Reorienting the New Zealand health care system to meet the challenge of long-term conditions in a fiscally constrained environment

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Summary

There is a growing consensus supported by an increasing body of evidence that health systems need to be re-balanced to respond better to the changing pattern of need generated by long term conditions and the technological opportunities becoming available, so that they foster professional team working and closer relationships between provider organisations, encourage and support much more patient self-care and take greater pains to prevent long term conditions developing in the first place. People with long term conditions live every day with their conditions and have repeated interactions with the system, and are thus generally well placed to be active participants in their own care.

The health care and social (long term and disability support) care systems also need to be considered as a whole rather than as parallel, separate systems. This means moving away from narrow, ‘vertical’ models of care towards patterns of care that can deal with people with a number of concurrent conditions and that can tackle life style factors such as smoking alongside secondary prevention (e.g. reducing blood pressure) and treatment. This is sometimes referred to as ‘integration’ of care. This is likely to require purchasers to contract for services and outcomes through contracts that cross provider organisations and to encourage collaborations between providers using ‘blended’ payment systems (i.e. mixing capitation, fee for service and performance-related modes of payment).

Like many countries, there is considerable room for improving New Zealand’s health and disability support system for chronic care in this direction. This paper sets out how the New Zealand public health care system needs to continue to reorient itself to meet the challenge of supporting and maintaining the health of a growing number of people with chronic (long-term) health conditions. This process offers the best likelihood that the system will be able to manage successfully within inevitably constrained resources in future.

The Table below summarises the extent to which New Zealand currently conforms to ten characteristics of a high performing chronic care system.

<table>
<thead>
<tr>
<th>Characteristic of a high performing chronic care system (Ham, 2010)</th>
<th>Extent to which present in NZ</th>
<th>Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Universal coverage</td>
<td>Fully</td>
<td></td>
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<tr>
<td>2. Care free at the point of use or at a cost that does not act as a major deterrent to use</td>
<td>Largely</td>
<td>Still some evidence of GP visit and prescription co-pays deterring some patient groups from using services; no statutory regulation of co-pays; user charges in primary care are inconsistent with high quality chronic care</td>
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<tr>
<td>3. A delivery system that focuses on the prevention of ill-health and not just the treatment of sickness (e.g. encouraging secondary preventive activities through the payment system)</td>
<td>Partially</td>
<td>Most policy focus and public concern relates to access to treatment; there are no explicit financial incentives for general practices to prioritise secondary prevention; pro-preventive incentives of general practice</td>
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<tr>
<td>4.</td>
<td>Priority is given to patients to self manage their conditions with support from carers and families</td>
<td>Partially</td>
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<tr>
<td>5.</td>
<td>Priority is given to primary health care, particularly multi-disciplinary team work in chronic care led by nurses</td>
<td>Partially</td>
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<tr>
<td>6.</td>
<td>Population management is emphasised by stratifying people with long term conditions according to their clinical risk and supporting them commensurately</td>
<td>Partially</td>
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<tr>
<td>7.</td>
<td>Care is integrated so that primary health care teams can access specialist advice and support from outside primary care, when needed</td>
<td>Partially</td>
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<tr>
<td>8.</td>
<td>Information technology is used to improve chronic care (e.g. to facilitate communication between different professionals and to enable people to be supported at home through telecare and telehealth)</td>
<td>Partially</td>
</tr>
<tr>
<td>9.</td>
<td>Care is effectively coordinated, particularly for people with multiple conditions who are at greater risk of hospital admission, including across the health and social care (disability support) divide (e.g. through providing care coordinators, giving people their own budgets for care and/or allowing them to make direct payment for services)</td>
<td>To a very limited degree</td>
</tr>
<tr>
<td>10.</td>
<td>The other nine characteristics are linked into a coherent whole as part of a strategic approach to change that addresses several characteristics at the same time</td>
<td>Not present explicitly</td>
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The table shows that there is still a distance to go before the health and long term care system can be said to exhibit the characteristics of a high performing chronic care system.

To move the system in this direction, there is a need for a sustained process of change involving a reduced reliance on hospitals and doctors, more specialist nurses working outside hospitals, more flexible staff working practices, more joint decision-making by primary and secondary (specialist) clinicians, and managing health care and long term care/disability support services as complements and substitutes.

Good services for people with long-term conditions require coordination of care from a range of different providers and types of professionals rather than supplier competition for individual services. The centre of gravity of the health care system thus needs to shift to multi-disciplinary teams outside hospital supporting those with long term conditions who will be working with them to improve their own health. These teams need to include not
just health care workers but also social care providers (of disability support and long term care).

The strategy to achieve integrated and coordinated chronic care needs to affect all levels of the health system; that is, be supported by a ‘coherent set of methods and models on the funding, administrative, organisational, service delivery and clinical levels designed to create connectivity, alignment and collaboration within and between the cure and care sectors.’ (Kodner and Spreeuwenberg, 2002). Another way of expressing the same idea is to emphasise that integration needs to operate at three levels to be effective:

- the *micro* level—activities that promote integration among individual practitioners working in a single organisation (e.g. doctors and nurses working in a single general practice);
- the *meso* level—activities that promote working between organisations (e.g. general practitioners and specialists becoming involved in clinical partnerships); and
- the *macro* level—activities that promote organisation-to-organisation collaboration, such as policy agreements or contractual arrangements, financial arrangements, such as pooled budgets across health and disability support or joint budget holding, employment of staff in a single organisation; or the establishment of new organisations that oversee these tasks.

It is difficult to sustain changes at all three levels simultaneously, but probably necessary to bring about major systemic change. Action at one level alone is unlikely to improve outcomes and/or contain costs. Efforts need to focus on clinical and service integration through pursuit of multiple, simultaneous initiatives at each of the macro, meso and micro levels (as defined above).

Deep-seated change does not mean that all parts of a system have to be merged or that any mergers have to be complete. Organisational mergers are costly and time-consuming and may not be desirable. Organisational integration alone is unlikely to deliver better outcomes and may sometimes be an unhelpful diversion. Sustained efforts are needed to encourage the emergence of clinically integrated groups and integrated provider networks of various types, most often linked through contracts rather than in the form of a single organisation. Specialists need to be encouraged or required to work with GPs and other generalists in such groups and networks.

Wherever possible, patients should be able to exercise choice either between groups/networks or within them in terms of sources and types of care. There is no inherent contradiction between integration and various forms of competition as long as patients can exercise some degree of choice.

As well as putting in place integrated care at the three levels discussed above, there are other more specific foci that need to be pursued over a concerted period of time to manage upward pressure on resources. The main ones are:

- avoiding unnecessary use of acute hospitals;
- making better use of long term care to complement and substitute for health care;
increasing the supply of informal care; 
reducing costs of care at the end of life; 
increasing use of information and communication technologies (ICT) 
encouraging self-care and the ‘expert patient’; 
giving people individual budgets for the costs of (part of) their care; and 
reinforcing prevention of chronic disease.

Until very recently, there was little sign in New Zealand of a concerted strategy relating to all levels of the health and long term care/disability support system to ensure that the interrelated initiatives discussed in this paper are pursued with equal vigour over time without allowing pressures to build to spend more. Almost all the issues and interventions discussed above have been acted on to some extent, but they have rarely been articulated in terms of their collective contribution to sustaining a largely free at the point of use, universal health care system in the face of an increase in people living with long term health conditions and an increasingly constrained budget. As a result, implementation has been incomplete and/or patchy.

More direct action is now needed to alter patterns of care, particularly for people with long term conditions if the system is to become more financially sustainable in the medium term. It is welcome that recent Government announcements suggest much greater focus on encouraging and enabling local, clinically led innovations in the field of chronic care. The key issue therefore will be whether the system progresses in the desired direction as a result of local actions. To detect this, there is a pressing need for a much more systematic programme of monitoring and independent evaluation of the process and impact of the Government’s new commitment to clinically integrated chronic care.

There is also a case for a large-scale pilot that seeks to bring together the main elements of a new model(s) of integrated care in order to tackle the issues outlined in this paper, including removing financial barriers to primary medical care and creating entities that provide a full range of primary and secondary services focused on innovative methods for managing chronic disease.
Introduction

This paper sets out how the New Zealand public health care system needs to continue to reorient itself to meet the challenge of supporting and maintaining the health of a growing number of people with chronic (long-term) health conditions. This process offers the best likelihood that the system will be able to manage successfully within inevitably constrained resources though there is much less certainty that it will reduce the rate of growth of spending or realise significant financial savings. On the other hand, the resulting system should be more efficient than the status quo. This paper is written from the perspective that, irrespective of the precise level of health and disability support (long term care) spending and of its rate of growth in the future, there will be a compelling need over the next 20-30 years to make the best possible use of the public budget (Vote Health and the Accident Compensation Corporation (ACC)). It is likely that the rate of increase of public spending on health care will slow in future if only because it has been taking an increasing share of public spending in recent years (21% in 2010) and growing in real terms at approximately 4.5% per year over the last decade (Treasury, 2013). However, irrespective of its precise trajectory, there will always be more claims on the budget than can be afforded and a need to organise the system in the best way possible to meet the future pattern of morbidity in the most cost-effective way feasible.

The full set of basic options for managing in this situation is simple to state in outline and hard to implement in detail:

- **Limit and redefine the scope of the public system** – NZ tried in the early 1990s but could not develop a method that was sufficiently robust, technically and politically to define clearly what the public purse should pay for and what should be left to the private market (e.g. patient fees);
- **Contain budget increases** – in principle, budgeting at all levels (macro, meso and micro) should be easier in tax financed systems like New Zealand’s if governments have the will and adequate Parliamentary support to control the overall rate of growth of spending;
yet, in recent years, NHS-style systems have been deliberately ‘catching up’ and increasing levels of spending faster than the economy or public spending as a whole have been growing. However, increased costs (especially of labour), new technologies and their wider application, changing demographics, and the need to meet unmet needs, constantly place pressure on expenditure;

- **Increase effectiveness and efficiency** – this is a critical, continuous task, particularly in New Zealand’s acute hospitals (e.g. in relation to length of stay), but includes consideration of which preventive and other programmes to invest in;

- **Improve productivity** – this relates closely to increasing effectiveness and efficiency (and is not given separate treatment in this paper).

This paper focuses on the last two inter-related strategies as they relate to the management of chronic disease (i.e. long term health conditions). One of the most important tests of the ability of the health and disability support system to adapt to the likelihood of a more constrained budget without sacrificing financial access and coverage will be how well it works to help people manage their long term (or chronic) conditions. To achieve this, there is a need for a sustained process of change involving things such as a reduced reliance on hospitals and doctors, more specialist nurses working outside hospitals, more flexible staff working practices, more joint decision-making by primary and secondary (specialist) clinicians, and managing health care and disability support services as complements and substitutes. The centre of gravity of the health care system thus needs to shift to multi-disciplinary teams outside hospital supporting those with long term conditions who will be working with them to improve their own health. These teams need to include not just health care workers but also social care providers (disability support and long term care).

Good services for people with long-term conditions require coordination of care from a range of different providers and types of professionals rather than supplier competition for individual services (in contrast to niche areas such as elective surgery where it is easier, in theory, to see how encouraging competition between suppliers of individual procedures could improve quality and efficiency of care).

This means moving away from narrow, ‘vertical’ models of care towards patterns of care that can deal with people with a number of concurrent conditions and that can tackle life
style factors such as smoking alongside secondary prevention (e.g. reducing blood pressure) and treatment. This is sometimes referred to as ‘integration’ of care. ‘Integration’ is a chameleon concept with many definitions and facets (some would see it as ultimately devoid of precise meaning), but it can perhaps best be seen in terms of different levels and aspects of ‘integration’ (see below), all of which need to be pursued simultaneously to bring about systemic change.

This implies the need to coordinate care more completely across primary, community and hospital settings, and between health and long term care and disability support, as well as concentrating capital-intensive hospital services where greater specialisation leads to better outcomes in fewer centres. This is likely to require purchasers (‘funders’ in New Zealand terms) to contract for services and outcomes through contracts that cross provider organisations and to encourage collaborations between providers using ‘blended’ payment systems (i.e. mixing capitation, fee for service and performance-related modes of payment).

There are no ‘magic bullet’ solutions to improving the quality and maintaining or reducing the cost of care for people with long term (chronic) conditions. The one certainty is that any seemingly simple ‘fix’ will be ineffective. Nonetheless, there are a number of priority areas of focus and promising approaches that deserve close attention. These are discussed towards the end of this paper. Their precise interacting effects on reducing upward pressure on spending cannot be easily predicted. In part, this is because the effect of similar seeming schemes can vary between people with different long term conditions. Thus, for example, case management outside hospital of people with long term conditions does not appear to reduce hospital admissions in general, but it may be effective for patients with heart failure (Purdy, 2010) The challenge for policy makers is to develop a strategy for rebalancing the health system that operates on a broad front, not just on high profile conditions, is sustained over years and does not become overly dependent on any one mechanism to bring about change.

Trends in the prevalence of long-term conditions
The bulk of long term or chronic conditions are accounted for by non-communicable diseases (NCDs). Globally, the prevalence and share of morbidity that is attributable to NCD is rising as communicable (infectious) diseases decline in importance as causes of death and morbidity. In part, this is for good reasons, such as the fact that people are surviving previously fatal childhood infections and living longer, particularly in high income countries such as New Zealand. For instance, premature mortality from cardiovascular disease and cancers has been declining for many years in high income countries. Partly as a result of developments in treatment, a number of acute, usually fatal conditions, including some infections such as HIV, have become chronic as a result of good long term survival on anti-retroviral therapy. Amenable mortality rates are also falling, including in New Zealand (Figure 1), so that more people survive into old age where they accumulate long term health conditions. The New Zealand Health Survey shows that two-thirds of adults have a diagnosed condition expected to last six months or more (Ministry of Health, 2008).

This changing pattern of disease poses adaptive challenges to health systems. The extra years of life enjoyed by survivors of acute conditions are not guaranteed to be spent in good health or disability-free. Most NCDs are long-term and not curable, rather they have to be lived with and their effects on health have to be managed in the context of people’s day to day lives rather than by one-off interventions delivered in specialised medical institutions remote from where people live. NCDs include diabetes, cardiovascular disease (CVD), chronic obstructive pulmonary disease (COPD), many cancers and dementia. It is argued by some that they will threaten the financial sustainability of health systems in wealthy countries as well as leading to large economic losses, if not checked, and if health systems themselves fail to respond (Smith, Corrigan and Exeter, 2012), since they account for a high proportion of health care costs in high income countries. For example, while deaths from stroke and heart attack have been declining in high income countries for over 50 years, diabetes incidence and prevalence are rising rapidly in all countries. The NHS in England currently spends about 10% of its budget on diabetes services alone, the majority of which is spent on managing its complications in hospital (Public Accounts Committee, 2012). Diabetes shortens lives and New Zealand is affected more than most countries (see Figure 2). In part this is because the Maori and Pacific populations have high prevalence. As well
as generating health problems in its own right, diabetes is a risk factor for later stroke and heart disease.

It appears that while people are living longer and many are healthier than their equivalents in earlier decades, they are living with long term conditions that are costly to manage and there are more such people in absolute terms. A good example of this trend is dementia which is primarily a condition associated with advancing age and accounts for the largest proportion of years lost to premature death and disability of any NCD (WHO, 2008 cited in Hope et al, 2012). The precise impact of population ageing on expenditure depends in part on whether living longer is accompanied by an increase in the number of healthy years. There is a lively debate in the literature as to whether the period of ill-health in old age is being compressed, expanded or is unchanged as the population ages in countries like New Zealand. Recent evidence suggests that all three are possible (European Commission, 2012).

A notable feature of NCDs and long-term conditions with major implications for health care systems and only fully been appreciated fairly recently is the fact that most people with long-term conditions suffer from more than one such condition. For example, Barnett et al (2012) show that among Scottish over-65s, while 80% lives with a chronic condition, more than two-thirds have two or more. In a recent Commonwealth Fund international health care survey, 34% of New Zealand respondents reported two or more conditions compared with 45% in the UK (Schoen et al, 2011). Figure 3 shows the rising proportion of the population in England with more than one long term condition. Figure 4 shows that age is a major risk factor for multiple long term conditions. This has major implications for the organisation and delivery of care; in particular, it calls for even better coordination of care between different providers and professional groups (e.g. a person may be taking medication for a range of conditions under the supervision of a number of professionals, risking adverse drug interactions unless there is good information sharing between staff).

How current health systems need to change to respond sustainably to the needs of people with long term conditions
Typically the health systems of most developed countries are not well adapted to meet the needs of people with long-term conditions effectively and at reasonable cost. They tend to be organised to deal best with acute, life-threatening conditions, are hospital-focused and provide doctor-led services. Care tends to be episodic, reactive and delivered by individual professionals working in parallel. Patients tend to be regarded as passive recipients of care, and their contribution to designing and providing their own care tends to be under-valued, along with the role of their informal carers. Traditionally, systems have been organised around individual medical specialties and the management of single conditions.

There is a growing consensus that health systems need to be re-balanced to respond better to the changing pattern of need generated by long term conditions and the technological opportunities becoming available, so that they foster professional team working and closer relationships between provider organisations, encourage and support much more patient self-care and take greater pains to prevent long term conditions developing in the first place. People with long term conditions live every day with their conditions and have repeated interactions with the system, and are thus generally well placed to be active participants in their own care. The health care and social care (disability support) systems also need to be considered as a whole rather than as parallel, separate systems.

**Chronic care programmes**

Perhaps the most influential attempt internationally to set out the components of a reoriented health system that could provide high quality care to people with long term, non-communicable conditions has been Wagner’s Chronic Care Model (CCM). It is described by its developers as a ‘set of organising principles’ and ‘a framework in which improvement strategies can be tailored to local conditions’ (Glasgow et al, 2001). It has been used as the basis of chronic care policies and models in the US, Canada, UK, Australia and New Zealand, and is organised around the following:

- Continuity of care (the ‘medical home’; i.e. an enduring relationship between a team of health care professionals and an enrolled patient population)
• Prevention of unnecessary hospital admissions (e.g. through proactive, practice level, team-based care)
• Coordination and integration of care services (e.g. improved coordination between hospital and ambulatory (non-hospital) care)
• Empowering and supporting patients to know about and manage their own conditions (self-care)
• Joint decision making between professionals and patients (collaborative care)
• Clinical information systems that support the other elements in the Model.

Unlike the disease management programmes for individual conditions that preceded it, the CCM is generic and attempts to provide a whole system response to long-term conditions. The evidence on the impact of the CCM and related chronic care programmes is complex in that each of the principles and related components can be designed and implemented differently in different settings, and much depends on what CCM or related approaches are being compared with (e.g. how close the previous arrangements were to the CCM).

Most elements of the CCM find reasonably consistent support in the evidence. Singh’s (2005) review is particularly relevant to NHS-type health care systems such as those in the UK and New Zealand, and concludes that supporting patients to self-manage their conditions, multidisciplinary team working based on primary (non-hospital, ambulatory) care and nurse-led care were all beneficial, along with wider health care system changes designed to align hospital (specialist) and non-hospital (generalist) care more closely.

Powell Davies and colleagues (2008) systematically reviewed the evidence from Australia, New Zealand, US, Netherlands and the UK on the impact of a range of strategies designed to coordinate primary health care around the needs of the patient and to coordinate primary health care with other parts of the health care system. Strategies included case management, multi-disciplinary team working, joint consultations, shared patient assessments, improving communication, better information systems to support coordination (e.g. care planning) and support for service users (e.g. patient reminders). Most of the studies focused on chronic disease. Thirty-six of 65 studies showed improved health outcomes, 14 of 31 seemed to improve patient experience and satisfaction, and five
of 28 were cost saving, though the quality of studies looking at costs was poor. Implementation of multiple strategies was more effective than single interventions.

Ouwens et al (2005) undertook a review of 13 systematic reviews of a wide variety of ‘integrated care programmes’ for people with chronic conditions. They conclude, ‘Despite considerable heterogeneity in interventions, patient populations, and processes and outcomes of care, integrated care programmes seemed to have positive effects on the quality of patient care.’ Better quality is generally associated with lower total costs of care. The sorts of interventions most commonly included within integrated care programmes were patient self-management support and patient education, often combined with structured clinical follow-up and case management; multidisciplinary care teams; multidisciplinary clinical pathways (care protocols); and feedback, reminders, and education for professionals.

**Weaknesses in chronic care programmes**

Even in health care systems that have a strong emphasis on chronic care of people with non-communicable diseases, there are still weaknesses to be found in current patterns of care. Systems of chronic disease care in many high income countries have been disease-specific leading to problems of coordination at the patient level. Many patients receive treatment that fails to reach recommended standards with high rates of medical errors. There are also wide variations in the quality of care as shown by outcome indicators. The regular Commonwealth Fund international health care survey shows that key elements of good chronic care, such as advising patients on how they can contribute effectively to managing their own conditions are implemented patchily. For example, its 2011 survey of patients with complex care needs across eleven countries shows that, even in systems with relatively strong primary health care such as the UK and to a slightly lesser extent, NZ, significant gaps could occur in care coordination shown up in weaknesses such as medical errors and test duplication (see Figure 6). On the other hand, patients who received care from a ‘medical home’ (i.e. an accessible primary care practice that knows their medical history and helps coordinate their care) were less likely to have such problems (Schoen et al, 2011). In other words, while current systems for caring for people with long term conditions are far from
perfect, organising them around a core of a strong primary care practice with a long-term relationship with a defined group of patients is an essential prerequisite.

What would a high performing chronic care system look like?

Drawing on evidence, and his own experience of participating in, and studying, policy in England, New Zealand and the US, in particular, and to spur and help decision makers and others to shift towards better systems for care of people with long term conditions, Ham (2010a) has identified ten characteristics of a high performing chronic care system:

1. Universal coverage

2. Care free at the point of use or at a cost that does not act as a major deterrent to use

3. A delivery system that focuses on the prevention of ill-health and not just the treatment of sickness (e.g. encouraging secondary preventive activities through the payment system)

4. Priority is given to patients to self manage their conditions with support from carers and families

5. Priority is given to primary health care, particularly multi-disciplinary team work in chronic care led by nurses

6. Population management is emphasised by stratifying people with long term conditions according to their clinical risk and supporting them commensurately

7. Care is integrated so that primary health care teams can access specialist advice and support from outside primary care, when needed

8. Information technology is used to improve chronic care (e.g. to facilitate communication between different professionals and to enable people to be supported at home through telecare and telehealth – see below)

9. Care is effectively coordinated, particularly for people with multiple conditions who are at greater risk of hospital admission, including across the health and social care (disability
support) divide (e.g. through providing care coordinators, giving people their own budgets for care and/or allowing them to make direct payment for services)

10. The other nine characteristics are linked into a coherent whole as part of a strategic approach to change that addresses several of the characteristics at the same time.

The ten characteristics can be used to assess the extent to which a system is well prepared to meet the needs of people with long term conditions. Ham (2010a) further identifies four aspects of implementation that appear to be associated with more rather than less successful change: physician leadership in the reorientation of the system; measuring patient outcomes and using the findings to drive continuous quality improvement; aligning payment incentives to support chronic care strategies; and engaging the community to ensure that prevention receives higher priority than previously.

The strategy to achieve integrated and coordinated chronic care needs to affect all levels of the health system; that is, be supported by a ‘coherent set of methods and models on the funding, administrative, organisational, service delivery and clinical levels designed to create connectivity, alignment and collaboration within and between the cure and care sectors.’ (Kodner and Spreeuwenberg, 2002, p5 and see Box 1). Another way of expressing the same idea is to emphasise that integration needs to operate at three levels to be effective:

- the **micro** level—activities that promote integration among individual practitioners working in a single organisation (e.g. doctors and nurses working in a single general practice);

- the **meso** level—activities that promote working between organisations (e.g. general practitioners and specialists becoming involved in clinical partnerships); and

- the **macro** level—activities that promote organisation-to-organisation collaboration, such as policy agreements or contractual arrangements, financial arrangements, such as pooled budgets across health and disability support or joint budget holding, employment of staff in a single organisation; or the establishment of new organisations that oversee these tasks.
It is difficult to sustain changes at all three levels simultaneously, but probably necessary to bring about major systemic change. However, deep-seated change does not mean that all parts of a system have to be merged or that any mergers have to be complete (Kodner and Spreeunwenberg, 2002). Organisational mergers are costly and time-consuming and may not be desirable.

How the New Zealand health care system is changing and needs to continue to change in the future to respond to people with long term conditions

New Zealand has participated in, and responded to, much of the thinking and debate internationally relating to chronic care and working with people with long term conditions. For example, there were integrated care pilots in the late 1990s and there have been reforms over more than a decade from 2001 to build primary health care teams and to reduce financial barriers to accessing primary care. However, like many countries, there is considerable room for improving the country’s health and disability support system for chronic care given the extent of the reorientation required. The Appendix contains a range of data on New Zealand’s performance in relation to care for adults with significant ongoing health problems. It shows that New Zealand performs well (e.g. New Zealanders experience comparatively good continuity of care), but that there is more that could be done from the patient’s point of view in care coordination, care continuity, shared decision making and management of medicines. The initial focus of the current National-led coalition was primarily on trying to reduce the cost of managing the system by rationalising the ‘back office’ of the public system through more centralised shared services between DHBs and by requiring more inter-DHB planning of key infrastructure (e.g. hospitals). Steps were also taken to institute rigorous appraisal of new devices and procedures as well as drugs (e.g. the National Health Committee now assesses new technologies and advises on whether they should be priorities for funding and PHARMAC has responsibility for purchasing medical devices). Current government targets (e.g. to increase elective surgery rates and reduce cancer waiting times)
emphasise system responsiveness and access, which clearly matter to the public, but only one of the six targets relates to chronic disease (to increase the percentage of people checked for cardiovascular disease risk, and the percentage of diabetics checked each year and receiving good quality diabetes management). Yet, New Zealand performs well in comparison with most high income countries in terms of speed of access to GPs and specialists, and waiting times for elective surgery (Ministry of Health, 2011a, Table 7, p183), raising the question of whether some of the targets should be altered to take a longer term view by focusing on improving the care of people with long term conditions as a whole. On the other hand, there is a set of PHO payment for performance targets that encourage primary care prevention.

More direct action is now needed to alter patterns of care, particularly for people with long term conditions if the system is to become more financially sustainable in the medium term. It is welcome that recent Government announcements discussed below suggest much greater focus on encouraging and enabling local, clinically led innovations in the field of chronic care (Ministry of Health, 2012).

NZ’s recent experience with initiatives to improve chronic care

It can be argued that New Zealand has been working to improve the potential ability of its health care system to manage people with long term conditions since at least the 1980s (Cumming, 2011). There has been a continuing policy goal to reduce the degree of fragmentation at the governance level in the system, for example, by establishing Area Health Boards (1980s) and later Regional Health Authorities (1990s), charged with planning, and later purchasing, all health services for a defined population. The 2000 restructuring of the public system established District Health Boards (DHBs) which were encouraged to focus on people with chronic illness.

However, most of the initiative for developing new ways of providing care for people with chronic conditions has come from the local level of the NZ health care system in the last 15 years. For example, South Auckland has been the site of a series of efforts to ‘rebalance’ the local health and care system driven by high rates of chronic disease, an overloaded
acute hospital and unsustainable patterns of expenditure. More widely, there has been a series of experiments, pilots and initiatives, mostly under the banner of ‘integrated care’ with many of the same goals. Unfortunately, many of them have not been comprehensively evaluated and some are not even well documented so that it is difficult to learn systematically from them. This section describes the main national initiatives and some local initiatives since the 1990s that have been explicitly designed to encourage greater ‘integration’ of care at patient level and their consequences. In each case, the national schemes have built on local developments with the hope of supporting, broadening and deepening them.

Integrated care pilots

In the late 1990s, the four RHAs were amalgamated into a national Health Funding Authority (HFA) which identified primary care development and service integration as a major area requiring development. The HFA called for proposals for local integrated care pilots that could test the effectiveness and cost-effectiveness of initiatives that encouraged collaboration between separate services, focused on prevention and health promotion, supported self-care, developed good information systems, implemented evidence-based practice, built partnerships between patients and professionals, brought different types of funding together and included approaches to contracting that aligned incentives across different providers. The idea was that at least some of the pilots would involve local organisations such as Independent Practitioner Associations (IPAs) (collaborations of private general practices in the form of for-profit or non-profit companies that had emerged spontaneously as the RHAs began to develop primary medical care (Thorlby, Smith, Barnett and Mays, 2012)) taking responsibility for a devolved budget for a wide range of primary and community health care for people with chronic conditions. There was interest in the HFA in the possibility that such pilots might evolve into a series of more fully vertically integrated, publicly capitated, health care organisations similar perhaps to Kaiser Permanente in the US that could eventually compete for the enrolments of patients who would have a choice between them. The attraction of this idea to its proponents was that it might combine the benefits of choice and competition with the merits of more integrated forms of service delivery; and that these independent integrated care organisations would have incentives to manage their budgets more assiduously than public health authorities.
In the event, none of the pilots took on devolved budgetary responsibility as a way to change and link services (some applied but were rejected by the HFA). Instead, the nine pilots, which varied widely in size, patient scope and objectives, focused on changing service delivery within existing funding arrangements. They covered child health, diabetes management, family/whānau support, older people’s care, chronic heart failure, paediatric asthma and mental health services. There was a national evaluation which showed signs of better cooperation between providers and extensive use of a wide range of tools likely to help coordinate services, such as agreed clinical pathways, but little evidence of any service improvements from the patient’s perspective, better outcomes or improved cost-effectiveness (Russell, Cumming, Slack, Peterson and Gilbert, 2003). The pilots ran for only a short time before a change of government led to the health care system being restructured and DHBs created, thus it was not possible to assess their impact and the focus shifted away from integrated care initiatives towards improving access to primary health care.

**Primary Health Care Strategy, 2001**

The Labour-led coalition Government elected in late 1999 published a Primary Care Strategy in 2001. It objectives included an increased emphasis on population health as opposed to responding to individuals’ demands, health promotion and preventive care (King, 2001). The result would be a health care system in which primary health care providers would work with local communities and enrolled populations to promote health; collaborate closely with other providers to coordinate patient care; and develop the primary health care workforce, including the primary health care nursing workforce so that nurses could play a more significant role in delivering primary health care.

This was to be achieved through greater primary health care multi-disciplinary team working and an increase in public funding to reduce the financial barriers to access and improve chronic disease management. New Primary Health Organisations (PHOs) charged with improving the health of their enrolled populations with needs-weighted capitated budgets were established both to channel money to practices to reduce patient out of pocket fees and to set up a range of chronic care such as nurse-led diabetes clinics in the community, community-based mental health services, etc. The Strategy not only reduced user fees and increased access to general practice, but PHOs were incentivised to meet a number of
preventive targets most notably in increasing breast and cervical cancer screening rates as well as in child and ‘flu immunisation. PHOs also put in place a range of new community-based chronic care services (e.g. nurse-led diabetes services, community mental health services). General practices with high need with a range of chronic conditions identified by their GPs were enabled to provide a higher level of care through the national Care Plus scheme. However, otherwise, PHOs were only able to exert limited influence on the far greater volume of care provided through general practices.


Despite considerable investment in primary health care in the 2000s to reduce user fees and the setting up of Primary Health Organisations (PHOs), there remained concerns that the chronic care experienced by patients was poorly coordinated between general practice, other primary and community health services, acute hospitals where medical specialists are based and disability support (social care). The links between macro (e.g. permissions to pool budgets), meso (e.g. joint working between organisations) and micro (e.g. better team work at the client level) changes were weak (Cumming, 2011). The main effect of the primary care reforms in the first half of the 2000s was to reduce user charges in an effort to improve access rather than transform care (Mays and Blick, 2008). There were weak incentives to adopt new forms of care since the main financial focus was on lowering the out-of-pocket costs of GP visits. Only a small proportion of the new money for primary care went specifically to managing chronic conditions. As a result of these concerns, the current Government embarked on a series of initiatives designed to improve primary health care and coordination across providers.

These are still at a fairly early stage, for example, focusing on paying providers to improve information by sharing it electronically. There are also initiatives to co-locate a wider range of primary and community health services in the form of so called Integrated Family Health Centres (IFHCs). Though the Ministry of Health did not specify what these should provide, to most observers it was to be much more than extended general practice (e.g. involving specialists). It is not clear how far IFHC arrangements have progressed. Some Centres
provide services that previously required either a hospital visit or referral to a specialist provider such as minor surgery and routine X-rays. Some IFHCs have yet to achieve co-location of services despite government expectations that this would be the case. It is difficult to determine how far other Centres have progressed beyond co-location towards developing greater co-ordination and co-operation between previously separate providers and services since there is no comprehensive account of their implementation and no independent evaluation of their effects (Letford and Ashton, 2010). On the other hand, there are a number of encouraging accounts of their implementation on the Ministry of Health website and put forward by primary care leaders. The Health Research Council has recently awarded a number of HRC partnership grants to evaluate some of the BSMC initiatives.

IFHCs were part of a wider development that may become important for improving care for people with chronic conditions in future. In 2009, the Minister of Health invited expressions of interest for what he called ‘Better, Sooner, More Convenient’ (BSMC) health care (Ministry of Health, 2009) designed to integrate funds, staff and services into networks that crossed historic boundaries (particularly between primary and secondary care) in order to provide more personalised, extended primary care closer to where people live with a view to improving outcomes and experience, and reducing the demand for secondary care. In principle, these initiatives were intended to be larger scale and more ambitious than the integrated care pilots of a decade earlier and included the establishment of IFHCs, where appropriate (Box 2). Nine health ‘alliances’ were eventually selected and funded by the Ministry of Health to develop detailed plans to implement ‘BSMC’ health care. Each gave considerable attention to initiatives designed to improve the care of people with chronic conditions such as various models of chronic disease management and preventive health assessment. In some cases, the changes envisaged were entirely new, but mostly, they built on ongoing local work (e.g. Canterbury Clinical Network).

The nine initiatives are now referred to by the Ministry of Health as ‘demonstration programmes’ of new ways of providing a more ambitious range of health care services outside hospital with a view to keeping people healthier for longer with less reliance on
costly hospital care (Ministry of Health, 2011b). The Ministry’s account of what these ‘demonstration programmes’ are achieving focuses on specific, local initiatives within each of the wider programmes such as tele-health in rural areas, email and phone access to nurse and GP advice, nurse prescribing, proactive care planning for over-75s, specialist-led medication reviews for patients with complex needs, GP direct access to diagnostics, falls prevention, specialist-led clinics in general practice, minor surgery in general practice, admission avoidance schemes for patients at high risk of admission and Primary Options for Acute Care (POAC), designed to provide services outside hospital that had previously only been available to inpatients (Ministry of Health, 2011b). While it would be hard to argue that these initiatives are irrelevant to positioning the NZ system for the future, they were all present to some extent previously, raising the question of whether the demonstration programmes will be able to generalise and scale up these initiatives sufficiently to realise the Minister’s vision of BSMC health care. It is unclear whether progress has been made against the more ambitious goals in the original BSMC business cases. Unfortunately, there is no national evaluation or even detailed description over time, of the BSMC demonstration programmes so it is impossible to tell whether such progress is being made in and in which areas. On the other hand, the Health Research Council has announced funding for evaluative research on some of the demonstration programmes.

Similar developments are taking place outside the ‘alliances’ in many parts of the country. However, again, it is impossible to ascertain their effects. For instance, the latest initiative in Counties Manakau, where the imperative to establish new patterns of care has long been understood, is an ambitious five-year change programme known as the Locality Clinical Integration Strategy which will develop ‘locality clinical partnerships’ consisting of groups of primary and hospital clinicians who will work together in new ways. The partnerships aim to reduce avoidable hospital admissions and bed days, improve primary care and encourage greater integration of chronic care. The most radical aspects of the partnerships are that they are planned eventually to take financial and clinical risk for care across the primary-secondary boundary and to enter into quality-based risk-sharing agreements with the DHB, although initially budgets will be virtual. Ultimately, the DHB wishes to be able to allocate a needs-weighted global capitation budget to the locality clinical partnerships for them to
manage care for a defined population. Currently, the DHB is agreeing the form of an ‘opportunity and accountability contract’ with the localities and PHOs.

The approach is not dissimilar to the concept of the ‘accountable care organisation’ being piloted in the US (Fisher and Shortell, 2010). The success of the approach will depend on the willingness of local clinicians to join forces over the long term so that they can take financial risk on behalf of the DHB in return for being able to gain collectively from achieving better outcomes of care at lower cost than the status quo. A crucial aspect will be how the incentives facing the partnership are aligned with those operating at the level of clinical teams and individual clinicians (e.g. GPs are still able to charge their patients which weakens some of the supposed incentive effects of capitated budgets); in particular, how the initial approach of virtual global budgeting and agreed collective accountability evolves into a risk-bearing partnership of clinicians from very different organisations (Judith Smith, personal communication, October 2012). The DHB has built evaluation into the process from the outset, including of the health workforce implications.

Writing in 2011, Cumming’s (2011) judgement was that changes in service delivery through the BSMC initiative had been small-scale, slow and patchy. This seems to be the case for many developments elsewhere. This suggests that large parts of the system have yet to reach the point where previous ways of working are widely regarded as unsustainable leading to a ground swell of support for major change to inherited ways of working and providing services. Cumming (2011) argues that many NZ reforms are still not very far along a continuum of integration characterised by co-location of some staff in IFHCs and an emphasis on better sharing of information across organisations and professional groups. Little is known about whether patients feel that their care is more integrated. Pooling of budgets, joint contracting and sharing of management across organisations are rare. As a result, the DHBs continue to hold and manage the budgets for most services.

For the future, it is not clear which of the organisations at local level (DHB, PHO, IPAs, ‘alliances’, ‘clinical partnerships’, etc) can and should hold and manage which part of the budget for local health and long term care services in future, and which become management support organisations to others. The emergence of ‘alliances’ and/or complex partnerships with their own legal identity across local health systems risks adding another
layer of complexity to the planning and commissioning of services since the DHBs still remain responsible for these functions. Another quandary for the further development of more integrated approaches to the care of people with chronic conditions relates to the potential trade-off between scale and the necessity for clinical engagement in change. Evidence suggests that changing established patterns of care requires sustained clinical involvement (Clarke, Howells, Wellingham and Gribben, 2003), yet at the same time, that this involvement is jeopardised as organisations grow and become more remote from clinicians (Smith and Goodwin, 2006).

How far is New Zealand from exhibiting the features of a high performing chronic care system?

While the BSMC demonstration programme may be yet to bring about major service change, how does the rest of the system look? New Zealand inherits both positive and negative features in terms of its ability to develop a robust chronic care system. Table 1 summarises the extent to which New Zealand currently conforms to Chris Ham’s ten characteristics of a high performing chronic care system.

The country starts with a number of advantages as a system largely financed out of general taxation with compulsory insurance contributions for health care costs associated with accidents and injury through ACC. Coverage is universal and patient co-payments restricted to particular services. Efforts have been made in the last decade to reduce the level of user charges for GP visits and prescriptions on the grounds that they risk deterring beneficial use of services (Cumming and Mays, 2010). New Zealand also has a distinct advantage compared with many countries that its main health budget (Vote Health) at national level includes personal health services and social care (long term care and disability support) funding. As a result, it is possible potentially for DHBs at local level to put in place packages of care that include both health and long term care services in people’s homes, for example, to avoid the need for costly hospital admissions without having to negotiate across separate commissioning and delivery organisations, unlike many countries.  DHBs are free to
determine their own priorities, access thresholds and amounts of domiciliary support. On the other hand, about half of disability support funding is held centrally by the Ministry of Health and not allocated to DHBs thereby partially inhibiting their ability to integrate services.

In relation to characteristic 5 in Table 1, almost everyone in the population has a ‘usual’ source of primary medical care and nurses are heavily involved in chronic care, particularly in places where conventional GP practices are harder to maintain. However, GPs are still paid by their patients for each visit in many cases, alongside their public capitation, thus weakening practices’ incentives to give high priority to the health of the patient population as opposed to those members who choose to visit them. Despite reform efforts since the late 1980s, this remains one of the most fundamental challenges for shifting the focus of the health system towards managing chronic conditions (Mays and Blick, 2008), since there are still not only significant financial barriers to receiving primary care, but large geographic variations in the out-of-pocket payments faced by patients, unrelated to their socioeconomic circumstances.

In addition, NZ has a recent tradition of more organised and collective forms of general practice through the Independent Practitioner Associations (IPAs) that developed in the early 1990s and that have persisted through a series of government restructures of the health care system. As a recent analysis put it, ‘They are now an important part of an infrastructure that is aspiring to create new integrated health organisations and networks within New Zealand’ (Thorlby, Smith, Barnett and Mays, 2012, 5). However, in relation to characteristic 3 in Table 1, there is no explicit way for the public funder to incentivize primary care teams to undertake secondary preventive activities designed to reduce the severity of long term conditions (Mays and Blick, 2008). On the other hand, there are PHOs with the potential to use their funding to incentivise preventive activities and some are doing so as well as providing some services themselves. There are also a range of providers of primary care and related services that focus particularly on the needs of Māori and Pacific peoples and already operate in ways that are far closer to the more integrated forms of care discussed in this paper than the rest of the health care system.
In relation to characteristic 7, there is still a fairly sharp divide between hospital specialists and primary health care as demonstrated by the fact that they have separate representative bodies despite efforts to promote more integrated care. It is rare for a specialist to work extensively in primary care, except perhaps for paediatricians. There are few specialists employed by non-hospital providers. Several DHBs are working with PHOs to bridge the divide, via ‘clinical boards’ and other arrangements that involve GPs and hospital specialists (e.g. Nelson-Marlborough, Mid-Central, Whanganui and Hawkes Bay). However, more far-reaching initiatives are needed. For example, given the challenges of long-term conditions and the need for more integrated health care delivery, the time may have come to stop appointing specialists to positions in hospitals in favour of appointing them to organisations that serve defined populations.

There are other barriers both to more integrated forms of working across the primary-secondary care boundary and to shifting care out of acute hospitals. For example, DHB-owned (mostly hospital) services can access public capital allocations whereas privately owned primary care providers cannot. This matters if there are plans in future to manage the rising demand for services by developing primary and intermediate forms of care. For example, primary care facilities may either be too small or require additional investment to be fit to cope with a wider range of services, but their owners generally have few incentives to take the personal financial risk to make the necessary investment. It does seem, however, that corporate ownership is increasing in NZ, although little is formally documented about this.

In relation to characteristic 8, information technology should be being used to facilitate chronic care. However, progress to date in New Zealand has been slow. Information systems across primary and secondary health care, and disability support, that can be linked to enable more effective planning, budgeting, delivery, monitoring and evaluation of services for people with long-term conditions are currently lacking, though the National IT Board has plans to attempt to address this problem. In addition, in the absence of a general practice contract with government as funder, there is no requirement for general practice to collect standardised data on chronic care activities.
In relation to characteristic 9, while there has been some attention given to admission avoidance through better care coordination, there has been little attempt to date to enable individuals with chronic conditions and resultant disabilities to use public funds to organise and procure their own healthcare (e.g. by allocating a budget to an individual allowing that person to determine their own pattern of support), though there is an individualised funding option available to people receiving long-term care through ACC following a serious injury. The Ministry of Health has recently started to increase its use of individualised funding for younger disabled people, although the numbers are still quite small (421 users in 2010; 934 users in 2011 (Synergia, 2011)).

New Zealand faces a number of wider challenges that some other developed countries do not in becoming a high performing chronic care system. One challenge lies outside the field of NCDs altogether. As well as experiencing the increase in non-communicable disease burden associated with population ageing faced by other high income countries, serious infections continue to make a major contribution to avoidable morbidity and associated hospital admissions in New Zealand (Baker et al, 2012). Between 1989 and 2008, infectious diseases made the largest contribution to hospital admissions of any cause, rising from 20·5% of acute admissions in 1989—93, to 26·6% in 2004—08. There were also clear ethnic and social inequalities in infectious disease risk. These findings support the need for stronger prevention efforts for infectious diseases alongside strategies for non-communicable and chronic disease, and reinforce the need to reduce ethnic and social health inequalities and to address disparities in broad social determinants such as income levels, housing conditions, and access to health services. The last would be beneficial in reducing both infections and NCDs. The Government announced a new five-year target, as part of its Better Public Services whole of government strategy begun in February 2012 (http://www.ssc.govt.nz/better-public-services), to reduce rheumatic fever incidence by two-thirds to 1.4 cases per 100,00 by June 2017 (http://www.ssc.govt.nz/bps-results-fornzers). As a result, there are related initiatives in housing and health care, though their impact is yet to be seen.
Another challenge lies in the structure and financing of general medical services despite the series of changes and reforms in the 1990s and 2000s involving the development of stronger links between individual practices and strengthening primary care through increased public funding mentioned above. General practices continue to operate largely separately from the rest of the public system and on the basis of a mix of private (patient visit copayments) and public (subsidies, mostly in the form of partial capitation) finance. This restricts the extent to which preventive and chronic care programmes can be integrated into mainstream general practice. The current mixed sources and modes of payment generate conflicting incentives that inhibit a strong focus on chronic care (Mays and Blick, 2008), and mean that capitation is likely to have a different effect on provider behaviour in New Zealand than theory and experience in other countries would predict. The Primary Health Organisations (PHOs) that channel public funding into primary care, including general practice, have limited ability to shape the services provided by general practices since, although they have contracts with practices that reflect the requirements in the PHOs’ own contracts with the DHBs, their budgets do not include large parts of primary care expenditure such as primary medical pharmaceuticals and diagnostics.

A third challenge to the development of financially sustainable care for people with chronic conditions relates to the dual functions of DHBs as planners and commissioners of services for the population, and owner-operators of the district acute hospitals. This arrangement weakens their incentives in the short to medium term to reduce dependence on the district hospital since they would have to manage the consequences for jobs and hospital income. It is notable that the most sustained local efforts to improve care for people with complex long-term conditions have been in places such as south Auckland where the senior clinicians and managers of the local hospital recognise that there is no possibility of continuing to provide an adequate health care system without reducing dependence on the hospital and improving care outside it (see discussion of Counties Manakau locality clinical integration strategy, above). In Counties Manakau DHB, the Board has expressed a clear goal gradually to devolve the medical budget of the hospital to localities. In this situation, it is envisaged that secondary care clinicians will become progressively more engaged in out of hospital activity. If the process is carefully handled allowing the hospital time to adapt, it is hoped not to harm the hospital financially.
A fourth challenge relates to the small size of the New Zealand population and its geographic distribution. This means that there are often too few providers to generate robust comparative quality and outcome comparisons (see below) and limited scope to generate a choice for patients among a number of vertically integrated care providers. There is also limited potential for economies of scale in the delivery of technologically intensive health care as well as problems in having large enough populations for robust risk pooling and budget management.

The Boston Consulting Group recently published an assessment of the extent to which countries’ health care systems, including New Zealand’s were positioned to improve health outcomes while maintaining or lowering their costs (i.e. their ability to pursue so called ‘value-based health care’) (Soderlund et al, 2012). It is obvious that these are the goals of any improved system for managing people with chronic conditions. They identified two groups of four factors for the effective implementation of this approach:

**National enablers**

- **Clinician engagement** – the degree to which clinicians, supported by officials and managers are committed to creating, making available and using high quality clinical information to improve care
- **National infrastructure** – the existence of common data standards for tracking diagnoses, treatments, outcomes and costs at patient level for all services that are publicly financed; a limited number of IT platforms; and a common legal framework for regulating use of patient data

**Disease registry data and use**

- **High quality data** – the existence of disease registries that track selected health outcomes of patients with the same diagnosis or procedure and analysis by providers and funders that enables them to identify which treatment protocols yield better, more cost-effective care
- **Outcomes-based incentives** – the use of outcome data to incentivize providers to improve clinical practice (e.g. reports provided to individual doctors/teams, public
reporting for benchmarking, use of outcome data in clinical guideline development, use of outcomes data to influence reimbursement of providers)

Of the 12 countries studied, New Zealand was ranked in mid-table alongside Australia in terms of its overall readiness to implement a ‘value-based’ system. Sweden was assessed as the best equipped with Singapore, Canada and the UK behind it. Germany was assessed as the least well placed of the twelve. New Zealand scored highly on clinician engagement and national infrastructure, but much less well on its use of data to improve performance either through benchmarking or financial incentives. Many DHBs appear to be engaging strongly with promoting clinician engagement and leadership, at least in terms of structures to promote both, though with little cross-fertilisation of approaches and experience.

Thus there is still a distance to go before the health care system can be said to live up to the principles of the Chronic Care Model, or exhibit Ham’s ten characteristics of a high performing chronic care system or be positioned to implement ‘value-based health care’. The policy challenge remains how to reduce fragmentation and achieve more ‘integrated’ care; that is, ‘co-ordinated’ care that provides a ‘smooth and continuous’ transition between services, and a ‘seamless’ journey, as service users receive health, support, and social welfare services from a range of health and other professionals (Cumming, 2011).

Current policy directions related to meeting the challenge of long term conditions

Although key financing, planning, funding and service delivery reforms aimed at delivering more integrated care to service users have succeeded in increasing the integration of planning and funding functions, as we saw above, fewer changes have occurred in the ways in which services are provided to users (Cumming, 2011). It is only now that significant attention is being paid to changing how services are actually delivered, building on recent experience. Starting with the Ministry of Health’s Briefing to the Incoming Minister of Health (Ministry of Health, 2012a), Ministers are giving much more emphasis to clinical integration.
Priorities for the New Zealand system to help meet the challenge of long term conditions sustainably

This section identifies the main areas of focus if the New Zealand health system is to adapt itself continuously to meet the emerging challenge of chronic disease within a constrained budget. It is essential to try to evaluate the impact of any changes on costs and outcomes in New Zealand since the results from one system cannot be assumed to apply to another. As stated at the outset, there are no ‘magic bullets’ to be found in any of the priority areas. Instead, patient and careful action across each of the areas over time is called for. The literature is full of uncritical advocacy and naive assumptions about the likely improved cost-effectiveness of initiatives developed in one setting when applied to another.

Towards a more ‘integrated’ health care system

In a recent review of the evidence on the wide range of forms of ‘involving providers, providers and commissioners (insurers and/or health plans) in integration’ that have been developed in the last 25 years across high income countries, Curry and Ham (2010) conclude that moves towards greater integration should continue to be encouraged in universal tax-financed systems such as the English NHS and New Zealand’s. Such approaches are arguably highly consistent with the history of planned health care services in these countries. However, it has to be recognised that the evidence on the cost-effectiveness of the different levels and types of integration is unlikely ever to satisfy the purists. Among others, this is because of the heterogeneity of schemes, differences between settings in what constitutes previous care (i.e. the comparator), and contextual factors. There are also methodological issues such as the impact of the selection of the period used for the pre-intervention baseline assessment and the duration of follow up to allow for impacts to become visible. However, these inevitable limitations in the evidence should not stand in the way of trying to use the best evidence available.

Curry and Ham (2010) argue that organisational integration alone is unlikely to deliver better outcomes and may sometimes be an unhelpful diversion. Efforts need to focus on clinical and service integration through pursuit of multiple, simultaneous initiatives at each of the macro, meso and micro levels (as defined above). Action at one level alone is unlikely
to improve outcomes and/or contain costs. They advocate sustained efforts to encourage the emergence of clinically integrated groups and integrated provider networks of various types, most often linked through contracts rather than in the form of a single organisation. Specialists need to be encouraged or required to work with GPs and other generalists in such groups and networks. To support this, reimbursement systems needs to move away from paying for individual treatments, episodes or contacts from individual providers towards paying for complete care pathways across providers (e.g. ‘years of care’). This is needed to signal a cultural shift within the system so that events such as avoidable hospital admissions come to be regarded as failures of the system. Other approaches to reimbursement reform could include funders not paying for certain types of care (e.g. readmissions within a short period of discharge) and things that should not occur (so called ‘never events’).

Wherever possible, patients should be able to exercise choice either between groups/networks or within them in terms of sources and types of care. Curry and Ham (2010) conclude that there is no inherent contradiction between integration and various forms of competition as long as patients can exercise some degree of choice. Integrated services need not be ‘take it or leave it’ services, though clearly patient choice is easier to offer where there are concentrations of population though even here hospital services are increasingly being asked to work together (e.g. the Auckland DHBs, the three Wellington DHBs and the South Island DHBs) and groupings are slowly emerging over time. In more rural parts of New Zealand, choice may not be possible.

**Macro level integration**

This level of integration is defined as one in which providers, either together or with commissioners (health plans and/or other budget-holding entities) work together to provide integrated care to a defined population either through virtual or real organisations. Health maintenance organisations in the US such as Kaiser Permanente and Geisinger Health System and a range of integrated medical groups are among the best known private sector examples. The Veterans’ Health Administration (VA) is a publicly owned leader in this field. Integrated systems can take a wide variety of organisational forms while sharing many of the same operating principles and methods (e.g. aligned financial incentives, use of
information and communications technology (ICT) to support clinical processes, use of protocols, accountability for performance, defined populations, effective physician-management partnerships leading the organisation, etc.). The evidence indicates that macro level integration, particularly where it involves integrating hospitals with physician groups (e.g. in the New Zealand context, involving IPAs and other clinical collectives) should be seen as a long-term, bottom-up process taking over many years.

Health maintenance organisations and the like tend to give priority to chronic care since chronic disease represents their main source of demand, affecting their ability to manage within their capitated budgets. Kaiser, for example, stratifies its enrollees according to risk to guide the intensity and type of self-management support, and disease and case management offered to individuals. Similar tools are beginning to be used in New Zealand. Unplanned admissions to hospital are categorised as a sign of system failure and active steps are taken when patients are in hospital to rehabilitate them so that they can return home at the earliest opportunity. In general, hospital use in these integrated organisations is significantly lower than in comparable patient populations outside (Ham, York, Sutch and Shaw, 2003). In large part, this is because the financial benefits of innovative practice can be retained in the organisation since in most cases there is integration of commissioner and providers, usually through contracts rather than through a single organisational entity. The CMDHB model is moving towards this. In areas in NZ where there is a single DHB and PHO, similar arrangements are possible.

**Meso level integration**

This is usually defined as integration of care for particular types of patients (e.g. with specific conditions or characteristics). The main focus at this level has been on care for older people and/or those with long-term conditions whose use of services tends to be high and whose needs tend to cross professional and organisational boundaries. There is a very wide variety of schemes that operate at this level either within macro level systems or outside. Most involve multi-disciplinary teams focusing on a particular condition and its management. Most also include in their teams health and social care (disability support) workers in order to try to overcome the organisational and financial barriers to the most appropriate and least costly patterns of care.
The evidence at this level tends to come from demonstration programmes (Kodner, 2009) and tends to show that integrated health and social care outside the context of macro level integrated systems has the potential to reduce hospital use, and improve patients’ experience of care, quality of life and physical functioning, but not whether it is generally more cost-effective than more ‘conventional’ approaches. In part, this is because of the heterogeneity of target populations and schemes. Such schemes take time to yield benefits and effects can be difficult to detect, particularly in the short term. Most evaluations cover only one or two years and are not powered to detect the small changes that, nonetheless, may be important in policy terms. They are an important source of learning for improving future initiatives, but it is unhelpful to presume that they will ever provide definitive evidence of the superiority of ‘integrated care’ over the status quo ante.

There has been a great deal of effort at this level in the NHS in recent years, especially in England, relevant to New Zealand. Perhaps the most relevant and important example from the NHS is that of Torbay beginning in 2003 where five multi-disciplinary health and social care teams each serving a locality that relates to the catchments of general practices identify and proactively support the highest risk older people in collaboration with GPs. Health and social care coordinators who are not professionally qualified act as a single point of contact with each team and there is a single assessment process and client-held record accessible to any staff member involved in a person’s care. Only after the health and social care teams had been operating for two years was a decision taken to merge the NHS and local authority adult social services by setting up Torbay Care Trust which is responsible for commissioning and providing health and social care across the local government-NHS divide. Compared to its NHS benchmark group of areas, over 85s in Torbay with two or more admissions in a year use 47% fewer unplanned bed days. Taking the 65+ population, Torbay’s unplanned bed use is around 2000 per capita per year versus the regional average of 2800 and Torbay’s patients report the best experience of care in the region (Ham, 2010b). Unfortunately, there has been no assessment of the cost-effectiveness of Torbay’s approach against ‘usual’ care or versus other integrated care initiatives in England.
Most initiatives in England have produced less promising results than Torbay. For example, in 2008, the Department of Health in England called for proposals from sites interested in implementing new models of clinically led integrated care. Sixteen very varied integrated care pilots (ICPs) were selected. Most of the pilots concentrated on horizontal integration (i.e. between community health services, general practice and social services) and promoted a loose collection of ‘integrating activities’ such as bringing care closer to where users lived and improving perceived continuity of care though they focused on different patient groups. The independent evaluation produced complex, even puzzling results indicating that ‘integration’ is no panacea (RAND Europe and Ernst & Young, 2012). For example, a comparison of hospital use six months before and after the intervention for 8,500 ICP patients and 40,000 matched controls showed a significant, hard to interpret, relative reduction in elective admissions and outpatient attendance, but not the expected reduction in emergency admissions. However, there was a significant 9% relative reduction in hospital costs for the sub-set of six sites that had used a case management approach (see micro integration, below). Integrated care led to process improvements, but while staff generally believed that these new processes were improving care for patients, patients did not agree. In particular, they felt less involved in decisions about their care which may have been because of changes to established patterns of care produced by moving into pilot mode. Patients were tending to have relationships with more staff in the pilots than previously as the range of skills in teams expanded. For some patients, this was a potentially alienating experience. Perhaps the most important learning from this process is not to mount short-term pilots with even shorter term evaluation periods. Perhaps too patients should be asked what integration means to them and how much they want it, but most importantly how they want to see things improved. In addition, it may be that the public needs time to understand better how new patterns of care in which the acute hospital is very much a last resort can help them.

The large North West London integrated care pilot (ICP) launched in June 2011 similarly demonstrates the difficulty of producing rapid change and of interpreting findings from short-term evaluations. The ICP is ambitious and aims to improve the coordination of care for a registered population of 375,000 people, initially focusing on people with diabetes and those over 75 years of age. At its core is an information tool to extract and use individual
level data from across the entire local health care system, including mental health services; multidisciplinary group individual case review meetings; and structured patient care plans agreed between providers and patients. After the first 12 months, there had been little change in service use, care processes, or outcomes attributable to the ICP. There was a reduction in emergency admissions, but this matched changes in London and England as a whole (Pappas et al, 2012). The verdict was that the Pilot had brought together a large number of diverse providers, but was at an early stage in bringing about large-scale transformational change.

**Micro level integration**

Micro level integration focuses on coordinating, managing and reviewing the care of individual people and their informal carers. In many health care systems where primary medical care is reasonably well developed, this responsibility falls de facto to primary care, especially to GPs and their co-workers. In more explicit care coordination schemes, there is typically a shared care plan and specifically appointed care coordinators or case managers who may or may not be professionally trained. There are many tools and techniques that are advanced with a view to improving care coordination including shared electronic health records, giving people personal health and care budgets (‘self-directed care’) and installing ‘telecare’ (using technology to augment support to patients in their own homes) and ‘telehealth’ (predominantly automated vital signs monitoring sending data to clinicians to interpret and respond to if necessary) devices in their homes (these are discussed in more detail below). Because of this diversity and because micro level integration is frequently embedded in different forms of meso and macro level integrated care, it is difficult, and may be inappropriate, to compare micro level approaches in isolation (Curry and Ham, 2010).

The available evidence suggests that using these micro level techniques in combination (e.g. care planning led by a care coordinator plus electronic records available to a range of professionals and the patient) is far more likely to be demonstrably effective than single strategies (Powell Davies et al, 2008).

**Specific foci for enhancing the health system’s response to people with long term conditions**
As well as thinking about action in terms of integrated care at the three levels discussed above, there are also thematic foci that need to be pursued to produce a matrix of change. They split into a number of groups: interventions at key points in the patient’s illness (e.g. avoiding hospital admission, encouraging discharge, reducing costs at the end of life), micro-level interventions and primary prevention of long term conditions).

Continuing to develop primary health care
The foundation of a strong response to the needs of people with long term conditions, particularly those with multiple conditions lies in a robust primary health care system. As well as continuing to reduce the financial barriers to primary medical services, there is a need to ensure an adequate supply and distribution of GPs. The primary care workforce is ageing. While the increased use of needs weighted capitation to channel public funding into primary care has improved the geographic distribution of practitioners to some extent, some rural areas are facing shortages as well as places such as North Auckland where many lists are full.

There is also further work to be done to align the interests of general practices as private businesses with the wider needs of the public health care system.

Avoiding unnecessary use of acute hospitals
Avoidable causes of admission have tended to fall faster than others in the last 20 years. Nonetheless, estimates of the proportion of emergency hospital admissions that are avoidable (generally referred to as ambulatory or primary care sensitive admissions) vary, but are considerable. For example, ambulatory care-sensitive conditions (ACSCs) account for one in six emergency hospital admissions in England, concentrated among the under-fives and over-75s, the latter for chronic conditions (Tian et al, 2012). Influenza and pneumonia account for the largest proportion of admissions (13 per cent) and expenditure (£286 million). Influenza, pneumonia, chronic obstructive pulmonary disease (COPD), congestive heart failure, dehydration and gastroenteritis account for more than half of the
cost. Many of these cases are vaccine-preventable. The King’s Fund estimated in 2012 that 8-18% of emergency admissions for ACSCs could be avoided (Tian et al, 2012).

On this basis, most health care systems in high income countries have taken some steps to try to reduce avoidable use of hospitals by people with long-term conditions on the grounds that acute hospitals are costly and admission to hospital is in itself frequently harmful, particularly in the case of older people with complex, multiple conditions (over a third of older people admitted to hospital leave in a worse functional state than when they were admitted) (Edwards, 2012).

However, as Edwards (2012) also points out,

‘The scale of savings available is rather small, even if very ambitious assumptions are made about the level of improvement that is achievable and about the relative costs of alternative models (the savings are gross rather than net). ... the high end of the savings estimates may be very optimistic. In addition, much of this saving is spread across several hundred hospital sites and can only be realised by either reducing overheads or by diverting the money into additional activity in the hospital – which may not be required.’

There is scant evidence that many of the specific interventions being undertaken (e.g. direct access phone advice services, advice from pharmacists, GPs in A&E departments, etc.) are cost-effective at the scale needed (see more on this below in relation to risk prediction models). To add to the complexity, sometimes an admission is preferable to the alternative despite the fact that the patient’s reason for admission is defined as potentially avoidable if the case is severe or complex and the patient’s home is unsuitable (Purdy, 2010). This means that interventions to reduce ACS admissions have to be cheap and/or generic (i.e. part of general care improvements such as ensuring good quality residential care, primary medical care and community nursing). More specifically, improved self-care (see below) and improving chronic disease management, particularly in COPD, diabetes and heart failure seem to be the front runners (see Box 3 for a summary of the evidence on avoiding hospital admissions).

There is also much scope to provide selected services in people’s own homes that were previously only available in acute hospitals (e.g. chemotherapy for cancers). For example, a
number of New Zealand studies show that a substituted primary care-driven service can, on occasions, be as effective, but cost considerably less, than the same intervention delivered in a hospital setting (Wellingham et al, 2003; Barker et al, 2006). The trick is to select the correct service/condition and to avoid simply transferring costs to patients.

In particular, the use of new technologies has been advocated for a number of years to support older people better to manage their health needs in their own homes (see below). Initially, these were seen as of most potential value for people living in remote areas, but increasingly ‘telecare’ and ‘telehealth’ are being used in urban areas with frail and housebound people to help them and their professional helpers manage their conditions. One source of impetus to change the pattern of care could be bringing a range of new providers into the system that may be more willing to innovate than the incumbents. They could be partly paid on the basis of their ‘results’ rather than simply for providing services.

However, experience has shown how difficult it is to reduce admissions despite the abundant scope to substitute hospital care with alternatives. In part, this is because any freed hospital capacity has to be taken out of use for savings to be realised and this can be politically very difficult. Simply shifting services from acute hospitals to community settings may not be reliably cost-saving (Sibbald, McDonald and Roland, 2007). On the other hand, there do appear to be some targeted changes that do result in cost savings and better care such as giving GPs direct access to hospital-based diagnostics. Overall, better chronic disease management appears to be important.

Making better use of long term care to complement and substitute for health care

Another focus for enabling the health and social care system as a whole to cope better with an ageing population and an increasing prevalence of people with (multiple) long-term conditions, is the role of long term social care (disability support). Long term care in New Zealand relates to services for people with enduring physical and mental disability who require assistance with basic personal activities of daily living and/or who require help with domestic tasks such as housework, preparing food and shopping. This care can be provided to people in their own homes or in residential homes. Inevitably, such care overlaps with health care such as community nursing, and with informal care.
Policy on the health and disability support sectors has tended to proceed separately, though DHBs administer much of the funding for long term care. There are three basic issues:

- enabling people to be able to afford to pay for and access long term social care at home and in residential settings to avoid unnecessary use of hospitals;
- managing the relationship between health care and disability support at the service delivery level so that care promotes health and independence at least long-term cost (e.g. avoiding health deterioration and ‘crises’ such as falls leading to hospital admission followed by need for residential care); and
- long-term care (social) funding is separated from health care funding.

Despite the fact that health care is largely tax financed and ‘free’ at the point of use while long term residential care of older people is subsidised, subject to an income and asset test, and a needs assessment, New Zealand has some advantages in this area. Public funding for the long term care of the over 65s is allocated to DHBs alongside their funding for health care so that they have the ability to shift resources between the two. In theory, they should have some incentive to invest in more long term care (especially in home-based services) to relieve the pressure on more costly hospitals. It would seem important that national policy makers and local DHBs are encouraged and enabled to view health and disability support as a single system in the future. For example, it would be unwise to devise policies to bear down on public spending on long term care (e.g. by stricter means-testing and targeting) if this were to lead to increased pressure on health care. There is anecdotal evidence of this occurring with public hospitals seeming to receive preferential treatment in terms of their funding that is not afforded to long term care providers. This partly reflects the political salience of public hospitals and the fact that they are Crown-owned.

Identifying the scope for substitution between health and disability support (long term care) is typically inhibited by the lack of routine information systems in disability support comparable to those in health care and an inability to link what data there is (absence of linked information is regarded in its own right as one of the barriers to effective ‘integrated’ care, see above). Using an innovative approach to data linkage, a study in England showed that while people who used publicly funded social care (long term care) made considerably
more use of NHS hospital services than those who did not (suggesting that they were frailer and in poorer health), this varied according to the type of social care received (Bardsley et al, 2012). People in care homes made significantly less use of all forms of hospital service than other social care users, including people using intensive home care (see Figure 7). Similar findings have been reported recently from Canada (Hollander, 2009) and New Zealand shows a comparable pattern of use. Frail people receiving high levels of support in their own homes use hospital services more than those in residential care, though their total costs of care tend to be lower than those living in residential care settings (Grant Thornton, 2010, pp141-2).

While the precise reasons for these usage patterns remain to be explained (e.g. whether people in residential care receive substitute services, whether residential homes reduce the risk of needing hospital care, whether residential home staff are able to manage people’s conditions that would otherwise have needed hospital care or whether access to hospital care is restricted for people living in care homes), it is clear that the health and social care sectors affect one another. These trade-offs and interactions are likely to affect a wide range of policy initiatives such as ‘personalisation’ of services and allocation of personal (health and social care) budgets, steps to improve ‘integration’ of health and social care, and reforms to the way in which social care is paid for.

The policy implications of this sort of research are not straightforward, but they include the need to recognise that health and disability support are partial substitutes. If so, the very different ways in which they are paid for and accessed could be highly inefficient. For example, having large numbers of people with long-term conditions struggling to maintain themselves at home with patchy domiciliary support, punctuated by costly, disruptive, unplanned hospital admissions is equally unlikely to be desirable in cost or effectiveness terms.

One contribution is to encourage funders to pay not for individual services, interventions or episodes of care, but blocks such as ‘years of care’ which could include resources and activities currently paid for from separate health and disability support budgets. Part of
these payments could be contingent on service providers working together to achieve particular outcomes such as keeping people with long term conditions out of hospital.

People needing high levels of social care, including full residential care, need to be able to access it in a timely way and from a systemic point of view, it is important that they are not faced with barriers to the extent that they end up in very costly acute hospital care. Given the highly skewed distribution of needs and costs of such long term care, there is a need for government intervention. There is a choice between government subsidy, stimulating the emergence of a private insurance market through a cap on individual payments and compulsory public long-term care insurance, as in countries such as Japan.

The principal response in New Zealand currently is to subsidise residential care (rest homes) in relation to an asset test which has become more generous in recent years. People in need of care with assets more than a $213,000 threshold pay for their care entirely up to a maximum equal to the cost of the first level of care (residential (rest) home). If people are receiving higher levels of care (long stay hospital or psychogeriatric (e.g. dementia) care), the DHB tops up the residential care fee to the full cost of care. People with assets below $213,000 pay all their income (but none of their assets) for their care, including their NZ Superannuation, except for a small amount for personal use. In 2005, the government increased the threshold from $15,000 to $150,000 and then increased it by $10,000 each year subsequently. However, Budget 2012 tightened the rules by only increasing the threshold by the Consumer Price Index ($3,000 rather than the previous $10,000 increments) so that the subsidy declined in real terms. At present, 84% of residents in rest homes (residential care) are currently wholly or partly subsidised by the tax-payer with the remainder (16%) paying all the costs themselves because they have assets over the threshold.

This relatively generous approach means that the disparity between ‘free’ health services and means-tested long term care have been greatly reduced, thereby reducing the incentive to use hospital care inappropriately and inefficiently. On the other hand, the high asset threshold compared with the past means that current tax payers are paying to protect the future bequests of many people in need of long term care.
Alternatively, as in the UK, the government could consider the potential benefits of a public-private partnership to deal with the highly uncertain and skewed need for, and costs of, long term care in old age which has prevented a market for long term care insurance emerging in the UK (Commission on Funding of Care and Support, 2011). The market for long term care insurance in New Zealand is similarly small in that only just over 1% of the costs of long term care are met from private insurance (OECD, 2011). The current relatively generous asset threshold reduces the incentive to take out private insurance still further.

In the UK, 25% of over 65s will face only minor costs of support before death while about 10% will face bills of over £150k. The Dilnot commission’s solution to this problem was to propose a lifetime cap on the costs of residential care faced by the individual before the state intervened as a way of stimulating a market in private insurance for the costs of care before the cap is reached (Commission on Funding of Care and Support, 2011). In principle, this could also take in home support. A better functioning market in these areas could potentially take some pressure off more costly health care services in future, though it requires a substantial level of public spending to deal with individuals’ costs above the lifetime cap. New Zealand deals with this issue a different way by setting a minimum lifetime threshold below which the individual is not required to draw down their assets and a maximum annual contribution. As long as the current policy of a relatively generous asset threshold is sustained, there is likely to be little to be gained by attempting to encourage more voluntary private insurance in New Zealand.

Another approach to this issue is represented by the mandatory public long-term care insurance scheme in Japan since 1997 designed to respond to the rapid erosion of family care coupled with high use of hospitals for long term care. The scheme provides everyone over 65 years and everyone over 40 with dementia or stroke-related disability access to long-term care separate from the health system. Everyone 40-74 years is required to attend an annual health check up and encouraged to take steps to remain healthy. The costs are met from a mix of tax revenues, compulsory insurance premia paid by everyone over 40 and user fees. There has been a similar scheme in Germany since 1994, though for all ages, less generous and with more emphasis on paying family care givers. Both schemes potentially give government substantial control over total spending and relieve pressure on other
budgets. In Germany, spending on other forms of social assistance to institutionalised older people fell by two-thirds after introduction of the scheme and spending was effectively controlled through strict eligibility criteria and financial rules. In Japan, spending was initially higher than expected due to loose eligibility criteria, but subsequently brought under control (Creighton Campbell, Ikegami and Gibson, 2010). However, both countries continue to worry about the coordination of health services and long term care, and neither country has succeeded in reducing use of nursing homes by providing more support to older people in their own homes. In practice, there appears to be little difference, except in presentational terms, between these sorts of compulsory insurance schemes and New Zealand’s current approach of tax-funded subsidies with a varying income and/or asset testing regime.

Another option is equity release in which older people use the equity they own in their own homes to raise revenue to pay for part of their long term care costs. On their death, the house is sold and a share of the proceeds goes to the company running the equity release scheme. Such schemes recognise that many older people are relatively income-poor but asset-rich, particularly if they own their own homes outright. New Zealand already has a public equity release scheme used by a small percentage of rest home residents. Where a rest home resident’s only asset that puts them over the asset threshold is their former home, the state will provide an interest-free loan secured against the home. The loan has to be repaid within 12 months of the resident’s death from their estate. Four hundred of the 9000 residents in residential care with assets above the threshold have their care costs funded by such loans.

It is probably prudent for New Zealand to keep all these options under review in order to be able to manage its health and long term care spending in the future. The current level of subsidy for long term care is relatively generous by historical standards. It should reduce obviously inefficient choices between hospital and long term care, but it clearly comes at a substantial cost.

*Increasing the supply of informal care*
A recent estimate of the value of informal care provided in the UK put it at £119 billion per year; i.e. approximately equal to the entire NHS budget (Buckner and Yeandle, 2011). In New Zealand, the 2006 Household Disability Survey showed that almost 60% of disabled adults over 65 receiving help with activities of daily living got some help from an informal carer and 38% were entirely dependent on informal care (Statistics New Zealand, 2007). Although older people are likely to be living longer in better health than in the past, thereby increasing the availability of potential informal carers, it has to be recognised that many informal carers of people with long-term conditions are themselves old and at risk of similar health problems. In addition, other factors are shrinking the pool of potential carers, such as falling family size and rising female labour market participation. In response, the 2012 English White Paper on the future of social care (disability support) included a number of proposals designed to improve the practical and financial support available to informal carers in order to increase their numbers and increase their ability to provide care for longer (Secretary of State for Health, 2012).

However, the likely future situation in New Zealand in relation to supporting informal carers is currently in flux following a court case in which a group of disabled adults established that non paying family carers on the same basis as non-family carers is discriminatory. This has major implications for the cost of providing financial support to informal carers who are family members, however defined. It may be that in future there is no financial advantage to the tax payer in increasing the supply of informal family carers, though there may be other benefits in terms of the nature of the care provided. Irrespective of this, it would be unwise to regard informal care as a straightforward source of care that can be switched on or off to meet gaps in paid care. Evidence suggests that people are reluctant to accept informal help (e.g. from family or neighbours) unless they can reciprocate in some way. As people become frailer, their ability to reciprocate tends to reduce such that they are increasingly only willing to accept informal support from close relatives. This suggests that the pool of carers available to provide intensive help will always be small.

Reduction in Health Care Costs at the End of Life
Proximity to death appears to drive a large proportion of individuals’ lifetime costs of care (in the US, older people generate over a quarter of their Medicare (universal public coverage for over 65s) expenditure in the last 12 months of their lives (Riley and Lubitz, 2010) which equates to approximately a third of their lifetime health care costs) and many people die in hospital when they and their relatives would have preferred they die at home or elsewhere (e.g., hospice). There is evidence that cancer patients dying in hospices are less likely to be admitted to intensive care, become inpatients or visit the accident and emergency department (Bergman et al). This suggests that there may be scope to reduce health care costs and/or improve the value of the services received by managing care at the end of life differently, in particular, reducing reliance on hospital care in these circumstances. It is interesting to note that the older people are when they die, the lower the health care costs associated with their terminal illnesses (see Figure 8). This suggests that some of the costs generated at younger ages are likely to be avoidable, although this may only become apparent after the fact. It also indicates that terminal care costs will not necessarily rise as the population ages and may, in fact, reduce as more people die at more advanced ages.

Hitherto, there has been a tendency to focus exclusively on the health care (especially hospital costs) generated by people in their last years of life. However, both health and social care (long term care) should be considered together given that there may well be some substitution between the two. Figure 9 compares costs in the year before death, by age, for people in England receiving social care but no inpatient hospital care, those receiving no social care but hospital inpatient care and those receiving both. The systems of care in England and New Zealand are sufficiently similar for the analysis to be relevant. It shows that up to the age of 90, people receiving social care cost less than those who were not in receipt of social care, but used inpatient hospital care and no social care in the final year of life. Obviously, those who were hospitalised were far more likely to have been sicker during the final year. However, those already in receipt of social care at the beginning of the last year of life would be far more likely to be frailer and more disabled. This suggests that some of the large difference in expenditure might be reducible if older people could be supported with a different mix of health and social care.
A different approach that is being tried in some parts of New Zealand is advanced care planning in which individuals, and their professional and informal carers, agree what should happen by way of care in the event of serious and/or potentially terminal illness.

**Increasing use of information and communication technologies (ICT)**

Advocates of greater use of new ICT emphasise how little many parts of health care have changed compared with other aspects of people’s lives and the huge and widening scope for applying ICT to chronic care. For example, there are now web-based self-care and shared decision making tools that enable people with long term conditions to access information, assess their symptoms, discuss with their peers and receive expert advice without leaving their own homes, never mind visiting a health facility.

However, it is far easier to identify the opportunities for ICT to change care processes than it is to prove that ICT and other technologies will improve outcomes at the same or lower cost compared with previous approaches. Clearly, the technology industries will promote their devices by making bold claims and will use the language of cost-effectiveness to persuade payers to invest in systems. The evidence frequently lags some way behind and is harder to interpret. Most of it relates to patients with heart failure and diabetes, and much is from the US which is highly atypical. A good example relates to telehealth (remote exchange of information between patient and professional in order to help in managing a condition) which has been promoted for many years. In the US, the VA’s Care Coordination/Home Telehealth (CCHT) programme for people with long term conditions was rolled out between 2003 and 2007 to several thousand patients. It installs home devices that send vital signs, disease management and e-health information via the internet to hospital staff. Evaluations suggest that it reduced bed days and admissions dramatically, even compared to the rest of the VA where both rates were falling substantially and cost less than the alternative pattern of care (Darkins, 2008).

By contrast, evidence from national health service-type systems such as NZ and the UK, is less compelling (Barlow et al, 2007). It is unclear whether telehealth is efficient outside remote areas. For example, in the largest and most robust randomised evaluation undertaken to date, a similar programme in England has, so far, shown no significant impact on hospital costs. Over the 12 months that they spent in the trial, patients allocated to
receive the telehealth intervention had fewer emergency hospital admissions (0.54 emergency admissions per person, compared with 0.68 per person for control patients – a difference of around 20 per cent) and fewer died (4.6% died, compared with 8.3% of controls). The differences in emergency admissions and mortality were statistically significant (Steventon et al, 2012). However, the numbers of admissions were relatively low and the differences were largely attributable to hard to understand deteriorations in the control group rather than improvements in the intervention group. This reinforces the need for care in extrapolating results from one setting to another, even within the same country.

Encouraging self-care and the ‘expert patient’

Self-care or self-management relates closely to prevention (see below). There is mounting evidence that the more that patients are actively involved in their own care and the more that professionals listen to, and harness, the knowledge that patients have of their own conditions, the better the outcomes tend to be. In part, this is because people with long term conditions live with their conditions every day of the year while their face to face interaction with health professionals is unlikely to be more than an hour or two per year at most. However, the results of explicit schemes to support patients to become ‘expert’ in their own conditions and then to assist others with the same condition, show only modest positive impact (Griffiths et al, 2007). There is considerable potential for ensuring that patients receive improved information on treatment options and comparative provider performance. In theory, this should encourage a more efficient use of services. However, it presumes that the whole population, including people with high needs, low educational attainment and/or poor English can access the information and understand it. Many such people have poor health literacy, and are unable to access a computer, or use one.

There are many technological innovations designed to encourage and support more equal partnership relationships between clinicians and patients, and to bring patients and their professional carers together in new ways, based on the insight that most care is provided in people’s own homes by themselves and their families. However, technologies need to work with the grain of people’s lives. For instance, ‘telecare’ (the remote monitoring of changes in a person’s physical status using alarms and sensors) and ‘telehealth’ (remote exchange of
information between patient and professional in order to help in managing a condition) have been widely promoted as ways of enhancing self-management, and improving the quality and cost-effectiveness of care for people with long-term conditions for a number of years. Yet, despite promising results in evaluations, these technologies have been slow to move into routine use due to a mix of professional and patient resistance. They seem to be viewed ambivalently by patients (Lehoux et al, 2004). There is evidence that such technologies can be viewed by older people as undermining their identity and autonomy (McCreadie and Tinker, 2005). In a recent UK trial of telehealth, patients who refused to take part frequently explained their decision in terms of the threat posed by the technology to their existing self-care, independence and service arrangements (Sanders et al, 2012).

*Giving people individual budgets for the costs of (part of) their care*

Giving people with long term conditions and their informal carers the ability to allocate and control the budget for their care themselves rather than relying on professionals is a very different approach to empowering users and enabling them to assemble more flexible packages of care than might previously have been possible with professionally directed services. It is possible that if care packages are more sensitively related to the needs of individuals and their informal carers, this may reduce the odds of people needing costly institutional care of various kinds. They are potentially a way of bringing together separate strands of health and disability support funding at the micro level and enabling people with long term conditions and disability to substitute between health and disability support depending on their needs.

Such innovations have operated in the domiciliary care sector in countries such as the Netherlands and in parts of Scandinavia for some time, both in the form of vouchers and direct payments. Small numbers of younger disabled people in New Zealand currently have access to individual social care budgets.

Critics argue that the evidence in favour of individual health and social care budgets is weak and that they are likely to increase inequalities in care by favouring better off and educated users (van Ginneken, Groenewegen and McKee, 2012). It is also reported that there was a loss of spending control in Dutch personal budgets for long term care since it is difficult to
set reliable budgets as the individual level and the receipt of budgets raised users’ expectations of what could be provided (White, 2011).

The concept has been the subject of a randomised trial in England in relation to social care (disability support) and a partially randomised evaluation of individual health care budgets for people with long term conditions has recently reported. The social care trial showed some positive results, but these varied across patient sub-groups. Younger physically disabled people were more likely to be satisfied by the control they obtained through having their own budgets. They reported a higher quality of life than older people. Older people were more likely to see the budgets as an extra burden (Glendinning et al, 2008). Those with budgets seemed to have slightly better outcomes than those without, but relative cost-effectiveness varied by patient sub-group.

The evaluation of the health care individual budgets showed that use of personal budgets was associated with a significant improvement in the quality of life and psychological well-being of recipients. Personal health budgets did not appear to have an impact on health status over the 12-month follow-up period. Using care-related quality of life as the measure of benefit, personal health budgets were deemed cost-effective compared with conventional service delivery. There was no significant difference in net benefit between the groups using health-related quality of life (EQ-5D) (Forder et al, 2012). Personal health budgets were cost-effective for people with mental health problems and those receiving NHS continuing health care but the analyses for other health conditions in the study were inconclusive due to small sample sizes. The difference in direct and indirect total costs between personal health budgets and the comparison groups were not statistically significant. However, total costs were significantly lower in the group of people with high-value personal health budgets compared to controls.

This suggests that individual budgets may have some potential to improve sensitivity of services to users’ needs, at least for some users; but that careful design is required if they are to contain costs.

*Reinforcing prevention of chronic disease*
Government programmes for health promotion and disease prevention currently represent around 5% of health care spending in the OECD (OECD, 2010b) and 6.7% in New Zealand. Although it is commonly assumed that ‘prevention is better than cure’, there are many different kinds of preventive measure, and they vary in their cost effectiveness. Typically, preventive measures addressing communicable disease (e.g. vaccination) are more cost-effective than interventions for non-communicable and chronic disease which tend to require both individual behaviour and wider social changes.

Furthermore, even cost-effective preventive measures may not necessarily reduce expenditure for two reasons (OECD, 2010b):

- the long and uncertain lags between spending and preventive outcomes, and the need frequently to target the entire population, so that there is no assurance that prevention will be less expensive than subsequent care; and

- the fact that people may live longer as a result of preventive programmes and develop other conditions, generating further costs as death is postponed.

As a result, it is necessary to critically assess the likely cost-effectiveness and cost savings of prevention on a case by case basis.

Increasing attention is being given to primary preventive programmes among middle aged and older people designed to maintain their physical and cognitive capability, and avoid or delay the onset of chronic disease. For example, a range of interventions to prevent obesity appear to be cost-effective at prevailing levels of health spending with positive distributional impacts (OECD, 2010a). This is not to ignore preventive action at younger age groups, for example, to prevent young people taking up smoking. This is particularly important in New Zealand where Māori have very high rates, especially among young women.
In principle, such programmes should also help control costs. In certain areas, this link is very clear. For example, it is now possible with modern methods of dialysis to keep people with advanced kidney disease alive into very old age, but this is extremely costly. This makes preventive efforts potentially highly cost-effective. The two main causes of end stage renal failure are hypertension and diabetes, both of which are already the targets of preventive programmes. Unfortunately, the relevant programmes aimed at keeping individuals fit and in good health as they age, rarely appear to be cost effective, or lead to overall reductions in health care costs (Oxley, 2009).

A variety of secondary preventive measures show some promise in reducing the risk factors for the major NCDs (e.g. high blood pressure and high cholesterol levels), such as population screening for coronary risk factors and the administration of the ‘polypill’ in the prevention of further CVD in people who have already had a heart attack or stroke (Elley, 2009), but are yet to demonstrate cost-effectiveness and cost reduction unambiguously. The ‘polypill’ is controversial in secondary prevention, but even more so as a primary preventive intervention (e.g. when offered to everyone beyond a certain age such as 55 years without any evidence of risk at the individual level as originally proposed by Wald and Law, 2003) where the benefit-harm ratio for the individual is likely to be unfavourable for most people, quite apart from the ethics of treating the entire population potentially unnecessarily (Toop, 2009). Nonetheless, it would prudent to keep under review the findings from current research including trials of the polypill for primary prevention in very high risk populations in New Zealand.

Another set of approaches to secondary prevention and cost containment fall under the heading of risk profiling. The basic idea is simple – to identify and intervene pre-emptively with those in the population who are at greatest risk of developing or exacerbating an existing long term condition. For instance, by analysing individual level health and social care use data either from administrative or clinical information systems, it may be possible to identify those with a high likelihood of an adverse event such as a hospital admission or readmission (e.g. patients whose diabetes is poorly controlled) and act to prevent this occurring. Some DHBs are engaged in this activity (e.g. Waitemata, Canterbury), but others not. While such approaches may seem common sense, only a small minority of
preventable, unplanned hospital admissions are of people who are at high risk based on their previous behaviour and characteristics. As a result, risk profiling and related interventions may not always be cost-effective unless the intervention that is triggered by the risk identification process is low cost (e.g. telephone follow up of patients discharged who have high risk of re-admission rather than a home visit by a community nurse). Recent research suggests that there are a number of risk prediction tools that perform reasonably well to identify people at different levels of risk of admission and readmission to hospital, but that this has to be followed with cost-effective interventions to reduce the risk, ideally using any resulting financial savings to help fund the intervention (Billings et al, 2012). Unfortunately, no single intervention or combination of approaches has been shown to consistently reduce risk of readmission (Hansen et al, 2011). It may be that the ability to reduce the risk of admission or readmission does not correlate positively with the risk of admission or readmission in which case it may be more cost-effective to target the larger group of patients at low or intermediate risk rather than the smaller group at high risk. More work needs to be done to investigate the cost-effectiveness of risk profiling followed by different interventions for patients at different levels of risk of admission or readmission.

Less attention has been given to the social dimensions of positive ageing, but the authors of a recent meta-analytic review of the field concluded that ‘The influence of social relationships on risk for mortality is comparable with well-established risk factors for mortality.’ (Holt-Lunstad, Smith and Layton, 2010) The implication of this body of research is that it might be possible to improve the health of older people and, by implication, of an ageing population’s need for health and social care, by increasing the level of social engagement at older ages. The most difficult question is to know how this might be brought about. Yet it is plainly a modifiable risk factor. For example, a relatively high proportion of New Zealanders over 65 years are in paid work as a result of the removal of a compulsory retirement age and raising of the age of eligibility for the state retirement pension.

It seems that facilitating naturally occurring relationships and community-based interventions may be more successful than providing social support using paid staff except at very low or dysfunctional levels of social relationships. Health and social care agencies
may be able to play a bigger part in increasing opportunities for patient and clients to be socially engaged, though the cost of so doing will need to be considered carefully. For example, Auckland and Counties Manakau DHBs are funding a scheme in which Anglican churches run social groups for older people at which a nurse is available for consultation and onward referral, as needed.

There is also interest, not surprisingly, in the role of the Internet and other technologies in increasing social participation among older people. However, Gilleard et al (2007) found that the use of mobile phones, e-mail and the Internet among people over 50 years of age decreased their attachment to the local area, implying that new connective technologies may have complex, hard to predict impacts on people’s overall patterns of social interaction and engagement.

Although there is a tendency to focus on individuals, some of the most promising avenues for intervention relate to architecture and the design of towns and cities to make them positive for social engagement as well higher levels of physical activity. For instance, WHO (2007) defines an ‘aging-friendly city’ and includes in its characteristics features that facilitate social activity (e.g. places that increase informal social engagement such as walking, sitting, meeting and entertainment). Multi-faceted community based interventions may have a number of advantages such as including a broad range of people rather than just the minority who may be regarded as ‘high risk’ at any age.

The physical quality of the environment also matters. New Zealand has relatively poor quality housing. As a result, better and more appropriate housing and related support for older people is highly likely to help in preventing long term conditions arising and in enabling people to remain longer in their own homes in line with their overwhelming preference. For example, more efficient heating can reduce cold and damp, thereby both reducing energy consumption and improving health by reducing infectious and non-infectious disease and related hospitalisations. In two RCTs in New Zealand, Howden-Chapman et al (2007 and 2008) and Chapman et al (2009) have shown that retrofitting insulation and installing effective, non-polluting heaters in homes are cost-effective ways of improving the health of occupants by reducing the number of GP visits and hospitalisations,
days off school or work, and premature deaths, as well as making gains in energy efficiency and reducing carbon emissions.

Conclusions

In many respects, New Zealand’s health care system is well placed to adapt to the challenge of chronic disease in an ageing population. Many of the developments in primary care and chronic disease management since the mid-1990s have the potential to position the system to respond efficiently and effectively. However, the changes needed to address chronic disease in an ageing population are complex, multi-faceted and need to take place at every level in the system. They cannot be brought about by applying simple policy levers or structural changes to the health and disability support system. The range of interventions and changes discussed above require consistent national leadership as well as concerted local action involving collaboration between managers and clinicians. They are also likely to require continuous evaluation, learning and adaptation.

Until very recently, there has been little sign of a concerted strategy relating to all levels of the health and disability support system to ensure that the inter-related initiatives discussed in this paper are pursued with equal vigour over time without allowing pressures to build to spend more. Almost all the issues and interventions discussed above have been acted on to some extent, but they have rarely been articulated in terms of their collective contribution to sustaining a largely free at the point of use, universal health care system in the face of an increase in people living with long term health conditions and an increasingly constrained budget. As a result, implementation has been incomplete and/or patchy. There is a history of relatively local and sporadic change in the direction of a health care and disability support system more explicitly organised around the needs of people with chronic disease with the exception of places such as South Auckland. This indicates that in most parts of the country, the majority of health care professionals do not yet recognise the imperative for major change.

However, in the last year or so the Government has begun to articulate a much stronger vision of integrated care and ‘clinical integration’ is described in the Annual Report of the
Director-General of Health for the year ending 30 June 2012 as one of six Ministerial priorities (Ministry of Health, 2012c). ‘Clinical integration’ is defined as:

’a key mechanism for delivering better public services within tight fiscal constraints. Integrated care brings organisations and health care professionals together to improve outcomes and provide a better patient experience.’ (Ministry of Health, 2012c, p10)

The Ministry of Health’s Statement of Intent, 2012/13-2014/15 reflects this, stating:

One of the key ways to deliver better public health services within tight financial constraints is through integrated care: careful coordination of patient care between different service providers and professions. Integrated care is particularly valuable for frail, older people and those with long-term conditions – both populations are expected to present growing challenges for the health system. Over the next few years, the Ministry will implement a work programme to improve the clinical integration of health services for the benefit of patients, avoiding the risks of fragmented delivery. ....

Clinically integrated health care brings organisations and health care professionals together to improve outcomes for patients and provide a better patient experience. More timely and efficient patient-focused services can also be more cost-effective, reducing duplication of effort (for example in collecting patient information) and achieving economies of scale.

Clinical integration of services to better meet people’s needs requires effective leadership, including clinical and professional leadership, and effective engagement with the sector. Collaborative cultures, appropriate governance arrangements and good information systems will be key to the success of this work. The shift towards a regional planning approach among DHBs and effective engagement of the clinical workforce will lead to better health care at the front line. ....

The Ministry also contributes to the integrated contracting process introduced under Whānau Ora. Integrated contracts represent the move to bring together multiple funding agreements into one single document that focuses on shared outcomes and cuts down on administrative compliance. (pp 6-7) ..... 

The Ministry of Health’s clinical integration work programme involves ensuring contracting and funding arrangements support integrated processes, and monitoring DHB performance against integration targets. (Ministry of Health, 2012b,p13)

Specific areas mentioned are:

Better care for patients with long-term conditions including improved screening for long-term conditions such as diabetes, patient-owned care plans and streamlined access to necessary services. (p13)
By 2014, personal health information is readily available to patients and clinicians no matter where care is delivered. (Ministry of Health, 2012b, p22)

The Statement of Intent is high level and perhaps deliberately avoids too much detail consistent with the Government’s commitment to encouraging and facilitating local, clinically led initiatives (e.g. by sharing experience of local innovations) rather than dictating the way forward in a top-down manner. However, it is notable for touching on clinical leadership, collaborative culture, governance, information, planning and contracting. The key issue therefore will be whether the system progresses in the desired direction. To detect this, there is a pressing need for a much more systematic programme of monitoring and independent evaluation of the process and impact of the recent changes discussed above and any changes resulting from the Government’s new commitment to clinical integration.

There is a case for a large-scale pilot that seeks to bring together the main elements of a new model(s) of integrated care that seeks to tackle the issues outlined in this paper, including removing financial barriers to primary medical care, creating entities that provide a full range of primary and secondary services focused on innovative methods for managing chronic disease. Such entities would be paid not to deliver episodes of care, but to keep people well and out of hospital.

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Box 1: *Continuum of integrated care strategies*

**Funding:**
- Pooling of funds (at various levels)
- Prepaid capitation (at various levels)

**Administrative:**
- Consolidation/decentralisation of responsibilities/functions
- Inter-sectoral planning
- Needs assessment/allocation chain
- Joint purchasing or commissioning

**Organizational:**
- Co-location of services
- Discharge and transfer agreements
- Inter-agency planning and/or budgeting
- Service affiliation or contracting
- Jointly managed programs or services
- Strategic alliances or care networks
- Consolidation, common ownership or merger

**Service delivery:**
- Joint training
- Centralised information, referral and intake
- Case care management
- Multi-disciplinary/interdisciplinary teamwork
- Around-the-clock (on-call) coverage
- Integrated information systems

**Clinical:**
- Standard diagnostic criteria (e.g. DSM IV)
- Uniform, comprehensive assessment procedures
- Joint care planning
- Shared clinical record(s)
- Continuous patient monitoring
- Common decision support tools (i.e. practice guidelines and protocols
- Regular patient/family contact and ongoing support

Source: Kodner and Spreeuwenberg, 2002, Box 1, p4
Box 2: Objectives of BSMC initiative, 2009

1) Improve people’s health and contribute to the achievement of national Health Targets;

2) lead to the establishment of IFHCs in appropriate locations that support multidisciplinary ways of working;

3) provide a range of health services in PHC settings that are more responsive to the needs of the community;

4) reduce acute demand on publicly-funded hospital services;

5) better manage patients with chronic conditions to support those people living in the community to live well and have their needs supported;

6) incorporate Whānau Ora approaches where appropriate;

7) demonstrate a commitment to continuing service improvement and development to better meet the needs of communities; and

8) achieve the above objectives in a way that is cost effective and assures quality and safety for users of services.

Source: Ministry of Health, 2009
Box 3: Summary recommendations from a systematic review of the evidence on avoiding hospital admissions

Hospital providers and commissioners should:

- be clear about which admissions they consider to be avoidable, what proportion of these admissions are avoidable, and how these admissions should be coded and measured
- implement evidence-based interventions as follows:
  - multidisciplinary interventions and telemonitoring for patients with heart failure and assertive case management for patients with mental health problems
  - hospital at home
  - closer integration of primary and secondary care
  - conduct early senior review in A&E, and implement structured discharge planning

Providers should

- continue to implement acute assessment units, but consider the overall impact on number of admissions
- aim to increase self-management among people with long-term conditions where there is evidence of benefit.

In addition, commissioners should:

- disinvest in programmes where there is robust evidence that they have little or no effect
- evaluate all new interventions, as even those that have proved beneficial in other settings may not be transferable to the local population.

Primary care providers should:

- aim to increase continuity of care with a GP
- consider the impact of local, out-of-hours primary care arrangements on avoidable admissions
- consider closer integration of primary and social care, evaluating the outcomes of any new interventions
- consider closer integration of primary and secondary care, evaluating the outcomes of any new interventions.

Source: Purdy, 2010, p19
Table 1: Extent to which the New Zealand public health care system exhibits Ham’s ‘ten characteristics of a high performing chronic care system’

<table>
<thead>
<tr>
<th>Characteristic of a high performing chronic care system (Ham, 2010)</th>
<th>Extent to which present in NZ</th>
<th>Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Universal coverage</td>
<td>Fully</td>
<td></td>
</tr>
<tr>
<td>2. Care free at the point of use or at a cost that does not act as a major deterrent to use</td>
<td>Largely</td>
<td>Still some evidence of GP visit and prescription co-pays deterring some patient groups from using services; no statutory regulation of co-pays; user charges in primary care are inconsistent with high quality chronic care</td>
</tr>
<tr>
<td>3. A delivery system that focuses on the prevention of ill-health and not just the treatment of sickness (e.g. encouraging secondary preventive activities through the payment system)</td>
<td>Partially</td>
<td>Most policy focus and public concern relates to access to treatment; there are no explicit financial incentives for general practices to prioritise secondary prevention; pro-preventive incentives of general practice capitation funding are diluted by patient co-payments</td>
</tr>
<tr>
<td>4. Priority is given to patients to self manage their conditions with support from carers and families</td>
<td>Partially</td>
<td>Self-management is emphasised in chronic care but is not the subject of major policy initiatives</td>
</tr>
<tr>
<td>5. Priority is given to primary health care, particularly multi-disciplinary team work in chronic care led by nurses</td>
<td>Partially</td>
<td>Primary care has had increased attention, particularly the reduction of GP visit co-payments, but nurse-led care less so</td>
</tr>
<tr>
<td>6. Population management is emphasised by stratifying people with long term conditions according to their clinical risk and supporting them commensurately</td>
<td>Partially</td>
<td>Risk prediction tools are available</td>
</tr>
<tr>
<td>7. Care is integrated so that primary health care teams can access specialist advice and support from outside primary care, when needed</td>
<td>Partially</td>
<td>Primary care professionals can access specialist advice but more integrated ways of working are still uncommon and often confined to pilots and demonstrations</td>
</tr>
<tr>
<td>8. Information technology is used to improve chronic care (e.g. to facilitate communication between different professionals and to enable people to be supported at home through telecare and telehealth)</td>
<td>Partially</td>
<td>There are some excellent schemes in some places</td>
</tr>
<tr>
<td>9. Care is effectively coordinated, particularly for people with multiple conditions who are at greater risk of hospital admission, including across the health and social care (disability support) divide (e.g. through providing care coordinators, giving people their own budgets for care and/or allowing them to make direct payment for services)</td>
<td>To a very limited degree</td>
<td>More innovative forms of care coordination by patients/users themselves (e.g. individual budgets and direct payments) have yet to be tried. Health and disability support coordination is very limited and not a major policy theme.</td>
</tr>
<tr>
<td>10. The other nine characteristics are linked into a coherent whole as part of a strategic approach</td>
<td>Not present explicitly</td>
<td>Most aspects of a well functioning chronic care system are discussed in</td>
</tr>
</tbody>
</table>
Figure 1: New Zealand amenable mortality 0-74 years, age-specific rate per 100,000, 2000-2008

Source: Ministry of Health, 2011a, Figure 64, p178
Figure 2: Potential years of life lost due to diabetes per 100,000, 2007

Source: Matheson, 2009
Figure 3: Numbers of people in England with long term conditions and projections

Source: Department of Health, 2012
Figure 4: Proportion of people with long term conditions by age, England 2009

Source: Department of Health, 2012
Figure 5: Experience of care coordination gaps in past two years among ‘sicker adults’ by country, 2011

*Test results/records not available at time of appointment, doctors ordered test that had already been done, providers failed to share important information with each other, specialist did not have information about medical history, and/or regular doctor not informed about specialist care.

Source: 2011 Commonwealth Fund International Health Policy Survey of Sicker Adults in Eleven Countries.

‘Medical home’ means that the person has a regular doctor/place of care; was able to get an appointment the same/next day last time sick and/or regular place of care always/often calls back the same day to answer question; someone at the regular place of care always/often knows important information about medical history; and the regular practice always/often helps coordinate and arrange care from other doctors/places and/or there is one person responsible for all care received for a chronic condition.

Source: Schoen et al, 2011
Figure 6: Inpatient admissions per person by age and type of social care (long term care) received, England
Figure 7: Numbers of deaths and average health care costs in the last 6 months of life, Counties Manakau DHB, 2008

Source: Coster (2012)
Figure 8: Inpatient and social care costs per person in final year of life by age band, England

Source: Bardsley, 2012
Appendix: Charts comparing countries’ performance in relation to care coordination and aspects of chronic care from The Commonwealth Fund 2011 International Health Policy Survey of Sicker Adults in Eleven Countries, Schoen and Osborn, 2011

### Coordination Problems in the Past Two Years

<table>
<thead>
<tr>
<th>Percent</th>
<th>AUS</th>
<th>CAN</th>
<th>FR</th>
<th>GER</th>
<th>NETH</th>
<th>NZ</th>
<th>NOR</th>
<th>SWE</th>
<th>SWIZ</th>
<th>UK</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test results/ records not available at appointment and/or duplicate tests ordered</td>
<td>19</td>
<td>25</td>
<td>20</td>
<td>16</td>
<td>18</td>
<td>15</td>
<td>22</td>
<td>16</td>
<td>11</td>
<td>13</td>
<td>27</td>
</tr>
<tr>
<td>Providers failed to share important information with each other</td>
<td>12</td>
<td>14</td>
<td>13</td>
<td>23</td>
<td>15</td>
<td>12</td>
<td>19</td>
<td>18</td>
<td>10</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>Specialist did not have information about medical history and/or regular doctor not informed about specialist care</td>
<td>19</td>
<td>18</td>
<td>37</td>
<td>35</td>
<td>17</td>
<td>12</td>
<td>25</td>
<td>20</td>
<td>9</td>
<td>6</td>
<td>18</td>
</tr>
</tbody>
</table>

Source: 2011 Commonwealth Fund International Health Policy Survey of Sicker Adults in Eleven Countries.
Experienced Coordination Gaps in Past Two Years

Percent

<table>
<thead>
<tr>
<th></th>
<th>UK</th>
<th>SWIZ</th>
<th>NZ</th>
<th>AUS</th>
<th>NETH</th>
<th>SWE</th>
<th>CAN</th>
<th>US</th>
<th>NOR</th>
<th>FR</th>
<th>GER</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>23</td>
<td>30</td>
<td>36</td>
<td>37</td>
<td>39</td>
<td>40</td>
<td>42</td>
<td>43</td>
<td>53</td>
<td>56</td>
<td></td>
</tr>
</tbody>
</table>

* Test results/records not available at time of appointment, doctors ordered test that had already been done, providers failed to share important information with each other, specialist did not have information about medical history, and/or regular doctor not informed about specialist care.

Source: 2011 Commonwealth Fund International Health Policy Survey of Sicker Adults in Eleven Countries.

Gaps in Hospital or Surgery Discharge in Past Two Years

<table>
<thead>
<tr>
<th>Percent did NOT</th>
<th>AUS</th>
<th>CAN</th>
<th>FR</th>
<th>GER</th>
<th>NETH</th>
<th>NZ</th>
<th>NOR</th>
<th>SWE</th>
<th>SWIZ</th>
<th>UK</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receive instructions about symptoms and when to seek further care</td>
<td>16</td>
<td>16</td>
<td>33</td>
<td>23</td>
<td>22</td>
<td>17</td>
<td>29</td>
<td>27</td>
<td>13</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>Know who to contact for questions about condition or treatment</td>
<td>12</td>
<td>11</td>
<td>20</td>
<td>9</td>
<td>9</td>
<td>10</td>
<td>13</td>
<td>16</td>
<td>9</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Receive written plan for care after discharge</td>
<td>30</td>
<td>27</td>
<td>33</td>
<td>26</td>
<td>44</td>
<td>31</td>
<td>44</td>
<td>46</td>
<td>28</td>
<td>19</td>
<td>7</td>
</tr>
<tr>
<td>Have arrangements made for follow-up visits</td>
<td>31</td>
<td>26</td>
<td>47</td>
<td>47</td>
<td>22</td>
<td>31</td>
<td>38</td>
<td>36</td>
<td>32</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Receive clear instructions about what medicines to be taking</td>
<td>15</td>
<td>11</td>
<td>27</td>
<td>15</td>
<td>20</td>
<td>11</td>
<td>19</td>
<td>14</td>
<td>14</td>
<td>9</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: 2011 Commonwealth Fund International Health Policy Survey of Sicker Adults in Eleven Countries.
Pharmacist or Doctor Did Not Review and Discuss Prescriptions in Past Year

- **UK**: 16%
- **SWIZ**: 25%
- **CAN**: 28%
- **US**: 28%
- **GER**: 29%
- **NZ**: 31%
- **AUS**: 34%
- **NETH**: 41%
- **SWE**: 55%
- **FR**: 58%
- **NOR**: 62%

**Base:** Taking two or more prescriptions.
**Source:** 2011 Commonwealth Fund International Health Policy Survey of Sicker Adults in Eleven Countries.

Shared Decision-Making with Specialists

- **SWIZ**: 80%
- **UK**: 79%
- **NZ**: 72%
- **NETH**: 67%
- **US**: 67%
- **AUS**: 64%
- **CAN**: 61%
- **GER**: 50%
- **SWE**: 48%
- **NOR**: 40%
- **FR**: 37%

**Percent reporting positive shared decision-making experiences with specialists**

- *Reported specialist always/often: 1) Gives opportunities to ask questions about recommended treatment; 2) Tells you about treatment choices; and 3) Involves you as much as you want in decisions about your care.*

**Base:** Seen specialist in past two years.
**Source:** 2011 Commonwealth Fund International Health Policy Survey of Sicker Adults in Eleven Countries.
### Patient Engagement in Care Management for Chronic Condition

<table>
<thead>
<tr>
<th>Percent reported professional in past year has:</th>
<th>AUS</th>
<th>CAN</th>
<th>FR</th>
<th>GER</th>
<th>NETH</th>
<th>NZ</th>
<th>NOR</th>
<th>SWE</th>
<th>SWIZ</th>
<th>UK</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussed your main goals/priorities</td>
<td>63</td>
<td>67</td>
<td>42</td>
<td>59</td>
<td>67</td>
<td>62</td>
<td>51</td>
<td>36</td>
<td>81</td>
<td>78</td>
<td>76</td>
</tr>
<tr>
<td>Helped make treatment plan you could carry out in daily life</td>
<td>61</td>
<td>63</td>
<td>53</td>
<td>49</td>
<td>52</td>
<td>58</td>
<td>41</td>
<td>40</td>
<td>74</td>
<td>80</td>
<td>71</td>
</tr>
<tr>
<td>Given clear instructions on symptoms and when to seek care</td>
<td>66</td>
<td>66</td>
<td>56</td>
<td>64</td>
<td>64</td>
<td>63</td>
<td>44</td>
<td>49</td>
<td>84</td>
<td>80</td>
<td>75</td>
</tr>
<tr>
<td>Yes to all three</td>
<td>48</td>
<td>49</td>
<td>30</td>
<td>41</td>
<td>42</td>
<td>45</td>
<td>23</td>
<td>22</td>
<td>67</td>
<td>69</td>
<td>58</td>
</tr>
</tbody>
</table>

Base: Has chronic condition.
Source: 2011 Commonwealth Fund International Health Policy Survey of Sicker Adults in Eleven Countries.

### Between Doctor Visits, Has a Health Care Professional Who . . .

<table>
<thead>
<tr>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>81</td>
</tr>
<tr>
<td>77</td>
</tr>
<tr>
<td>73</td>
</tr>
<tr>
<td>71</td>
</tr>
<tr>
<td>70</td>
</tr>
<tr>
<td>68</td>
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<td>63</td>
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<tr>
<td>62</td>
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<tr>
<td>59</td>
</tr>
<tr>
<td>55</td>
</tr>
<tr>
<td>54</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
</tr>
<tr>
<td>29</td>
</tr>
<tr>
<td>24</td>
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<td>22</td>
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<tr>
<td>14</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>9</td>
</tr>
</tbody>
</table>

Base: Has chronic condition.
Source: 2011 Commonwealth Fund International Health Policy Survey of Sicker Adults in Eleven Countries.
Blood Pressure Under Control Last Time Checked
Has Heart Disease, Hypertension, and/or Diabetes

Percent yes, under control

<table>
<thead>
<tr>
<th>Country</th>
<th>AUS</th>
<th>CAN</th>
<th>FR</th>
<th>GER</th>
<th>NETH</th>
<th>NZ</th>
<th>NOR</th>
<th>SWE</th>
<th>SWIZ</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has a regular doctor or place of care . . .</td>
<td>97</td>
<td>96</td>
<td>99</td>
<td>97</td>
<td>100</td>
<td>99</td>
<td>99</td>
<td>95</td>
<td>99</td>
<td>99</td>
</tr>
<tr>
<td>. . . who is accessible . . .</td>
<td>79</td>
<td>70</td>
<td>91</td>
<td>85</td>
<td>89</td>
<td>91</td>
<td>80</td>
<td>83</td>
<td>89</td>
<td>90</td>
</tr>
<tr>
<td>. . . knows you . . .</td>
<td>84</td>
<td>80</td>
<td>88</td>
<td>91</td>
<td>79</td>
<td>89</td>
<td>76</td>
<td>66</td>
<td>96</td>
<td>94</td>
</tr>
<tr>
<td>. . . and helps coordinate your care</td>
<td>66</td>
<td>71</td>
<td>60</td>
<td>56</td>
<td>59</td>
<td>72</td>
<td>67</td>
<td>42</td>
<td>80</td>
<td>83</td>
</tr>
<tr>
<td>Has a medical home*</td>
<td>51</td>
<td>49</td>
<td>52</td>
<td>48</td>
<td>48</td>
<td>65</td>
<td>53</td>
<td>33</td>
<td>70</td>
<td>74</td>
</tr>
</tbody>
</table>

* 1) Has a regular doctor/place; 2) able to get appointment same/next day last time sick and/or regular place of care always/often calls back the same day to answer question; 3) someone at regular place of care always/often knows important information about medical history; and 4) regular practice always/often helps coordinate and arrange care from other doctors/places and/or one person responsible for all care received for chronic condition.

Source: 2011 Commonwealth Fund International Health Policy Survey of Sicker Adults in Eleven Countries.
Patients with a Regular Doctor versus a Medical Home

Patients with a medical home have a regular practice who is accessible, knows them, and helps coordinate their care

Source: 2011 Commonwealth Fund International Health Policy Survey of Sicker Adults in Eleven Countries.

Hospital or Surgery Discharge Gap in Past Two Years, by Medical Home

* Last time hospitalized or had surgery, did NOT: 1) receive instructions about symptoms and when to seek further care; 2) know who to contact for questions about condition or treatment; 3) receive written plan for care after discharge; 4) have arrangements made for follow-up visits; or 5) receive very clear instructions about what medicines you should be taking.

Source: 2011 Commonwealth Fund International Health Policy Survey of Sicker Adults in Eleven Countries.
Patient Engagement in Care Management for Chronic Condition, by Medical Home

Percent reporting positive patient engagement in managing chronic condition*

<table>
<thead>
<tr>
<th></th>
<th>Medical home</th>
<th>No medical home</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUS</td>
<td>56</td>
<td>38</td>
</tr>
<tr>
<td>CAN</td>
<td>59</td>
<td>29</td>
</tr>
<tr>
<td>FR</td>
<td>47</td>
<td>24</td>
</tr>
<tr>
<td>GER</td>
<td>54</td>
<td>33</td>
</tr>
<tr>
<td>NETH</td>
<td>51</td>
<td>27</td>
</tr>
<tr>
<td>NZ</td>
<td>47</td>
<td>16</td>
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<tr>
<td>NOR</td>
<td>32</td>
<td>15</td>
</tr>
<tr>
<td>SWE</td>
<td>73</td>
<td>51</td>
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<tr>
<td>SWIZ</td>
<td>76</td>
<td>46</td>
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<tr>
<td>UK</td>
<td>67</td>
<td>45</td>
</tr>
<tr>
<td>US</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Health care professional in past year has: 1) discussed your main goals/priorities in care for condition; 2) helped make treatment plan you could carry out in daily life; and 3) given clear instructions on symptoms and when to seek care.

Source: 2011 Commonwealth Fund International Health Policy Survey of Sicker Adults in Eleven Countries.

Blood Pressure Under Control Last Time Checked, by Medical Home

Has Heart Disease, Hypertension, and/or Diabetes

Percent

<table>
<thead>
<tr>
<th></th>
<th>Medical home</th>
<th>No medical home</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUS</td>
<td>85</td>
<td>71</td>
</tr>
<tr>
<td>CAN</td>
<td>88</td>
<td>75</td>
</tr>
<tr>
<td>FR</td>
<td>82</td>
<td>79</td>
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<td>GER</td>
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<td>NZ</td>
<td>83</td>
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</tr>
<tr>
<td>NOR</td>
<td>88</td>
<td>80</td>
</tr>
<tr>
<td>SWE</td>
<td>86</td>
<td>82</td>
</tr>
<tr>
<td>SWIZ</td>
<td>82</td>
<td>58</td>
</tr>
<tr>
<td>UK</td>
<td>73</td>
<td>65</td>
</tr>
<tr>
<td>US</td>
<td>90</td>
<td>76</td>
</tr>
</tbody>
</table>

Base: Has heart disease, hypertension, and/or diabetes and blood pressure checked in past year.

Source: 2011 Commonwealth Fund International Health Policy Survey of Sicker Adults in Eleven Countries.
Rated Quality of Care in Past Year as “Excellent” or “Very Good,” by Medical Home

Source: 2011 Commonwealth Fund International Health Policy Survey of Sicker Adults in Eleven Countries.