey*. Wellington: Statistics New Zealand; Statistics New Zealand. 2018. Household Labour Force Survey: Labour market measures for disabled people, 2017–2018; Statistics New Zealand (2017). Disability estimates for small areas 2013; S Murray. 2018.

Breaking the link between disability and child and whānau poverty. *Policy Quarterly* 14(4): 68–77.

Several agencies fund additional services for disabled New Zealanders who have specific support needs and meet a need threshold (see the services funded Table 8.3). Eligibility rules are particular to each agency and consider impairment (based on cause or functional impact) and social and environmental impacts (such as discrimination and limits to accessibility).

TABLE 8.3: SERVICES FUNDED BY GOVERNMENT, 2017/18

Agency or Vote	2017/18 ($m)	Services funded
Social Development	1,995	Support related to income, work or child care
Education	1,412	Support for learning
Ministry of Health	1,238	Support for everyday living
DHBs	1,101	Support for everyday living
Accident Compensation Corporation	585	Support for people whose disability arose from injury
Defence	115	Support for veterans
Transport	17	Support for accessible community transport
Telecommunications	5	Support for people with hearing and vision impairments

Many submitters to the Review commented on the broad government functions needed to promote a non-disabling environment. For example, many are seeking better urban, building, and transport design standards so that an accessible community environment becomes the norm and retrofitting for a disabled person is not needed. Others raised the difficulty people and their whānau have in dealing with several different agencies when they need information, advice, or help. People dealing with disability issues often have multiple stressors in their lives and would value seamless and helpful information and advice on all matters touching on disability.

Health and disability system role in disability support

Disability support funding and provision across the health and disability system

For all New Zealanders, the health and disability system aims to improve, promote and protect health, and provide the best care or support for those in need. In addition, for people with disabilities the system aims to promote inclusion, participation and independence.[259] This additional focus for people with disabilities is concentrated on the funding and provision of disability support services. These services help people with everyday activities of life that would otherwise be difficult or impossible for them.

Disability support includes services (such as a person to help in the home), equipment (such as hearing aids or a wheelchair) and home modifications (such as ramps or lifts instead of stairs). These types of help are available to people with higher levels of need and may be provided free (such as hearing aids for children and young people) or be subsidised (hearing aids for older people). Family and whānau members often provide help also.[260]

Responsibilities for disability support funding are divided across the system.

- The Ministry of Health funds disability support services for 34,000 disabled people, aged under 65 years when entering the system, and funds equipment and modifications (such as to homes and vehicles) for 77,000 people of all ages.
- DHBs fund disability support services for:
  - people aged over 65 years, of whom some 75,000 receive home and community-based support, and 30,000 receive aged residential care
  - people disabled by mental health conditions and associated social and attitudinal consequences, with some 3,000 people receiving work, employment or vocational support and around 200 receiving community residential or planned respite services.
- ACC funds support services, equipment and modifications for people disabled by or recovering from injury.

How people get disability support services

People who are being discharged from hospital and/or are injured have their initial support arranged for them. Most other people with disability support needs are first referred to a Needs Assessment and Service Coordination (NASC) agency. There are different NASCs around the country and several in each district, often specialising in particular categories such as whether the person is younger, aged over 65, or have a mental illness or a severe chronic illness or another disability.

The relevant NASC will assess the person's abilities and disabilities, look at what help they already have in their home and through friends and whānau, and decide on the person's level of need. They will then help the person and whānau to decide which supports would work best for them from what is available in the area. This might include, for example, a carer coming to their home for particular help at particular times, or to go with them to a community activity and help them participate. Other choices might be for the family and whānau to provide care for them most of the time and have a carer or respite provider give full time care for a few days at a time to give the family a break.

Ministry of Health funded disability support services

The current disability definition for Ministry-funded service eligibility is:

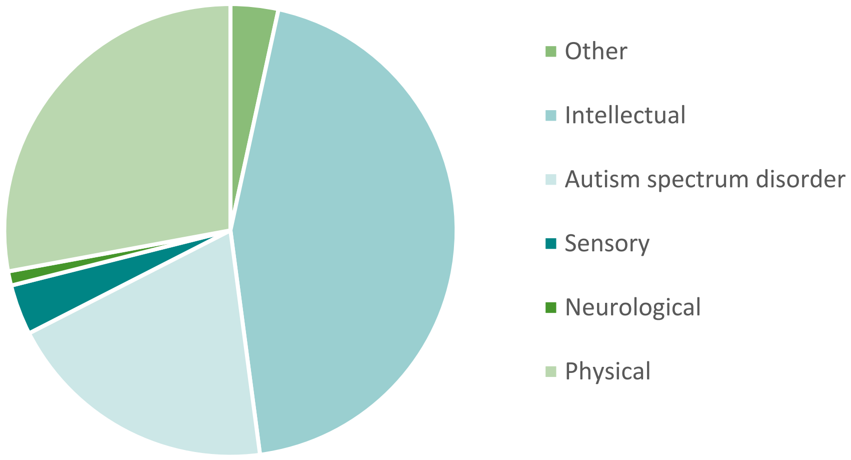
> *People who have a physical, intellectual, or sensory disability (or a combination of these) that:*
>
> - *is likely to continue for at least 6 months*
> - *limits their ability to function independently, to the extent that ongoing support is required.*

These are mainly people aged under 65.

> *The Ministry will also fund disability support services for people with:*
>
> - *some neurological conditions that result in permanent disabilities*
> - *some developmental disabilities in children and young people, such as autism spectrum disorder*
> - *a physical, intellectual, or sensory disability that co-exists with a health condition and/or injury.*

About 120 specific and many other non-specific causes of 'principal' disability are clustered into six main groups (Figure 8.1). Each group includes multiple categories, and each category includes a wide variety of impacts and severity. The majority of service users have more than one disability, and many have health conditions as well.[261]

FIGURE 8.1: MAIN DISABILITY CLUSTERS FOR PEOPLE USING MINISTRY OF HEALTH–FUNDED SUPPORT SERVICES, 2016



SOURCE: MINISTRY OF HEALTH. 2017.

Demographic Report on Clients Allocated the Ministry of Health's Disability Support Services as at September 2016. Wellington: Ministry of Health.

Both the number of people receiving support services, and the level of their needs, have been rising. The biggest increases have been in autistic spectrum disorders (added as a funded disability in 2014) and intellectual disability.[262]

Ministry of Health disability funding

In 2017/18 the Ministry purchased $1.24 billion of disability support services (see Table 8.4). Funding for Ministry-funded disability supports has grown at a similar rate to overall health funding.

Funding growth in the last decade has funded new technologies (such as cochlear implants), growth in services (for example, support for autism spectrum disorder; housing modifications for chronic disease and aging; hearing aids) and workforce wage and condition improvements. In most of the recent financial years, appropriations for disability support have been topped up as service costs have exceeded budgeted appropriations. Attempts to manage demand have for the most part been by keeping to a tight, historic definition of disability or carer that excludes particular classes of disability or family carer. Serial court cases have overturned these attempts.

TABLE 8.4: SERVICE FUNDING, ALLOCATION, PROVISION, AND WORKFORCE FOR MINISTRY OF HEALTH–FUNDED SERVICES

Services	Funding ($m) in 2017/18*	Recipients*	Needs assessors	Providers*	Workforce*
Residential care	540	7,000	15 NASCs	60	25,000
Community support	300	29,000		250	
Individualised & EGL		4,000			4,500
Funded family care		500		500	500
High and complex	80	250	1	10	
Equipment & modifications	75	77,000	2	2	
Other environmental	75				
Other (eg child development)	170				
TOTAL	**1,240**		**18**		

Notes: Numbers have been rounded.
* Needs assessment and service coordination agencies

Sources: Ministry of Health unpublished information; Ministry of Health. 2017. *Demographic Report on Clients Allocated the Ministry of Health's Disability Support Services as at September 2016*. Wellington: Ministry of Health.

The Ministry funds services in a number of categories, and people may receive a combination of services. Most people use self- or family-organised services, and large numbers also use residential services, provider-organised community support, and respite care.[263] The service frameworks are highly prescribed and relatively inflexible.[264]

Distribution of these service types across the country varies widely.[265] Auckland has significantly lower per capita use of services except for carer support, home support and respite. Service use may depend on service availability based on historical provision, and may also be influenced by the age profile of the population. There are reports of people shifting to regions with availability of more intensive support.[266]

While over 300 organisations deliver residential and community disability support services, five large providers employ some 70% of full time equivalent staff positions. The workforce is 75% female, a third are aged over 55 years, employed part time. Three quarters have a health and disability qualification, and of these half have a level 2 and a further 40% a level 3 qualification and 6% level 4.[267] Māori (17%) and Pacific (10%) workers are well represented, especially in direct care and support roles. Disabled people make up 7% of the workforce.[268] As well as workers employed through provider organisations, several thousand workers, mostly part-time, are employed directly by people using their services.

As well as the paid workforce, at least 2,500 people volunteer in roles linked with disability support, and 430,000 family members provide care. [269]

Environmental supports

As well as disability support services, the Ministry funds a range of other supports, from child development teams to cochlear implants. One-off aids, equipment and modifications to homes or vehicles account for about 6% of overall funding but are a fast-growing area[270]. Around 77,000 people received equipment and modifications (such as to homes or vehicles) in 2017/18[271]. The number of requests has increased by more than 14%, and costs by 30%, in the last 4 years.[272] Three quarters of people receiving these services were aged over 65 years.

Many equipment items are purchased from large-scale international suppliers, but frequently require individual fitting or adaptation to their user's needs, as well as individualised training and rehabilitation programmes to use them effectively. Some are custom built. Many specialised allied health and other workforce roles are needed and experienced practitioners are often hard to replace.

Learning from four approaches to purchasing disability support 2002-2018

Disability support funding for mental health and for people aged over 65 years was devolved to DHBs from 2002. Other disability support funding was centralised in the Ministry of Health. Rising demand has characterised all three areas. ACC serious injury management is a comparator. System responses to changes over the period 2002-18 are summarised below.

- **Mental health.** DHBs have been responsible for funding mental health services, both treatment and support, for the 3% of the population most in need of services at any point, within a funding "ringfence" for mental health. The ringfence grew over time to increase specialist service capacity, and information systems and performance monitoring focussed on these services. Disability support increased initially with a focus on community care to reduce inpatient admissions. DHBs' attention focussed increasingly on rising acute service demand through primary health, emergency departments and 111 calls. Limited influence on primary health, emergency responses and social determinants, and inadequate information collection, lowered their ability to get ahead of the demand. The main improvements in disability support up to 2018 have been in Ministry of Social Development-led employment and housing support.
- **Older people.** For older people, DHBs have had end-to-end responsibility for a large, clearly defined and growing population with high and measurable needs across the health and disability continuum. They had good information to improve outcomes across the population of older people. Their focus was on early intervention to prevent deterioration and early support to maintain people in their homes and communities. Better integrating care and support with primary care has improved overall outcomes, dramatically reduced hospitalisation costs and reduced proportionate use of residential care. *Planned and preventive health care has increased, including screening, surgical procedures, post-event rehabilitation and a wide range of community activities and green prescriptions.* By showing the impacts of cold, damp homes on hospitalisation and other health care costs, the system has been able to attract broader Government investment in home insulation and heating. *System results over this period have included improved outcomes for older people and substantially improved productivity for the system as a whole.*
- **People under 65 years**. The Ministry's disability clients have been a small, diverse population with high but unmeasured health needs for whom benefits from better system performance were largely invisible. The Ministry focussed on maintaining the integrity of the needs assessment process and stability of support service provision, meeting growing demand on an assessed entitlements basis, and widening service options for people. Integration with health services, while important for individuals, was discouraged at system level with separate data collection and advisory services. This separation slowed system responsiveness to changes in need (such as when paediatric service capacity was challenged by increasing demand for childhood disability assessment).
  More recently, small demonstrations of new approaches that pool funding across agencies and use **Enabling Good Lives** (EGL) principles have started in Christchurch, Waikato and MidCentral. They support disabled people to plan towards ordinary life goals, access natural and universally available supports and exercise choice and control over disability supports. EGL approaches emphasise living well and building community inclusion. We heard strong support for the potential benefits of this approach.

  Early indications from the MidCentral Mana Whaikaha prototype are of people choosing a variety of different support packages from continuing with traditional supports, more short term 'joined up' interventions designed to make mainstream opportunities for training, work, housing or recreation effective for them, through to full individualised funding. We also heard there is concern about the affordability of this approach if it continues in its current form.
- **ACC.** ACC operates to minimise injuries, minimise the impacts of injuries on work and other life functioning, and to compensate people for remaining impacts and loss of earnings[273] [274]. The compensation element adds strong incentives to prevent, intervene early and gain maximum rehabilitation outcomes for injured people. ACC's information is used to examine intervention approaches for best overall value for money, allowing it to minimise and stabilise levies while ensuring injured people receive entitlements. Prevention and industry incentives have been major focus areas. Collaboration across the system has prevented falls and surgical site infections. Timeliness is another major focus, with easy-access assessment, early intervention and rehabilitation services, and case management to optimise progress in recovery and reduce long-term costs. ACC has kept levies and claims relatively stable over time despite population and coverage increases.

Equity, acceptability and effectiveness of disability support

Equity and responsiveness

Fewer Māori and significantly fewer Pacific and Asian people receive support services than expected based on their higher proportions in the disabled population (see Table 8.5). However, support service use by these populations is more prevalent in those aged under 25 and is increasing at a faster rate than the overall increase.[275]

TABLE 8.5: MINISTRY OF HEALTH–FUNDED DISABILITY SUPPORT SERVICES, EXPECTED AND ACTUAL USE, BY ETHNIC GROUPS, 2013

Category	New Zealand European	Māori	Pacific	Asian
Age-adjusted prevalence of disability (%)	24	32	26	17
Proportion of disabled population	64	19	8	8
Proportion allocated Ministry-funded disability support	67	18	6	6

SOURCE:

Statistics New Zealand 2013 census data; Statistics New Zealand. 2014. *Social and Economic Outcomes for Disabled People: Findings from the 2013 Disability Survey*. Wellington: Statistics New Zealand; Ministry of Health. 2017. *Demographic Report on Clients Allocated the Ministry of Health's Disability Support Services as at September 2016.* Wellington: Ministry of Health.

Māori disabled people have said they want to be contributing members of their whānau and hapū, rather than to have individual support for independence. Support for the whole whānau, rather than tied to the person with a disability, allows a good life in Te Ao Māori for disabled whānau.

Many submitters raised issues with long wait times for a response. There were waits for referral, waits for assessment, waits for services to start or providers to be found. This waiting could be very distressing, especially for people with a deteriorating disability for whom timely care could have a big impact on quality of life and future outlook. Organisations also note the pressure under which staff work, feeling they cannot spend as much time as required to do a good job. Some noted that competition rather than collaboration between providers lowers the standard of care and makes staff training and development difficult.

HOLISTIC SERVICES IN PACIFIC COMMUNITIES

- Vaka Tautua provides services to Pacific people and families with complex, long term and ongoing needs. This not-for-profit organisation holds contracts with different agencies and delivers these in integrated ways. They promote self-reliance and independence while providing flexible and responsive support at times of need.
- Accessing and managing carers, getting equipment and modification of homes and other services often require navigating complicated bureaucratic processes. This is time consuming for families, particularly for people with English as a second language. Vaka Tautua staff inform families about services and allowances they are eligible for, and advocate with services on behalf of families. They communicate with families in their preferred language and maintain contact to ensure that referrals to other services are followed through and the outcomes that matter to families are achieved. The wellbeing and empowerment of families is as important as any services provided.

> *[Vaka Tautua staff] are like a second family.*

- Vaka Tautua model Pacific community values in the organisation and service delivery. They are staffed by Pacific people with passion for and strong networks in their communities. They include service users and others with lived experience of disability and mental health challenges. They pay a living wage to staff, enable community access to finance, support community infrastructure and demonstrate a wellbeing approach for Pacific peoples.

Newer approaches to improve service responsiveness

In New Zealand and internationally, three approaches to disability support improvement are gaining traction. Individualised funding, person-centred services and Whānau Ora all offer more responsive and adaptive approaches to fit with the lives of people and whānau.

Individualised funding approaches are being used in many parts of the world for disability support across age groups and disability types. Some international evidence indicates that individualised funding is preferred by many disabled people, and is as affordable and effective as other approaches.[276] In New Zealand, the Productivity Commission looked at the Enabling Good Lives (EGL)[277] model and recommended the approach for those who have complex needs and capacity to coordinate the services they need, for a wide range of disability supports including home-based support for older people, respite services and addiction services.[278]

Both the Waikato Enabling Good Lives demonstration[279] and the MidCentral Mana Whaikaha system transformation prototype have found 15 to 25% of people engaging had not previously received services.[280]

Person centred services integrate across agency boundaries so that

> *all people have equal access to quality health services that are co-produced in a way that meets their life course needs, are coordinated across the continuum of care, and are comprehensive, safe, effective, timely, efficient and acceptable; and all carers are motivated, skilled and operate in a supportive environment.*[281]

This approach, led by the World Health Organisation in response to population aging, has both improved outcomes and reduced costs of services for older people with multiple health conditions in Finland.[282] It is being adopted to integrate health and social care in England and Scotland, including in collaboration with carers and communities, for people with multiple social stressors and mental health concerns.[283] In New Zealand, it is being trialled in small intensive developments, such as to integrate and intensify cross-sector support for teenage pregnant mothers, and their children and whānau, in Māngere.[284] The Productivity Commission recommended this approach for people with complex needs and without the ability to navigate the system to coordinate services. [285] ACC's case management approach for serious injuries has many features in common with this approach.

Whānau ora is a collective approach that seeks for whānau to be self-managing; living healthy lifestyles; participating fully in society; participating confidently in Te Ao Māori and Pacific communities; economically secure and successfully involved in wealth creation; and cohesive, resilient and nurturing. In seeking whānau wellbeing, it builds on whānau strengths and aspirations in a holistic way. It includes health, social and support delivery in a way that is led by whānau and is more than whānau centred services.[286]

> *… while Pākehā fight for emancipation from the clutches of institutions and in some cases over-protective families, Māori disabled struggle to gain access to Te Ao Māori and play active roles as part of whānau, hapū and iwi. (Organisation submission)*

While the approach is yet to gain sufficient scale to assess its results[287], it shows promise not only for Māori and Pacific whānau but more broadly across New Zealand communities.

Other current developments

Moves to modernise and personalise disability support provision are underway, albeit slowly, and providers have been responding to changing demands. Recent advances include MyCare, an online system to support people choosing a support worker established in 2013, and this year, Choices NZ, a new, flexible service arm of the IHC group that offers support with planning and life coaching.

New support worker wages and conditions provide the foundation for a better trained, longer retained and more diverse workforce to increase personalised and capability-building support, and offer collective, whānau approaches. To realise these aims will require a more collaborative approach to support quality and training across providers, greater attention to Māori and Pacific provider development and cultural capacity more broadly, and positive discrimination to include more disabled people in the workforce. It will also require more funding.

Criticism remains about the slow rate of improvement, with personalised and culturally responsive approaches available to only a small minority of service users.[288] There is also high criticism of the needs assessment and service co-ordination (NASC) process, including from NASC personnel. People feel they have to "fight" for help and that the needs assessment process is disempowering and inflexible even with the "workarounds" that are commonplace.[289]

Differences across disabilities and causes of disability

People and organisations have commented on the inequities in level of support received by people with different disabilities. Some people receive no support because their disability is excluded from a list of what is covered. They seek a system that is

> *inclusive [and] fair to all. People with chronic illness would be included such as ME/CFS [myalgic encephalomyelitis/chronic fatigue syndrome] sufferers. (Individual submission)*

Other people receive little support because they have multiple conditions or disabilities and different needs assessors or funders disagree on where responsibility lies. Organisations are concerned about people "falling through gaps" and about inflexible processes and boundaries between different funders, needs assessors and providers.

> *The existing disability support system is fragmented, siloed between departments and agencies with little clarity or transparency. It is often difficult to identify a lead agency within the system. Significant and wide-ranging reform is needed in the disability system. (Organisation submission)*

Many submitters raised the inequities they see between support for those people whose disability results from injury, and support for those people whose disability arises from another cause, such as through illness, or is a congenital disability. ACC-provided support is intended to compensate for injury as well as to optimise recovery or living with disability. However, people who raise the differences think it is unfair that a child with cerebral palsy that occurred before birth should have a lower standard and level of support than a child with cerebral palsy that occurred during birth. Or that a person whose limb was amputated to remove a tumour should have a lower standard of prosthetic limb and rehabilitation than one whose limb was amputated after an accident. They see the ACC level of care and support as a standard that should be affordable and available to anyone of a similar age group and needs category, even if income and other compensation is higher through ACC.

Hope in new approaches

Among people and whānau living with disability, we saw and heard both hope and desperation. The hope is centred on changes to disability support that would make this much more flexible and useful to people and give them more control of their lives. It is also seen in communities who are making changes for themselves, such as those involved in care of people with dementia.

Across the community, people involved in making changes and improvements express positive experiences and support from the wider community. In particular, those involved in new models of disability support funding, like Enabling Good Lives (EGL) and the Mana Whaikaha MidCentral prototype, are enthusiastic about the life improvements people can make with a more flexible, capability building approach to set and achieve ordinary life goals. Disabled people, their whānau, and providers share the enthusiasm and hope, although they note that change is a slow process and some areas, such as building community inclusiveness, need more resources.

Many people said that the traditional disability support system has too much say in how they can live their lives, that what supports are available, and how they are tied up with accommodation or providers, is very restricting. Many people want EGL and system transformation to be accelerated. They see controls on funding as preventing this acceleration, and want these controls to be relaxed.

> *I have a disability myself and I am achieving my goals because if I don't my disability would take over. (Individual submission)*

Other people say that EGL approaches, individual budget holding, and employing carers are irrelevant to them, that their disabilities make these things impossible. They seek higher quality care, high quality communication and behavioural support, and more support for family and whānau providing care.

Organisations would like to see an overhaul of the current disability support system. They support bringing in EGL principles. They also seek a move away from the current system which they see as tightly regimented with too high a threshold to receive support and a presumption that, once approved, support will continue for life.

> *Invest in people and supports early, taking a life time cost approach …*
>
> *… There needs to be clear and transparent communication about priority spend of budget and what is realistic, not making value-based promises that can't be fiscally met. (Organisation submission)*

Support for family, whānau and carers

Family and whānau often want to care for their disabled family members and extend the time they can live in their own or family home. In many cases, though, they feel overwhelmingly unsupported in doing this. There is a very strong call for more and higher quality respite options so that family members can take time out from their caring role, and ideally have a weekend or holiday themselves from time to time.

> *Feelings of fear, loneliness, anxiety and grief are typical for carers, and taking a break from caring can be key to a carer's ongoing wellbeing. However, finding suitable respite care, especially for younger stroke survivors, can be difficult. This is concerning as in some communities the number of people experiencing stroke under the age of 65 is increasing, eg, Pasifika. For far too many, their only option for respite care is placement in an aged care facility and this can be an undignifying experience. (Organisation submission)*

Nearly a fifth of New Zealanders support disabled whānau in some way. Many people devote much of their time to caring for family members, and their own wellbeing may be neglected. Submitters would like to see a system that is more responsive to carers as well as people receiving care. As well as respite or time-out care, they are seeking better information and advice, connections with others with similar cultures and circumstances, and opportunities for learning, upskilling and gaining recognition of their abilities.

A wellbeing approach to support

Early support can increase independence and prevent longer term impacts of disability. In all age groups and across disabilities, early support that builds abilities of disabled persons, whānau and supporters can lead to better wellbeing, independence and community and economic participation.[290]

> *More investment in early childhood. More intensive treatments/ physio/ speech language etc when young to minimise the need for services as they get older. Invest in tamariki. (Individual submission)*
>
> *Simply providing quality information, which is up-to-date, easily accessible, culturally appropriate, consistent and regularly reviewed helps people understand dementia and learn how to live with it. Small things can make a big difference. Providing for 12 months' post-diagnosis support to equip people with dementia, their families and care partners with tools, connections, resources and plans to allow them to live as well as possible with dementia could also be beneficial. (Organisation submission)*

Life-long support is and will be required for many disabled people. The nature of that support, and how self-directed it is, can be influenced by an early and enabling approach.

Parents and family and whānau of children with development delays and disabilities expressed intense frustration at their helplessness in trying to deal with a lack of information and confusing, disjointed, and inconsistent advice. They complain that little help exists for them to provide a good start in their children's early years, especially for children with rarer conditions. A nationally consistent and easily accessible system of information to support parents, families and whānau, and health, education, and social service workers, would reassure carers that they were providing the basics correctly and knew when and how to access expert help.

For all age groups, a change towards earlier, simpler assessment and provision of supports, including supports that are mainly provided through families and whānau and communities, is likely to improve outcomes. It is also likely to improve the reach of support, and system productivity overall, even with constrained government funding and resources.

Beyond disability support, wider health and disability system roles

While disability support services receive sharp focus, disabled people interact with all parts of the health and disability system. Like anyone else, people living with disability want to live well, be included and contribute, be in good health, and receive high quality health care when they need it. The health and disability system can contribute in many ways to people living with disability and to a non-disabling society.[291]

Health of people with disability

> *People with disabilities have the same health needs as non-disabled people – for immunization, cancer screening etc. They also may experience a narrower margin of health, both because of poverty and social exclusion, and also because they may be vulnerable to secondary conditions, such as pressure sores or urinary tract infections. Evidence suggests that people with disabilities face barriers in accessing the health and rehabilitation services they need in many settings.*[292]

Disabled people report poorer health than non-disabled people.[293] Disabled people also report unmet need to access a health professional (20% of disabled Māori, 14% of disabled non-Māori) and unmet need for special equipment (19% Māori, 11% non-Māori). Pacific people with disability also have higher levels of unmet need for health care.[294]

Several disabled groups are known to have poor health status and outcomes.[295] People with intellectual disabilities and people with a serious mental illness or addiction have significantly worse health than other population groups.[296] [297] [298] [299] Both groups experience poor health across most long term condition areas, and have life spans around 20 years shorter than their non-disabled peers. Considering both groups and the crossover between them, this is the experience of roughly 1 in every 50 to 80 New Zealanders.

Disabled people's organisations are particularly concerned about the considerable inequities in health for disabled people, specifically for people with intellectual disabilities and mental health and addiction-related disabilities. They express dismay at the system's failure to make progress on these significant population inequities which have been known about for many years. They consider this failure as evidence that disabled people's lives are not valued on a par with others'.

Improving health and wellbeing of people with disability

Organisations from across the system have emphasised the social and economic determinants of health that keep disabled people from enjoying the sort of ordinary and satisfying life that most New Zealanders take for granted. They point to the disparities in income, housing, employment and accessibility that limit health and participation of disabled people.

> *More resources directed towards enabling people to live healthier lives, targeted on issues of particular areas of relevance to people with disabilities such as healthy homes and healthy transport. (Organisation submission)*

Improving health and wellbeing outcomes for all people, including disabled people, requires a broad response from the whole system. This response includes prevention, health promotion and protection, timely and quality healthcare, and support to live well at all stages of life, with or without illness or disability. It also includes leadership in the wider community to promote health and wellbeing, and influence to change the social, physical, economic and relational environment to support wellbeing. While all people can benefit from this leadership and influence, those who are worse off at present (including people living with disability) stand to gain more.

> *Reducing discrimination and stigma, making communities more accessible and creating employment are examples of strategies that will improve the wellbeing of people with disabilities. Removing barriers that impede disabled people's access; improving the competence of the workforce to assess, treat and care for people with disabilities and supporting services and treatments that are individually and culturally appropriate for people and their whānau will all contribute to greater health equity for people with disabilities. (Organisation submission)*

Employment has a large impact on wellbeing

Overwhelmingly, submitters said that employment would make the biggest difference to disabled people's lives.

> *Employ a person with a disability (Individual submission)*

Many disabled people want to work, and a range of approaches that support disabled people into work have demonstrated success.[300] [301] Good work has many benefits – income, social connections, achievement and purpose all enhance wellbeing and lead to better health outcomes.

> *Improving the employment focus of both the health and welfare systems so that people can either join or return to the labour market as soon as possible. At the moment there are policy, practice and funding barriers that serve to impede progress in this area. (Organisation submission)*

The health and disability system, collectively, is one of the largest employment sectors, and a DHB may be the largest single employer in its district. As well as having substantial employment power, the system has much to gain from the greater employment of disabled people. Disabled people have many skills, some enhanced by living with disability and having to navigate through complex systems. Some roles are performed better by people with different abilities. Increasing employment of disabled people across the system is likely to have significant benefits for their health and wellbeing, for the system's responsiveness to disabled people, and for disabled people's outcomes generally.[302]

Improving health care for people with disability

On a personal level, a number of people have raised the difficulties they face in accessing usual health care because health practitioners are surprised by their disability and/or unable to accommodate, communicate or provide the disabled person's usual level of personal care.

> *There is also a gap in PHOs partnering with the disability sector. While many PHOs have developed close relationships with mental health services, this is often not the case with disability services. (Organisation submission)*

A number of disabled people consider it should be a baseline part of health care that disability should show up on health records, preferably a health record they can carry with them on a card or phone app, and that health workers should be trained in how to make adjustments, communicate with and care for disabled people.

At a system level, disability is largely invisible. Little data is collected, and very little analysed, to show how services are accessed or used by disabled people, with what outcomes. Some DHBs are adding a "disability passport" to inform and improve their care for disabled people, since national health information collections have no field or flag for disability.

> *In order to attain an equitable health system, there is a need for a human rights and privacy compliant data infrastructure disaggregated for gender, ethnicity, age and disability, that allows both understanding of health status and effective monitoring of intervention effectiveness and outcomes. (Organisation submission)*

Early intervention and timeliness

For children, the education system has increased support for learning needs of all children and especially those with particular learning support needs. These needs are often missed earlier in life and picked up in education settings or at B4 School Checks. One organisation noted:

> *while children's needs may be identified through the education sector, by having inadequate responses in terms of the availability of mental health, behavioural or disability services, children's needs are unmet, often preventing them from being able to attend school and unable to receive their right to an education that develops them fully. It would benefit children if the public health system were to be held responsible for children being able to attend school and learn. (Organisation submission)*

Long waits for assessment are a particular issue for children, and have been highlighted especially for children with "invisible" disabilities such as attention deficit hyperactivity disorder (ADHD), autistic spectrum disorder (ASD) and foetal alcohol spectrum disorder (FASD). These long waits have been particularly felt by Māori and Pacific whānau of children with these disabilities. Children at highest risk of poor outcomes are least likely to be identified through the maternal and child health or early education systems.[303]

Long waits for assessment across disabilities and age groups have also featured prominently in submissions to this Review. People who have had strokes, people with degenerative conditions like Motor Neurone Disease and many others have expressed their helplessness to get timely assessment of their support needs and noted that this can mean the difference between being at home or having to be cared for in a hospital or residential care facility.

Participation and inclusion in the system

Information is scant on inclusivity of governance, leadership, workforce and advisory roles across the system. Leadership in the system includes a number of commissioner and senior academic and advisory positions held by people with personal experience of disability. In general, though, participation in governance, leadership and workforce roles appears considerably lower than would be expected given that 1 in 5 people of working age identify as disabled.

> *It's the voice that is heard but not listened to (Individual submission)*

Disabled people want to be included and taken seriously by the health system. Some disabled people and organisations consider their issues are treated as a low priority, or an afterthought, by the system. They want more say in how services can be accessible and accommodating for people with a range of disabilities. They are willing to work with people to improve things.

Increasing wellbeing through population approaches

The health and disability system has considerable capability in gathering and assessing evidence, both quantitative and experiential, and modelling impacts of changes in interventions. Programmes to prevent disability (such as through immunisation), to intervene early to reduce impacts (such as through newborn heelprick screening) or to reduce inequities (such as through responses to high Māori amputation rates[304]) use this capability.

Potential exists to use this capability, with disability researchers and providers, to inform population approaches to living well for people with disabilities. As an example, submitters have suggested that better data collection and use of registers, together with a prevention and early intervention approach, would support both more consistent, higher quality care across the country and more equitable outcomes for Māori infants with cerebral palsy. Other examples include proactive podiatry for vascular disease, tailored nutrition and activity or cognitive behavioural learning programmes for people with various disabilities, or prevention of foetal alcohol spectrum disorder.

Improvements for disabled people tend to have long-lasting impacts and to bring broader participation and productivity benefits to individuals and the wider community. Improvements that increase people's agency – what they can do for themselves, their whānau, their communities – are most likely to lead to step changes in overall whānau and community wellbeing.

What the future looks like

Increasing numbers

Disability is increasing globally, as people die later in life and live longer with the impacts of illness and injury. New Zealand is tracking similarly to comparator countries, with a steady increase in disability impact of around 3% per decade over the last quarter century.[305]

The rate of childhood disability is stable, although disability is increasingly recognised.

- Disability in working age adults is rising with the effects of long-term conditions (such as diabetes and arthritis). This effect is the most significant contributor to the increase in disability.[306]
- In later life, disability is higher with multiple long-term conditions. Proportionately, the impacts of disability are declining in older age, but are still higher than in younger people, and numbers in older age groups are growing.

As disability increases in the population, it will be increasingly important to empower all people to look after their health and wellbeing and that of their family and whānau. This empowerment includes promoting the ability of disabled people and their families and whānau to improve and direct their own wellbeing and support.

Improving technology

Communication and geospatial technologies have already enabled independence gains, with wearables and monitoring systems increasing safety and accessibility. A range of phone apps, in-home devices and robots will increasingly make life more easily navigable for people with and without disability, especially as they become generally available and affordable. More sophisticated apps are helping people track their own health data and link with peer support networks, life coaching and interventions. Large scale hub and research centre projects are underway, adapting insulin delivery for individuals with type 1 diabetes and tracking Parkinson's disease variables.[307]

A range of advanced sensory and communications technologies are in development, some of which will offer huge benefits to people with certain disabilities. Kara Technologies in Auckland, for example, are developing a New Zealand Sign Language avatar. Other major development areas include mobility technology and genomics, where significant advances are likely. Submitters to the Review have commented on the scarcity of orthotics craftspeople. Their expertise and advice will continue to be essential even as advanced scanning and 3D printing techniques produce customised orthotic equipment.

Research and development

A number of submitters have noted that disability services and supports, rehabilitation and vocational support are under-researched areas of health. They consider that an unfair allocation of resource goes to issues with high population numbers that are seen as "mainstream", and as a result, services for these "majority" health conditions keep improving over time. In contrast, "non-mainstream" areas, especially those with very low population numbers, do not see research or development resource and innovations are not seen as "proven".

Enabling disabled people to benefit from new technologies in advance of mainstream use, through research and development involvement and through promoting public good availability of research advances, calls for inclusive leadership.

Focus on child and youth wellbeing

The Child and Youth Wellbeing Strategy has brought expression to the views of many New Zealanders that children are the country's future. Submitters to this Review emphasised the importance of a good start for all children, especially those in communities with high family stress, low income and low communal resource. They have asked for greater priority to be given to early help for families with a child with a disability or development delay, and for "front-loaded" assessment and advice on what families can do to give their differently abled children a good start.

Inclusive communities

People in many parts of New Zealand have a renewing sense of what makes a community, with people doing things that enhance the collective sense of togetherness, celebrate diversity and enjoy their environment. Solidarity around groups in the community who may have been isolated, not understood or excluded is part of this. Volunteering and giving is increasing in all age groups. An enhanced sense of community is a powerful base to build wellbeing and inclusion for people living with disability among other groups.

> *There needs to be a radical change in attitude from one of tolerance to one of welcome. (Individual submission)*

A number of people and community organisations pointed to the rise in volunteering and interest in local community connections across New Zealand. They would like to see this energy promoted to increase inclusion and participation of disabled people in a range of community activities. They note that inclusion through workplaces is one important area, that recreation opportunities are another, and that community groups can achieve a lot with few resources.

As well, social entrepreneurship is raising improvements that have relevance for a non-disabling community. These include the Be. Accessible movement to promote inclusion and "turn disability into possibility"[308], design school students developing apps to promote accessibility, and matching programmes that introduce volunteers to people needing the sort of companionship or help they can give.

Disabled people told us they have the capability in their community to contribute much more to New Zealand. The whole country stands to gain if more disabled people are living well, working and contributing to their communities. A health and disability system that promotes living well for all people is a core part of this achievement.

Directions for change: Disability

Better health, inclusion, and participation of people with disabilities must be a priority for action across the whole health and disability system. Increasing numbers of people are living with disability, and more disabilities are being recognised. The system needs to gear its ability to respond to disability becoming more of a norm.

LIVING WELL AND PREVENTION

- *A focus on living well and preventing the exacerbation of disability should be a priority. This will require more integration both within the system and across other parts of government. Promoting living well for everyone, with and without disability, and preventing different abilities and health conditions from becoming disabling, need to be the focus.*

MORE VISIBILITY

- *All people with disabilities have health conditions and/or health care requirements at some time. The Panel believes disability needs to be much more visible at a system level, so the health outcomes of disabled people are properly focused on.*
- *Better data collection and information use, greater inclusion and participation of disabled people through all levels and parts of the system, and better service and workforce development are fundamental.*

SYSTEM LEADING BY EXAMPLE

- *The Panel's view is that, as the largest employer in many regions, the system should lead in employing people with disabilities. Boosting employment of disabled people overall may be the single biggest contributor to improving wellbeing of disabled people. Bringing their skills to the workforce in health will also make the sector more responsive, adaptive, inclusive, and reflective of the community.*

WHĀNAU AND CARER SUPPORT

- *Disabled people are members of families, whānau, and communities. Addressing whānau and carer needs should be an integral part of all aspects of disability service assessment and provision.*

MORE JOINED-UP INFORMATION, ADVICE, AND SERVICES

- *The Panel believes that delivering a transformed disability support service using Enabling Good Lives principles may improve the future for many disabled people, but this will require focused leadership and change.*
- *There will continue to be a large number of people with disabilities for whom other parts of the health or wider government system are the main point of contact. Interface issues across the system and historical boundaries that no longer seem relevant need to be addressed and greater flexibility introduced.*

9 Tier 2 / Taumata 2

> *Tier 2 covers all hospital and specialist services in both the public and private sectors. While models of care are supporting the delivery of more care in community settings, hospitals will always be needed to treat people when they become acutely unwell or when their treatment is complex. Under any realistic projection of future demand, our hospitals will be unsustainable without significant investment and significant changes in the way services are delivered. Hospital and specialist services will need to work as a much more integrated network and more seamlessly with Tier 1 if real progress is to be made.*
>
> *This section looks at the pressures on the current system, the variation that exists in timelines of access and health outcomes and the variation that is sometimes referred to as the "post code lottery". The need for longer term health service planning, more evidenced based prioritisation and standards is discussed, alongside the potential future role of the hospital.*

Introduction

Tier 2 encompasses hospital (excluding aged residential care) and specialist services in both the public and private sectors. These services are generally accessed by self-referral to an emergency department or following a referral from a Tier 1 or another Tier 2 provider. There is also direct access to a number of specialist services in the private sector.

Hospital and specialist services play a significant role in health and disability service delivery and are a major part of health spending. Against international measures that are commonly used to assess health system performance, the HQSC states that:[309]

> *New Zealand's health system achieves remarkable things every day. Ultimate outcomes supported by health care – reduced death and disability – are continuing to improve at a rate comparable to similar countries, even though New Zealand has been spending increasingly less than many other countries on health care.*

Our hospitals continue to perform well against key indicators, but during our discussions several people said they are working under enormous pressure. Common themes we heard during Phase One included the following.

- The workforce is committed to providing high quality patient-centred care, but there are staff shortages and many hospital staff feel stressed or burnt out. In rural areas, in particular, hospitals feel under pressure to provide necessary staff and often rely on international workforces.
- Concern that hospitals have dominated the system and that strong demand and cost growth in hospital services is putting the health system under financial pressure. This, in turn, is precluding investment in prevention and early intervention, which are needed to slow demand for hospital services.
- Current system settings encourage DHBs to operate as individual organisations rather than as part of a regional or national system. In the absence of a long-term plan that signals expectations of what services should be provided where and for what populations, most DHBs aim to be as self-sufficient as possible and provide most services.
- Changing disease patterns, increasing consumer expectations, and technological advances are driving demand for current and new services, with tension running between national and local views of priorities and no consistent frameworks in place to help make evidence-based and transparent decisions.
- Unwarranted variation in access to services and health outcomes exists across multiple dimensions, including ethnicity, socioeconomic deprivation, and locality.
- Māori experience of hospital services includes poorer access, poorer treatment, poorer outcomes, and institutional racism.
- New ways of working need to be accelerated in the planning, design, and delivery of care that better meets the needs of those experiencing the least equitable outcomes.

Many hospital facilities are not fit for purpose. A persistent underinvestment in facilities and IT is inhibiting the delivery of high quality and cost-effective care and is precluding the adoption of new models of care.

These themes are discussed further in this chapter and additional information is in Appendix H (online).

Overview of current hospital and specialist services

Most hospital services in New Zealand are provided by the public hospital sector through DHBs. New Zealand has 82 certified public hospital facilities.[310] Some of these facilities are located on the same campus and are often considered as one 'hospital', for example, a separately certified mental health facility within the grounds of a general hospital. While all DHBs are operating at least one acute hospital, several are operating multiple hospitals. Considerable variation exists in the size of hospitals and in the complexity and range of services delivered.

- Size of hospitals: Large urban hospitals have from 650 beds to more than 1,000 (Auckland City Hospital), mid-sized provincial hospitals have 200 to 400 beds, and smaller community hospitals have less than 100 beds.
- Complexity of services delivered: A role delineation model developed in 2010 categorises services along a six-level continuum from community services (Level 1) to supra-complex services (Level 6). Acute and elective hospital services are Level 3. Complex services at Level 4 and above are generally grouped together because of the complex infrastructure needed to support them. Based on 2010 ratings there are five hospitals qualified to provide Level 5 and 6 hospital services with other hospitals able to provide one or two complex services.
- Service range: Some hospitals provide a full range of services while others provide only one service; for example, maternity services, mental health services, elective services, or ambulatory services only.

There are over a million hospital discharges from public hospitals each year. Much of this activity is in the Northern Region. Nearly 37% of all patients are admitted to a hospital in the Northern Region. Each of the other three regions admit around 20% of the total admissions.

Demand growth is driven by ageing and patients with increasingly comorbid and complex needs

Table 9.1 shows the number of discharges by major service grouping. Medicine accounts for almost half of discharges, surgery for just over one-third, and maternity for around 12%. Every night in 2017/18, an average 8,800 people were in a publicly funded hospital bed.

TABLE 9.1: PUBLICLY FUNDED HOSPITAL DISCHARGES BY SERVICE GROUPING, 2013/14 TO 2017/18

Service	2013/14	2014/15	2015/16	2016/17	2017/18	Growth
Medicine	498,345	513,401	527,228	543,800	561,390	13%
Surgery	391,326	405,514	415,666	419,654	414,343	**6%**
Maternity	140,362	140,327	141,435	144,546	140,833	**0%**
HOP and DSS	22,891	22,683	23,562	23,058	22,746	-1%
Mental health	17,272	18,025	18,513	19,650	19,588	**13%**
Paediatrics	15,046	15,083	14,177	14,720	14,292	-5%
Neonatal	9,981	9,899	9,697	9,406	9,331	-7%
Total	**1,095,223**	**1,124,932**	**1,150,278**	**1,174,834**	**1,182,523**	**8%**

Note: DSS = disability support services; HOP = Health of Older People services.

SOURCE: MINISTRY OF HEALTH, NATIONAL MINIMUM DATA SET.

Between 2013/14 to 2017/18, the largest growth in discharges was from medicine and mental health (13% or an average of 3% per year). Population growth over the same period was estimated at around 8%.[311]

Population ageing has a significant impact across all services, including hospital services. People are living longer than previous generations, and they are living longer in poor health. Ageing is associated with an increase in long-term health conditions and multi-morbidities. This is particularly so for Māori, Pacific peoples, refugees, disabled people, and people living with a mental illness. As the proportion of the population ages, so too will the demands on the health and social system. Ministry of Health data shows that people aged 65 and older are more likely than younger people to be diagnosed with cancer or have a stroke, diabetes, heart disease, chronic pain, or arthritis.

The growth in demand for hospital and specialist services over the next 25 years as the population ages is dramatic. People aged over 65 are more likely to be admitted to a hospital, and to stay longer in hospital, than the total adult population. In 2018, people aged over 65 accounted for 15.8% of the total population, 34.5% of all acute hospital admissions, and 53.0% of acute bed days. Most DHBs are planning for future service delivery within hospitals to be oriented to the frail elderly.

Clinical service planning by DHBs shows that demand associated with ageing is material and needs to be recognised now. The Hawke's Bay Clinical Services Plan estimates increases in discharges of around 25% and increases in demand for beds of 35% by 2031.[312] The impact of ageing is seen even more graphically in Southern DHB, particularly in Dunedin Hospital. The Indicative Business Case for the Dunedin Hospital build notes:[313]

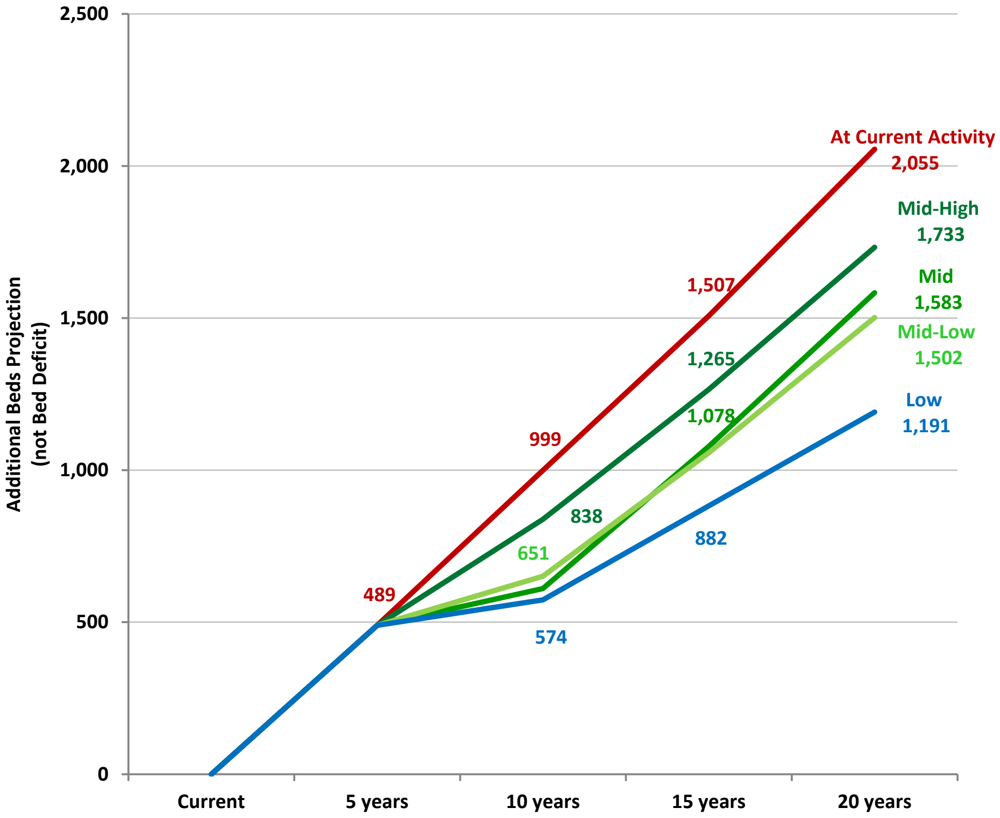
> *The increase in discharges is substantial at over 20 percent, but is outweighed by the increases in caseweights and bed days. These reflect the current age distribution of the more complex, higher caseweight inpatient events, and their length of stay, and the impact that the ageing population will have upon the need for services if current models of care continue. The clear message is that the average complexity of a case will increase across the hospital, and that there will be substantial pressure upon bed capacity, under existing models.*

DHB service demand forecasts also show that, under current models of care, outpatient events will increase at a faster pace than inpatient events. As DHBs move services from inpatient to outpatient settings, there will be redoubled pressure on outpatient capacity.

Ageing will affect services differently. The largest growth will be in general medicine, orthopaedics, cardiology, and clearly age-related services such as assessment, treatment, and rehabilitation services, ophthalmology, and psychogeriatric services. Aged care, general medicine, and orthopaedic services will need to be able to deal with greatly increased numbers of patients. Hutt Valley DHB estimates that, with no other changes, by 2031 it will have growth of 38% in general medicine, 46% in cardiology, 49% in ophthalmology, 60% in assessment, treatment, and rehabilitation, and 71% in psychogeriatric services.[314]

The Northern Region Long Term Investment Plan provides a view over 20 years of possible bed demand forecasts ranging from a low growth increase of an additional 1,191 beds to a possible 2,055 beds based on current levels of hospital activity (see Figure 9.1).[315] Analysis demonstrates that it is unlikely that demand can be slowed significantly in the near term, so, on balance, a mid-range scenario should be planned for.

FIGURE 9.1: BED DEMAND FORECASTS IN NORTHERN REGION



SOURCE: REPRODUCED FROM NORTHERN REGIONAL ALLIANCE. 2018. NORTHERN REGION LONG TERM INVESTMENT PLAN, FIGURE 14, P 71.

Over the 20-year period, the Northern Region population will grow by around 562,000, which is greater than the population of most of the 20 DHBs. This scale of growth could not be accommodated without some increase in capacity, even before any additional growth through population ageing.

Occupancy pressures

International benchmarks suggest that for most services, an average bed occupancy of 85% should support patient flow, quality care, and cost-effective service delivery. A Danish study of medical admissions found that high bed occupancy rates were associated with a 9% increase in rates of in-hospital mortality and 30-day mortality compared with low bed occupancy rates.[316]

Many acute hospitals in New Zealand are running well above 85% occupancy. The impact of this is felt most in the winter months when a larger proportion of the population is admitted to hospital. The 'ripple effect' of a high occupancy rate is felt throughout the hospital:[317]

> *Regularly, and particularly during winter, our hospitals become overcrowded and dysfunctional as demand exceeds capacity. Consequently, acute patients 'overflow' to less appropriate hospital wards—acute medical patients are admitted to surgical wards, filling these and resulting in cancelling elective surgery. Ward rounds are prolonged as clinical teams visit patients throughout the hospital ("safari ward rounds"), decision making is delayed, patients access the next phase of care later, and hospital length of stay is prolonged. Prolonged length of stay further reduces access for new acute patients to hospital beds, making the demand and capacity mismatch worse. Exacerbating this are systems which might not facilitate early definitive decision making, timely access of acute patients to diagnostics, (eg, CT scanning), timely access to other necessary interventions such as acute surgery, nor efficient discharge of the patient when hospital care is no longer needed. Because acute patients continue to present to the ED, but access to care beyond the ED has become increasingly overwhelmed, a significant—although not the only—manifestation of this demand and capacity mismatch is worsening overcrowding in the ED (patients keep coming in but they can't get out).*

The underinvestment in hospital facilities has contributed to the occupancy pressures many hospitals are experiencing. This, in turn, puts pressure on community-based services with delays in admissions and earlier discharges than is usually desirable.

Condition of hospital assets

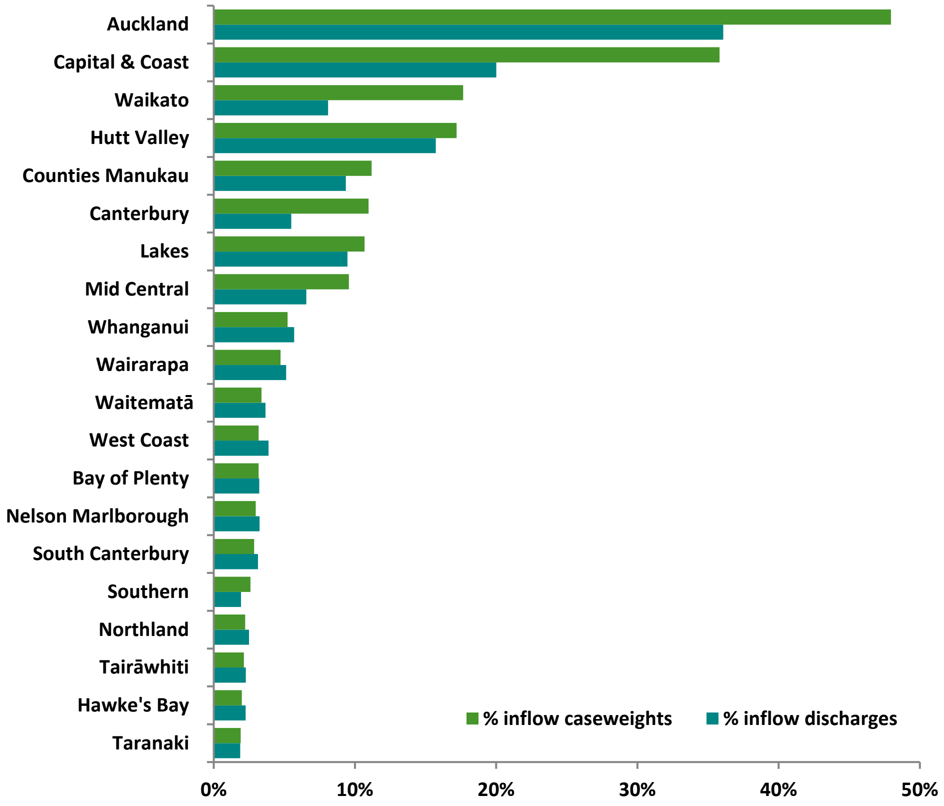
Many of the hospitals are poorly designed with deferred and delayed maintenance, with workarounds, and are near their end of life. Even relatively new hospitals report issues with ward design and with adjunct theatre space, both reducing different aspects of hospital efficiency. DHBs reported the following issues with their existing facilities, constraining their ability to deliver contemporary, high-quality models of care in the most efficient manner:[318, 319, 320, 321, 322]

- Buildings have a range of critical infrastructural issues, including not meeting seismic building standards, having asbestos, and having weather-tightness issues.
- Patient flow through the hospital is difficult to access and navigate and critical services are not collocated (for example ED and imaging)
- A shortage of capacity (such as outpatient spaces, wards, and theatres) and fragmented capacity are reducing efficiency and making multi-disciplinary assessment and care difficult.
- There are not enough power points around beds, not enough space for medical equipment, not enough points for medical gases, and Insufficient/inappropriate space for infection control
- Lack of privacy for patients
- The environment is not friendly for children and families and whānau.
- Security and safety are issues for staff and patients
- There are not enough bathrooms.

Inter-district flows

Inter-district flows (IDFs) occur when a patient residing in one DHB is admitted to a hospital in another DHB. IDFs may arise because of planned clinical care arrangements (for example, a regional service is provided in one hospital) or people become acutely unwell when they are outside their 'home' DHB and require admission to hospital. Figure 9.2 takes a 'DHB of service' view and considers 'inflows'. It asks, 'of the inpatient events delivered by hospitals in each DHB, what is the proportion that is for patients from other DHBs?'

FIGURE 9.2: DHB OF SERVICE – % OF DISCHARGES THAT ARE PATIENTS FROM OTHER DHBS, 2017/18



Note: Case-mix funded discharges only (most of medicine, surgery, paediatrics, neonatal; and maternity events in secondary birthing units).

SOURCE: MINISTRY OF HEALTH, NATIONAL MINIMUM DATA SET.

The pattern of patient flows varies between hospitals.

- The higher IDF proportion of case-weighted discharges reflects the inflow to more complex tertiary services that are provided to regional populations.
- Auckland DHB has the largest IDF inflow—over one-third of discharges and almost half of case-weighted discharges are for patients from other DHBs.
- Capital & Coast has the second largest inflow—around one-fifth of discharges and over one-third of case-weighted discharges are for patients from other DHBs.
- Hutt Valley DHB also has a relatively high inflow of patients from other DHBs, reflecting its regional Plastics and Burns service.

Interestingly, other regional providers of tertiary services (Waikato and Canterbury) have a much lower IDF inflow compared to Auckland and Capital & Coast. This is likely to be due to the close geographical proximity of DHBs in the Auckland metro and greater Wellington areas, which leads to sub-regional service arrangements as well as movement of people across DHB boundaries as they go about their everyday lives.

Inter-district flow payments are made between DHBs to compensate for the services they provide to people who reside in other DHB areas. To determine the level of payment between DHBs, data is needed on service volumes and service prices.

Most IDFs are based on historical service volumes forecast forward.

The IDF price of a service is based on the average national cost of that service, with an efficiency adjustment and a tertiary adjustor where appropriate. These are calculated from data provided by DHBs. However, there is a lag in data collection and the level of detail provided varies across DHBs.

We heard a variety of concerns about IDFs. Some DHBs believed IDF payments did not compensate them for the full cost of treating patients. Others believed that IDFs do not provide an incentive for providers to improve the cost-effectiveness of their services. Concern also exists that IDFs can be ‘gamed’, by DHBs.

While IDF payments as currently configured may not be working as effectively as they could, any future system arrangements will need to include a mechanism to allow funding to follow patients between organisations. Ideally this mechanism would incentivise organisations to collaborate to meet local, regional and national needs. As discussed in the governance section in chapter 4, the system needs to work as a unified system, not as independent organisations with diverging interests.

Variation in Tier 2 delivery

There is evidence from a number of sources that unwarranted variation exists across several dimensions, including ethnicity, socioeconomic deprivation, and locality. Understanding why such variations exist is complex:[323]

> *If all variation was bad, solutions would be easy. The difficulty is in reducing the bad variation, which reflect the limits of professional knowledge and failures in its application, while preserving the good variation which makes care patient centred. When we fail, we provide services to patients who don't need or wouldn't choose them while we withhold the same services from people who do or would, generally making for more costly errors of overuse than underuse.*

Hospitals and inequity

Māori and Pacific peoples suffer disproportionately poorer health than other New Zealand populations and are more likely to be admitted to hospital for acute conditions. Once in hospital, Māori receive a poorer quality of service than non-Māori.[324]

Māori are more likely than non-Māori to wait more than three months for their specialist appointments. Between 2011 and 2016, 17.1% of Māori referred for a specialist appointment, waited longer than three months to see their specialist compared with 12.6% of non-Māori.[325] Sixteen percent of adult Māori did not attend their specialist appointment between 2011 and 2014 compared with just 6% of non-Māori. This inequity has far-reaching negative impacts on diagnosis and treatment for Māori.[326]

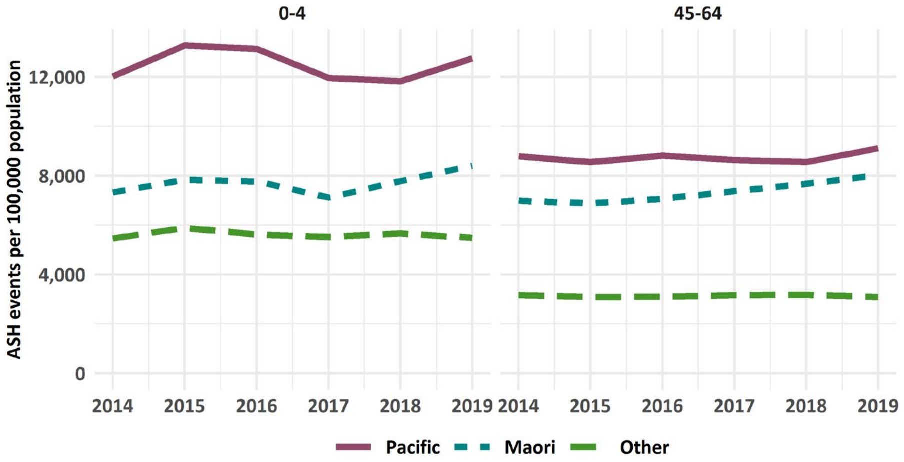
Stage of diagnosis is significant in explaining poor cancer outcomes for Māori. Researchers found "more than half of the excess relative risk of mortality in Māori and Pacific women is explained by differences in stage at diagnosis and comorbid conditions".[327] These researchers assessed screening history and stage at diagnosis, considered comorbidities, and standardised for travel time to the nearest GP and cancer centre.

The effect of differing levels of access is difficult to assess. In some areas, such as screening for breast cancer, early detection is critical, particularly when ethnicity is considered: "Breast cancers detected through screening are diagnosed at an earlier stage and have a greater proportion of subtypes, with better outcome".[328]

As discussed earlier, ambulatory sensitive hospitalisation rates are a proxy for what hospital admissions might be avoided if other parts of the health system were servicing populations well. As Figure 9.3 shows, these rates are significantly worse for Māori and Pacific peoples and are trending unfavourably.

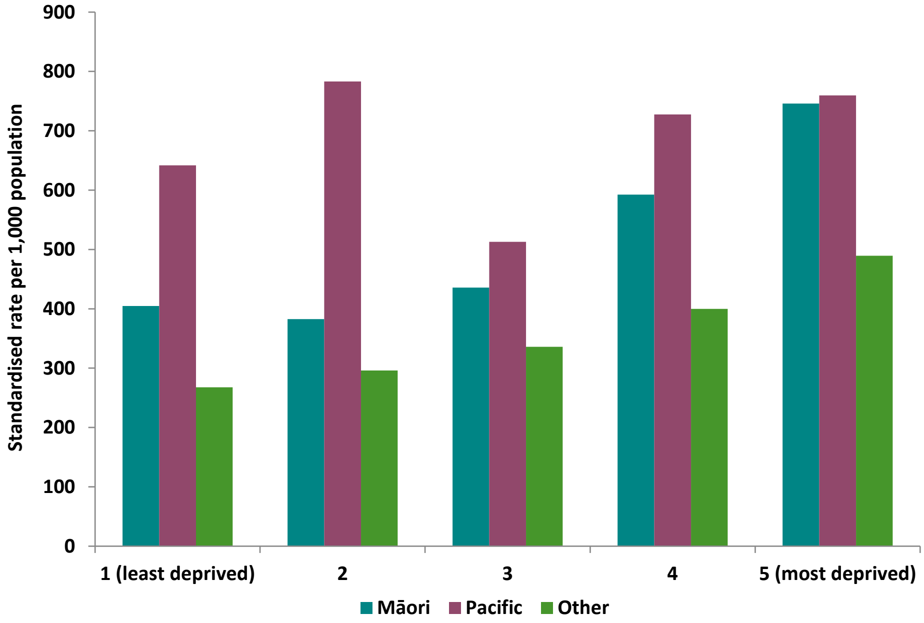
A mixed pattern is observable in hospital statistics once Māori are in hospital. Acute readmission rates are similar across ethnic groups.[329] On the other hand, acute bed days are materially higher for Pacific peoples and Māori. Māori and Pacific peoples experience inequity compared with the 'other' group across all deprivation categories (see Figure 9.4).[330]

FIGURE 9.3: AMBULATORY SENSITIVE HOSPITALISATION (ASH) RATES BY AGE GROUPS AND ETHNICITY, 2014–2019



SOURCE: MINISTRY OF HEALTH, NATIONAL MINIMUM DATASET.

FIGURE 9.4: STANDARDISED ACUTE BED DAY RATE BY DEPRIVATION QUINTILE AND ETHNICITY, 2018



Note: Rates are standardised to the 2013 Census New Zealand resident five-year age group population.

SOURCE: MINISTRY OF HEALTH. 2019. ACUTE BED DAYS PER CAPITAL REPORT FOR DHB OF DOMICILE, DECEMBER 2018 (DATA FILE).

Several commentators called out the health sector for institutional racism: "Institutional racism … turns on the structures, policies and practices of that system and the ways in which they reflect and maintain cultural dominance".[331]

There is some evidence that shows some hospitals approach Māori and Pacific patients differently and offer a different level of care and possibility of different outcomes.[332] Other evidence suggests that clinical decision making is the same and presenting aspects of the patient explain any variance in clinical interventions.[333]

Rates of seclusion for Māori are higher than for non-Māori, and more research is required to understand the role the service provider plays in this difference. In 2017, the Director of Mental Health and Addiction Services reported that Māori were 4.5 times more likely to be secluded in adult inpatient services than people from other ethnic groups. Of those secluded in adult inpatient services, 41% were Māori.[334]

On the other hand, there are also good examples of DHBs adopting mātauranga Māori approaches as illustrated in the case study of the Mason Clinic below.

MASON CLINIC – APPLICATION OF MĀTAURANGA MĀORI IN A CONTEMPORARY CLINICAL SETTING

- A successful example of mātauranga Māori applied in a clinical health setting occurs at Waitematā DHB's Regional Forensic Psychiatric Services Division – the Mason Clinic.[335] This clinic is a secure unit in Point Chevalier, Auckland. The Mason Clinic takes tāngata whaiora (literally, people in pursuit of wellbeing) from the Northern Region and further afield to Taupō for people with intellectual disabilities. The clinic consists of seven forensic mental health inpatient units and an intellectual disability unit that assess, treat, and assist in the recovery of tāngata whaiora and people with intellectual disability who have committed a criminal offence.
- These units offer Māori patients, tāngata whaiora, an immersive Māori cultural experience within a recovery-oriented environment where tikanga (traditional Māori customs) and kawa (protocols) such as pōwhiri (welcome), karakia (prayer), and whakawhanaungatanga (relationship building) are observed. This approach builds stronger relationships between tāngata whaiora and clinical and cultural staff of the Mason Clinic and enhances cultural engagement.
- On entry to the Mason Clinic, Māori tāngata whaiora are supported to develop personal goals that support their recovery and eventual return to their whānau and community. A personalised package of care comprising both clinical support and cultural enhancement is provided.
- The kaupapa Māori units have a proven record of successfully integrating Māori admitted to them back into their whānau and community without subsequent re-admission to the clinic. In 2018, 26 tāngata whaiora were successfully supported through the units and none was re-admitted that year. In comparison, the other units supported 45 Māori individuals over the same period, with only three re-admissions.
- This case study demonstrates how mātauranga Māori can maintain distinction and avoid unnecessary fragmentation within a contemporary clinical setting led by a large health provider. But like all facets of the provision of health services for Māori, it requires a team approach that comprises a broad range of expertise, experiences, and cultural capacity.

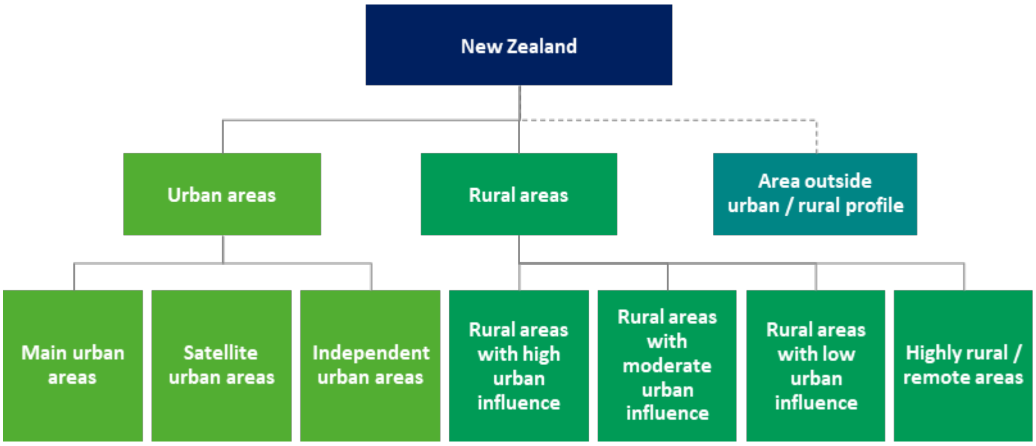
Several DHBs and researchers are investigating why the Tier 2 system is not consistently delivering equitable outcomes for Māori with a view to identifying how the system needs to change. This will be considered further in Phase Two.

Rural service delivery

Rural disparities are observed in international health data but have not been clearly demonstrated in New Zealand health data.[336] New Zealand's definitions of rurality have been analysed to determine whether the apparent lack of disparity lies, at least in part, with the definition rather than that there is no rural disparity.

Around 40% of people who access rural health services are classified as 'urban' and 20% of people classified as 'rural' receive urban health care.[337] (The classifications are shown in Figure 9.5.) The extent of this mismatch masks any inequality in health care access or outcomes that may exist and hampers research. Rural versus urban disparities in both access to health services and health outcomes are well recognised in other similar countries. It is quite likely these same disparities exist in New Zealand but we don't have the tools to uncover and describe them.

FIGURE 9.5: NEW ZEALAND URBAN/RURAL PROFILE (EXPERIMENTAL) CLASSIFICATION CATEGORIES



SOURCE: STATS NZ.

Formal evaluation of rural hospitals is limited. A survey undertaken in 1999 is one of the few pieces of published research. The report of the survey notes: "The diversity of results suggests that New Zealand rural hospital[s] do not fit a homogenous concept".[338]

Clearly, the health system needs to have a better understanding of the form, structure, and function of diverse rural hospitals and their contribution to health service delivery and have a strategy for their development.

Difficulties in attracting and retaining the rural health workforce have been highlighted repeatedly.[339] While evidence may be limited, discussions and submissions identify that people living in rural areas are concerned about health care access, quality, and workforce.

> *With technology, travel and access shouldn't be a barrier for people to have access to specialist visits more telehealth networking between the primary, secondary and tertiary interface has to occur. It is ludicrous that patient's travel 5 hours round trip to be seen for a 15 minute apt in a tertiary setting when this could happen with telehealth. (Individual submission)*

A submission suggested that success in 2030 would be:

> *those that live in rural areas of New Zealand do not have to travel hundreds of kilometres and countless hours to receive appropriate healthcare. And when they do that they will not be told when they arrive – "oh sorry your appointment has been cancelled". Any appointments will also be co-ordinated by the healthcare provider so you are not having to do this very lengthy trip four or five times to see four or five different people. (Individual submission)*

Several rural areas are leading the development of new ways of working to better meet the needs of their populations.

Approaches West Coast DHB has developed to resolve issues it faces are summarised in Table 9.2.

The needs of Māori in rural communities is another issue of major interest. Resolving health inequities between Māori and non-Māori in rural areas is a priority. Caution must be exercised in relation to strategies that focus solely on rural needs without considering equity and impacts on Māori. As has been pointed out in an editorial in 2018:

- The 2012 Ministry of Health Report Mātātuhi Tuawhenua: Health of Rural Māori provides a comprehensive analysis of the inequities that exist between the health of Māori and non-Māori who live rurally. Not only do a higher proportion of Māori live in rural areas, rural Māori are more likely to live with financial and material hardship than rural non-Māori. Across age groups and health conditions, rural Māori have higher mortality and morbidity and lower life expectancy. The gap between life expectancy of rural Māori and rural non-Māori is greater than the gap between urban Māori and non-Māori life expectancy.

TABLE 9.2: APPROACHES WEST COAST DHB HAS TAKEN TO RESOLVE ISSUES

Issue	Solution
Staff have difficulty keeping their skills current and confidence up with the low volume of patients needing to be on a ventilator	▸ By enabling telemedicine in the Critical Care Unit, West Coast DHB nurses who are looking after a patient on a ventilator, perhaps while they await transfer to another facility, can be supported by the Intensive Care Unit from Canterbury DHB. ▸ Telemedicine also helps retain staff and could enable more patients to stay on the West Coast instead of travelling to Canterbury DHB ▸ West Coast DHB uses the same type of ventilators as Canterbury DHB so everyone is working on familiar machines.
Small teams in inpatient services mean staff on leave, staff away sick, and vacancies impact on the ability to fully staff wards	▸ The staffing model flexes across all areas, including primary care, district nursing, inpatient, mental health, and paediatric services to support teams that have few resources. ▸ It is important that staff are well oriented so they are comfortable working across services they are providing care in.
Families sometimes need to travel long distances when family members are in secondary or tertiary care	▸ The DHB has a whānau house, so family members can stay on site if needed. ▸ Information about accommodation and transport is given to people travelling to Canterbury to access services. ▸ Appointments are planned so people can travel together from Westport to Greymouth, and not have to wait for each other
Long distance travel is required when transferring patients by road (St John ambulance) to Canterbury DHB	▸ Three transfer nurses have been trained in Primary Response in Medical Emergencies (PRIME), which is usually only undertaken by primary care clinicians. This means the transfer nurses can better support patients and St John crew. ▸ Having a paediatric clinical nurse specialist/nurse consultant means the 'inpatient' paediatric service also provides care in the home.

SOURCE: WEST COAST DHB.

Electives and other variation

Elective surgery provides more room for prioritised decision making against pre-agreed criteria than does acute surgery. This approach is seen across the public and private sectors. Fifty percent of elective surgery is performed in the private sector, representing a mix of ACC, DHB and privately funded activity.

Extensive effort has been put into developing clinical guidelines and clinical priority assessment criteria. The available pool of money is allocated against agreed and standardised criteria. Thus aiming for fairer access to elective surgery, for all patients, in theory, but certainly fairer access than might be the case in absence of such criteria.

Scoring also gives visibility to levels of access to elective surgery. Thus, surgeons and service managers can view the point at which they are operating and then can work through service barriers to further access, which might be access to workforce, finance, or theatres. Moreover, other oversight agencies can investigate the performance of the health sector via this lens.[340] The Auditor General, in his annual review, identified from the National Booking System who had received what treatment, at which DHB, with what score, for a variety of conditions including cardiac, gynaecological, and orthopaedic.[341]

While there is consistency in scoring, the thresholds DHBs use to prioritise surgery, and therefore the degree to which people with the same scoring receive surgery, varies by DHB.

> *The large number of DHBs in the country and the lack of truly national standards means that access to many services depends on where you live. DHBs will likely dispute this assertion with 'big picture ' snapshots. But it has been the experience of many that they have had difficulty getting on to a public waiting list for hip or knee replacement surgery while their relative or friend with similar (and many times less severe) problems living in another DHB has been swiftly assessed and operated on. This postcode selection should not happen. (Individual submission)*

Concerns also exist that the impact of not getting surgery when it is needed can be significant:[342]

> *More than half of the 280,000 who require elective surgery but haven't had it say their quality of life is worse than it was five years ago. A quarter state their quality of life is a lot worse, driven by a lack of mobility and higher levels of pain. … Almost a third of those who require elective surgery have had to make significant lifestyle changes. … Overall waiting times for surgery have increased since 2013. Among those waiting for surgery, waiting times are up by 80 days to 304 days.*

There is potential unmet need in the elective surgery domain, potentially contributing to the variation in performance seen across a national picture.

Variation is tracked through several channels, including the HQSC's New Zealand's atlas of variation, but no entity is formally accountable for addressing unwarranted variation. Many care passionately about variation and work hard at a service or organisational level to address issues. National initiatives exist around safety concerns such as falls, hand hygiene, and opioid use. Despite this, the HQSC stated:[343]

> *New Zealand has a health system that is functioning reasonably well in comparison with other developed countries, but with some areas where improvement is still required. However, as this report has consistently identified since 2015, New Zealand faces issues of inequity and unwarranted variation in the provision of health care. Our health system's inability to address these issues matters. We cannot continue with current approaches and ignore the lack of progress in these important areas. We need to look for solutions, and although not all are to be found within health services, some are.*

These concerns were echoed in discussions during Phase One, and suggestions were made that further consideration should amongst other things be given to:

- the development and use of clinical pathways, guidelines, and standards and accreditation of providers
- enhanced data collection to better inform both operational performance and policy decisions. To be useful, data needs to be available in a more timely manner than it is at present
- greater sharing and transparency of comparative performance.

Determining priorities and setting standards

Consistent with previous reviews, this Review has identified the need for the system to make better informed decisions about what specialist services should be publicly available. There is considerable interest in how to prioritise health spending with constrained budgets, and in face of the increase in new health technologies coupled with some high-profile cases of individuals being denied health services.[344]

> *Almost all decisions made in the health sector are, to some extent, prioritisation decisions. We live in an environment of limited resources; not only money, but also time, space, and available staff all constrain the ability of both the system to provide, and people to access, health care services and health promotion programs. Consequently, these resources need to be allocated in some fashion, and unless we allocate them completely randomly - and arguably even then - we are engaging in prioritisation.*

As new technologies become available, both in the health sector and other markets, community expectations for the range and level of services are also increasing. Pressure from and expectations of consumers will increase with personalised medicine approaches, which are already being used in other countries for cancer treatment (for example, immunotherapy and theranostics). Technological advances and ongoing research into these techniques is likely to support increased use and adoption of these treatment approaches in the future. A small number of private New Zealand providers offer these treatments to specific cohorts of patients who can afford to pay or who qualify for a research trial (for example, Lu-177 therapy for men with advanced prostate cancer).

While the opportunity for these types of approaches to have an impact on outcomes for patients is significant, early planning is needed on assessment, prioritisation, and innovative funding methods so these approaches support equitable outcomes for the New Zealand population.

Personalised medicine approaches also present an opportunity to enhance a prevention and wellbeing approach by providing tools to identify high-risk populations or individuals (for example, genomic mapping and pharmaco-genomics). This is also likely to support increased early intervention to minimise the impact of disease or disability. Mechanisms to learn from international examples and apply approaches within the local context will also become increasingly important to ensure New Zealanders have access to these advances in therapeutic approaches.

We heard from DHBs that they face increasing pressure to deliver to these expectations, which is unsustainable now and into the future. DHBs signalled more open discussion is needed with the New Zealand public about the variety and level of services that are clinically and financially sustainable. New Zealand is not new to this debate. The approaches taken so far include the following.

- The Core Services Committee, established under the Health and Disability Services Act 1993, set out to establish an explicit list of services that should be publicly funded and the relative priorities of those services.
- In the 1990s, the Health Funding Authority took up the mantle of prioritisation of health funding with a think piece setting out a set of weighted decision criteria.[345] The authority began developing a process to establish the cost utility of different health activities, although this was not implemented during the authority's life (1998 to 2000).
- Further attempts followed decentralisation of decision making to DHBs in 2000. One initiative was The Best Use of Available Resources, which was trialled over several projects in several DHBs.[346] Another was the Service Planning and New Health Intervention Assessment (SPNIA) framework for collaborative decision making established by the National Health Capital Committee, sector clinicians and the National Health Committee. In 2009, the Ministerial Review Group found:[347]

  > *despite the best efforts of those involved, [the SPNIA] approach has struggled to address the issues raised by the NHC. Shortcomings arise in part because of the way the framework is governed and supported and in part because of the lack of influence over the funding decisions taken in response to its recommendations. For example, an individual DHB is still able to offer a new intervention, with the unavoidable risk of flow on to other DHBs, even if everyone else involved in the process considers that intervention too experimental and not clearly cost-effective.*

- In 2016, the National Health Committee drafted guidance for economic analysis, but it was not implemented.[348] The document set out an approach largely equivalent to PHARMAC's approach to economic analysis, with a view to looking at services rather than pharmaceuticals, medical devices, or vaccines. The guidance also aligns with the Treasury's approach to cost–benefit analysis.[349]

Currently, the system is operating without an overall or common prioritisation framework or a forum for national decision making, except in areas such as pharmaceuticals and national screening initiatives. General guidance on priorities is given to DHBs through the Service Coverage Schedule, which is part of the Crown Funding Agreement. This schedule sets out what services DHBs must provide, at a population level. Strategies such as the New Zealand Health Strategy and He Korowai Oranga – Māori Health Strategy and direction from the centre (for example, the Minister of Health's annual letter of expectation) also help guide decisions.

Many DHBs have hospital-based health technology assessment processes to guide the introduction of expensive hospital technologies. The committee sitting behind this assessment process scores the evidence for costs and outcomes and the highest scoring proposals are placed on a pathway to funding.

The Chair has led, for a number of years, the committee that conducts assessments for the four northern DHBs. In 2014, he wrote:[350]

> *Here in New Zealand, as elsewhere, that coalface is often the tertiary hospital where caring and eager clinicians are enthusiastic protagonists of novel cutting-edge technology. Where those innovations can potentially improve outcomes whilst reducing costs, they are greeted with open arms. Sadly, a much more common scenario is one where the innovation is an improvement over current therapies but whilst the improvements might be measurable and real (with reduced morbidity and/or mortality rates), the costs are often eye watering when compared with the quantum of improvement. The metric for this, in health technology terms, is the incremental cost-effectiveness ratio (ICER) and it is not uncommon for new technologies to be presented with tentative ICERs of tens of thousands of dollars for every added quality-adjusted life-year.*

Internationally – a long history of rationing, guidelines, and health technology assessments

Internationally, there are well-known institutions and mechanisms for developing guidelines and approaches to assist with prioritisation and decision making.

The National Institute for Health and Care Excellence (NICE) has high international standing and its cost-effectiveness results are developed under published guidelines and are made available for all to use.[351] NICE was established 20 years ago and evolved from initiatives to reduce clinical variation and increase cost-effectiveness of health services. It is now established as a non-departmental public body, to provide advice and guidance on publicly funded health services and interventions for NHS England. It also undertakes some functions for Wales and Scotland and other jurisdictions.

NICE has three key roles.

- Pharmaceutical and Technology Assessments - NHS England is legally obliged to fund and resource medicines and treatments recommended by NICE's technology appraisals. The NHS Constitution states that patients have the right to drugs and treatments that have been recommended by NICE for use in the NHS, if their doctor believes they are clinically appropriate.
- Medical devices and diagnostics guidance - this guidance evaluates new, innovative medical devices and diagnostics. The guidance helps people in the NHS make efficient, cost-effective and consistent decisions about adopting new medical technologies. It supports innovation, transformation and improves healthcare
- Guideline development – NICE guidelines are evidence-based recommendations for health and care in England that set out the care and services suitable for most people with a specific condition or need, and people in particular circumstances or settings. Guidelines have been developed in the following areas; clinical, social care, public health, medicines practice, cancer services and antimicrobial prescribing. In 2018, it published its 500th guidance note.[352] NICE’s work programme is expected to shift over the next few years from developing new guidelines to updating those already developed. It may also extend its role to assisting other jurisdictions to contextualise guidelines for local use.

Other organisations have adopted systematic approaches to the development of guidelines or health technology assessment including:

- The Scottish Intercollegiate Guidelines Network (SIGN) was formed in 1993. Its objective is to improve the quality of health care for patients in Scotland by reducing variation in practice and outcome, through the development and dissemination of national clinical guidelines containing recommendations for effective practice based on current evidence.[353] SIGN50 is a development tool for practitioners reissued on a regular basis setting out an approach to guidelines.[354] SIGN50 includes information about systematic literature review, assessing the quality of evidence, and consultation and peer review. Also, importantly, SIGN50 sets out processes for involving patients and their representatives.
- Canada established CADTH, a pan-Canadian Health Technology Assessment not-for profit organisation, in 1997. The scope of CADTH is pharmaceuticals and medical devices, and it provides review, comment, and conclusions rather than recommendations. Economic assessment is a well-accepted component of CADTH's approach.[355]
- Health technology assessment agencies are used extensively in other parts of the world and garner particular attention from pharmaceutical companies. They tend to have a range of practices that are common (for example, evidenced-based review and an economic component), but differ on some key parameters such as discount rates and the scope of inclusion of health or other social costs.[356]

While nobody is proposing developing an explicit list of funded services, it is clear that more objective frameworks and transparency in decision making are required to achieve consistency and fairness in the system. During Phase Two, we will consider approaches in international jursidictions for their applicability in the New Zealand context. It is unrealistic to expect a small country like New Zealand to have the capacity to do all this work alone, although it is equally clear that some work would be more effectively undertaken nationally.

Longer-term, comprehensive planning

Stakeholders during Phase One signalled support for a long-term health services plan for New Zealand. This included having a long-term plan that guides future decision making about what services should be delivered from where and the need for greater transparency and more informed engagement in discussions about prioritising what services will be publicly funded.

The last major attempt to develop clinical services within a national planning framework was the Long-Term Systems Framework (LTSF) during 2007–2009. The LTSF emerged following the Health Reforms 2001 Research Evaluation and the 2006 Review of the Ministry of Health.[357] These reviews identified that system-wide long-term planning was required to meet the immediate and longer-term challenges the health system faces.

Through the process of developing the LTSF, several issues were identified including scope to improve regional collaboration and governance. Collaboration and cooperation were regarded as major enablers for lifting and sustaining system performance.[358] Extensive stakeholder engagement was undertaken through 2008 with nine 'visioning' workshops involving 260 people from across the sector. Participants at these workshops called for “stronger leadership, a shift in focus to the ‘big picture’, a clearer sense of the longer-term direction and a more joined-up system”.[359]

A significant body of work was undertaken to develop the LTSF, including:

- a conceptual framework for the LTSF
- a horizon scan identifying immediate and future challenges
- a review of the Service Planning and New Health Intervention Assessment (SPNIA) process and options to improve it
- an assessment of service planning and service planning tools and a review of clinical networks.

This thinking was invested in extensively but did not lead to change of any significance. Since that time, clinical networks have become more established, and some regional service planning work is under way. The sector is increasingly calling for a long-term plan to support base service design and business case work for major investments. Currently decisions on major facilities investments are often delayed while work is undertaken on regional and national views of service requirements and questions are answered about what roles different providers should be playing.

Future role of hospitals

It is clear that any ongoing work on the development of a long-term plan for Tier 2 services will need to take into account the future role of the hospital, which is likely to be heavily influenced by technological advances in artificial intelligence and robotics and increasing levels of digitisation. *The Economist* notes that “Many of the physical and mental tasks that doctors perform today will be automated via hardware, software and combinations of both”.[360]

However, existing hospital facilities are highly complex buildings that, in most cases, have not changed much in the last 50 years. As a result, overlays of technology complicate the situation and reduce the ability to adapt to new ways of doing things.

Other commentators argue that changes in the scope, role, and practice of settings outside the hospital will reduce its role:[361]

> *Large hospitals, some of which count as both incumbents and traditional innovators, will also be affected. The rise of telemedicine, predictive analytics and earlier diagnoses of illnesses are expected to reduce admissions ….. The sickest patients can be targeted by specialist services, such as Evolution Health, a firm in Texas that cares for 2m of the most-ill patients across 15 states. It claims to be able to reduce the use of emergency rooms by a fifth, and inpatient stays in hospitals by two-fifths.*

The King's Fund points to innovations of today as pointers for the future. For instance, the Fund points to a 24-hour telemedicine site that supports patients in rest homes, private homes, and prisons:[362]

> *Head north west out of Leeds to the edge of the Yorkshire Dales and you reach Airedale Hospital and the pioneering Telehealth Hub at Airedale NHS Foundation Trust. Specialist nurse and consultant teams at the hospital site run a 24-hour video consultation service for patients and carers in more than 150 nursing and residential homes across the county, in prisons, and with some patients in their own homes.*
>
> *Through a secure, encrypted video link, staff can see the patient to diagnose, review and assess their conditions, intervene to prevent deterioration, judge future care needs and provide routine follow-up and outpatient services.*

This remote delivery of services resulted in a 35% reduction in admissions and a 53% reduction in attendances at Accident and Emergency.[363]

This connectivity is growing as productivity gains become clearer.

> *[Joseph Kvedar, MD, vice president of connected health at Partners HealthCare in Massachusetts] again points to the e-ICU as an example of sourcing labor in a centralized location for multiple geographical endpoints. "When you start to think of it that way, it might be a rural or underserved play. It might be an urban play, but it might be a delivery system where it's just more efficient to put one group of ICU docs in the center and use them that way …. Given the anticipated shortage of intensivists, the e-ICU makes sense. But it's not limited to physicians. He points to home-health nurses. Making in-person visits, they may see five patients in a day. "But if you put them in a call center and monitor those patients in the home, they can cover 80 to 100 people."*[364]

Digitisation and robotics will incrementally change the way hospitals operate.[365] The effects will be on delivery of care, digital and artificial intelligence to answer patient's questions, simplified processes such as discharge, automation such as robotics for care and ancillary services (for example, delivering linen and administering pharmaceuticals), and digital way-finder kiosks.[366]

Decision support for doctors will likely change. Artificial intelligence has already shown itself able to outperform physicians.[367, 368] For example, one study found that a deep learning-based algorithm outperformed physicians, including thoracic radiologists, at identifying abnormal results from chest radiographs with major thoracic diseases[369]. The AI also improved the physician performance when used as a secondary reader.

There is a note of caution though that before rolling out algorithms robust clinical validation is required.

> *The risk of faulty algorithms is exponentially higher than that of a single doctor–patient interaction, yet the reward for reducing errors, inefficiencies, and cost is substantial. Accordingly, there cannot be exceptionalism for AI in medicine—it requires rigorous studies, publication of the results in peer-reviewed journals, and clinical validation in a real-world environment, before roll-out and implementation in patient care.*

Robotics are used in surgery currently but in very limited situations. In the next 25 years, it is envisioned that robotic surgery will become more clinically relevant, but only if cost-effectiveness and tangible clinical benefits are demonstrated. On this basis, surgical robots for tumour resection may be disrupted by targeted therapies and early intervention.[370]

Three-dimensional (3D) printing and AI planning approaches are being adopted now to improve surgical outcomes. Current use includes production of 3D models to aid pre-operative planning and preparation and the development of instrument guiding artefacts that enable greater accuracy in prosthetic placement. As the cost of this technology decreases, it is likely to offer more personalised approaches for certain surgical procedures and may overlap with the use of robotic systems for placement of prosthesis in the future.

The King's Fund goes on to argue that the institutional role of the hospital will change and will become much more collaborative:[371]

> *In the health care system of the future, hospitals will still play a major role but are likely to work more collaboratively rather than being standalone institutions. There will be a drive towards working more closely with community, social and primary care services in locally integrated systems to ensure that people are only cared for in hospital when appropriate.*

The Future Hospital Commission in the United Kingdom wrote a detailed report in 2013 that is still highly relevant.[372] The report draws attention to the need for hospitals to orient themselves around the needs of patients particularly those patients with urgent needs. The report makes several suggestions, recommending a new model of care based around a Medical Division operating across the wider health system, an acute care hub focusing on patients likely to stay less than 48 hours, and a clinical coordination centre backed up by a single electronic health record. The report goes on to recommend seven-day care wherever the patient needs it, including outside the walls of the hospital.

The NHS Chief Medical Officer noted the value of traditional assets such as hospitals will be undermined by other assets such as new institutional arrangements and different technologies. She notes the importance in the future of artificial intelligence, data, and devices.[373]

Collaborative and new ways of working

Those working in Tier 2 and many submissions acknowledged the need for more collaborative and new ways of working to be adopted. Some are already working differently.

Networked service delivery

Work undertaken as part of the Long Term Service Framework included commencing work to develop a Long-Term Health Systems Plan (LTHSP) with a focus on designing clinically and economically sustainable service configuration options for metropolitan, provincial and rural settings. The plan explored the relationships between service configuration, population size, demographic and geographic distribution, topography, access and health outcomes, and macro-service configurations across New Zealand. The plan was premised on the following changes in service settings that have been emerging internationally and in New Zealand:

- increased health care at home
- ‘community health centres’ to provide one-stop-shops, including specialist outpatient services and diagnostic support
- ‘local hospitals’ for emergency medicine and non-complex services
- ‘major acute hospitals’ for complex emergency medicine and complex inpatient care.

The LTHSP recognised that hospitals are not stand alone entities and need to be seen within a larger network. In other jurisdictions, networking of hospitals is more common than here, with some highly specialised services being consolidated in centres of excellence to ensure a critical mass of patient numbers.

A hub and spoke model is an approach being adopted to configuring services across tertiary, secondary and community settings, increasingly supported by telemedicine. An example of this is the Intermountain hospital network, which includes a virtual hospital.

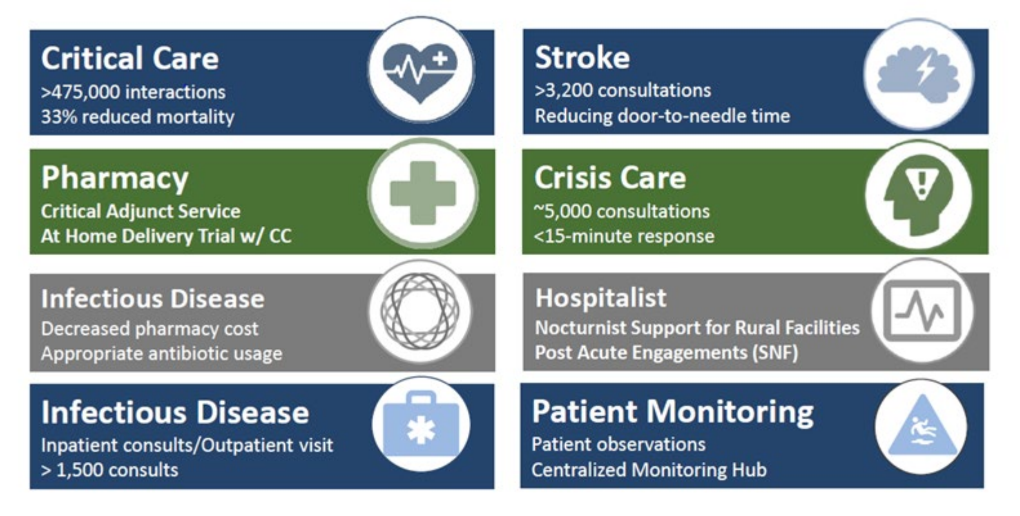
INTERMOUNTAIN HOSPITAL NETWORK

Intermountain Healthcare provides community and hospital services for around 870,000 members across six states in the United States. It runs a network of 24 hospitals, including:

- Intermountain Medical Centre, which delivers specialist services for all member and general services for those living in Salt Lake City
- other specialist hospitals, including Primary Children's Hospital and Orthopedic Specialty Hospital
- community hospitals that support local delivery
- Connect Pro, which is a virtual hospital that supports services delivered in all hospitals
- life flight air ambulance and road ambulance services (all calls and retrievals are coordinated through Connect Pro)
- Intermountain Simulation Center and 10 laboratories spread throughout Utah that support training for thousands of hospital, homecare, and clinic professionals every year.

All facilities use a common information system and care models, and most equipment and supplies are consistent across the network. Connect Pro plays a key role in supporting the delivery of local services, including support for after-hours services.

An indication of the range of services provided by Connect Pro is set out below along with the some of the outcomes achieved.



Critical Care
>475,000 interactions
33% reduced mortality

Stroke
>3,200 consultations
Reducing door-to-needle time

Pharmacy
Critical Adjunct Service
At Home Delivery Trial w/ CC

Crisis Care
~5,000 consultations
<15-minute response

Infectious Disease
Decreased pharmacy cost
Appropriate antibiotic usage

Hospitalist
Nocturnist Support for Rural Facilities
Post Acute Engagements (SNF)

Infectious Disease
Inpatient consults/Outpatient visit
> 1,500 consults

Patient Monitoring
Patient observations
Centralized Monitoring Hub

Some initiatives enable patients to be treated in their local hospital rather than requiring transfer.

- **Hospitalist Team:** Internal medicine physicians provide virtual support to rural hospitals particularly on night shifts. They work closely with nurse practitioners and hospital assistants who are working to a high-quality inpatient plan that is handed to the local team in the morning. This approach is reported to have helped with rostering and burnout issues.
- **Critical Care Team:** This team is linked to around 300 beds, enabling some high acuity patients to receive high quality care without being transferred. Transfers have been avoided and mortality rates have reduced. More patients are staying closer to home and improved reduced mortality by 33%.

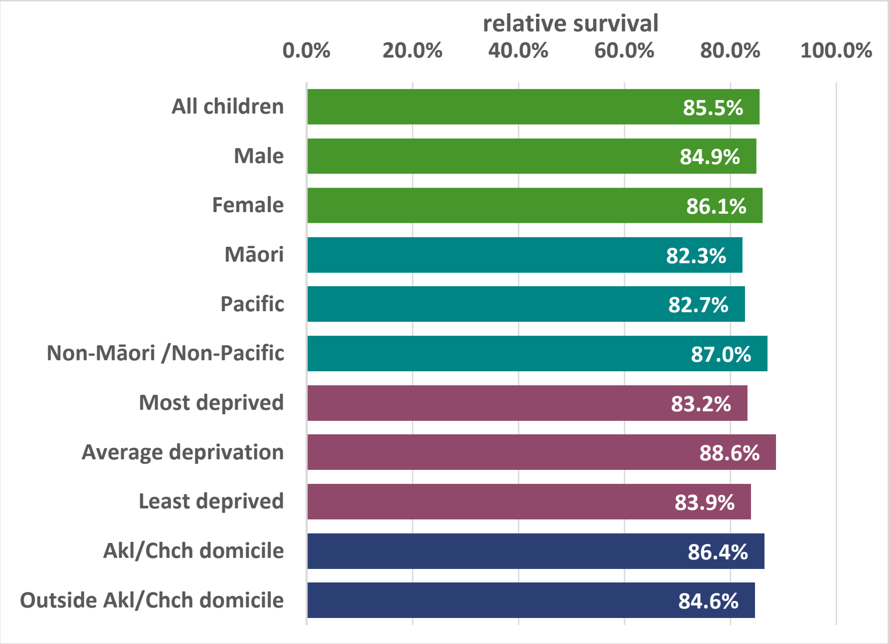
The service delivery model is underpinned by a core of dedicated staff who work solely at the virtual hospital. Specialists and staff from Intermountain Medical Center are rostered to the virtual hospital. Connect Pro also provides an interpreter service for Intermountain Medical Center and other locations and has a close working relationship with primary care help line services.

Concerns were raised that approaches like that of the Intermountain Hospital Network may not work as well in a sparsely populated country and may result in long travel distances for some populations or poorer access to services. However, child cancer services are an area successfully using a networked model to deliver services.

CHILD CANCER SERVICES

In child cancer evidence shows that New Zealand's national model for cancer care is delivering equitable and high-quality care. New Zealand's three-year survival rate is comparable with Australia's over a similar period (2004–2014). Further, no statistically significant differences in survival exist by ethnicity, urban/rural location, and socioeconomic status .(see Figure 9.6).

FIGURE 9.6: THREE-YEAR CHILD CANCER SURVIVAL RATES BY DEMOGRAPHIC INDICATORS (SEX, ETHNICITY, SOCIOECONOMIC STATUS, DOMICILE)



Note: The figure relates to 764 children diagnosed with cancer from 2010 to 2014 (with follow-up to 31 December 2017). All 95% confidence intervals overlap.

Source: S Macfarlane. 2019. Shared care is fair care: Our national model for child cancer services delivers equitable and high quality care. Cancer at a Crossroads conference, Ministry of Health and University of Otago, 31 January to 1 February 2019, Wellington. https://www.otago.ac.nz/cancer-care/otago706575.html

The success of the national model has been attributed to:

- having a national child cancer plan and a national child cancer network
- effective governance
- established and specific working groups
- clinical and non-government organisation collaboration
- data being captured effectively, cross-referenced with the New Zealand Cancer Register, regularly reported, and available to support research activity
- nationally consistent protocols and guidelines
- trials-driven care
- a shared care model between specialist cancer centres and shared care centres, which is monitored on a three-year cycle as a part of service agreements.

Tier 1 and Tier 2 integration

DHBs are thinking beyond hospitals to health systems. Canterbury Health has focused on integrating its health system, particularly in the context of the earthquake and the subsequent impetus to change. The King's Fund makes the following observations on its website.[374]

The stimulus for change in Canterbury was a health system that was under pressure and beginning to look unsustainable.

- Canterbury adds to the small stock of examples of organisations and systems that have made the transition from fragmented care towards integrated care with a degree of measurable success.
- Creating a new system takes time – Canterbury has been working to create 'one system, one budget' for at least six years and the journey is far from complete.
- It takes many people to transform a system. A small number of leaders were at the heart of Canterbury's transformation, but this leadership rapidly became collective, shared, and distributed.

The Hawke's Bay DHB's clinical services plan emphasises a different way of working, particularly in the community and in areas of particular need.[375] The DHB makes a commitment to co-design, to focus on localised health planning (for instance in Wairoa) and, subtly, to distinguish provision of management of medical conditions from place of provision. This distinction supports teams to think laterally across secondary, primary, and community care. The DHB emphasises the need for inter-professional working.

Many hospital and specialist services are also actively engaging with Tier 1 providers to better manage the care of chronic and complex patients, particularly around transitions of care. An example of this, the Fanau Ola model of care, is overviewed.

FANAU OLA MODEL OF CARE AT COUNTIES MANUKAU AND CAPITAL & COAST DHBS

- The Fanau Ola model of care is a nurse-led model that supports and re-engages Pacific patients with their primary healthcare team. The model provides assessment within hospital and home settings, liaison with primary healthcare teams, and working partnerships with the patient in managing their health conditions and psychosocial issues. This service is effective because it uses a Pacific nurse and Pacific social worker case management model and takes a family approach that can be delivered in Pacific languages.
- An example in a community setting is the parish community nurse model of care. This is a team approach with a registered nurse and a community support worker. The model ensures the registered nurse and community support worker can speak the language of the churches they work for cultural alignment and language proficiency. This model provides health promotion, self-management, navigation, screening, assessment, and some health services. The team connects parishioners with primary and secondary healthcare services and advocates their health needs with healthcare providers. This model of care establishes health committees within churches and designs the delivery of health services based on what the church identifies as its priorities.

DHBs are working hard to counter demand growth through several means

Bed days have not grown as fast as discharges – only a 1% increase from 3.17 million bed days in 2013/14 to 3.21 million in 2017/18 – reflecting more recent efforts to reduce the length of time patients stay in hospital. Hospitals are seeking to improve patient flow within their walls as well as to provide better and quicker access to community rehabilitation options and to implement surgical productivity initiatives and programmes to enhance recovery after theatre.

Overall, it would seem this reduction in bed days has not been at the expense of quality of care, although performance varies across DHBs. Readmission rates are a balancing quality measure for reduced length of stay. Readmission rates have remained static over the last three years (12.1% in the year to September 2016, 12.2% in the year to September 2017, and 12.1% in the year to September 2018).[376] This static rate compared with the decreasing average hospital stay indicates the DHBs' models of care are, overall, on the right track.

Many initiatives at national and local levels aim to improve the operation of hospitals. DHB-based initiatives include hospital efficiency programmes and programmes extending into primary and community care. Two examples of efficiency programmes that have been run under the banner of patient flow are as follows:

- Releasing Time to Care aimed to make workflows more efficient, thus releasing nurse time to care for patients. A New Zealand review noted that productivity gains of up to 20% were being achieved, although there was a great deal of variation in implementation.[377]
- The Productive Operating Theatre aimed to improve use of and outcomes from surgical theatres. It identifies core processes such as booking systems through to pre- and post-theatre processes. It uses standard measures such as 'wheels in and wheels out' (of theatre), so theatres can be compared. This programme is complicated to implement and has more varied outcomes.

These productivity programmes and programmes such as 'red to green' to identify wasted patient time are standard hospital management practice.[378]

DHBs have also been outsourcing to private hospitals to keep up with elective service demand, which in turn provides a buffer for growth in acute services. These operations are generally for patients with lower acuity and for operations that can be planned, rather than acute presentations.

Reporting on private hospital activity is limited, but analysis of DHB-supplied data shows that the DHBs have been outsourcing around 5% to 7% of elective and arranged surgical discharges, with this accounting for around 16,000 discharges in 2017/18. In volume terms, there was a 50% increase in the number of outsourced surgeries from around 10,600 in 2013/14 to around 16,500 in 2017/18. There was a 20% increase in each of the last two years across a mix of day case and inpatient discharges.

DHBs have tended to use private hospitals as a mechanism to manage short- or medium-term capacity issues. Outsourcing has been used when DHBs have been under pressure to meet elective surgical or screening targets. Where DHBs have taken a more considered medium-term approach, this has been shown to have a positive impact on elective performance. However, there is limited evidence of any long-term strategic relationships or engagement in capacity planning for workforce or facilities across the private and public sector.

Workforce

Specialism compared with generalism

A growing challenge for the health system is balancing specialism with generalism. There is a renewed acknowledgement that as the population ages and more people present with undifferentiated illness and multiple chronic disease, most hospitals will require strong generalist medicine. The term 'generalist' can be interpreted widely and may include general practitioners, general medicine specialists, and general disciplines such as geriatrics. For the purposes of this discussion, the term generalist includes vocationally registered doctors in secondary care who work with the undifferentiated patient within their discipline.[379]

The Royal Australasian College of Physician's Māori Health Committee noted that, for Māori, generalism is often a preferred patient pathway. Subspecialism entails multiple patient interactions with health professionals, limiting the opportunity to establish rapport. The committee noted that "Experience with Māori patients has shown that referring [them] on to sub specialist care may result in Māori not presenting at the clinic and consequently not receiving ongoing care".[380]

In contrast, the number of subspecialties over the past 60 or more years has substantially increased. The Royal Australasian College of Physicians now has 24 recognised subspecialties, and the Royal College of Surgeons lists nine surgical subspecialties. Anaesthesia has separated into anaesthetics and intensive care medicine colleges. Emergency medicine has developed as its own college.

Clearly, a need exists for the highly focused knowledge, expertise, and skill that subspecialists offer. As the Council of Medical Colleges noted, certain patients benefit from seeing a subspecialist as early as possible. However, the Council goes on to note:[381]

> *for the undifferentiated condition early referral or presentation to a sub specialist is likely to waste resources; and may risk premature closure on diagnosis and treatment that will disadvantage the patient. Also, as the population ages and more people present multiple system disease, highly skilled sub specialists may lack the currency to accurately diagnose and manage important co-morbidities..*

Clinical workforces are expensive, and medical workforces are even more expensive. Senior medical officers spend relatively less time with patients as, over the years, employment conditions have changed with longer annual leave periods (five weeks), time for study (including a substantial training and travel budget), and assigned non-clinical time. Analysis of the accounts of a typical DHB suggests hospital costs have grown 20% over a five-year period, against funding growth of around 10%. Medical staff costs are by far the largest category of cost increase at just over 45%. Spending on information technology and non-clinical supplies increased by only 5%.

Other employment conditions are changing with increased and indirect costs on DHBs. For instance, in the last round of negotiations with resident medical officers, the required changes to rostering arrangements increased the number of staff needed to provide a roster as well as placing pressure on other members of the clinical team, in particular senior medical officers, while increasing patient handovers and the work needed to maintain continuity of care.[382]

> *“We have received data from five DHBs which indicates that to achieve full implementation they will require over 200 new RMOs [resident medical officers], at a cost of over 25 million dollars,” the report [by Sapere Research Group] said. It adds when other hospitals offering highly specialised services were taken into account, “it is likely that the national impact will be approximately 300 full-time equivalent RMOs, at a cost of more than 35 million dollars.”*[383]

Other workforce challenges

Other Tier 2 workforce challenges were raised included:

- Training models have changed little over the last 20 years, and it is now proving challenging to find enough placements and supervisors for the growing number of undergraduate and postgraduate clinical placements required to grow the workforce of the future. Registration requirements have generally been increasing, which means training periods are extending for several workforce groups.
- Shortages are being felt acutely in some professional groups and in some locations. Several submissions called for better workforce planning to address shortages and to enable the workforce to achieve a better work–life balance.
- Challenges associated with growing new workforces was also raised, with many hurdles faced in working with regulatory bodies and tertiary institutions on this
- There is some competition for workforce between the public and private sectors. In some instance it is argued that the private sector offers more favourable employment conditions (for example private physiotherapists and surgeons) and in other instances it is argued that the more favourable conditions are in the public sector (for example nurses and care assistants). Either way this potentially creates competition and tension, particularly when there are workforce shortages.
- There is increasing pressure for a greater range of services to be delivered for extended hours and during weekends. This will require additional workforce rather than expecting the current workforce to simply work more hours. DHBs report the current mix of employment agreements and the specificity of terms included in them makes it challenging to make even small changes in working arrangements (for example, extending theatres by one hour per day requires discussion with multiple unions). A more strategic way of engaging with unions will be required to effect the changes likely to be required.

These issues are discussed further in Chapter 11: Workforce.

Directions for change: Tier 2

The need for high-performing Tier 2 services will continue to grow for the foreseeable future, as the burden of chronic disease grows and the number of people living longer with multiple comorbidities increases. This will include the need for both hospital-based services and specialist services delivered in outpatient, community, and virtual care settings.

BETTER PLANNING

- *The Panel is strongly of the view that a nationwide long-term health service plan needs to be developed and refreshed regularly. This plan would address which services should be provided nationally, regionally and locally.*
- *Further analysis is needed to determine the level of specificity this plan should include, but it needs to be able to inform and guide investment and disinvestment decisions across workforce, digital technologies, facilities, and other infrastructure.*

QUALITY IMPROVEMENT

- *The Panel believes that continuous quality improvement needs to become a much more prominent driver of service design and delivery. Achieving this will require more transparency and sharing of information about variation in performance, quality, and outcomes with providers and consumers. Clinical leadership, in both design and implementation, will be essential, as will be the need to respect and incorporate cultural values and consumer input.*
- *The system will need to become more transparent and evidence-based, leveraging international thinking where appropriate, to improve decision making regarding what and where new investment and disinvestment should occur.*

A NETWORKED SYSTEM

- *It will be essential, in the future, that all hospitals and specialist services operate as a cohesive network on behalf of the patient and the system, with clearly differentiated responsibilities as appropriate.*
- *For the system to become more responsive to consumer expectations, hospitals and specialist services will increasingly need to function on a 24/7 or extended hours basis for a wider range of services.*
- *Rural Tier 2 service delivery models will need to be supported by enhanced remote access to specialist services, enabling a wider variety of planned services to be accessed locally. The system also needs to be designed to reduce the need for patients to travel to outpatient clinic appointments and to better support generalist-led models of care for rural communities.*