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From Theory to Practice: The Promise of Primary Care in New Zealand

Prepared by
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Amy Downs
Wellington, September 2017

EXECUTIVE SUMMARY

Industrialised countries throughout the world are increasingly interested in how to support their primary care systems to address the prevalence of chronic disease and improve health outcomes, particularly among underserved groups. As more resources are devoted to specialised care, countries are grappling with how to structure their delivery systems to support primary care and prevention.

Sharing these concerns, New Zealand implemented a series of significant health sector reforms in the early 2000s that were intended to expand access to primary care. Central to the reforms was the creation of primary health organisations (PHOs) and the implementation of a universal and publicly-funded capitation programme to subsidise primary care for all New Zealanders. The theory was that the movement away from a volume-driven and fee-for-service system to a capitated one would incentivise delivery system reforms to improve access and address historic disparities in health outcomes.

While New Zealand's health sector performs relatively well, survey data show that nearly 30 per cent of the New Zealand population reports they are not able to access timely primary care. This average masks important disparities. For example, Māori and Pacific populations are more likely to report challenges in primary care access. They also have higher use of hospital and worse health outcomes compared to other populations.

The promise of the health sector reforms has not been fully realised. My research indicates that a number of PHOs have been implementing new models to deliver primary care services. However, these innovations to expand access to primary care have been driven more by the vision of local health care leaders as opposed to health policies championed by the government. Because of this, institutionalising reforms can be challenging.

It is difficult to conclude what specific delivery system reforms are most effective in providing high-quality, appropriate and timely primary care in an equitable way. Although some PHO innovations incorporate evidenced-based or best practices from other countries, few of them have been rigorously evaluated in the New Zealand context. While PHOs throughout the country are collecting data, only visit data is submitted to the Ministry of Health. Minimal synthesis of these data occurs to strategically inform public policy. Based on this context, my analysis led me to a number of recommendations that could help New Zealand realise its objectives in primary care. Those recommendations span several domains.

Data collection and monitoring: The Ministry of Health and Treasury should collaborate on a more extensive data collection and monitoring programme for the primary care sector. While the government provides over \$900 million to subsidise primary health services, it has little information regarding quality, utilisation and outcomes of different types of primary care services. Data submitted to and analysed by the Ministry of Health should include utilisation of different services, diagnostic codes, quality metrics and demographic characteristics of patients.

Metrics should demonstrate how effective the primary care sector is at preventing use of secondary services. Similarly, district health boards' (DHBs') existing monitoring framework should include measures regarding how well their patients appropriately utilise the primary care sector. Eventually primary care data and synthesis should be made public so comparisons can be made.

Financing and organisation: Data collection and analysis can provide the platform for developing more rigorous capitation rates. The government should explore collapsing multiple primary care funding streams into a single risk-adjusted capitated payment that takes into account factors including health status, age, gender, income and ethnicity. More rigorous capitation payments that follow the patient (as opposed to some payments that follow the practice) will more accurately compensate providers for caring for complex patients. Capitation systems are intended to incentivise innovation because they put some financial risk on providers. The data monitoring system should be coupled with financial risk and reward for PHOs.

Risk can be better managed among large organisations that include a large number of enrollees. Some of New Zealand's 31 PHOs do not have enough scale to take on expected and unexpected risks that are more easily spread across large populations. Also, the large number of PHOs combined with 20 DHBs has resulted in a vast array of complex and overlapping relationships. Consolidation of the sector to four to six PHOs and a similar number of DHBs and the establishment of similar geographic boundaries could greatly simplify the current system. Amalgamation could streamline data sharing, support collaboration between the sectors, reduce administration, increase accountability and simplify shared risk.

However, consolidation will not address the tension resulting from the DHBs' serving as both a funder and provider of services. DHBs face challenges reconciling the financial demands of their hospitals with their larger responsibility to fund health care services in the entire community. Longer term, the New Zealand government will need to address how to split out DHBs' roles as providers and funders to address current conflicts of interest.

New models of care: Recent evaluation of the PHO system and the extent to which it addresses access to care and addressed inequalities has not occurred. Some PHOs have embarked on a series of pilots and programmes. While New Zealand is in an enviable position to analyse how well different models have performed, few have been evaluated to see if or how they could be scaled up. Efforts to expand rigorous evaluation need to be combined with a dissemination strategy regarding lessons learned. PHOs are eager to learn what has worked and what has not in communities throughout New Zealand.

Policy analysis and leadership: While the Ministry's 2016 Health Strategy puts forth a number of aspirational goals, there is concern within the sector regarding what specific policies still need to be put in place to attain them. A more detailed outcomes framework and commensurate policy agenda from the Ministry of Health are essential to lead a sector that puts patients at the centre of their care. New Zealand could also benefit from bolstering objective health policy analysis that occurs outside of government. Establishing regular funding for an independent organisation that provides evidenced-based policy analysis would help fill information gaps in a very politicised environment.

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INTRODUCTION

As health care expenditures and the prevalence of chronic disease increase in industrialised countries, international interest is focused on mitigating expenditure growth, improving health outcomes and addressing health inequalities.

Comprehensive primary care, which includes basic health services, diagnoses, health education and disease prevention, is widely understood to support these policy objectives.

Even after controlling for income inequality, education, employment and race/ethnicity, numerous studies have concluded that greater access to primary care is associated with lower mortality rates from all causes, heart disease, stroke and cancer.¹ In addition to reduced death rates, primary care is associated with other positive health outcomes such as reduced low rates of low-weight births and hospitalisation for chronic conditions.²

Characteristics of strong primary care systems include those that promote patient-centredness, accessibility, coordination, prevention, equity and integration. International comparisons show that countries with weaker primary care systems have higher health care costs. This is probably associated with limited prevention of chronic disease and higher utilisation of hospital emergency and inpatient facilities.³ Analyses that control for a wide array of demographic factors have shown that a greater supply of primary care providers can mitigate health care inequalities in which low-income and racial minorities have poorer health outcomes than the general population.⁴

Secondary care includes specialist and hospital services. Evidence shows that when the primary and secondary systems are aligned and services integrated, health outcomes are better and expenses are lower compared to health care systems where providers and services are not integrated.^{5,6} Because of this, industrialised countries throughout the world are struggling with the most effective balance of investment in the primary and secondary health care systems.

Both the United States and New Zealand have made important policy changes to increase the utilisation of primary care. While the two countries share similar policy goals of expanding primary care access they have both struggled with policies to elevate its importance and integrate it with hospital services.

¹ Starfield *et al.* (2005)

² Ibid

³ Ibid

⁴ Ibid

⁵ Curry and Ham (2010)

⁶ Shih *et al.* (2008)

Despite both countries' mutual interests, their health care systems are profoundly different. New Zealand's system is for the most part publicly-financed. The US system includes a large proportion of private financing and most providers work in the private sector. General practitioners (GPs) in New Zealand generally own their own businesses which may comprise just a few clinicians. In the US, there has been a significant consolidation of the primary care industry with many small practices consolidating into larger ones. Over the last decade, US hospitals have bought or built primary care practices to create large integrated systems that are staffed with a variety of different health professionals.

While all New Zealand residents effectively have health coverage, the US system is composed of many different health insurance markets that do not cover all US residents. Thirty seven per cent of the US population has public coverage and nine per cent is uninsured.⁷

Compared to policymakers in the US, those in New Zealand by and large agree on the importance of public funding to support access to health services. However, disagreements occur over levels of funding and key priorities. In the United States, policymakers have radically different ideologies on the role of government in the health care sector. Heated disagreements among political parties reflect that divide.

With so many differences between the two systems, people on both sides of the Pacific were sceptical that a policy analyst could learn very much from the New Zealand health care system that is transferable to the United States. After seven months in New Zealand, I advocate that while it is important to acknowledge these differences there is a lot that the two countries can learn from each other.

For example, a number of primary health organisations (PHOs) in New Zealand have created innovative ways of delivering primary care. These models have not been prescribed by the New Zealand government per se, but have been built by local leaders aspiring to increase access to care among the population. New Zealand also has the Integrated Data Infrastructure (IDI) to bring data together across the social sectors to better understand how to more effectively target resources and evaluate social sector outcomes. While the IDI does not currently contain a significant amount of primary care data, it provides a future platform to explore factors associated with health outcomes beyond clinical care. This inter-sectoral approach is of great interest to policymakers in the US.

On the other side of the Pacific, the US has significant expertise in the collection and analysis of health care data. These data are used to understand important cost drivers in the health care system and model different payment reform initiatives. In addition, the US has been a leader in utilising professionals other than GPs to deliver primary care services. Programmes to train nurse practitioners and physician assistants were developed in the 1960s and 1970s and these professionals are an integral part of the

⁷ Barnett and Vornovitsky (2016), p. 4

US primary care clinical workforce, especially in areas with underserved populations. New Zealand is in the early stages of such initiatives.

Acknowledging these similarities and differences, my overarching analytical questions are: *What are the policy approaches pursued in New Zealand to improve primary care access and to what extent have they been successful? What additional policies could be implemented to support the policy objectives of New Zealand's Primary Health Care strategy?*

In order to answer these questions, my research and analysis consisted of a series of interviews of individuals working in the Ministry of Health, Treasury, Parliament, policy think tanks, academia, primary health organisations, district health boards and professional membership organisations. I visited communities throughout New Zealand and met with GPs, practice nurses, advanced practice nurses, chief executives of primary care organisations and district health boards. I attended various meetings of health sector leaders and advisory groups discussing health policy reforms. I have synthesised face-to-face meetings that took place with over 80 individuals as well as presentations, community group meetings, data analysis and policy research to form the following insights, options and recommendations.

Health policy in most countries is highly political and New Zealand is no exception. Some of the policy options outlined in the remainder of this report may be unfeasible to implement based on the political environment in New Zealand and the sector's fatigue with reform. Nonetheless, I have included them here because I think they help put the challenges the sector faces in context. Other policy options enjoy relatively broad approval within the health care sector and implementing them would be comparatively straightforward and meet with less political resistance.

Like many policy reports, this one focuses on ways in which the primary care system in New Zealand can be improved. But there are also many positive aspects of New Zealand's health care system and ways that it is working well to meet the needs of its residents. The good news is that stakeholders in New Zealand fundamentally agree on the guiding principles for their health care system. Many of their disagreements are rooted in policy implementation and the extent to which the government uses its authority to regulate and finance the sector.

1. HISTORY DRIVES POLICY

"Those who cannot remember the past are condemned to repeat it." – George Santayana, The Life of Reason

Health policymakers and analysts in New Zealand are attuned to the history of health policy in their country. Not surprisingly, one of the first things I learned in New Zealand is that to understand the current system, it is essential to understand the history of the New Zealand health sector. Certain aspects of the health care system exist in response to perceived policy failures. Other aspects of the current system, which at first seem surprising to an outsider, exist due to the political influence of particular groups, especially general practitioners. Entire books can be written about the history of health policy in New Zealand. What follows is a very brief history

necessary to understand the current structure of the health care sector in New Zealand with a greater focus on policy changes over the last 17 years.⁸

Universal Health Care

New Zealand's first Labour government (1935 – 1949) aspired to create the country's first publicly-funded and universal health care system. While the Labour government's goal was to nationalise the health care system, that vision was never realised, in large part due to the opposition of GPs to Labour's plans.⁹ GPs pushed to remain independent business owners in the private sector with the ability to charge patients for services.

This resistance from GPs led to the creation of a bifurcated health care system. In that system, hospital treatment was provided without patient fees by public employees at publicly-owned institutions. General practice, however, remained in the private sector. While GPs received fee-for-service subsidies for certain populations from the government, they were also allowed to charge fees to their patients, a practice which continues today.¹⁰ GPs' opposition to a fully nationalised system led to a historically tense relationship between GPs and the government. This tension surfaces today in discussions regarding how much the government should fund and regulate the provision of primary care services by independent business owners.

The 1980s and 1990s

In the 1980s, the government created 14 Area Health Boards responsible for planning all health services in their region. There was a population health focus, but the funding and provision of primary care services was separate.¹¹

This era saw privatisation, deregulation and increased use of competition across a large part of the economy and health care was no exception. In the 1990s, the National government created a market-based system in health care. Four regional health authorities (RHAs) were responsible for purchasing public and private health and disability services for New Zealanders living within their assigned regions. Hospitals, hospital-led community and public health services were managed as commercial entities by 23 public Crown Health Enterprises (CHEs). Some services were sold to community organisations. RHAs contracted with CHEs, general practices, pharmacies, laboratories and community organisations for services. In the 1990s, GPs formed independent practitioner associations (IPAs) to help them in collective contracting with RHAs. IPAs were viewed sceptically by some in government as organisations trying to make a profit from taxpayer dollars.

⁸ For a much more detailed history of the health sector in New Zealand, please see Cumming *et al.* (2014)

⁹ Cumming *et al.* (2014)

¹⁰ Ibid

¹¹ Cumming (2011)

The reforms in the 1990s were very political. Patient fees at public hospitals were introduced in 1992 and dropped soon thereafter due to the challenges to administer them and unpopularity among the general public.¹² Many individuals in the health sector today claim that the for-profit and competitive nature of the model led to its demise. While this view is not universal, current discussions of potential health system reforms that involve competition within the sector are often criticised by individuals who cite the short-lived experience with market-led reforms in the 1990s.

Due to the unpopularity of the system, in 1998, the government led by the National Party consolidated the Regional Health Authorities into a single Health Funding Authority (HFA). CHEs were reformed as 23 non-profit and crown-owned Hospital and Health Services (HHSs). The HFA purchased services from HHSs which were no longer required to earn surpluses. The HFA developed plans to create multi-disciplinary teams in general practice.¹³ This system was never fully implemented or tested because in 1999, a new Labour government was elected and made significant changes to the health care system.

The New Zealand Health Strategy (2000)

In response to the experience of the 1990s, in 2000, the newly-elected Labour party, disenchanted with the market approach, published a new health care strategy with a renewed focus on health inequalities. The New Zealand Public Health and Disability Act of 2000 established District Health Boards (DHBs) responsible for the health of the population living within their geographic boundaries. DHBs are also responsible for providing secondary and tertiary services within the community. DHBs, of which there are now 20, are both owners of hospitals and funders of the health care system in their communities. As some of the architects of the new strategy told me, the creation of DHBs was intended to give the health care sector back to local communities after the dominance of market-driven reforms in the 1990s.

The Primary Health Care Strategy, published in 2001, outlined the new government's policy changes in primary care. The aim of the new strategy was to strengthen the role of primary care in order to improve population health and narrow inequalities among different populations. To promote these policy objectives, the strategy included three major policy areas of reform.¹⁴

Increase in primary care funding

The new strategy included a significant increase in funding to support primary care. The purpose of this new funding was to reduce the fees patients pay when they access primary care services, improve access to primary care, extend the range of services provided and increase utilisation of primary care services.

¹² Cumming *et al.* (2014)

¹³ Cumming (2011)

¹⁴ Ibid

Creation of primary health organisations

To increase access to primary care services, the government created primary care organisations (PHOs). PHOs are not-for-profit, local organisations that are responsible for managing and improving the health of the enrolled population and addressing health inequities. PHOs are contracted to provide services by one of the 20 local district health boards DHBs in New Zealand.

PHOs can provide services directly to patients or they can contract with primary health care providers. While health care providers are not required to contract with PHOs they cannot access government funding without an affiliation to a PHO. At their peak, there were over 80 PHOs. After significant consolidation, currently there are 31 PHOs of significantly varying sizes.¹⁵ (Appendix 1 includes a list of PHOs, lead DHB partner, enrolment and number of practices.)

Capitation or “first contact” funding

The new strategy fundamentally changed the way that primary care providers are funded by the government. Instead of GPs receiving a fee-for-service subsidy from the government for only certain populations, PHOs receive a capitated payment from the government for all of their enrollees. This fixed annual payment is made on behalf of each person enrolled at the PHOs’ practices. Capitated payments, also known as “first contact” funding, vary by age and gender. Similar to the previous system, primary care providers can still charge patient fees. However, a process to regulate increases in fees has been introduced.

The new funding mechanism was a philosophical shift back to the universal system that existed from the 1940s until 1991. Once again, all New Zealanders became eligible for primary care services subsidised by the government.¹⁶

The new strategy aspired to improve the health of New Zealanders through greater coordination of care between general practice, pharmacists, midwives and other health professionals. Furthermore, the architects expected a more multi-disciplinary approach to health that involved inter-sectoral relationships with education, welfare and housing.¹⁷

Very Low Cost Access

In 2006, due to concerns about access to care associated with increasing patient fees, the government introduced Very Low Cost Access (VLCA). Participating practices have access to increased capitation payments in return for limiting patient fees for all adults and not charging children under the age of six any fees. Any practice can participate in the funding scheme.

¹⁵ South Canterbury DHB does not have a PHO and provides the PHO functions.

¹⁶ Barnett, Pauline *et al.* (2009), p. 13

¹⁷ King (2001)

By 2009, the VLCA criteria changed for practices that wanted to join the programme. While practices already in the programme could remain, new practices are required to have an enrolled population in which at least 50 per cent of patients are Māori, Pacific and/or living in deprivation quintile five.¹⁸

Better, Sooner, More Convenient Health Care

The election of a new National government in 2008 did not lead to major health policy changes. However, the rapid growth in primary care funding in the earlier part of the decade began to level off. The National government launched the Better, Sooner, More Convenient Health Care initiative. The underlying objectives are to improve integration across the health care sector, increase use of primary and community care, and provide services closer to patients' homes. In 2010, nine national pilot sites that are collaborations between DHBs and PHOs (also called "Alliances") were launched to test these goals.¹⁹ There was no additional funding for services associated with the initiative, but rather an opportunity to be a national demonstration site.

The New Zealand Health Strategy (2016)

In 2016, the Ministry of Health released an updated New Zealand Health Strategy. While it does not represent any major policy shifts, it identifies five strategic themes.²⁰ It emphasises supporting person-centred care; shifting care from hospital and specialist centres to community providers; supporting a high performance and cost efficient system; promoting person-centred care through integrating services and strengthening roles of people and whanau; and leveraging technology and greater analytical capabilities. In addition, the Ministry published 27 areas for action to be implemented by 2021 in order to achieve the objectives outlined in the strategy.²¹

The Systems Level Measures Framework

In 2016, the Ministry also released the Systems Level Measures (SLM) Framework. This framework, which was developed through clinically-led review process, is intended to focus on quality improvement and integration between general practice and hospital services. Unlike previous performance measurements systems, each DHB/PHO Alliance chooses its own targets which are based on outcome measures. The six measures are:

¹⁸ New Zealand uses an index that aggregates nine variables, such as use of public benefits and economic hardship to determine geographic mesh blocks [small population groups] of deprivation. Quintile five includes individuals living in the most deprived small areas. Quintile 1 represents people living in the least deprived small areas.

¹⁹ Cumming (2011)

²⁰ New Zealand Ministry of Health (2016c)

²¹ New Zealand Ministry of Health (2016d)

- Ambulatory sensitive hospitalisations for children 4 and younger²²
- Acute hospital days per capita
- Amenable mortality²³
- Babies living in smoke-free households
- Youth well-being
- Patient experience of care

The Alliances also identify contributory measures that are important in achieving their system level measures and align with quality improvement and integration. For example, a DHB/PHO Alliance working on reducing acute hospital bed days per capita might choose to address acute hospital bed days for vaccine-preventable diseases as a contributory measure.

2. THE RESULTS

With the major policy changes that have been implemented since 2000, a practical next step is to evaluate how the results of New Zealand's system compare to other countries. The Commonwealth Fund ranks the health care systems of high-income industrialised countries based on metrics associated with various domains of health. New Zealand ranked first out of five countries analysed in Commonwealth's 2004 edition. It was third out of six countries analysed in the 2007 edition and fourth out of eleven countries analysed in the 2017 edition.^{24,25,26}

In the Commonwealth Fund's most recent 2017 analysis, New Zealand performs well compared to the other ten high-income countries on the administrative efficiency and care process. However, the New Zealand health sector ranks worse than the eleven-country average on providing equitable and accessible care and achieving good health outcomes. When averaging the results across all of the domains, the United Kingdom's system performs the best, while the United States' system performs the worst. In Appendix 2, New Zealand's rankings are compared to the best and worst systems in each performance domain.

²² Ambulatory sensitive hospitalisations are those hospitalisations that are considered potentially preventable when appropriate and timely primary care is delivered.

²³ Amenable mortality includes those deaths that could potentially have been prevented with effective and timely health care. It includes deaths among individuals 74 and younger.

²⁴ The Commonwealth Fund (2014)

²⁵ The Commonwealth Fund (2017)

²⁶ It should be noted that some methodological changes and adjustments have occurred over this timeframe. Of the five countries in the 2004 edition, two countries (the United Kingdom, and Austria) surpassed New Zealand in the 2017 edition. Thus, in the 2017 edition, New Zealand ranked third among the original five countries analysed in 2004.

When compared to the much larger group of countries in the Organisation for Economic Co-operation and Development (OECD), New Zealand performs well. In 2013, life expectancy at birth in New Zealand was 81.4 years compared to 80.5 years among OECD countries and 78.8 years in the United States.²⁷ New Zealand achieves these results with health expenditures that are 9.5 percent of gross domestic product compared to 8.9 per cent among OECD countries.²⁸

While international comparisons can be helpful and provide very high-level context, their limitations are important. Metrics to compare countries can only include what data are available across various health care sectors and may not measure what is important to the sector and government. High-level cross-country comparisons also often mask important disparities among different demographically diverse populations.

Digging Deeper: New Zealand’s Focus on Access and Equity

Two of the fundamental principles of the 2001 and 2016 New Zealand Health Strategies are improving health access and narrowing inequalities in health outcomes. PHOs were created and are funded to work towards these objectives.

Some key informants are concerned that these objectives have not been met. They argue that the government is underfinancing primary care. To compensate for insufficient resources, primary care providers are increasing patient fees. These fees create an access barrier for New Zealanders, particularly those who live in high-deprivation areas and/or are racial/ethnic minorities. According to the argument, this limited access leads to increasing inequalities among different population groups.

New Zealand is fortunate to have the New Zealand Health Survey (NZHS) to help better understand this reasoning. The survey includes a sample of around 19,000 New Zealanders and the data are weighted to reflect the entire population. While not a substitute for clinical data, the NZHS can help policymakers understand the population’s experience within and access to the health care system. However, the limits of survey data should be underscored. They represent individuals’ perceptions of when care is needed.

Synthesis of Results

Data analyses from the NZHS and administrative sources, which are summarised in Tables 1 – 5, confirm issues related to primary care access are nuanced. A large percentage of the adult population reported experiencing limited access to care at least once in the past year. However, it is difficult to determine from the data the frequency

²⁷ OECD (2015)

²⁸ Ibid

with which individuals had unmet need during a given year. The magnitude also varies considerably among different demographic groups.²⁹

Cost is an important barrier and is much more significant for Māori and Pacific populations compared to others. Contrary to conventional wisdom, an increasing proportion of New Zealand adults do not cite cost as the most important factor preventing them from getting needed primary care. However, cost as a barrier is increasing for the Pacific population. Administrative data do not show that, on average, patient fees for primary care have increased significantly. However, the experience of individual practices may be different.

In increasing numbers, adults mention the inability to get an appointment within 24 hours as a barrier to care. This finding has important implications for primary care delivery models that can expand capacity.

Access

Table 1 summarises the proportion of the population that indicated they did not get needed primary care services in the last 12 months. Changes for statistical significance are noted.

Table 1. Adults (15 years and older) who experienced one or more types of unmet need for primary care in past 12 months, 2011/12 and 2015/16^{30,31}

Population	2011/12	2015/16	Statistically significant change since 2011/12?
All adults	26.6%	28.8%	▲
European/other adults	25.9%	28.4%	▲
Māori adults	38.8%	39.3%	=
Pacific adults	29.1%	34.2%	▲
Asian adults	21.1%	22.8%	=

▲ Statistically significant increase; ▼ Statistically significant decrease; = No statistically significant change.

²⁹ For purposes of brevity, data analysis is included only for the adult population. Similar data for children 14 years and younger can be found at <http://www.health.govt.nz/publication/annual-update-key-results-2015-16-new-zealand-health-survey>

³⁰ New Zealand Ministry of Health (2016a)

³¹ New Zealand Ministry of Health (2017b)

- A slightly higher proportion of New Zealand adults report unmet need for primary care (26.6% in 2012 compared to 28.8% in 2016).
- Māori adults are 1.4 times more likely to not have accessed needed care compared to non-Māori adults. While Māori have the highest unmet need among ethnic groups, there has not been a statistically significant change in unmet need over the past four years.³²
- Instead, unmet need is increasing among Pacific and European populations.

There are concerns from the sector that access is deteriorating because of recent increases in fees. According to self-reported data, this is true among the Pacific population, but not others.

Table 2. Adults (15 years and older) who experienced unmet need for GP due to cost, 2011/12 and 2015/16^{33,34}

Population	2011/12	2015/16	Statistically significant change since 2011/12?
All adults	13.6%	14.3%	=
European/other	13.0%	13.9%	=
Māori	22.5%	22.7%	=
Pacific	16.3%	21.5%	▲
Asian	10.1%	9.2%	=

▲ Statistically significant increase; ▼ Statistically significant decrease; = No statistically significant change

- Approximately 14 per cent of adults have not accessed GP care due to cost. This figure has been statistically stable over the last four years.
- This estimate masks some important disparities. The proportion of the Pacific adults who did not access care due to cost increased by five percentage points over the last four years.
- While there hasn't been an increase in the proportion of Māori adults who did not access care due to cost, they are still far more likely to report unmet need due to cost than New Zealanders of European descent.

³² New Zealand Ministry of Health (2016a)

³³ New Zealand Ministry of Health (2016a)

³⁴ New Zealand Ministry of Health (2017b)

Table 3 shows average consultation fees at VLCA practices in 2008, 2011 and 2016. It also compares the compound average annual increase between these time frames.

Table 3. Average patient consultation fee at Very Low Cost Access practices, ages 18 and older, 2008, 2012 and 2017.³⁵

Age Group	2008	2012	2017	Average annual compound increase (2008-2012)	Average annual compound increase (2012-2017)
18-24	\$16.52	\$14.99	\$15.31	-2.4%	0.4%
25-44	\$16.86	\$15.17	\$15.76	-2.6%	0.8%
45-64	\$16.80	\$15.06	\$15.73	-2.7%	0.9%
65+	\$15.63	\$13.85	\$14.46	-3.0%	0.9%

- Fees at VLCA practices have increased well below the rate of inflation. Between 2008 and 2012 the average annual fee at VLCA practices declined between 2.4 and 3.0 per cent. During this time, the annual compound rate of inflation was 2.4 percent.
- Between 2012 and 2017 fees at VLCA practices increased just below the annual compound rate of inflation which was 1.0 percent during this time frame.
- One limitation of these data is that they summarise averages across practices and are not weighted by practice size. Fee increases among individual practices and within various regions will be different.

Those practices that are not in the Very Low Cost Access scheme have both higher patient fees and higher percentage increases as summarised in Table 4.

³⁵ Data provided by Professor Jacqueline Cumming received from New Zealand Ministry of Health. Compound increase calculated by author.

Table 4. Average patient consultation fee at practices not in Very Low Cost Access programme, ages 18 and older, 2008, 2012 and 2017³⁶

Age Group	2008	2012	2017	Average annual compound increase (2008-2012)	Average annual compound increase (2012-2017)
18-24	\$28.43	\$35.51	\$39.75	5.7%	2.3%
25-44	\$29.33	\$37.36	\$42.60	6.2%	2.7%
45-64	\$29.23	\$37.44	\$42.68	6.4%	2.7%
65+	\$28.93	\$36.01	\$40.43	5.6%	2.3%

- The data show that between 2008 and 2012 average consultation fees at non-VLCA practices increased much faster than average annual compound inflation rate which was 2.4 per cent.
- However, between 2012 and 2017, the annual fee increases at non-VLCA practices ranged between 2.3 and 2.7 percent. Among all age groups they increased at less than half of their 2008-2012 increases.
- These data underscore that while there is currently significant debate in the media regarding recent increases in consultation fees at non-VLCA practices, the substantive increases actually occurred five to nine years ago.

Both survey data of New Zealanders and administrative data from general practices suggest that cost is an important barrier but not increasing significantly in the last five years.

As shown in Table 5, individuals' inability to get a timely appointment has increased slightly over the last five years. Across the population it is a more prevalent barrier compared to cost. However, this is not the case among Māori and Pacific populations where cost is a more common barrier.

³⁶ Ibid

Table 5. Adults (15 years and older) unable to get an appointment at usual medical centre within 24 hours in past 12 months^{37 38},

Population	2011/12	2015/16	Statistically significant change since 2011/12?
All adults	15.5%	17.8%	▲
European/other	15.2%	18.1%	▲
Māori	20.0%	20.7%	=
Pacific	14.5%	16.4%	=
Asian	14.1%	16.0%	=

▲ Statistically significant increase; ▼ Statistically significant decrease; = No statistically significant change

While the Māori population reports that they are less likely to get needed primary care, they are 1.2 times more likely to be hospitalised compared to the non-Maori population.³⁹ They also have higher rates of ambulatory sensitive hospitalisation.

Health Status

While many factors affect health status, the ultimate goal of improving access to care is to improve quality of life and minimise health loss or how much life is lost to early death, illness or disability. Data from the Ministry of Health show that New Zealand has made progress in minimising health loss. Outcomes such as increasing life expectancy, and decreasing death rates from cardiovascular disease, cancer and respiratory illness have improved. Nonetheless, across all of these metrics, disparities remain.⁴⁰

Amenable mortality is an important metric for measuring effectiveness of health care systems. It includes premature deaths among the aged 74 and younger population that could potentially be avoided with effective and timely care. Figure 1 summarises amenable mortality rates in New Zealand between 2009 and 2013.

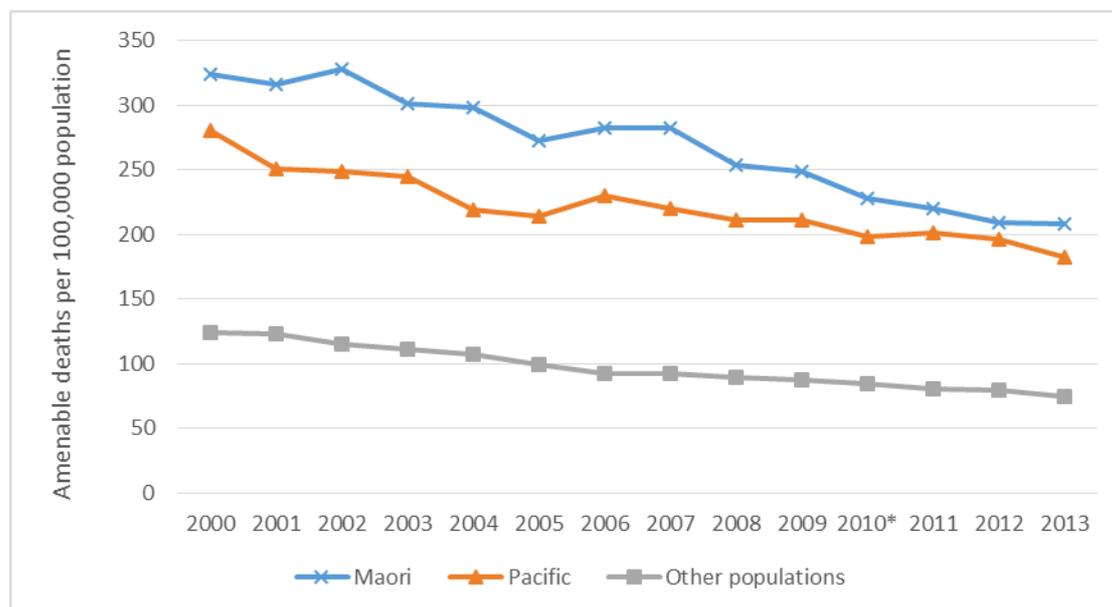
³⁷ New Zealand Ministry of Health (2016a)

³⁸ New Zealand Ministry of Health (2017b)

³⁹ New Zealand Ministry of Health (2016e)

⁴⁰ Data provided to author by New Zealand Ministry of Health 24 May 2017.

Figure 1. Amenable mortality per 100,000 Population, Ages 74 and Younger, by Race/Ethnicity⁴¹



*Beginning in 2010, 2016 definitions of amenable mortality applied. Data age-standardised to WHO world standard population.

- While amenable mortality rates have declined across all populations, large disparities still exist.
- Amenable mortality rates for the Māori population are 2.8 times higher than other populations. Amenable mortality rates for the Pacific population is 2.4 times higher than others.

3. DATA AND MONITORING OF PRIMARY CARE

“Data! data! data!” he cried impatiently. “I can’t make bricks without clay.”

— *Arthur Conan Doyle, The Adventure of the Copper Beeches*

The overarching conclusion of a 2017 OECD synthesis of health care quality reviews is that health care systems and providers should be transparent about the effectiveness, safety and patient-centredness of the care that they provide. The report notes,

“Greater transparency can lead to optimisation of both quality and efficiency – twin objectives that reinforce, rather than subvert, each other. In practical terms, greater transparency and better performance can be supported by making changes in where and how care is delivered; by modifying the roles of

⁴¹ Data provided to author by New Zealand Ministry of Health, 23 May 2017.

patients and professionals, and by more effectively employing tools such as data and incentives.”⁴²

To an outsider, the lack of primary care data that is collected and synthesised in New Zealand is surprising. While the government allocates over \$900 million to PHOs annually for primary care, it has a relatively permissive approach to understanding how those funds are spent and the extent to which they meet the public sector’s objectives. Increasing the availability of primary care clinical data and intelligence underlies many of the recommendations in this report.

The media consistently reports concerns about the primary care sector not having sufficient resources to address the needs of New Zealanders, especially those of low-income populations and racial/ethnic minorities. There is also apprehension about what primary health organisations are doing to address population health and how effective those efforts are. However, due to the lack of data collection and monitoring, evaluating the quality and extent of what types of primary care services are being provided, what conditions are most commonly treated in primary care, and the collaboration with other sectors cannot be done on a national basis.

The Ministry of Health receives a quarterly report summarising the last date of general practice visit for the enrolled populations at each PHO. But little is known about what occurs during the visit. Diagnosis codes (describing the diagnosis of the patient) and procedure codes (describing what occurred during the visit) are neither collected nor submitted.

In 2016, the Ministry of Health launched the SLM framework. As described earlier in this report, the SLM framework is a collection of six metrics including: the rate of ambulatory sensitive hospitalisations for children four and younger; the number of acute hospital days per capita; the rate of mortality amenable to health care; the percentage of babies living in smoke-free households; youth well-being; and patient experience of care.

Data will be reported at the Alliance level (collaborations of PHOs and DHBs) and Alliances choose their contributory measures.⁴³ Because Alliances choose these contributory measures, they are not necessarily comparable.⁴⁴

The SLM framework is an important step towards monitoring collaboration between general practice and hospitals. However, because many of the metrics are multifactorial it will be challenging to use the SLM results towards assessing quality of primary care services. Expanding monitoring to include a much more robust

⁴² OECD (2017)

⁴³ For additional information regarding the Systems Level Measurement Framework see <http://www.health.govt.nz/new-zealand-health-system/system-level-measures-framework> (Accessed on 30 May 2017.)

⁴⁴ If Alliances do choose the same contributory measures, they can compare their results using the Health Quality Measures Library at: https://www.hqmnz.org.nz/library/Health_Quality_Measures_NZ In addition, advice on using the measures can be found on this website.

primary care data collection effort would significantly increase the intelligence around primary care services.

Almost all the PHOs are involved in some type of data collection effort. But these efforts are often not standardised or integrated. Not surprisingly, due to scale and resources, the large PHOs tend to be further along in data collection and are more likely to share data with their DHBs. In New Zealand, due to lack of coding, the bulk of the information about the visit is included in the clinical notes which are typically not shared with DHBs.

The good news is that there is significant momentum to collect more information. The four largest PHOs have created primary care databases and are interested in scaling this effort throughout the country. There is an initiative underway to create a national primary care data warehouse. Key players leading this effort are Compass Health and General Practice New Zealand. PHOs representing around 70 per cent of the population have agreed to provide \$0.05 per enrollee to fund the planning stages, which include governance and procurement.

Even though the primary care sector does not see the Ministry of Health as a user of their current data collection efforts, the Ministry should develop a strategy for collecting data to enable monitoring the sector and inform possible changes. The Ministry is in discussions about providing some funding for data collection efforts.

Greater primary care data collection and availability can also inform organisations outside of government. New Zealand's Prime Minister, Bill English, is a champion of the government more effectively using data to make decisions as well as "data democratisation" in which data are more widely available outside public sector agencies.

In 2016, as Finance Minister, Mr English underscored both of these ideas in a speech at a data hui convened by Statistics New Zealand, Treasury and the Ministry of Social Development.

“And we welcome the public’s rising expectation that we will use their money effectively. Data sharing is an essential part of this. If we are going to understand what works, we need to know what services went to whom – something we don’t yet know.”⁴⁵

Mr English continued, “Access to data shouldn’t be the exclusive reserve of government – but that’s what it largely is because in many cases access is being decided in an ad hoc fashion.”⁴⁶

⁴⁵ English (20 April 2016)

⁴⁶ Ibid

Data collection and monitoring of DHBs

DHBs are involved in a data collection effort through the Health Roundtable of which they are all members. This non-profit organisation, headquartered in Australia, provides DHBs with quarterly analyses of their performance and benchmarks all DHBs against the other 19. While a sub-set of this data is submitted to the Ministry as part of DHBs' reporting requirements, most of the data is kept confidential and not used for strategic purposes by the Ministry to sufficiently monitor the sector.

The Ministry of Health should help build local capability to collect and analyse primary care data for system improvement. However, unlike the current system for DHBs, any new data collected from primary care should be available and utilised by the Ministry of Health. Policy analysts should use newly-available data to understand the extent to which the sector is achieving policy objectives. Analysts using a data-driven approach can more effectively monitor the sector and develop and model actionable policy options.

However, collecting and synthesising data from primary care is much more challenging than in the hospital sector. Hospital care is more procedurally-based and much easier to standardise. The objectives of primary care such as comprehensiveness, coordination, continuity and prevention are much more challenging to describe and measure.⁴⁷ Despite these challenges, the 2017 OECD report on health quality recommends,

“Governments should encourage and where appropriate require health systems and health providers to be open about the effectiveness, safety and patient-centredness of the care they provide. More measures of patient outcomes are needed (especially those reported by patients themselves), and these should underpin standards, guidelines, incentives and innovations in services delivery.”⁴⁸

Data collection versus data intelligence

Unfortunately, many countries that have launched data collection efforts have begun with the administrative mechanics of collection, ownership and financial sustainability.

Instead, the primary care sector and the Ministry should collaboratively identify why the data should be collected, what questions it will answer and what problems it will solve. Articulating these needs at the beginning of the process ensures that the right data are collected and helpful analyses are conducted.

Developing the infrastructure for primary care data collection and monitoring can be time-consuming and resource-intensive. A successful effort is likely to include a staged approach that includes the important questions that each stage will answer.

⁴⁷ OECD (2017)

⁴⁸ Ibid

Utilisation and Quality

As a first step, a monitoring programme can measure utilisation of primary care services and quality of care. This is where the national primary care data warehouse is beginning to focus its efforts. Ministry engagement regarding useful ways to measure utilisation and quality is important.

A number of countries have developed primary care quality monitoring programmes that could inform efforts in New Zealand. For example, the United Kingdom's Quality and Outcomes Framework (QOF), Canada's Primary Care Quality Indicators and the United States' Healthcare Effectiveness Data and Information Set (HEDIS) include some evidenced-based metrics.

A common theme in New Zealand is that the primary care sector wants to be evaluated based on outcomes and not outputs. But the reality is that most of primary care is process oriented. Rather than monitor the sector on multifactorial outcomes such as life expectancy or mortality rates, evaluating primary care based on evidenced-based outputs such as managing individuals with chronic disease is likely to generate more actionable monitoring.

Specific metrics for quality can be developed for monitoring purposes, but policy practitioners should also be engaged in thinking through how data collection can answer policy questions. Some first phase questions could include:

- How much primary care are different populations using (analysed by disease burden, age, geography, ethnicity and income)?
- What is the quality of care (effective, safe, patient-centred) received by different populations (analysed by variables above.) How do these results compare to investments made in the health care sector?
- Where and among which populations is there under-utilisation or over-utilisation of primary care? Among which services?
- Based on utilisation and quality data how could capitated rates be revised to ensure more equitable outcomes for primary care?
- What types of evidence-based programmes or initiatives could be pilots for different populations and different communities to achieve improved access and quality?

Collaboration between primary and secondary care

Collaboration between primary and secondary care is one of the principal challenges facing the health care sector. A second and more challenging phase of data collection and analysis includes combining data from primary and secondary care to better manage individuals and inform policy.

While New Zealanders have a national health identification number that is used in their interactions with the public health care system, there are no system-wide analyses that link patients' utilisation of health care services across the primary and

secondary sectors. In certain cases, DHB and PHO leaders are collaborating to link data, but it is not done consistently and policy planners do not have this sort of data or intelligence to inform decision-making.

As New Zealand collects data to increase collaboration between general practice and hospital services, high-level questions in this phase could include:

- To what extent is low primary care utilisation associated with higher secondary care utilisation and in which populations (analysed by disease burden, geography, ethnicity, income)? How could this be managed differently?
- How often are individuals presenting in the emergency department with conditions that can be treated in primary care? How does this vary by enrolees in different general practices? How does this vary by disease burden, geography, ethnicity, income? Where prevalence is high, how might this issue be managed differently?
- To what extent do people discharged from an inpatient facility have contact with the primary care system within two weeks? How does this vary by enrolees in different general practices? How does this vary by disease burden, geography, ethnicity, income? Where prevalence is low, how might this issue be managed differently?
- To what extent is contact with the primary care system after hospital discharge associated with lower re-admission rates? Where re-admission rates are low, how is care being delivered differently?
- What programmes or initiatives could be piloted to improve integration between the two sectors? Among which populations with which chronic diseases does collaboration between primary and secondary care need improving?
- How do the results from the above analytical questions vary by DHB/PHO?

Cost Drivers

In New Zealand, there is growing concern about the increasing financial resources necessary to support the health care sector. These concerns will magnify as the population ages and lives longer with chronic conditions. While there is significant discussion about increasing expenditures in the health care system, there is surprisingly little analysis of what specifically is driving costs or measurement of how well the system can put those pressures in check.

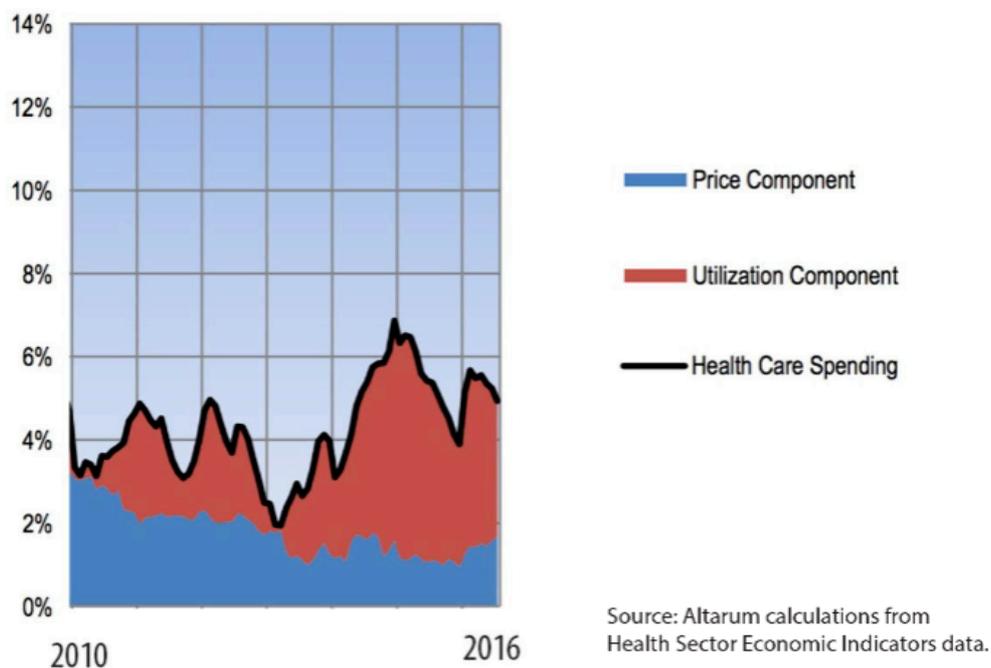
‘Value’ measures the outcomes in an industry or organisation relative to expenditure. Pairing cost and quality data will give the government a better idea of the value it is getting in the health care sector.

At a very basic level, health care expenditures are a function of the price (or resource intensity) of services consumed multiplied by the utilisation or quantity of services

used. However, in New Zealand it is not possible to isolate the relative importance of each. It is necessary to isolate these two phenomena in order to identify what levers are available to mitigate growth trends.

For example, Figure 2 summarises analysis from the US that depicts the extent to which utilisation versus price drove increases in health expenditures over six years. After the 2014 implementation of the Affordable Care Act, or Obamacare, millions of more people with health insurance meant that a greater utilisation of services was driving spending. Prior to Obamacare, price was driving spending. This sort of data intelligence helps policy analysts focus on policy options that will have the greatest impact.

Figure 2. Annual increase in health care spending, contribution of price and utilisation, United States, 2010 – 2016⁴⁹



Analysing cost drivers is the most challenging phase in data intelligence. Some high-level questions in this phase could include:

- What is the total cost of primary and secondary care for different populations? (analysed by disease burden, age, geography, ethnicity and income)
- How does the spending for services compare to quality or value?
- To what extent are increases in health spending used to fund increases in utilisation or increases in prices? How does this vary by DHB/PHO?

⁴⁹ Altarum Institute (2016)

- Are these increases reasonable or are there alternative ways of providing services that would improve value?
- To what extent could payment reform policies help the public sector achieve desired outcomes?

Building Trust with Primary Care

There is a strong resistance to sharing what data are currently collected outside of the sector. Primary care providers often cite the fact that they are private sector entities and mention privacy concerns of patients. The power of this argument is surprising considering the level of public resource spent on primary care. Providing more detailed information regarding how public funds are used could be a prerequisite for obtaining public subsidies for services.

As subsequently described in Chapter 4, the primary care sector is extremely interested in a more robust financing formula that is much more targeted and takes into account patients' acuity and other factors that impact the provision of care. Rigorous data collection that includes demographic data and disease burden could be used to achieve this objective. In return for implementing a data collection and monitoring process, the Ministry could commit to a data-driven review of the financing of primary care.

Recommendations

- The Ministry of Health should develop a primary care monitoring programme. This will involve collecting data from the primary care sector. To avoid duplication of effort, the Ministry should collaborate with the primary care sector as it builds out its own data collection efforts.
- A primary care monitoring programme should include a phased approach to measure quality, coordination between primary and secondary care, utilisation and cost drivers. It is important to identify the analytical questions that need to be answered and the problems that can be solved with more analytics before addressing the administrative, governance and financial aspects of the initiative. Results from the programme should be analysed by different population groups so that providers can better understand and be accountable for inequalities.
- To motivate the primary care system to participate, the government should commit to use the new data to review the primary care funding formula to develop more data-driven financial reimbursement as described in the following chapter.

4. FINANCING AND ORGANISATIONAL STRUCTURE

*“Money makes things easier, but it doesn’t make the system smarter.”
–Chief Executive of a primary health organisation in New Zealand.*

The key for New Zealand is to create a financing system that supports a strong primary care system and incorporates innovative models that appropriately meet the needs of all populations. According to the 2001 strategy, the intent of those policy changes was to do just that.⁵⁰ However, because general practice still charges patient fees, practices continue to have the incentive to provide a high volume of face-to-face visits to increase income.

It is unclear how much general practices’ revenue is from the government, but estimates from key informants range from 50 – 70 percent. Providers in higher income areas are more likely to have a greater proportion of income from patient fees compared to providers in lower income areas.

Because of the bifurcated funding, the New Zealand model is essentially a government-subsidised fee-for-service system and doesn’t necessarily gain the benefits of capitation. In a study of some of the most effective US practices implementing team-based care, practice leaders noted that the biggest barrier to the development of practice teams is an ongoing reliance on fee-for-service reimbursement that rewards traditional providers’ involvement in care.⁵¹

The Promise of Capitation

In capitated health care systems, providers receive a monthly or annual payment to provide all needed health care services to a given population. Because capitated payment models tend not to restrict how services must be provided and by whom, providers are encouraged to innovate with new methods and models of care such as implementing electronic visits or employing nurse practitioners to deliver services. Traditional fee-for-service models which pay providers based on the number of face-to-face visits with specific providers tend not to have these advantages.⁵²

In strictly capitated models, if providers render services that cost less than the capitated amount, they are allowed to keep the difference. If they render services that cost more than the capitated amount, they must absorb the difference. It is important for capitated models to have quality and performance benchmarks to ensure that services are not scaled back so that quality suffers.

Capitation can have unintended consequences. Rigorous risk adjustment is intended to prevent providers from seeking only those patients who are the healthiest and therefore least costly. While capitation is intended to encourage providers to manage

⁵⁰ King (2001)

⁵¹ Wagner *et al.* (2017)

⁵² Luft (2009)

risk, it can be extremely challenging for small organisations to manage. Unpredictable risk, in particular, can financially devastate organisations with a small number of enrollees.

Ideally, models intended to promote integration include capitated payments that cover the full spectrum of individuals' care. Kaiser Permanente (KP) in the United States provides primary, secondary and tertiary care and insurance to around 12 million people. KP receives a risk-adjusted capitated budget each month regardless of the utilisation of services provided. Kaiser is one of the lowest-cost systems in the US⁵³ and has been an early adopter of team-based care, nurse triage models, phone consultations, and e-mail inquiries. It consistently receives high marks from the National Committee for Quality Assurance (NCQA), which evaluates plans in the US based on consumer satisfaction, prevention and treatment.

KP's success at providing low-cost and high-quality care is often attributed to its investment in prevention to avoid expensive hospital care.⁵⁴ While some aspects of the Kaiser model could inform the New Zealand sector, the full model is unlikely to be feasible in New Zealand without significant changes to the delivery system.

The Importance of Data-Driven Capitation

In order to calculate New Zealand's original capitation base rates in the early 2000s, policy planners analysed primary care utilisation data from individuals receiving subsidised services in a small set of primary clinics. Those data, which did not include utilisation of people who didn't receive subsidised services, were used to create capitation rates for the entire population.

The first contact capitation base rates are not recalculated on an annual basis using historical information or guidelines on how much care should be delivered. Instead increases are added to the base rates according to changes in the age and gender of the population and cost pressure. This assumes that the base rates are accurate.

The formula also includes additional funding for individuals with two or more chronic conditions. Called Care Plus, the programme means that general practice is compensated for creating a care plan to support their needs. The Care Plus formula is relatively blunt; it assumes that the cost for care planning of an individual with four chronic conditions is the same as an individual with two. Also, it doesn't differentiate between various chronic conditions such as diabetes or chronic obstructive pulmonary disease for which care is very different.

The current capitation formula relative to utilisation creates a financial disincentive for practices to enrol individuals who require significantly more resources than are provided. For example, PHOs indicate that first contact capitation rates for children overcompensate for their utilisation of primary care while rates for individuals aged 65 and older undercompensate primary care providers for the cost of serving these

⁵³ McKinsey and Company (2015)

⁵⁴ McKinsey and Company (2015)

individuals. According to their argument, PHOs with a disproportionately high number of younger people are likely to be financially better off than those with a disproportionately higher percentage of individuals aged 65 and older.

Table 6 summarises the number of GP visits and level of first contact capitation for different adult age cohorts. It benchmarks these results to the 15 – 24 age cohort. For example, individuals aged 45 – 64 have GP visits that are 178% of the 15-24 age cohort yet only 121% of the capitation rate.⁵⁵ It should be noted that due to data limitations other funding streams such as patient co-payments and Care Plus funding could not be included.

Table 6. Average number of Annual General Practice Consultation Visits by Age Group Compared to Access First Contact Capitation Rates, 2015/16⁵⁶

Age group	Average number of visits (all genders)	Access First Contact Capitation for non-VLCA practices (female)	Number of GP visits as a percentage of age 15-24 cohort	Access First Contact Capitation for non-VLCA as a percentage of age 15 - 24 cohort (female)
15-24	2.3	\$ 117	100%	100%
25-44	2.8	\$ 103	122%	88%
45-64	4.1	\$ 141	178%	121%
65 and older	7.2	\$ 242	313%	207%

Also, PHOs point out that while there is one capitation rate for individuals aged 65 and older, this age cohort has very different utilisation rates. For example, utilisation of individuals in their 80s will be very different than those in their mid-60s.

In 2017/18, the government will provide an estimated \$916 million in funds for primary care, a 72 per cent increase relative to 2006/07 when funding was \$532 million. The current funding arrangements can be confusing within the sector. As summarised in Table 7, different primary care funding streams are based on different rating factors. Although the government’s health care strategies have identified addressing health disparities as a priority, race/ethnicity and deprivation are only applied to a small proportion of funding.

⁵⁵ Children’s capitation and utilisation is not shown in the table because they do not have patient fees.

⁵⁶ Utilisation data provided to author by General Practice New Zealand (GPNZ) but originated from a request under the Official Information Act from GPNZ to the New Zealand Ministry of Health. Access First Contact capitation rates from the Ministry of Health.

Table 7. Factors used in formulas for government funding for primary care organisations and public primary care funding 2017/18

Type of Funding	Age	Gender	Race or ethnicity	Deprivation	Other Factors	Amount, 2017/18, est. (in \$ millions)	% of total funding, 2017/18
Capitation Funding							
First Contact	X	X			HUHC status and practice formula type ⁵⁷	\$651.2	71%
Zero Fees for Under 6s/13s	X	X				\$34.2	4%
Very Low Cost Access (VLCA)	X	X			50% high needs entry criteria from October 2009 ⁵⁸	\$55.3	6%
Flexible Funding Pool							
Services to Improve access	X	X	X	X	Non HUHC holders	\$51.6	6%
Health Promotion	X	X	X	X	Non HUHC holders	\$10.9	1%
Care Plus	X	X	X	X		\$68.2	7%
Management Fees					Size of PHO ⁵⁹	\$30.6	3%
Other							
After hours under 6s/13s	X	X	X	X	Slight adjustments for rurality, unmet need and other factors	\$14.0	2%

⁵⁷ Additional funding is provided for individuals who have had 12 or more primary care visits in the last year and have a high-use health card (HUHC). Additional funding is provided for children younger than 14 who are enrolled in practices that were historically deemed as having issues related to access.

⁵⁸ From October 2009, eligibility to enter the Very Low Cost Access scheme is limited to general practices that meet the 50% high-needs criteria (defined as Māori, Pacific and/or living in a New Zealand deprivation 9-10 area).

⁵⁹ The management services fee varies depending on the total number of enrolled patients.

The VLCA scheme is highly criticised across the sector because it does not target those New Zealanders most in need of primary care services. When VLCA was first implemented, any practice could join if it kept fees at a low rate regulated by the government. However, in later years, the rules changed so that a practice can only join VLCA if it has an enrolled population that is at least 50 percent high deprivation, Māori or Pacific.

Because of this, high-income individuals can go to VLCA practices and take advantage of VLCA subsidised care. Similarly, people living in high-deprivation areas do not get VLCA subsidised care if they are not enrolled in a VLCA practice.

Analysis conducted by Sapere Research Group concluded that in 2013/14 only 56 percent of high-needs patients were enrolled in VLCA practices while 44 per cent were not. Of the 1.3 million New Zealanders enrolled in VLCA practices 44 per cent did not meet the definition of high needs.⁶⁰

In November 2015, the Primary Care Working Group on General Practice Sustainability provided recommendations to the Ministry of Health on reforming VLCA. Recommendations included the reallocation of VLCA payments to high-needs patients based on the Community Services Card status,⁶¹ ethnicity and deprivation. It also recommended applying a combination of CSC status and deprivation as factors in determining patient eligibility for low co-payments regardless of the practice in which they are enrolled.

In 2016, Health Minister Jonathan Coleman said that the recommendations would not move forward because it would require new funds that are not available. Furthermore, he noted, "...if we were to make a radical redistribution of existing funds I think it would really cause some major difficulties."⁶² He did not discuss the possibility of a phased transition in which the funding is gradually redistributed to avoid immediate increases in fees to some individuals and abrupt loss of revenue to some practices.

Since then, Minister Coleman has acknowledged that he has asked staff at the Ministry of Health to work on a more targeted approach to disbursing funds to support high needs patients.⁶³

Although the primary care sector is highly focused on revising VLCA, as summarised in Table 7, it only comprises around six per cent of primary care funding. The Sapere analysis show that just under half of that funding appears to be used to support individuals who are not high needs.⁶⁴ While the Working Group's recommendations should be taken into consideration, this may be a relatively short-term solution. The

⁶⁰ Love and Blick (2014)

⁶¹ Individuals aged 16 and older with low to middle incomes may be eligible for the Community Services Card.

⁶² Taylor, New Zealand Doctor (10 June 2016)

⁶³ Topham-Kindley (2017)

⁶⁴ Love and Blick (2014)

primary care sector appears to need more of a far-reaching funding review. With a much more rigorous data and monitoring programme described in Chapter 3, the Ministry of Health and Treasury would have the inputs to develop more accurate and streamlined capitation rates and corresponding co-payments that better reflect patient demographics and needs.

Changes to organisational structures

More rigorous and risk-based capitation are important steps toward changing incentives for the primary care sector. A number of large PHOs indicated that they would welcome bearing more financial risk. However, this is likely to be challenging for small PHOs who would face difficulties managing unexpected risks across much smaller populations. Larger PHOs also have the resources to create innovative models of care and collaborate with other sectors.

Most key informants with whom I met agreed that for a country of 4.7 million people, there are too many PHOs. While there has been significant consolidation from over 80 to 31, this number is likely still too high. Currently, some DHBs are working with up to five different PHOs and some PHOs are working with up to four DHBs. Administrative overhead and coordination functions could also be streamlined with fewer PHOs.

Another concern from key informants is that many PHOs are effectively restructured independent practice associations (IPAs) and directed by GPs without a broader primary care framework. Larger PHOs are likely to have much more diversity of perspective and help New Zealand's sector move from a general practice model to one which utilises a range of providers and is not as heavily centred on GPs.

A consolidation of DHBs should be explored as well. While there are exceptions, DHBs have been criticised for operating in regional and financial isolation without focusing on systemic and long-term health outcomes among New Zealanders. The Ministry of Health commissioned the Capability and Capacity Review which synthesised 100 interviews of leaders in the health and social sector. That 2015 report concludes that the current structure results in 20 silos of care. It concludes that policy decisions are made based on short-term fiscal impacts of 20 different entities as opposed to a national view of what is best for the country.⁶⁵

Almost everyone I spoke with (including chief executives of DHBs) agreed that these issues are exacerbated because there are too many DHBs. They attributed the surplus of DHBs to the health reforms in the 1990s in which organisations competed against each other for business. As one person told me, “creating DHBs was a way to give back health care to local communities.” Key informants generally thought that a country the size of New Zealand could support around four to six DHBs and PHOs with similar geographic configurations.

⁶⁵ Suckling *et al.* (2015)

Recommendations

- Treasury and the Ministry of Health should undertake a rigorous and data-driven primary care financing review. Consideration should be made to streamline all of the disparate funding streams into one primary care capitated payment. Payments should follow the individual as opposed to the VLCA payments that follow the practice based on the composition of enrolees.
- Currently, the base capitation rate is calculated on very blunt factors that are applied to outdated utilisation rates. The financing review should include an actuarial analysis that explores more rigorous and targeted factors such as health status, prevalence of disease, income and race/ethnicity. The weighting of these factors should be analysed as well. This analysis should be used to set capitation and patient fees.
- The funding review should include more upside and downside risk for primary care. Risk is likely to be much easier to manage if the sector is consolidated into fewer PHOs and DHBs that encompass more providers and larger populations.
- To create risk-adjusted rates, significantly more information is needed from the primary care sector regarding utilisation and intensity of care among different patient demographics. Collection of this data will be a long-term initiative. In the meantime, Treasury and the Ministry of Health should collaborate with some of the larger PHOs which do have large data collection efforts that can cross-tabulate demographic variables, health status and burden of disease with utilisation patterns.
- The Ministry of Health should explore consolidating current DHBs and PHOs regions into four to six. Each region could be serviced by one DHB and one PHO. In their delivery design, these organisations should be expected to take into account the needs of smaller communities within their larger geographic regions.
- The current structure leads to inherent conflicts of interest for DHBs as they try to balance their responsibilities to both provide and fund services. Separating DHBs' dual functions as a provider and a funder needs an extensive and objective review.

5. INNOVATIONS IN PRIMARY CARE

New Zealand is not alone in trying to encourage more innovation in the delivery of primary care. The challenge for New Zealand and other countries is that the evidence around different models is mixed and their successes are varied. Success of new delivery models is highly dependent on the specific context under which they are operating. While it is essential to evaluate primary care innovation within the New Zealand setting, there are some specific opportunities emerging in primary care research from abroad that New Zealand can continue to monitor.

Health care homes

Health care homes or medical homes are a relatively new model of delivering primary care services. While there are many variations of health care homes, some of the key principles include increasing provider accessibility often through team-based and patient-centred care, aligning reimbursement with outcomes and leveraging advanced information technology. Health care homes, which are explained in greater detail in Chapter 6, focus on the coordinated delivery of care across the spectrum including coordination with hospital and specialty providers.

The evidence regarding medical homes and their efficacy in improving quality, reducing costs and improving the patient experience is mixed. Pilots in the United States have led to reductions in utilisation of emergency and inpatient hospital services including hospital re-admissions.⁶⁶ However, as health care home pilots have scaled up, it has been challenging to replicate results from more targeted interventions. This may be due to the existence of many different variations of the health care home model without fidelity to a particular prototype.

Team-based care: New and expanded roles

To expand access to coordinated primary care, some health systems in industrialised countries are supporting the development of multi-disciplinary teams in the primary care setting. Instead of focusing on expanding care provided by GPs, some positions, such as nurse practitioners, can take on functions previously performed by doctors. Nurse practitioners can also serve as alternative providers to GPs. Similarly, medical practice assistants can take on functions, such as checking vital signs and filling out paperwork, that have traditionally been provided by GPs or nurses.

When all members of the team are encouraged to practice at the top of their scope, it can free up expensive GP time and lead to better allocation of resources. While few quantitative analyses exist of the overall effectiveness of team-based care, synthesis of various clinical trials have shown that using medical assistants and nurses to deliver services to individuals with hypertension, depression and diabetes resulted in improved disease control.⁶⁷

Several new types of health professionals have emerged to support team-based and integrated care. Care coordinators or patient navigators can help patients coordinate a variety of phases of health including: prevention, detection, diagnosis, treatment, and survivorship to the end of life.⁶⁸ In systems that are not well integrated, patients with complex chronic diseases can be supported by coordinators who help them navigate care from multiple providers who often don't communicate with each other.

⁶⁶ Nielsen *et al.* (2016)

⁶⁷ Wagner *et al.* (2017)

⁶⁸ Freeman and Rodriguez (2011)

Patient navigators, who address coordination and access barriers, can be especially impactful for low-income or racial and ethnic minorities who have historically experienced health inequalities. The first patient navigation programme in the US took place in 1990 at the Harlem Hospital Center in New York City, which serves a disproportionate share of African American and low-income individuals. After the introduction of patient navigation for breast cancer and free and low-cost mammograms, the survival rate for women with early breast cancer increased from 39 per cent to 70 per cent.⁶⁹

Qualitative analyses have concluded that functions such as care coordination and management are more effective in practices practising team-based care. Similar analysis also shows team-based care resulted in improved patient satisfaction.⁷⁰ The Robert Wood Johnson Foundation in the United States provided technical assistance to primary care practices to develop more effective team-based care. Promising innovations and major trends from some of the highest performing practices from that programme are summarised in detail in Appendix 3. That analysis shows that key success factors include utilising multi-provider care teams with clear roles for medical assistants, nurse care managers, navigators and care coordinators.

Research beginning in the 1970s has demonstrated the benefit of nurse practitioners in the provision of primary care. A systematic review of controlled trials in the Netherlands, United Kingdom and United States found that in a number of studies, care provided by nurse practitioners was at least equivalent to care provided by GPs as measured in term of patients' health status and outcomes.⁷¹ While few studies have rigorously analysed the cost effectiveness of nurse practitioners, the systematic review found some evidence that in comparison to care provided by GPs, care provided by nurse practitioners can reduce costs. Studies regarding cost effectiveness face many methodological challenges and this topic should be studied further.⁷²

Health coaching and self-management

Health coaching is a broad term used as a way to support people in taking greater responsibility for their health. While there is no specific definition of what coaching is or what it entails, Palmer et al define health coaching as “the practice of health education and health promotion within a coaching context, to enhance the wellbeing of individuals and to facilitate the achievement of their health-related goals.”⁷³

Primary care practices in a number of industrialised countries are providing training to nurses and medical assistants to provide coaching. Others are hiring coaches to provide this service directly. Variability between different coaching interventions include content education, patient-determined goals, patient-centredness, patient

⁶⁹ Ibid

⁷⁰ Day *et al.* (2013)

⁷¹ Martin-Misener *et al.* (2015)

⁷² Ibid

⁷³ Palmer *et al.* (2003)

accountability, training of coaches, coaching “dose.” Because health coaching programmes are different, so are the results.⁷⁴ For example, some studies show that coaching has positive impacts on behaviours and outcomes for individuals with cancer, cardiovascular disease and diabetes. Other studies show no such link.⁷⁵

A review of the empirical evidence conducted by the Evidence Centre in the UK noted that health coaching is likely to be most effective for people who are highly motivated and have the most severe conditions or unhealthy lifestyles. In addition, their synthesis concluded that health coaching may be just as effective with less advantaged groups as with more advantaged groups.⁷⁶

Technology

Technology is disrupting the traditional bricks and mortar model of delivering primary care in industrialised countries. Practices can use electronic mail or telephone communication to triage patients. They have found that a large proportion of requests for primary care visits can be resolved over the phone. Patient portals enable patients to view their medical records, request new prescriptions and get medical advice. Large global investments in artificial intelligence have been made over the last few years to create systems in which computerised technology can be used to address patients’ health care needs via cell phones. While this technology is too new to be rigorously evaluated, it is certain to disrupt the traditional model of providing face-to-face care in close geographic proximity.

6. PHOS AND NEW MODELS OF PRIMARY CARE DELIVERY IN NEW ZEALAND

*“Your questions are reminding me what my role is and why I am in this position.”
– Chief Executive of a primary health organisation.*

The policy intent of creating PHOs and implementing a capitated system is to spread primary care innovations across the country. Some of my research intended to understand the extent to which innovative initiatives to expand access have been implemented, their effectiveness and how policy changes could scale innovation.

I visited a number of PHOs to learn more about the reforms they have implemented to expand access to care and address disparities. High-level findings are summarised below.

⁷⁴ Wolever *et al.* (2013)

⁷⁵ Wolever *et al.* (2013)

⁷⁶ The Evidence Centre (2014)

Analysis and Evaluation

It is challenging to determine which innovations are producing the most desirable results at the PHO or practice level. This is because there is very little data collected and strategically analysed by the Ministry of Health from the primary care sector to conduct comparative analyses.

In the immediate years following the implementation of the Primary Health Care Strategy the Ministry of Health did fund some evaluations of the primary care strategy. Victoria University of Wellington and CBG Health Research conducted primary data collection and evaluated the results of the strategy between 2003 and 2010.^{77,78} Researchers found that new funding had increased access to care, although in some cases the funding had supported care to people who could afford to pay for it. They also concluded that many PHOs had implemented programmes that could address inequities. The evaluation underscored that cooperation and coordination of activities between practices and other services were variable and tentative.⁷⁹

A system-wide evaluation has not occurred since this time. This is an important gap, as the number of PHOs has consolidated significantly and capitation comprises a smaller share of practice income over time.

While there are exceptions, PHOs will readily admit that few of their programmes have been rigorously evaluated. Small PHOs note that they don't invest in external evaluations whose cost would be disproportionately large relative to the cost of the programmes. Some PHOs have completed high-level internal examinations at how their programmes are performing. A small number of PHOs, such as Midlands Health Network, have hired external evaluators to assess programme performance.

Some PHOs are not aware of the details regarding what initiatives other PHOs are pursuing or the challenges, opportunities and effectiveness of those efforts to expand access and address equity. PHOs are eager for a formal method by which they can share their collective successes, failures and best practices. Even without rigorous evaluation, many PHO leaders thought there are key learnings that they could share with each other. In particular, some PHOs are eager for information on what types of evidenced-based programmes could be implemented to address health inequalities.

Innovation overview

Generalisations about PHOs can be inaccurate because they are a collection of general practices. Some practices within the same PHO may have embraced a team-based care approach while others have a much more traditional GP staffing model.

⁷⁷ Raymont and Cumming (2013)

⁷⁸ CBG is an independent research organisation that provides public sector research services.

⁷⁹ Ibid

PHOs are in different stages of developing innovative programmes. Large PHOs tend to think more creatively about new models of care. Due to their scale, they have the administrative staff and resources to create new initiatives. This is much more challenging for smaller PHOs.

Innovative changes to primary care delivery appear not to be driven by government policies per se. Rather, most initiatives are driven by local leaders who are inspired to change the way care is delivered. Some of these leaders have observed primary care systems in other countries and were motivated to implement delivery system reforms in their local New Zealand communities. The challenge for New Zealand policymakers is to create policy settings that encourage innovation whereby innovation is scaled nationally and not dependent on local leaders.

Team-based Care and Coordination

There is a movement towards team-based care in New Zealand but the definitions of what it is vary significantly. Quantifying the depth and breadth at which team-based care is occurring in New Zealand would require a rigorous survey of general practice with parameters regarding what team-based care entails and the extent to which practices have adopted various staffing and care models.

A number of practices are involved in the Health Care Home initiative including some in Hamilton, Northland, Auckland, Canterbury and Wellington. Results have been mixed. A detailed description of the Health Care Home initiative is summarised later in this chapter.

Expanding roles beyond GPs

Despite the launch of health care homes in a number of general practices, New Zealand still has a heavy reliance on GPs. A 2017 survey of PHOs by *New Zealand Doctor* found that among the nurse/GP population working in general practice roughly half of those professionals are GPs and the other half are nurses.^{80,81}

Some PHOs I interviewed employ nurses who work within practices to provide patient navigation services. Large practices were staffed by a full-time nurse who provided navigation services while smaller practices shared a nurse who provided these services. While navigation services are being provided by some PHOs, it is not possible to quantify the extent of their availability.

In 2001, the nurse practitioner role was launched in New Zealand. Uptake has been slow, but that may be changing. In 2015, there were 164 nurse practitioners with practising certificates registered with the Nursing Council of New Zealand.⁸²

⁸⁰ Fountain, Barbara (2017)

⁸¹ For purposes of the survey, some PHOs reported their staffing by FTE and others by distinct individuals. Because of this limitation, this is a rough estimation.

⁸² New Zealand Ministry of Health (2016b)

According to key informants, in 2017 there are 280 nurse practitioners practising. This is a large increase (71 per cent) in two years albeit from a very low base. Key informants estimate that around half of nurse practitioners are practising in primary care. For context, according to Workforce New Zealand there are 4,592 GPs working in general practice.⁸³ Thus, the nurse practitioner workforce in primary care is roughly three per cent of the GP workforce. For context, in the United States, nurse practitioners comprise 27 per cent of the primary care GP workforce.^{84,85}

To practice as a nurse practitioner individuals must earn a clinical master of nursing degree, complete a prescribing practicum and demonstrate their competency and credentials within a variety of areas. Although there are only around 280 nurse practitioners practising in New Zealand, according to key informants, around 4,000 individuals have completed a clinical master of nursing degree. While the government currently is debating whether or not to build a medical school to educate more GPs, these data suggest that there is an untapped source of primary care capacity in New Zealand.

According to key informants, a number of PHOs and general practices are not employing nurse practitioners because of concerns regarding the limits on their scope of practice. Some of them were not aware of eight different statutory references approved by Parliament that expand nurse practitioners' roles. While more information on expansion of nurse practitioners' scope will likely increase employment opportunities for nurse practitioners, cultural preference for GPs appears to remain an obstacle.

Coaching and Self-Management

Some PHOs are using their flexible funding pool from the Ministry of Health to fund self-management programmes in weight control and tobacco use. One of the practices in the Health Care Home model recently added group visits to manage chronic disease.

Counties Manukau DHB implemented the At Risk Individuals (ARI) model of care. This model includes additional resources for general practices to provide proactive primary care to support individuals with chronic diseases to stay well and avoid hospital utilisation. While the initiative is multi-faceted in its approach, some aspects include greater coordination among health providers, self-management and patient-led goal setting.⁸⁶

⁸³ Ibid

⁸⁴ Agency for Healthcare Research and Quality (2010a)

⁸⁵ Agency for Healthcare Research and Quality (2010b)

⁸⁶ Middleton and Cumming (2016)

Technology

According to the Ministry of Health, half of general practices in New Zealand have offered their patients access to a patient portal. Using the portal, patients can achieve a number of tasks including communicating with their general practice to book appointments, reviewing their clinical notes and sending and receiving secure messages with providers. The challenge will be to increase patients' uptake of the portal since only 336,000 New Zealanders are using it.⁸⁷

A number of PHOs try to use telephonic communications to determine if patients seeking same day appointments can instead receive advice over the phone. PHOs report that when a nurse or GP takes calls for same day appointments, 25 to 50 percent of these calls can be resolved over the phone without a face-to-face visit.

Technology poses both an opportunity and a risk of New Zealand's primary care sector. If used effectively, it can improve primary care efficiency by connecting providers and patients in different regions of New Zealand. On the other hand, technology will increasingly substitute for human health providers. For example, in April 2017, UK-based Babylon Health raised nearly US\$60 million to develop an artificial intelligence provider in the form of a chatbot that can diagnose illnesses via a smartphone. Analysis by Frost & Sullivan estimates that global artificial intelligence revenues in the health sector will total US\$6.7 billion by 2021.⁸⁸

As technology continues to develop, national borders will be weaker at preventing competition from providers in other countries or technology-enabled care that can respond quickly to patients' needs. The key is for countries like New Zealand to manage these new forces in ways that improve access and maintain quality.

Integration

The 2001 Primary Care Strategy envisioned integration to occur both horizontally (between different types of primary care providers) and vertically (between primary and secondary care.) However, the policy settings have not been in place to support integration on a wide scale. There are examples of some integration between primary and secondary care, but it is due to ambitious local leaders as opposed to the result of public policies. For example, PHOs and DHBs in Canterbury and Auckland have implemented policies to support primary care to reduce acute demand.

An analysis of integration in New Zealand by Professor Jaqueline Cumming points out that the separate and private financing and provision of primary care services is a major barrier to New Zealand achieving integration at the macro, meso and micro levels.⁸⁹ As long as general practice is partially subsidised by the government and DHBs continue to serve as both the funder and provider of services, achieving further integration will be difficult.

⁸⁷ New Zealand Ministry of Health (2017c)

⁸⁸ Frost & Sullivan (2016)

⁸⁹ Cumming (2011)

Health Alliances are intended to motivate vertical integration between PHOs and DHBs. Key informants in Canterbury noted the importance of the Alliance in their region and the cross-collaboration that has resulted. However, many other informants thought that the Alliances are not effective because DHBs' interests are still focused on the short-term sustainability of their hospitals.

Payment reform

For the most part, payment reform initiatives have not transpired. According to key informants, PHOs are passing down the capitation funding to general practice using the same formula calculated by the Ministry of Health. There are a few exceptions like Midlands PHO which withholds 10 per cent of the capitation funding to create a quality incentive pool.

Three models of innovation

Health Care Homes

The New Zealand Health Care Home (HCH) is based on the Group Health Cooperative Medical Home model in the United States.⁹⁰ In 2006, Group Health piloted a whole-practice transformation model at a prototype clinic in Seattle, Washington. That model, in which Group Health was a provider of primary and secondary medical services and a health insurer, includes a number of changes to general practice, including but not limited to⁹¹:

- An expanded staffing model in which primary care physicians (GPs)⁹² led clinic teams. For every 10,000 patients, the model included 5.6 GPs, 5.6 medical assistants, 2.0 licensed practical nurses, 1.5 physician assistants or nurse practitioners, 1.2 registered nurses and 1.0 clinical pharmacist.
- An increased role of care management by nurses and clinical pharmacists and pre-visit, outreach and follow-up activities by medical assistants and nurses.
- Same day access for patients and greater use of triage and phone and email consultations.
- Patient communication in advance of visit to clarify patient concerns and visit expectations.
- An increase in standard in-person visits from 20 to 30 minutes.

⁹⁰ Note that Group Health Cooperative is now part of Kaiser Permanente. Kaiser's acquisition of Group Health was final in February 2017.

⁹¹ Reid *et al.* (2010)

⁹² In the United States, GPs are referred to as primary care physicians.

- An electronic health record shared by all members of the team including specialty providers.
- Daily team huddles to discuss clinical issues and patient flow.
- Outreach and follow up for all hospital discharges and emergency or urgent care visits.

Analysis of the Group Health's prototype model showed improved patient experience; lower staff burnout, emergency department and inpatient visits; and improved clinical quality. Cost analyses show a return on investment of 1.5:1. In other words, for every dollar Group Health spent to implement its medical home prototype, the organisation received \$1.50 in return.⁹³

The prototype model required Group Health to put more resources into both primary and specialty care. However, cost analysis suggests that the organisation recouped those costs by lowering emergency department, urgent care and inpatient hospital expenditures. Savings from the model are estimated at \$10.30 per member per month.^{94,95}

New Zealand's Health Care Home model, which is based off of the Group Health model, but tailored to the New Zealand environment, began in 2011 in three practices in Hamilton. Since then, it has expanded to 15 practices across Pinnacle and 20 other practices in New Zealand.

Some the key aspects of New Zealand's HCH model include, but are not limited to:

- A telephone clinical triage point for all patients seeking appointments. According to information provided by the HCH practices, triage has resulted in a 25-50 per cent reduction in the need for same day face-to-face appointments.
- Care of some patients over the phone or through email consultations. According to practices, this has enabled them to increase number of patients with access to care. Patients also have electronic access to their health information. With increased capacity more tailored care is being targeted to high-need populations including extended consultations.
- Electronic care plans and clinical work prior to patient visits. This allows providers to optimise face-to-face visits.
- Use of new professional roles including clinical pharmacists and medical centre assistants. New professional roles are intended to expand the capacity and capability of general practice.

⁹³ Ibid

⁹⁴ Savings are adjusted for case mix of the population.

⁹⁵ Ibid

- Change management support to assist practices develop capabilities of HCH. Practices can analyse acute, planned and preventive care while supporting the business aspects of the practice.

In addition, one of the HCH clinics in Taupo has recently began to schedule group visits to help patients manage chronic disease.

An 2017 evaluation completed by Ernst and Young found that the HCH practices were able to expand primary care capacity with a reduction in GP and nursing staff; support clinicians working at the top of their scope; and maintain or improve their financial performance.⁹⁶

However, unlike results from the Group Health prototype, the results across all of the HCH practices did not include a decline in hospital utilisation compared to the control practices.⁹⁷ The evaluators did note that when compared to control sites, use of hospital care by patients in HCH practices was stable.

A number of factors might account for this.

- Delivery system: Group Health was a closed and highly integrated model. In other words, for care to be covered, patients had to use services provided by providers who work for Group Health. New Zealand's general practice clinicians are independent practices and do not work for DHBs. Primary and secondary care providers have different incentives in New Zealand.
- Scale: New Zealand's practices are relatively small compared to the scale of the Group Health model which can more easily share resources across large populations. Consolidation of New Zealand's small general practices should facilitate the objectives of the HCH model.
- Financial risk: Providers in Group Health and New Zealand's HCH have different motivations. Group Health was both a provider and a health insurer. It had insurance risk for all patient care including hospital care. While general practices in New Zealand may work hard to ensure that their patients get appropriate care, they do not bear risk for service utilisation outside of primary care.
- Use of health care team: New Zealand's HCH has a strong reliance on GPs and may not have leveraged all the benefits of team-based care. Team-based care can significantly free up GPs' time to address complex patients who are more likely to be hospitalised. While the Group Health prototype team had

⁹⁶ Ernst and Young (2017)

⁹⁷ After removing an outlier practice, the HCH practices did not show a statistically significant rise in non-admitted emergency department utilisation. However, the control practices did have a significant rise.

around 30 per cent FTE that were GPs, that figure is closer to 50 per cent in the New Zealand model.

- Stages of implementation: The EY evaluation included a number of HCH practices in New Zealand that were in very different stages of implementing HCH reforms. Early adopters' results were mixed with more recent adopters' results. This undoubtedly diluted the results although the extent to which this occurred is unknown.

Moving forward, the architects of the model will focus efforts on strengthening current HCH practices in order to ensure that the full model is operationalised. In addition, plans are being made to introduce technology to provide greater outreach of care from the HCHs and to start to use predictive data to support earlier interventions.

Leaders also acknowledge that there needs to be better alignment with DHBs. In other settings, some medical home models have lowered hospital utilisation. Better understanding and aligned incentives between the two sectors will be important to realise the full benefits of the model.

Acute Demand: Canterbury District Health Board

Many DHBs interviewed indicated that pushing out more services into the community would not help their hospital deficits. High hospital overheads costs still have to be paid even if care is delivered elsewhere. This is particularly true of hospitals not operating at capacity. For these hospitals, the marginal cost of providing care in the hospital is low—much lower than compensating community providers.

Despite these challenges, in 2007, the Canterbury District Health Board (CDHB), facing a large deficit and operating a hospital at capacity, ramped up programmes to provide more care in the community. Working with its local primary and community-based providers, it developed the Acute Demand Management System that provides resources to general practice to do “whatever it takes” to provide services in the community for individuals who might otherwise visit the emergency department or be admitted to hospital.

CDHB also developed HealthPathways which outlines agreed upon referral pathways between general practice, specialised and hospital services. For example, HealthPathways describes what tests GPs should provide before a hospital referral and what conditions should be managed in the community. According to CDHB, the development of the pathways was based on input from local clinical leadership from GPs and hospital clinicians.

Sapere Research Group conducted statistical analysis to understand how CDHB's inpatient utilisation compares to the rest of New Zealand. Sapere compared acute admissions (those that are unplanned inpatient events on the day of presentation) and arranged admissions (those that are planned inpatient events within seven days after a specialist's decision that an admission is necessary.)

Sapere found that between 2006/07 and 2011/12, compared to other DHBs, access to arranged surgery increased in Canterbury DHB. Resources for acute medical conditions declined in Canterbury DHB relative to the rest of the country. Thus, it

appears that Canterbury was able to direct more activity to planned rather than emergency or same day services.⁹⁸

While hospital discharge data is a relatively limited metric for understanding systemic change, the findings correlate with CDHB's objective of moving care out of acute hospital settings and into the community.⁹⁹ However, much of the independent analysis conducted to date has been correlative and not causal. As outpatient and primary care data sets become more consistent and robust in New Zealand, additional analyses could be conducted to better understand the extent to which community-based services can provide a causal explanation for observed trends and their role in addressing population-based outcomes.¹⁰⁰

Open access model: Nirvana Health

Total Healthcare is a PHO in Auckland. It has around 101,000 enrolled individuals through its lead DHB, Counties Manukau. It also provides services to an additional 100,000 individuals enrolled in secondary DHBs.

Total Healthcare contracts all of its primary care to Nirvana Health, which has a network of 35 general practices all of which are VLCA practices. While Total Healthcare is a not-for-profit organisation, Nirvana and its subsidiaries are for-profit organisations.

Because of the unique relationship in which all of Total Healthcare's enrolled members receive care from Nirvana, PHO administrative costs for Total Healthcare are minimal. Total Healthcare employs only 2.0 full time equivalents. Excess public funding for PHO administration are transferred to Nirvana which performs many of the functions of a typical PHO. The model has led some to question whether PHOs are necessary for large provider groups.

Nirvana is an open-access model which emphasises walk-in visits and accessible hours. Thirteen practices provide care until 10:00 p.m. and two other clinics provide 24 hour access. They estimate that approximately 90 per cent of patient visits are on a walk-in basis. Nirvana estimates that the average wait time is 45 minutes and the longest wait time is 1.5 hours. These numbers have not been independently verified.

Children under 18 pay no consultation fee and adults aged 18 and older pay \$10 per visit. For context, average patient fees for individuals aged 18 and older in Very Low Cost Access practices were between \$14.46 - \$15.76 in 2017 (Table 3).

Same-day access coupled with low patient fees attract many high-needs patients. According to Nirvana, 80 per cent of the population is high needs (Māori, Pacific or quintile 5 population.)

⁹⁸Love (2013)

⁹⁹ Ibid

¹⁰⁰ Ibid

The walk-in model minimises practice costs since a full waiting room means that the practice does not have to bear the cost of “no shows” where a patient does not arrive for an appointment leaving a paid provider without billable work. The walk-in model helps address the fact that 18 per cent of New Zealand adults report that they could not get an appointment within 24 hours at their usual medical centre (Table 5).

As summarised in Table 8 below, Nirvana’s open-access model is associated with a much higher visit rate among all age groups compared to the national average. Similar data for all PHOs are also found in Appendices 4 and 5.

Table 8. Number of annual general practice visits by age, Total Healthcare (Nirvana) and New Zealand, 2015-16¹⁰¹

	Under 5 years old	5-14 years old	15-24 years old	25-44 years old	45-64 years old	65 and older
Total Healthcare (Nirvana) average annual visits	6.19	3.09	2.82	4.22	6.64	10.31
New Zealand average annual visits	4.52	2.12	2.32	2.80	4.07	7.21
Total Healthcare average as a percentage of New Zealand average	136.9%	145.6%	121.6%	150.7%	163.1%	143.0%

The model relies more heavily on practice nurses. According to data published by New Zealand Doctor and collected from PHOs, 38 per cent of the clinicians in the Nirvana model are GPs while 62 per cent are nurses. Across all PHOs, the GP/nurse ratio is closer to 47 per cent/53 per cent.

Critics of the model contend that the high visit rate is likely associated with very short visits and low quality of care. According to data collected by Nirvana, the average visit is 17 minutes which is similar to the length of time that other PHOs cite.¹⁰² However, these numbers have not been independently verified.

Due to limits on publicly available information, it is difficult to rigorously compare quality of care across PHOs to confirm or dispute this claim. However, despite having a relatively large high-needs population, Nirvana does well on national health targets related to primary care. Based on the most recent data, 95 per cent of its eight-month

¹⁰¹ Data provided to General Practice New Zealand from New Zealand Ministry of Health.

¹⁰² Based on Nirvana’s analysis of 75,000 general practice consultations over two winter and two summer months.

olds are fully immunised, which meets the government's target. Ninety-one per cent of smokers enrolled with Nirvana have been offered help to quit, which is slightly above the government's target of 90 per cent.

While all of Nirvana's patients have access to the patient portal only around seven per cent of them use it. This number Nirvana hopes to increase. Phone consultations are typically not used. There is a call centre which sometimes is staffed by a nurse. They hope to expand the team to include health coaching.

Although no independent evaluation of the model has taken place, the leadership would welcome one. A future evaluation should analyse how the model performs with respect to access, prevention, patient-centredness, quality, coordination, accessibility and integration.

Synthesis of three models

Although the evidence has been mixed, key features of the HCH model have led to more robust results in other countries, particularly in the reduction of hospital care. However, New Zealand's bifurcated primary and secondary systems are likely hindering the promise of the HCH in New Zealand. The Canterbury acute demand model attempts to address this issue. The extent to which the HCH model can incorporate concepts from the acute demand model are likely to significantly improve the HCH results. This will require a very different relationship with DHBs which will be challenging while they continue to function as both a funder and provider of services.

The open access model helps address issue of accessibility and affordability for high needs populations. Nirvana's experience indicates that its model is associated with much higher utilisation of primary care visits compared to the rest of New Zealand. However, this could come at the expense of key principles of primary care including prevention, coordination and integration. These are issues that should be explored in upcoming evaluation.

The three models described in this report all hold promise but need much more rigorous evaluation. The good news is that the Health Research Council will make funding available for researchers to study the results of the different models of primary care delivery. It will be important for analysts at the Ministry of Health and Treasury to engage with researchers contracted to conduct the evaluations to make sure that the analysis focuses on actionable questions that will help inform policy.

Recommendations

- New Zealand is in an enviable position whereby a number of pilots have occurred throughout the country to address access to care. However, analysis has been limited. An updated and independent evaluation of what has been working in primary care should occur. That evaluation should hone in on the extent to which different initiatives have addressed the objectives of access, equity and integration.

- Evaluation findings should be formally distributed to PHOs by the Ministry of Health. The Ministry of Health should convene regular meetings of PHOs during which information and findings are disseminated and discussed. PHOs need to learn what is working but also what is not. It is also the government's fiduciary responsibility to better understand how resources are being spent and to what end.
- Key features of the HCH have resulted in more robust results in other countries compared to New Zealand. Part of that is due to the differing incentives between primary and secondary care in New Zealand. The Canterbury model attempts to address this issue. New Zealand should support financial and organisational policies that more strongly bring together these two models and incentivise joint performance of PHOs and DHBs.

7. THE IMPORTANCE OF POLICY ANALYSIS AND LEADERSHIP

Policy is an incremental process

Health policy in most industrialised countries is incredibly complex. Despite this complexity, development of policy can follow an incremental process. While there are many frameworks for policy development they typically include the following stages. Throughout all of these stages collaboration and consultation with the sector are essential.

1. Define goals and outcomes.
2. Collect data to measure how well goals and outcomes are currently being met.
3. Create data and evidence-informed specific strategies and policy options.
4. Develop pilot programmes to test options.
5. Implement pilots.
6. Evaluate and learn. Compare results to goals and outcomes.
7. Improve programmes based on evaluation and analysis.
8. Based on analysis, scale programmes, if appropriate.
9. Continue to evaluate and improve.

The Ministry of Health

Many individuals within the health care sector noted that the Ministry of Health has defined the government's goals for the sector as described in stage one of the framework. Key informants expressed their appreciation for the public input that the Ministry sought to develop its 2016 health strategy.¹⁰³ Almost all key informants are supportive of the goals as described in the strategy. However, they are not generally

¹⁰³ New Zealand Ministry of Health (2016d)

aware of the specific outcomes that the Ministry hopes to achieve, or how the remaining stages of policy development will be carried out.

The 2016 strategy includes 27 relatively high level action items. Feedback from the sector leaders is that they do not understand which action items are of highest priority, what actions are being taken to move them forward and who at the Ministry is responsible for implementation. As one Chief Executive of a PHO stated, “We aren’t sure what the Ministry of Health wants from us.”

In particular, more specifics are needed on the following action items: implementing a framework focused on health outcomes (#14); developing a performance management approach to increase transparency (#15); using monitoring and evaluation to support the strategy (#16); clarifying roles and responsibilities across the system (#21); increasing New Zealand’s national data quality and analytical capability to improve transparency and the design and delivery of services (#25).

An exception to these concerns is the development of the SLM framework. Key informants are supportive of the consultative process the Ministry undertook to develop the measures and the process by which Alliances submit data to the Ministry. While the sector has some recommendations to modify the SLM in future years, they are generally supportive of the initiative.

However, the sector is eager to find other ways to engage with the Ministry in policy development. As noted earlier, the Ministry convened a Primary Care Working Group on General Practice Sustainability which made recommendations to the Ministry including ways to reform the controversial Very Low Cost Access funding stream to better achieve its intended objectives.¹⁰⁴ Despite the consensus reached on recommendations, little policy feedback has been provided by the government. The industry is an eager participant in the exchange of ideas, but also wants sincere consideration of those policy options where primary care leaders have conducted analysis and reached consensus.

It should be noted that the Ministry of Health has recently restructured and many senior leaders have recently been appointed. Others with deep expertise have left.

Independent policy analysis

Like many industrialised countries, health policy in New Zealand is very partisan. Proposed changes have frequently been met with strong political resistance as various stakeholders bring forth different information to support their particular views. This leads to advocacy for policies that can be very hard to reconcile in a politically-charged environment. Because of this, there is also a need to have more evidence-based policy analysis that is independent from the government.

New Zealand stakeholders should consider investing in such an organisation to provide ongoing and independent health policy analysis. This could occur through the

¹⁰⁴ Primary Care Working Group on General Practice Sustainability (2015)

creation of a new entity or a centre within an existing organisation. To achieve full independence, the new organisation should be financed outside of the government with philanthropic or foundation funding. The organisation, which would not have to track down funding on a project-by-project basis, could provide analysis relevant and accessible to non-experts.

To date, government ministries, PHOs and DHBs have hired consulting firms or academics to provide health policy analysis on an as-needed basis. The transactional nature of these relationships means that important questions are only answered if an entity provides directed funding. A dedicated health policy analysis organisation able to set its own agenda would increase the probability that controversial questions are answered in an independent manner.

Recommendations

- The Ministry of Health should expand and strengthen the capability and capacity of its primary care strategy and policy leadership. Work should be devoted to delineating the specific outcomes that Ministry hopes to achieve. Those outcomes need to be defined before reorganisation of the sector is proposed. The strategy and policy team should engage in extensive primary care sector outreach and engagement throughout New Zealand.
- The Ministry should focus on the action items in the 2016 strategy and provide the sector with a detailed plan that prioritises these 27 items, identifies which business units at the Ministry are working on implementation, and sets a time frame for implementation.
- Evaluation and monitoring should be promoted within the strategy and policy team. Policy leadership should be using data to identify policy levers, craft evidence-based policy options and evaluate outcomes.
- Philanthropy and foundations should consider providing new funding or redirecting existing funding to finance an organisation that specialises in evidenced-based health policy analysis. This could be an academic entity or a non-governmental organisation. This entity should be separate from government, but would provide robust analysis that could be used by government agencies.

CONCLUSION

Relative to other countries, New Zealand's health care system performs well. The system is efficient and ranks well in prevention, safe care, coordination and patient engagement. However, New Zealand doesn't compare as well in terms of access and equity.

To address some of these concerns, New Zealand launched a series of significant health sector reforms in the early 2000s. Those reforms were intended to promote access to care, narrow health inequalities, encourage local innovation and promote

integration of services. Not only was the health sector substantially restructured, but significantly more resources were devoted to primary care. While a number of important principles were championed in the restructuring, their advantages have not been fully realised due to a number of factors.

New Zealand needs to encourage more innovation in primary care and understand the effectiveness of different models so that investments are made judiciously and outcomes are aligned with intended objectives. Examples of innovative health system delivery reform exist in New Zealand and have been championed by local leaders. But a lack of monitoring and evaluation has made it difficult to determine whether they should be scaled up.

The good news is that, although they may disagree on the level of government financing and regulation, New Zealand health sector leaders generally agree on a vision for the health system. New Zealand has many thoughtful experts committed to high quality and patient centred care. They are eager to engage with policymakers on specific ways to move that vision forward.

Recommendations

New Zealand's health sector has many opportunities, but challenges remain. To address these, my research led me to the development of the following recommendations noted throughout this report and consolidated below.

Data and monitoring of primary care

- The Ministry of Health should develop a primary care monitoring programme. This will involve collecting data from the primary care sector. To avoid duplication of effort, the Ministry should collaborate with the primary care sector as it builds out its own data collection efforts.
- A primary care monitoring programme should include a phased approach to measure quality, coordination between primary and secondary care, utilisation and cost drivers. It is important to identify the analytical questions that need to be answered and the problems that can be solved with more analytics before addressing the administrative, governance and financial aspects of the initiative. Results from the programme should be analysed by different population groups so that providers can better understand and be accountable for inequalities.
- To motivate the primary care system to participate, the government should commit to use the new data to review the primary care funding formula to develop more data-driven financial reimbursement as described in Chapter 4.

Financing and organisational structure

- Treasury and the Ministry of Health should undertake a rigorous and data-driven primary care financing review. Consideration should be made to streamline all of the disparate funding streams into one primary care capitated

payment. Payments should follow the individual as opposed to the VLCA payments that follow the practice based on the composition of enrolees.

- Currently, the base capitation rate is calculated on very blunt factors that are applied to outdated utilisation rates. The financing review should include an actuarial analysis that explores more rigorous and targeted factors such as health status, prevalence of disease, income and race/ethnicity. The weighting of these factors should be analysed as well. This analysis should be used to set capitation and patient fees.
- The funding review should include more upside and downside risk for primary care. Risk is likely to be much easier to manage if the sector is consolidated into fewer PHOs and DHBs that encompass more providers and larger populations.
- To create risk-adjusted rates, significantly more information is needed from the primary care sector regarding utilisation and intensity of care among different patient demographics. Collection of this data will be a long-term initiative. In the meantime, Treasury and the Ministry of Health should collaborate with some of the larger PHOs which do have large data collection efforts that can cross-tabulate demographic variables, health status and burden of disease with utilisation patterns.
- The Ministry of Health should explore consolidating current DHBs and PHOs regions into four to six. Each region could be serviced by one DHB and one PHO.
- The current structure leads to inherent conflicts of interest for DHBs as they try to balance their responsibilities to both provide and fund services. Separating DHBs' dual functions as a provider and a funder also needs an extensive and objective review.

Encouraging new models of primary care

- New Zealand is in an enviable position whereby a number of pilots have occurred throughout the country to address access to care. However, analysis has been limited. An updated and independent evaluation of what has been working in primary care should occur. That evaluation should hone in on the extent to which different initiatives have addressed the objectives of access, equity and integration.
- Evaluation findings should be formally distributed to PHOs by the Ministry of Health. The Ministry of Health should host regular convenings of PHOs during which information and findings are disseminated and discussed. PHOs need to learn what is working but also what is not. It is also the government's fiduciary responsibility to better understand how resources are being spent and to what end.
- Key features of the HCH have resulted in more robust results in other countries compared to New Zealand. Part of that is due to the differing

incentives between primary and secondary care in New Zealand. The Canterbury model attempts to address this issue. New Zealand should support financial and organisational policies that more strongly bring together these two models and incentivise joint performance of PHOs and DHBs.

Policy analysis and leadership

- The Ministry of Health should expand and strengthen the capability and capacity of its primary care strategy and policy leadership. Work should be devoted to delineating the specific outcomes that Ministry hopes to achieve. Those outcomes need to be defined before reorganisation of the sector is proposed. The strategy and policy team should engage in extensive primary care sector outreach and engagement throughout New Zealand.
- The Ministry should focus on the action items in the 2016 strategy and provide the sector with a detailed plan that prioritises these 27 items, identifies which business units at the Ministry are working on implementation, and sets a time frame for implementation.
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- Philanthropy should consider providing new funding or redirecting existing funding to finance an organisation that specialises in evidenced-based health policy analysis. This could be an academic entity or a non-governmental organisation. This entity should be separate from government, but would provide robust analysis that could be used by government agencies.

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APPENDIX 1: NEW ZEALAND'S 31 PRIMARY HEALTH ORGANISATIONS^{105, 106}

December, 2016

	PHO	Lead DHB	PHO Characteristics (figures rounded)
1.	Alliance Health Plus Trust	Auckland	Enrolments: 110,000 No. of Practices: 32
2.	Auckland PHO Limited	Auckland	Enrolments: 68,500 No. of Practices: 26
3.	Central Primary Health Organisation	MidCentral	Enrolments: 155,000 No. of Practices: 33
4.	Christchurch PHO Limited	Canterbury	Enrolments: 35,000 No. of Practices: 6
5.	Compass Health	Wairarapa	Enrolments: 42,600 No. of Practices: 7
	Compass Health	Capital & Coast	Enrolments: 253,000 No. of Practices: 52
6.	Cosine Primary Care Network Trust	Capital & Coast	Enrolments: 33,700 No. of Practices: 2
7.	East Health Trust	Counties Manukau	Enrolments: 100,300 No. of Practices: 23
8.	Eastern Bay Primary Health Alliance	Bay of Plenty	Enrolments: 46,200 No. of Practices: 11
9.	Hauraki PHO	Waikato	Enrolments: 114,000 No. of Practices: 22
10.	Health Hawke's Bay Limited	Hawkes Bay	Enrolments: 155,500 No. of Practices: 29
11.	Kimi Hauora Wairau (Marlborough PHO Trust)	Nelson Marlborough	Enrolments: 41,000 No. of Practices: 8

¹⁰⁵ South Canterbury does not have a separate PHO. Primary care functions are carried out by the primary care unit of the South Canterbury District Health Board.

¹⁰⁶ Provided by New Zealand Ministry of Health.

12.	Manaia Health PHO Limited	Northland	Enrolments: 96,486 No. of Practices: 25
13.	Midlands Health Network	Agreement with four DHBs: Tairāwhiti/Taranaki/ Waikato/Lakes <u>Lead DHB - Waikato</u>	Enrolments: 421,000 No. of Practices: 87
14.	National Hauora Coalition	Agreement with four DHBs: Tairāwhiti/Waikato/ Counties Manukau/ Auckland <u>Lead DHB – Counties Manukau</u>	Enrolments: 94,200 No. of Practices: 26
15.	Nelson Bays Primary Health	Nelson Marlborough	Enrolments: 99,500 No. of Practices: 26
16.	Nga Mataapuna Oranga Limited	Bay of Plenty	Enrolments: 11,456 No. of Practices: 2
17.	Ngati Porou Hauora Charitable Trust	Tairāwhiti	Enrolments: 8,000 No. of Practices: 7
18.	Ora Toa PHO Limited	Capital & Coast	Enrolments: 12,860 No. of Practices: 4
19.	Pegasus Health (Charitable) Limited	Canterbury	Enrolments: 390,000 No. of Practices: 92
20.	Procure Networks Limited	Auckland	Enrolments: 810,000 No. of Practices: 181
21.	Rotorua Area Primary Health Services Limited	Lakes	Enrolments: 71,900 No. of Practices: 16
22.	Rural Canterbury PHO	Canterbury	Enrolments: 70,600 No. of Practices: 24
23.	WellSouth Health (Southern Primary Health Organisation)	Southern	Enrolments: 290,000 No. of Practices: 83
24.	Te Awakairangi Health Network	Hutt	Enrolments: 117,300 No. of Practices: 21
25.	Te Tai Tokerau PHO	Northland	Enrolments: 62,500

	Ltd		No. of Practices: 15
26.	Total Healthcare Charitable Trust	Counties Manukau	Enrolments: 100,903 No. of Practices: 8
27.	Waitemata PHO Limited	Waitemata	Enrolments: 246,000 No. of Practices: 49
28.	Well Health Trust	Capital & Coast	Enrolments: 13,300 No. of Practices: 3
29.	West Coast PHO	West Coast	Enrolments: 29,900 No. of Practices: 8
30.	Western Bay of Plenty Primary Health Organisation Limited	Bay of Plenty	Enrolments: 154,000 No. of Practices: 25
31.	Whanganui Regional PHO	Whanganui	Enrolments: 63,000 No. of Practices: 31
32.	Primary and Community (DHB) – no PHO	South Canterbury	Enrolments: 57,500 No of practices: 27

**APPENDIX 2: RANKING OF HEALTH CARE SYSTEMS,
COMMONWEALTH FUND¹⁰⁷**

Domain	Highest performer	Lowest Performer	New Zealand ranking (out of 11 countries)
1. Care process	United Kingdom	Sweden	3
2. Access to care	Netherlands	United States	7
3. Administrative efficiency	Austria	France	2
4. Equity of care	United Kingdom	United States	8
5. Health care outcomes	Austria	United States	7
OVERALL RANKING	United Kingdom	United States	4

¹⁰⁷ The Commonwealth Fund (2017).

APPENDIX 3. PRIMARY CARE STAFF ORGANISATION, ROLES AND ACTIVITIES IN LEARNING FROM EFFECTIVE AMBULATORY CARE PRACTICES¹⁰⁸

Innovation area	Major Trends	Promising innovations
Primary care team structure	<p>Providers and their panels are supported by a core team built around strong provider-medical assistant (MA) partnerships.</p> <p>Multi-provider core teams often include RNs and front desk staff.</p> <p>Core team members including PCPs share offices and work spaces.</p> <p>Extended practice teams often include RN care managers, behavioural health specialists, and pharmacists.</p>	Each primary care physician (PCP) works with two MAs, who remain with each patient throughout their visit—doing intake, scribing for the PCP, and handling post-visit questions and issues.
Enhanced role of medical assistants	<p>MAs review charts of scheduled patients and lead core team huddles to plan care.</p> <p>MAs arrange or deliver most preventive care procedures.</p> <p>MAs often involved in outreach to patients with care gaps or needing follow-up.</p> <p>MAs are actively involved in quality improvement and play leadership roles.</p>	MAs with additional training in self-management support and diabetes care conduct individual and small group visits with diabetic patients.
Roles of registered nurses	<p>Core team RNs provide follow-up care, skills training and self-management support to chronically ill patients in nurse encounters or conjoint visits.</p> <p>Team RNs use nurse visits and standing orders to manage common acute illnesses.</p> <p>RN care managers work with small panels of high risk patients.</p>	RNs use delegated order sets to titrate medications for patients with common chronic conditions.
Layperson (navigators, care coordinators,)	Laypersons help patients address needs for information, community resources, and coordination of their care.	Laypersons trained in self-management counselling serve

¹⁰⁸ Wagner *et al.* (2017), p.4.

patient care roles		as health coaches. Layperson EMR experts make changes to the EMR supportive of quality improvement.
Managing complex illnesses	<p>RN Care Managers work with small panels of sicker patients, including those discharged from hospital.</p> <p>Behavioural health specialists, other social workers and lay care coordinators address psychosocial needs.</p> <p>Pharmacists provide medication therapy management services to multi-problem patients.</p>	Weekly or bi-weekly case conferences convene multi-disciplinary clinic staff to discuss challenging patients and develop a comprehensive care plan, and review progress of previously discussed patients.
Behavioural health integration	<p>Core team (MAs and RNs) are involved in depression screening and follow-up.</p> <p>On –site behavioural health specialists facilitate warm handoffs and provide short-term therapy and crisis management.</p> <p>Advice on psychotropic drugs is obtained from on-site or consulting psychiatrists or psychiatric nurse practitioners.</p>	Patients on chronic opioid therapy are tracked, asked to sign contracts, and offered in-clinic buprenorphine therapy if warranted.
Clinic-community connections	<p>Practices hire staff from populations served by the clinic.</p> <p>Designated practice team members help patient identify and access community services.</p> <p>Practice actively cultivates partnerships with community organisations to address social and environmental issues.</p>	The practice works with other agencies in the community to address social determinants of health.

APPENDIX 4. SUMMARY OF AVERAGE ANNUAL PRIMARY CARE VISITS BY AGE AND PHO, 2015/16¹⁰⁹

Average Utilisation Rates 2015/16	Age groups					
	Under 5	5 - 14 years	15 - 24 years	25 - 44 years	45 - 64 years	65 and Over
Alliance Health Plus Trust	4.78	2.40	2.32	3.27	5.14	8.04
Auckland PHO Limited	4.58	2.33	2.53	2.64	4.17	7.18
Central Primary Health Organisation	5.37	2.67	3.14	4.19	6.20	10.72
Christchurch PHO Limited	4.31	1.83	3.31	2.21	3.26	6.04
Compass Health - Capital and Coast	5.49	2.60	2.67	3.32	4.91	9.69
Compass Health - Wairarapa	5.63	2.63	3.52	4.06	5.73	10.41
Cosine Primary Care Network Trust	5.63	2.49	2.70	3.12	4.26	8.69
East Health Trust	3.18	1.64	1.40	1.56	1.99	3.13
Eastern Bay Primary Health Alliance	3.98	1.83	1.95	2.46	4.02	7.24
Hauraki PHO	6.08	2.81	3.12	4.01	6.22	9.99
Health Hawke's Bay Limited	4.67	2.13	2.74	3.43	5.05	8.67
Kimi Hauora Wairau (Marlborough PHO Trust)	3.30	1.59	1.95	2.50	3.91	7.52
Manaia Health PHO Limited	4.07	1.94	1.97	2.79	4.16	7.87
Midlands Health Network - Lakes	4.09	1.70	1.70	2.22	2.93	5.66
Midlands Health Network - Tairāwhiti	3.96	2.01	1.96	2.38	3.46	6.30
Midlands Health Network - Taranaki	3.91	1.95	2.10	2.41	3.26	5.86
Midlands Health Network - Waikato	4.15	1.81	2.05	2.00	2.82	5.51
National Hauora Coalition	4.96	2.48	2.73	3.51	5.81	8.70
Nelson Bays Primary Health	3.36	1.59	2.02	2.72	3.64	6.82
Nga Mataapuna Oranga	3.29	1.82	1.78	2.85	5.11	8.72
Ngati Porou Hauora Charitable Trust	6.19	3.05	3.05	4.51	8.31	14.68
Ora Toa PHO Limited	5.23	2.77	3.05	4.67	7.52	11.74
Pegasus Health (Charitable) Limited	3.79	1.56	1.80	1.82	2.51	4.82
Procure Networks Limited	4.87	2.33	2.33	2.76	3.95	6.66
Rotorua Area Primary Health Services Limited	2.87	1.31	1.07	1.74	2.30	3.52
Rural Canterbury PHO	4.19	1.87	2.39	2.71	4.02	7.78
South Canterbury Primary and Community	4.03	1.85	2.78	3.05	4.55	7.76
Te Awakairangi Health Network	4.04	2.03	2.15	2.78	4.29	8.14
Te Tai Tokerau PHO Ltd	4.37	2.18	2.04	3.04	4.92	8.37
Total Healthcare Charitable Trust	6.19	3.09	2.82	4.22	6.64	10.31
Waitemata PHO Limited	4.46	2.09	2.29	2.79	4.00	6.85
Well Health Trust	5.18	2.68	3.36	4.22	6.88	9.76
WellSouth Primary Health Network	3.94	1.79	2.21	2.64	4.11	7.80
West Coast PHO	3.90	2.01	2.76	3.38	5.01	8.58
Western Bay of Plenty Primary Health Org.	3.93	1.80	1.69	2.26	3.23	6.07
Whanganui Regional PHO	4.17	2.16	2.56	3.81	5.69	9.70
New Zealand Average	4.52	2.12	2.32	2.80	4.07	7.21

¹⁰⁹ Data provided to General Practice New Zealand from New Zealand Ministry of Health.

APPENDIX 5. SUMMARY OF ANNUAL PRIMARY CARE VISITS RELATIVE TO NEW ZEALAND AVERAGE, BY AGE AND PHO, 2015/16

Primary Health Organisation	Total					
	Under 5	5 - 14 years	15 - 24 years	25 - 44 years	45 - 64 years	65 and Over
Alliance Health Plus Trust	105.7%	113.0%	100.0%	116.8%	126.2%	111.6%
Auckland PHO Limited	101.4%	109.6%	108.9%	94.1%	102.4%	99.7%
Central Primary Health Organisation	118.8%	125.8%	135.3%	149.6%	152.1%	148.8%
Christchurch PHO Limited	95.4%	86.2%	142.3%	78.8%	80.0%	83.9%
Compass Health - Capital and Coast	121.5%	122.6%	114.8%	118.5%	120.5%	134.5%
Compass Health - Wairarapa	124.6%	124.0%	151.7%	144.7%	140.6%	144.5%
Cosine Primary Care Network Trust	124.5%	117.5%	116.3%	111.4%	104.5%	120.5%
East Health Trust	70.4%	77.3%	60.2%	55.8%	48.8%	43.4%
Eastern Bay Primary Health Alliance	88.1%	86.0%	83.8%	87.8%	98.6%	100.5%
Hauraki PHO	134.5%	132.2%	134.2%	143.1%	152.7%	138.6%
Health Hawke's Bay Limited	103.3%	100.5%	118.0%	122.5%	123.9%	120.2%
Kimi Hauora Wairau (Marlborough PHO Trust)	73.1%	75.0%	84.1%	89.2%	96.0%	104.4%
Manaia Health PHO Limited	90.0%	91.5%	85.0%	99.4%	102.0%	109.1%
Midlands Health Network - Lakes	90.4%	80.3%	73.3%	79.4%	72.0%	78.6%
Midlands Health Network - Tairāwhiti	87.7%	94.6%	84.4%	84.9%	84.8%	87.5%
Midlands Health Network - Taranaki	86.5%	92.1%	90.3%	85.8%	80.0%	81.3%
Midlands Health Network - Waikato	91.9%	85.3%	88.4%	71.2%	69.3%	76.4%
National Hauora Coalition	109.8%	116.6%	117.6%	125.2%	142.6%	120.7%
Nelson Bays Primary Health	74.4%	74.9%	86.8%	96.9%	89.3%	94.7%
Nga Mataapuna Oranga	72.8%	85.7%	76.5%	101.6%	125.4%	121.0%
Ngati Porou Hauora Charitable Trust	137.0%	143.4%	131.4%	160.8%	203.8%	203.7%
Ora Toa PHO Limited	115.7%	130.3%	131.4%	166.4%	184.6%	162.9%
Pegasus Health (Charitable) Limited	83.8%	73.4%	77.4%	64.9%	61.5%	66.9%
Procure Networks Limited	107.7%	109.9%	100.2%	98.6%	96.8%	92.4%
Rotorua Area Primary Health Services Limited	63.5%	61.9%	46.0%	62.0%	56.6%	48.9%
Rural Canterbury PHO	92.6%	88.0%	102.8%	96.6%	98.6%	108.0%
South Canterbury Primary and Community	89.2%	87.2%	119.8%	108.7%	111.5%	107.7%
Te Awakairangi Health Network	89.5%	95.8%	92.4%	99.3%	105.3%	112.9%
Te Tai Tokerau PHO Ltd	96.6%	102.6%	88.0%	108.5%	120.8%	116.1%
Total Healthcare Charitable Trust	137.0%	145.5%	121.2%	150.7%	163.0%	143.0%
Waitemata PHO Limited	98.7%	98.4%	98.5%	99.5%	98.1%	95.0%
Well Health Trust	114.7%	126.1%	144.6%	150.6%	168.8%	135.5%
WellSouth Primary Health Network	87.2%	84.5%	95.0%	94.1%	100.9%	108.3%
West Coast PHO	86.2%	94.6%	118.7%	120.7%	122.9%	119.1%
Western Bay of Plenty Primary Health Org.	87.0%	84.8%	72.8%	80.5%	79.2%	84.2%
Whanganui Regional PHO	92.4%	101.6%	110.2%	135.8%	139.7%	134.6%