FUTURE DELIVERY OF COMMUNITY BASED HEALTH AND CARE SERVICES

Report for Margot Mains, Chief Executive,

Capital & Coast District Health Board

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LETTER TO THE CEO

Dear Margot

In September 2006 you asked me to develop a vision of the future end-state for community delivered services in C&C DHB. You were particularly interested in the suggested future roles and responsibilities of the various home, community, primary, and hospital providers. My report follows. It has been developed based on:

- analysis of C&C DHB's existing strategies, plans, projects, service developments, performance indicators, and progress towards objectives

- analysis of international literature, models, reports, studies, trends and other material which helps inform the optimum future state for C&C DHB

- onsite discussions and workshops with key individuals in C&C DHB.

You commissioned this report because in recent years C&C DHB has planned and implemented a number of service changes to integrate care, improve service delivery, promote health, and assist people to manage their long term illnesses in the community. Amongst others, these initiatives include:

- establishment of six Primary Health Organisations (PHOs) in the district
- implementation of the integrated home and community care programme
- development of a district-wide after hours strategy
- a review of and changes to palliative and end-of-life care
- establishment of enhanced primary care services, such as care plus
- numerous inter-sectoral initiatives
- chronic care and disease state management services
- medication management services
- a short stay unit and hospital Patient Care Coordination Service.

Many of these innovative initiatives, and others being planned or considered, make C&C DHB an international leader in the delivery of community-based health services. It is now timely to consider the next steps in community health care, and how the various projects and services will fit together in future to meet the challenges of a population which is both ageing and increasingly dealing with chronic illnesses.

The suggestions for the future I present in this report are in many ways a reversal of the current situation. The suggested end-state would put primary and community care providers at the centre of service provision and community well-being.

These providers would have networks and partnerships with each other which allow them to provide quality care in the home and community. People in the

district would no longer automatically associate the words “health services” with “hospital”. Instead, they would think firstly of the primary and NGO providers delivering care in their community. And these providers would be the locus of expertise, workers, and resources for community based services.

The suggested changes represent a challenging paradigm shift. That is not surprising - experience both in New Zealand and internationally is that achieving real improvement in healthcare requires ambitious and sometimes radical change to the patient experience. This means taking a rigorous, evidence based approach to service design and planning, but also opportunistically supporting innovation and development at the implementation stages. It is an approach which challenges our desire for control and clarity.

In completing this report I have therefore suggested principles to guide *how* improvements to community based services can be achieved, as well as describing the essential components of that strategy. While some changes can be made quite quickly, I expect that full implementation will take five or more years.

This exercise has been necessarily brief. While I have tried to make the suggested direction consistent with service developments in mental health and child health, I have not focused on these services as I’m aware there are multiple developments already occurring. I have not consulted providers or consumers, or conducted in-depth cost-benefit analysis. These are activities which can be built into the DHB’s existing planning and project management processes.

What I hope this report does provide is a picture of the future which will be a useful resource for meaningful dialogue about service development in the district over the next five or more years.

Thank you for the opportunity to conduct such a stimulating project. I hope this report is useful, and wish the DHB every success with implementation.

Yours sincerely

Benedict Hefford

EXECUTIVE SUMMARY

This report takes a helicopter view of the current trends, challenges, and opportunities facing C&C DHB. It then suggests, based on international evidence, an approach to future development and configuration of services delivered in the community.

The major issues facing health and social care systems worldwide are increasing pressures from an ageing population, declining health workforce, and increasing prevalence of chronic illness. Alongside these drivers are consumer and policy expectations of greater and higher quality community based care and improved health outcomes.

Older people are the largest users of health services, and the projected increase in both the numbers and ratio of older people in New Zealand over the next 15 years is significant. At the same time this older population is expected to increase demand for health services, the health workforce is also ageing and, as a result, demand for health workers is projected to exceed supply in every profession by 2011.

The World Health Organisation (WHO) estimates that the global disease burden from chronic illnesses will increase to 60% by 2020 to become the leading cause of disability worldwide. In New Zealand an estimated 70% of all health care funds are spent on chronic conditions and they are the main cause of ethnic disparities in life expectancy.

Consumer and government expectations are also driving health sector change. Policy frameworks emphasise the importance of improving health outcomes, reducing disparity, providing an 'integrated continuum of care', and delivering community based alternatives to institutional care.

In response to these issues most developed countries are:

- Increasing the relative importance and scope of primary health care, as countries with strong primary care infrastructure tend to have better outcomes, improved access to services for disadvantaged groups, greater consumer satisfaction, higher quality of care, and lower overall costs.

- Increasing focus on chronic disease management, as chronic care programmes are effective in reducing acute admissions and facilitating quality of life for adults with chronic illness. Chronic conditions place new demands on health systems and require a different approach to the organisation of care, in particular by facilitating patient, family, and carer self management through education, advice, support and follow-up. The efficacy and cost effectiveness of overseas chronic care models is well established. Evidence supports chronic care management programmes being delivered by primary care on an in-reach to hospital basis, rather than through outreach programmes from hospitals.

- Expanding home and community care options through development of services such as admission prevention, hospital-at-home, supported early discharge, and home rehabilitation services. By ensuring active recovery and preventing unnecessary loss of independence, these community-based services can improve outcomes, especially for older people and people with multiple chronic conditions. However, cost savings from such services should not be expected.

There is strong evidence that home and community care services require an integrated approach incorporating:

- comprehensive assessment at a unique point of entry;
- an enhanced role for care coordinators/case managers;
- active patient management and individual care planning;
- the ability to respond rapidly (through both assessment and service delivery) to changing client needs and health status;
- integration across health and home care, including access to equipment;
- common and accessible information systems, particularly for assessment and care planning.

A recent New Zealand based evaluation (ASPIRE 2006) has confirmed that simple home based interventions - encouraging and assisting people to retain and increase physical functioning through eating well and doing exercise based on activities of daily living – is highly effective in enabling people to meet their own goals and remain independent.

The implementation of approaches which strengthen primary health, address chronic care management, and expand home and community care options, requires significant development in the health workforce, in particular:

- Developing new roles and enabling substitution and expansion of existing professional roles and boundaries. In this approach direct provision by one practitioner is substituted for, or enhanced by, provision from another practitioner such as a nurse, social worker, physiotherapist, or pharmacist taking on some activities previously provided by GPs. Likewise, further substitution can occur at other levels through appropriately skilled support workers/carers and assistants taking on some of the tasks normally performed by health professionals. There is strong evidence that care delivered through these practices, provided individuals are working within their competencies, is of high quality and is cost effective.

- Enabling people to self manage, and pro-actively supporting carers. Self-care (through provision of information, support, advice, and monitoring) has been shown to improve outcomes and reduce health sector costs in response to a variety of health problems, particularly chronic illness. Likewise, evidence suggests that if carers receive adequate support, better long term outcomes can be achieved and flow-on health costs reduced.

- Effectively managing change, so that the existing workforce is supported and maintained during transition periods. Work completed in the UK suggests that successful introduction of community orientated care requires clear identification of roles, engagement of clinicians and senior management, training for staff to develop expanded roles, and developing early on supporting information such as job descriptions, referral protocols, and patient self management tools.

C&C DHB is well placed to respond to the challenges facing community health care provision. It already has a strategic and organisational focus on developing primary and community care, and has innovative primary and community services, such as:

- Primary Health Organisations (PHOs) & other primary care services, which are funded on a population based funding formula and give lower cost access to primary care.

- Integrated home and community care services, including the Care Coordination Centre, Care Managers, InterRAI assessments, and restorative & palliative homecare packages.

- Disease state and medication management services, including the congestive heart failure pilot in Porirua and clinical pharmacy review services.

- Community nursing and rehabilitation services, which fill important roles in community care provision and allow for ambulatory care delivery.

- Needs Assessment & Service Coordination (NA/SC) disability service, and the hospital Patient Coordination Service, which facilitate access to primary and community services.

Collectively these processes now in place represent the basis of international best practice in chronic and home/community care service delivery, as evidenced by some significant population health achievements– since 2003, C&C DHB has seen a 20% reduction in avoidable hospital admissions for the age 65+ group, a 20% reduction in the number of low birth weight babies, and diabetes related amputations have fallen from 22 to four per year.

However, there are a number of barriers to the development of a comprehensive primary and community driven health sector which is focussed on chronic care management, including:

- the division of responsibilities between hospital and primary and community providers, with the hospital having broad service delivery responsibilities in the community which constrains the scope and centrality of primary and community care provision.

- fragmentation and interface issues between community services, with multiple providers responsible for elements of assessment, care planning, and service delivery in the community

- ways of working which tend to be task orientated and do not easily allow for substitution and expansion of professional boundaries and roles.

Based on the international literature and the current C&C DHB situation, a number of changes to the configuration of community delivered services are recommended:

1. Grow and extend the scope of the primary and community sector

- Primary health and community care providers be supported to deliver a wider range of community services. The Hospital and Health Service (HHS) will eventually only deliver a small number of community services which have strong linkages to in-patient care delivery.

2. Further integrate processes and systems

- The InterRAI assessment process be expanded as new tools become available, to become the basis of one assessment process across primary, community, and HHS care delivery.

- The Care Coordination Centre's role and capacity be expanded to better coordinate service delivery. The CCC screen referrals for all home and community services, as well as undertaking discharge coordination and care management for patients experiencing in-patient events. Current staff and resources associated with the HHS Patient Care Coordination Service be transferred to the CCC to facilitate this expanded role.

- The HHS sub-contract delivery of the Needs Assessment & Service Coordination (NASC) disability service contract to Nurse Maude Association to be managed alongside the CCC in an integrated process.

3. Develop chronic care management programmes

- Chronic care management becomes a major focus of primary and community providers, with programmes being developed as resources allow - high need groups and areas are the first priority.

4. Grow and extend home & community services

- Restorative and palliative home and community care packages be further developed, including rapid response and sub-acute packages with an after hours component to prevent hospital admissions.

- Home and community services be specified and funded to intervene pro-actively with carers to limit deterioration in their condition.

- Short term equipment provision be contracted to Enable, to be managed along-side long term equipment provision in a seamless process.

5. Enable new ways of working

- The primary and community care workforce be more effectively deployed to deliver the new programmes and packages, by enabling role substitution and expansion in the new models of care.

- Most of the current resources and workforce associated with HHS community services be transferred to PHO and NGO providers as part of the establishment of chronic care and community care services.

6. Effectively *manage the transition*

- The following four principles be adopted for this change process:

  - Rigour – changes should be based on sound analysis and careful design wherever possible.

  - Flexibility and refinement – Not withstanding the above, some things can only be known through action. Trialling and judicious use of pilots are one way of testing new approaches.

  - Supporting leaders - at all stages the change process should support motivated and capable leaders and early adopters at all levels.

  - Workforce development –the changes should begin with upskilling of the workforce and focus on implementing new ways of working.

- A project management approach be taken to the transition process, so that roles, responsibilities, timeframes and approaches are specified clearly from the outset, and senior management and clinicians are involved.

- A consultation process be undertaken with the community and affected staff before any decisions are taken or details finalised.

- As an early priority, existing HHS community staff be offered training in chronic care management and restorative models of home care.

- Potentially affected HHS staff be made aware that they are protected by employment legislation which ensures they will be transferred on existing terms and conditions where their employer changes.

- Caution should exercised with service contracts which are developed as part of the implementation process. They should minimise the potential for adverse selection of patients (‘cream skimming’), ensure that services are accessable by high need/priority users, and that service delivery and outcomes can be effectively monitored.

INTRODUCTION

Around the world health and social care systems are changing to meet the challenges presented by an ageing population, increasing prevalence of chronic illness, and consumer preferences for home and community based, rather than institutional, care. In addition, the policy agenda in New Zealand also recognises that major disparities in health outcomes between ethnic and socio-economic groups are both unacceptable and modifiable.

Capital and Coast District Health Board (C&C DHB) has a strong strategic commitment to improve services to meet these challenges. Its District Strategic Plan (2006 – 2012) outlines the following six strategies to achieve the DHB's health goals of reducing disparity and the incidence and impact of chronic illness:

- Developing our workforce
- Supporting and promoting healthy lifestyles
- Working with communities
- Focusing on people through integrated care
- Managing our money effectively
- Updating our hospitals

This report presents information and ideas to help implement those strategies over the next five years.

Purpose and structure of this report

Service developments in the district are changing services, staffing, models of care, and the division of responsibility between providers. To help plan future developments effectively, this report takes a helicopter view of the current trends, challenges, and opportunities facing the DHB. It then suggests an approach to future development and configuration of services delivered in the community. This report is divided into four main sections:

1. **Drivers for Change** – presents an overview of current trends, risks, and opportunities in the provision of primary and community care services.

2. **Meeting the Challenges** – describes the service responses that are being adopted internationally to address the issues described in section one, and the evidence base for those services.

3. **The Capital & Coast Context** – gives a description of the current situation in C&C DHB, including the strengths of current primary, secondary, and community care services in the district, and opportunities for improvement.

4. **Future Development of Community Care** – provides recommendations for the future development of community delivered services in C&C DHB, based on the analysis and discussion presented in the previous sections.

DRIVERS FOR CHANGE

Internationally health systems are under increasing pressure. Traditional models of care, centred on diagnosis and treatment of a series of disconnected acute and episodic health events, are no longer satisfactorily meeting the needs of communities. Workforce shortages are becoming more common, and mounting financial pressures are almost universal. In addition consumer expectations and policy priorities have shifted – people now want care in their homes and communities, and governments want to see health disparities addressed.

These pressures are widely acknowledged to be the result of a health and care system which has not kept pace with changed community needs.

Chronic disease – this century's challenge

Chronic conditions (also commonly referred to as chronic diseases and long-term conditions) are those that can only be controlled and not, at present, cured. They include diabetes, asthma, cardiovascular disease, arthritis, chronic obstructive pulmonary disease and a range of neurological conditions.

The WHO has described managing chronic conditions as the healthcare challenge of this century[1]. It estimates that the global disease burden from chronic illnesses will increase to 60% by 2020[2]. That would make chronic conditions the leading cause of disability and, if not successfully managed, the most expensive problem for healthcare systems worldwide. In the United Kingdom patients with chronic disease account for 80% of GP consultations and 60% of hospital bed days[3]. In New Zealand:

- An estimated 70% of health care funds are spent on chronic conditions[4].
- 80% of all deaths in NZ result from chronic conditions[5].
- Chronic conditions contribute the major share of the disparity in life expectancy between Maori and Pacific, and non-Maori non-Pacific people[6].

Chronic conditions place new demands on health systems and require a different approach to the organisation of care across medical, social, and community factors. This includes proactively stratifying patients by risk, encouraging self management, and actively supporting and monitoring the patient's health condition over time. Successful approaches are discussed in more detail later in this report.

Unfortunately, despite rapid increases in the prevalence of chronic illnesses, healthcare systems are still predominately organised on transaction based models which first emerged in the 1950s[7]. These are systems and practices which are based on episodic care and acute events in which the patient is a passive recipient. They follow a 'diagnose, treat, cure' model that is better

suited to treating infectious diseases than managing long-term (usually non-infectious) chronic conditions. This has led Rothman and Wagner to conclude that “the care of chronic illnesses is often a poorly connected string of episodes determined by patient problems”[8].

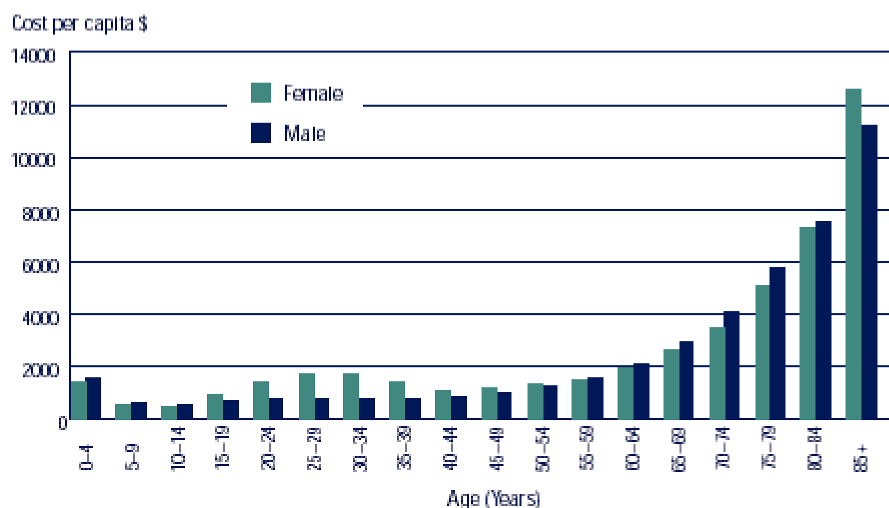
Clearly an urgent re-focusing of healthcare service delivery is required to meet the ‘healthcare challenge of the century’. This urgency is further highlighted when we consider the implications of a rapidly ageing population of both health consumers and health professionals.

Older patients, fewer workers

The implications of an ageing population in New Zealand and other developed countries are widely discussed in academic and policy circles. Commonly these discussions are centred on the projected increases in demand for health and social services due to the baby boomer generation retiring and moving into older age. In a health planning context it is also important to consider the labour supply implications of an ageing society – the baby boomers are also the largest group of practising health professionals in New Zealand at present. We’re going to have to deliver more services with fewer health workers, starting in just the next few years.

Older people are the largest users of health services. OECD data[9] indicates that people aged 65 and over account for three to five times the per capita health expenditure of the 16 – 64 age group. Health expenditure in the over 85 age group is eight times the all-age average in New Zealand. Older people also commonly have more chronic illnesses, more complicated medication regimes, and require more support in the home and community than the younger age group.

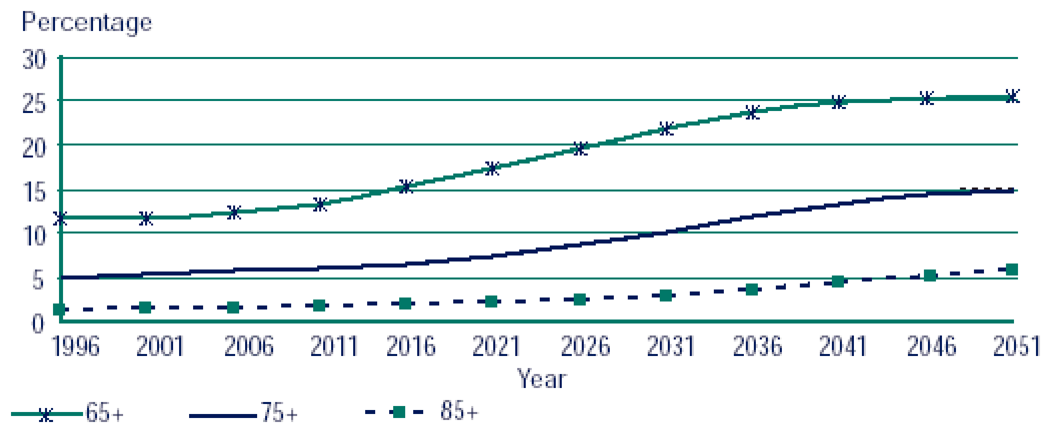
Figure 1: Estimated per capita expenditure on health services, 2001/02



Source: Health of Older People Strategy (2001), Ministry of Health

The projected increase in both the numbers and ratio of older people in New Zealand is significant. The number of people aged 65 and over started increasing in 2001, and by 2021 they are expected to increase by 72 percent to 792,000.

Figure 2: Projected New Zealand population 65+, 75+ and 85+ to 2051 as a % of total



Source: Health of Older People Strategy (2001), Ministry of Health

At the same time this older population is expected to increase demand for health services, the health workforce is also ageing and, as a result, demand for health workers is projected to exceed supply in every profession by 2011[10]. According to projections completed by the NZ Institute for Economic Research, by 2021 health workforce shortages will be between 28% and 42% of the equivalent 2001 levels. We could easily end up in a situation where the current recruitment and retention issues associated with psychiatrists and radiotherapists, for example, would apply throughout the health workforce.

While it's important not to overstate the issues associated with an ageing population and workforce, it is clear that labour pressures mean that health services will need to be organised and delivered in different ways in future.

New expectations

Almost every health sector strategy and policy framework in New Zealand emphasises the importance of:

- Improving health outcomes, particularly for groups currently experiencing significant disparity, through programmes and services which promote healthy lifestyles and prevent the onset and progression of disease.

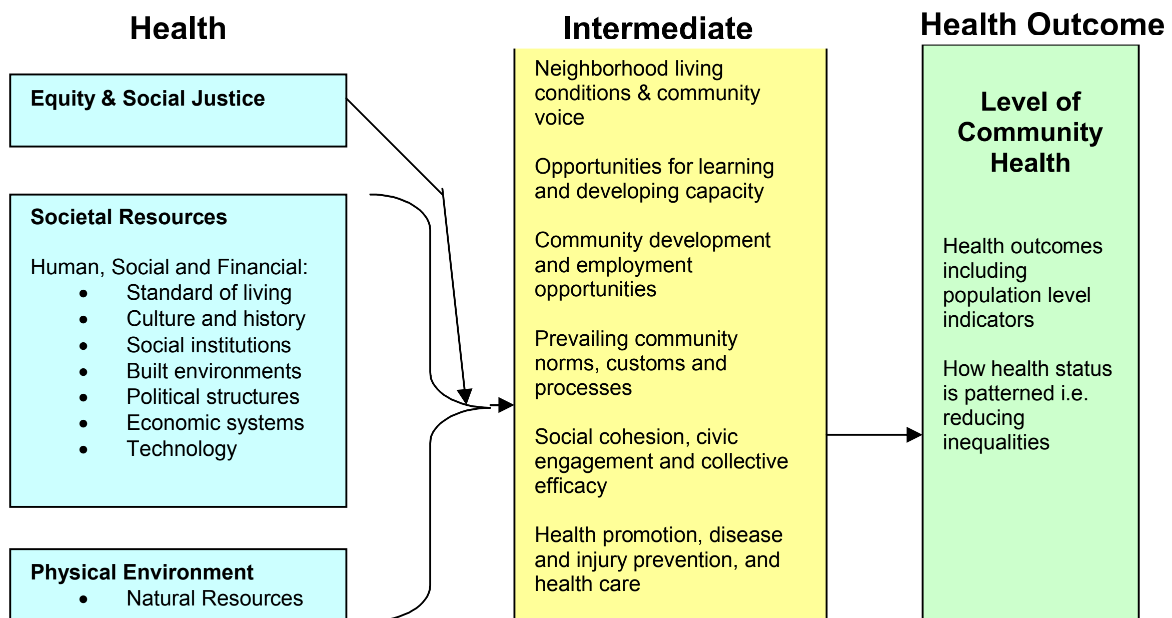
- Providing a 'continuum of care' where services are coordinated and responsive so that people receive "the right care at the right place at the right time", and there are smooth transitions between episodes of care.

- Delivering alternatives to institutional care so that people can receive care in their home and community rather than in acute hospitals, aged residential care facilities, and psychiatric wards.

These policy settings reflect our contemporary community and societal values. Consumers, whether they are older people, palliative care patients, or mental health clients, for example, value and expect the ability to receive services in the least intensive and least institutional setting possible. It is also reasonable, in this age of electronic information, for consumers to expect reasonably smooth information flows between providers.

Likewise, we know that poverty, relative deprivation, and social exclusion have a major impact on health and premature death. The chances of living in poor health are loaded heavily against some groups such as Maori, Pacific, and refugee communities. The health sector in New Zealand is now expected to take a lead on these issues. While actual health services can have some impact, influencing the social determinants of health wherever possible through intersectoral relationships, collaboration and targeted projects is also important to have a significant impact on health in our communities.

Figure 3: Social Environment and Health Logic Framework



Source: Intersectoral Strategy, C&C DHB Board paper, March 2006.

MEETING THE CHALLENGES

Based on experience in the US, UK, Australia and Canada, and a strong evidence base, there is growing international consensus that there are four main system components needed for the successful delivery of healthcare services going into the future: a robust and influential primary health care sector; a focus on chronic care management; more sophisticated home and community care services which focus on restoring function; and integrated processes and workforce changes to support new models.

Primary health care – the foundation of strong systems

Health system reform in just about every developed country in recent years has been characterised by primary health care being given a higher relative importance[11]. In the UK, primary care trusts are being given increasing commissioning (funding/contracting) powers in an explicit move to place primary care at the centre of the health system. These moves reflect compelling international evidence[12] that primary health care services:

- improve clinical, functional, and self reported outcomes[13]
- have the most impact in improving access to services for disadvantaged and vulnerable groups[14]
- have an independent effect on improving health status and reducing health inequalities[15]
- partly mitigate the adverse effects of income inequality on health status[16]
- generally have a higher level of consumer satisfaction than for services delivered through hospitals and other institutions[17]
- improve overall quality of care, mostly through a comprehensive (rather than disease or organ specific) and preventative orientated approach, and the ability to provide continuity of care over time[18].

Other research also shows that countries with strong primary care infrastructure have lower costs and generally healthier populations[19].

Organisational capacity has been shown as an important factor in the success of the primary care sector. The ability to provide comprehensive services strengthens the essential role of primary health care as the first and main point of contact with the health system. It is also means that primary care services are able to develop a skilled multi-disciplinary workforce, and form partnerships with other organisations based on shared strategy[20].

The central role of primary care is further reinforced by the growing evidence that primary health teams are best placed to manage chronic conditions.

Chronic care management – changing roles & relationships

Effectively managing chronic illness requires a focus on:

- Increasing patient (and their carers and family/whanau) knowledge, skills, and confidence in managing their own condition(s) and achieving their health and lifestyle goals.

- Proactive monitoring, follow-up, and support of the patient by the healthcare team. In the case of high risk patients, such as those with multiple conditions, a care or case management model may be necessary.

- High quality clinical practice such as following best practice prescribing, agreed clinical guidelines, protocols, and pathways for managing specific diseases.

- Clinical information systems and decision support to help facilitate the above activities.

Most importantly, successful approaches to chronic disease management are characterised by continuity of care over time by a healthcare team which engages the patient as an active participant in their own care.

International experience shows that increasing focus on chronic disease management is effective in reducing admissions to acute care and in facilitating quality of life for adults with chronic illness. There is also evidence that there is significant benefit to health status[21].

Successful international models include Kaiser Permanente, the Veteran's Administration, and Evercare models from the United States, and the Castlefields Health Centre pilot in the United Kingdom. Appendix 1 gives an overview of the core principles and characteristics of the Kaiser and Evercare models. The efficacy of these models is well established. Studies on the Evercare approach in the US, for example, have shown that Evercare[22]:

- has demonstrated a 50 percent reduction in the hospitalisation rate while achieving the same mortality results as compared to a control group
- significantly reduces the number of prescription drugs a Medicare patient takes while maintaining health
- has a 97 percent satisfaction rating among families, as well as an extremely high physician satisfaction rating
- contributes cost savings to the Medicaid and Medicare programme.

Likewise research by the UK Department of Health found that Kaiser uses around one quarter of the number of bed days as the NHS for leading causes of admission like asthma, bronchitis, COPD and stroke for the over 65 population. It achieves these results through both lower admission rates and shorter hospital stays.

However, there are no easy answers to the challenges presented by chronic care management and direct adoption of overseas models may not be the most effective response. A recent Cochrane review[23] of interventions to improve diabetes management showed that the largest positive results were associated with complex, multi-dimensional changes including clinical behaviour, the organisation of practice, IS enhancements and educational/supportive programs aimed at patients. This result supports overseas experience that successful chronic care management requires a major re-focussing of service delivery across the entire healthcare system.

Expert opinion, and more recent empirical evidence, suggests that chronic care management programmes are best delivered from primary health care through partnerships/alliances with other organisations. The role of nurses in group GP practices has a positive impact on quality of care for diabetes, asthma, and cancer screening as well as for patient education. Evidence also supports practice nurses in these roles rather than outreach nurses from hospitals[24]. Studies have found that proactive community health services deliver care for people with chronic conditions at lower cost, and patients with co-existing risk factors benefit most (cited in 19). The community health rather than hospital orientation of the models mentioned above is seen as one of the key factors in their success[25].

In reviewing this issue Rothman and Wagner (cited in 8) concluded that a primary care approach to chronic illness management is appropriate because:

- most chronically ill patients receive the bulk of their care through primary health, and coordination of care across clinicians and sites is a defining characteristic of primary care

- primary care practitioners can readily meet the clinical needs of most patients with chronic conditions as most patients have less severe/complex illness and their pharmacologic regimes involve a limited number of relatively non-toxic agents

- most adults with chronic illness have more than one condition, thus such patients may benefit from primary practitioners with more general training and clinical experience

- primary care practitioners are more likely to have training in behavioural change and self-management support, which are crucial components of chronic care management.

In New Zealand we can also regard chronic care management as a logical extension of, and complementary to, primary care's existing roles in health promotion and early detection/intervention for risk factors of chronic disease. For example, a primary care nurse carrying out home based patient education as part of a cardio-vascular disease management programme is well placed to identify and intervene with other family members who may be at risk of chronic disease in future. This is consistent with whanau-ora approaches,

and also reinforces the role primary care has to play in working with other sectors to affect the determinants of health.

None the less, primary and community services delivering chronic care management programmes do require the support and expertise of specialists, however, this is not always a clearly defined role of, or priority for, specialist services. A number of models have developed over the years to integrate generalist and specialist services including:

- Consultation/liaison models where specialist services provide advice/support. Specialist services may provide some direct patient care through specialist consultations, but the GP retains ongoing management.

- Shared care models which are a more formalised version of the previous arrangement. Both primary care and specialised services have clearly defined roles in relation to patient management, usually defined by protocols such as care pathways. The GP has the overall management role. This model is used extensively in diabetes and mental health.

Chronic care management programmes and services are part of a broader move to improve care across multiple settings and during transitions between settings of care. Faced with rising demand and strong consumer preferences for community based care, most countries are developing alternative services to acute inpatient care, and services to prevent, delay or substitute for institutional care. Enhanced community-based services, commonly providing a mix of home based clinical and social care, are becoming increasingly widespread and important.

Home & community care – expanding and integrating

Admission prevention, hospital-at-home, supported early discharge, and home rehabilitation services are well developed responses in the UK, Australia, and the USA. These are services that help to divert admission from an acute care setting and/or facilitate the transition from hospital to home through timely, therapeutic interventions in or near a person's own home. By ensuring active recovery and rehabilitation, and preventing unnecessary loss of independence, these community-based services can improve outcomes, especially for older people and people with multiple chronic conditions.

The UK National Health Service has promoted the development of these types of services under the term ‘intermediate care’. In the USA they are referred to as ‘transitional care’, while in Canada the focus is on development of comprehensive homecare services. In Australia there has been nationwide support for services to bridge the gap between the acute and primary/community health sectors through the Australian National Demonstration Hospitals Program. Independently of the national programme, the Australian state of Victoria has also implemented a Post Acute Care programme to avoid admission to, and support discharge from, acute care.

Two relatively recent and comprehensive reports have considered the international literature and evidence for home and community services from a New Zealand perspective: *Homecare Thoughts From Abroad* (Wainright, 2003)[26] summarises the literature on the cost effectiveness of home-based services, and reviews New Zealand's services in the light of these findings. *Hospital – Community Interface Services for Older People* (Nova Public Policy Consortium, 2004) identifies options for the development of community-based services for older people, based on an examination of international evidence and formal evaluations. Both reviews came to similar conclusions which are summarised below:

- There is evidence that acute diversion/admission prevention services deliver psychosocial and health benefits to patients and carers, and reduce acute bed utilisation.

- Discharge planning is increasingly a routine feature of health systems in many countries and evidence shows that patients who receive discharge planning are more satisfied with their care. There is some evidence that it reduces length of stay and unplanned readmissions.

- Supported early discharge services have been developed to reduce length of stay for selected patients and to increase home based clinical supports for those requiring recovery care or rehabilitation that would otherwise be available only in hospital. Evidence shows that:
  - outcomes for carers are equivocal, with some evidence that burdens on carers are increased;
  - supported early discharge services should incorporate clinical assessment and care planning encompassing the inpatient facility and the destination environment for people with complex continuing health and social care needs;
  - planning for supported discharge works best with in-reach specific discharge planning and support professionals from community services, in conjunction with the acute facility;
  - services should include a rapid response assessment and care planning focus to prevent re-admission, and may include both hospital-at-home and post acute levels of care.

- Hospital-at-home care is usually provided in substitution for inpatient care, as part of admission prevention and/or early supported discharge, including home-based rehabilitation. Reviews have found evidence that:
  - hospital-at-home is effective, safe, and acceptable;
  - health outcomes are not in general improved by hospital-at-home care, but crucially neither are they worsened;
  - hospital length of stay is reduced to some extent, however, the overall length of care can increase.

- Home-based rehabilitation appears to improve independence in personal activities of daily living and reduce hospital length of stay, but the risks, benefits and costs of the service are not clear cut in the literature.

- Home care, including long term intensive home care for older people, appears to be less costly and to have no different outcomes to long-term residential care in terms of mortality, functioning, and carer burden.

- A significant portion of the costs of keeping people at home comes from acute hospital admissions, rather than homecare services.

- There is strong evidence that home and community care services require an integrated approach incorporating:
  - comprehensive assessment at a unique point of entry;
  - an enhanced role for care coordinators/case managers;
  - active patient management and individual care planning;
  - the ability to respond rapidly (through both assessment and service delivery) to changing client needs and health status;
  - integration across health and home care, including access to equipment;
  - common and accessible information systems, particularly for assessment and care planning.

- Cost savings from hospital diversion, hospital-at-home, home rehabilitation and (early) discharge services should not be expected.

Adding to this evidence base is the very recent (October 2006) results from the ASPIRE trials in New Zealand. The evaluation of services promoting independence and recovery in elders (ASPIRE evaluation) started in 2003 and compares the outcomes for older people with high needs against those receiving usual care. The project was set up to evaluate the effectiveness of three of the more significant ageing-in-place programmes:

- the Coordination of Services for the Elderly (COSE), Christchurch - a community-based needs assessment and service co-ordination initiative

- the Promoting Independence Programme (PIP), Lower Hutt – a rehabilitation service for people who would not be able to maximise their potential for recovery within the average hospital stay

- Community FIRST (Flexible Integrated Restorative Support Team), Hamilton – a restorative home support service using a multidisciplinary (nursing and allied health) team, which usually involves the integration of physical activity into the routine delivery of home services.

The key findings are:

- All three services reduced the risk of mortality and entry to residential care in comparison with usual care/services.

- Caregiver stress levels did not appear to rise in the intervention groups in comparison to usual care, despite older people with high and complex needs continuing to live at home.

- An improvement in the independence levels of older people (as measured by Activities of Daily Living) was noted in the Community FIRST initiative, compared to usual care. No change was noted in function in the COSE or PIP initiatives in comparison to usual care.

- Predictive modelling using the same data set identified a number of factors that increase the likelihood of older people being hospitalised or entering residential care. The results of this modelling show that:

  - if a functional decline occurs in older people, the older person is 11 times more likely to enter residential care;
  - an older person is almost twice as likely to enter residential care if they are socially isolated or reports having a negative mood;
  - for every one unit increase on the Caregiver Reaction (stress) Assessment there is a 7% increased risk of residential care entry;
  - when an older person has inadequate meals or experiences dehydration, they are over twice and 1.7 times more likely to be admitted to residential care, respectively;
  - a lack of medication review (almost twice as likely), and previous hospitalisation (1.8 times more likely) are correlated with increased risk of hospitalisation.

Overall the ASPIRE evaluation, while being specifically focussed on older people, reinforces the general messages from the international literature on home and community care services. These services should assist people to meet their own goals, otherwise adherence to care or treatment plans will be minimal. Evidence is also clear that simple interventions - encouraging and assisting people to retain and increase physical functioning through eating well and doing exercise based on activities of daily living – is highly effective in enabling people to meet their own goals and remain independent.

The literature on community based health services – primary health, chronic care, and home/community care services – indicates that integrated, multi-service, multi-disciplinary models are less costly and more effective than comparable services provided by stand alone and institutional providers. Studies consistently indicate that community health services offer patients increased access to care, better health outcomes, and better quality of life, at lower or similar cost[27]. Figure 4 shows the relationship between treatment cycles and community based services.

Because of the complexity associated with multiple roles and service delivery settings in the community, achieving these outcomes requires a skilled multi-disciplinary workforce and effective management of change.

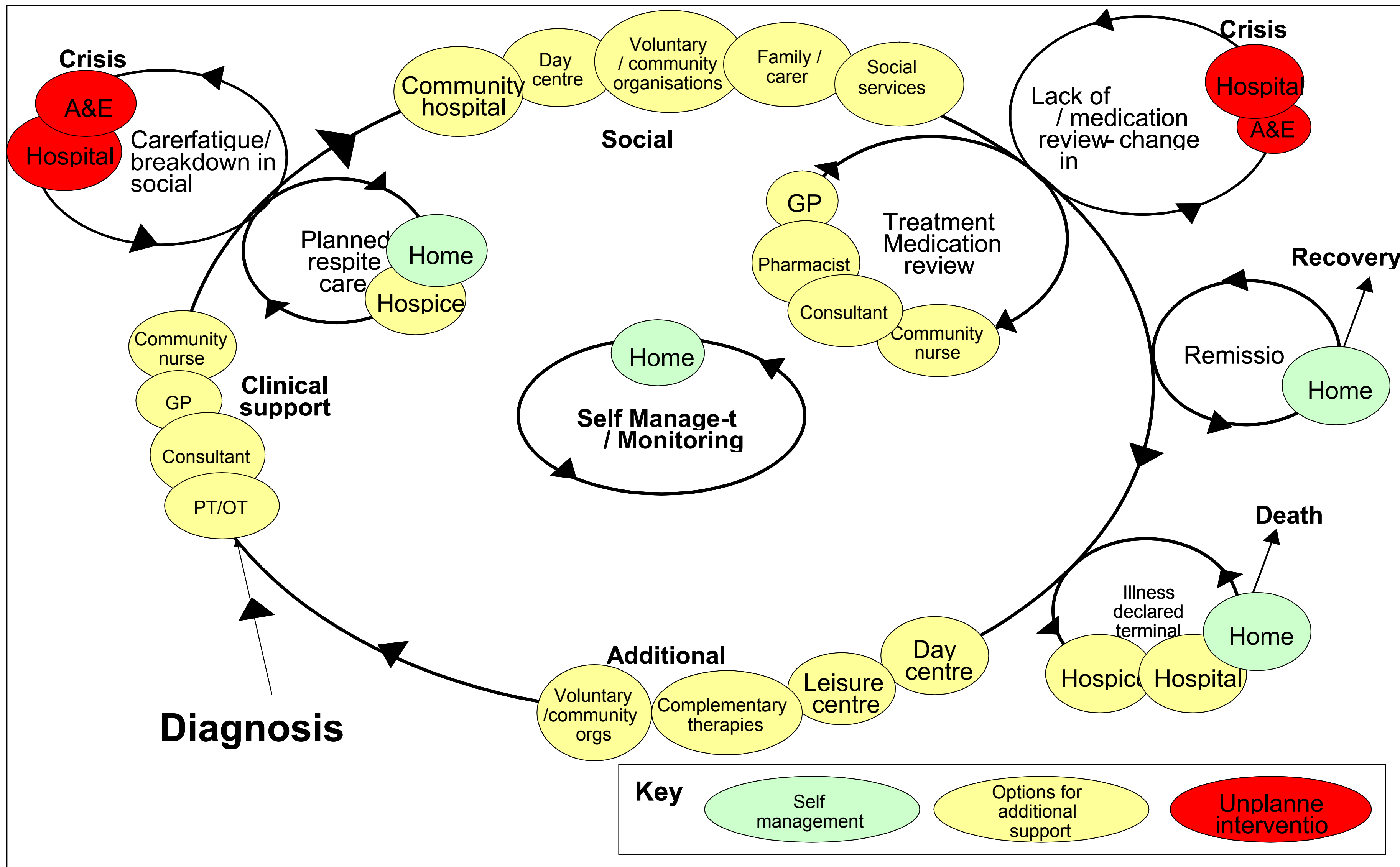


Figure 4: Relationship between treatment cycles and community based services. (Source: Matrix Research & Consultancy 2004)

Enabling innovation – developing new ways of working

The implementation of multifaceted approaches over time which strengthen primary health, address chronic care management, and expand home and community care options, requires significant developments in the health workforce in the context of changing services and care settings. Three areas in particular are key to achieving system level change whilst simultaneously managing the impact of an ageing population and declining health workforce:

1. Developing new roles and enabling substitution and expansion of existing professional roles and boundaries, particularly in nursing, allied health, and home & community support worker/carer positions. These roles can be characterised as generalists with specialised expertise, rather than specialists.

2. Enabling people to self care/manage, and pro-actively supporting carers in their role. People are their own best resource when they are given the appropriate training and support - they should be seen as an integral part of the health workforce continuum.

3. Effectively managing change, so that the existing workforce is supported and maintained during transition periods. Engaging workers and the community is essential for successfully implementing new services.

All three areas require visible leadership to bring about cultural and institutional changes.

Developing new roles: The foremost issue is the availability and development of a primary and community workforce with access to ongoing education, training, and support to develop and implement new skills and competencies. This requires an integrated rather than single profession approach. An integrated approach enables the challenges associated with a diminishing workforce to be addressed through the development of models to strengthen multi-disciplinary care.

In particular, substitution and enhancement models are becoming increasingly important in the context of a declining GP workforce and the development of new models of care. In this approach, direct provision by one practitioner is substituted for, or enhanced by, provision from another practitioner such as a nurse, social worker, psychologist, or pharmacist taking on some activities previously provided by GPs. There is ample and strong evidence from a variety of countries that care delivered by these practitioners, provided they are working within their competencies and under supervision, is of high quality and is cost effective[28].

Likewise, further substitution and enhancement can occur at other levels through appropriately skilled support workers/carers and assistants taking on some of the tasks normally performed by health professionals. Studies have shown that as long as they receive appropriate training, supervision and

monitoring, these workers can provide aspects of services such as health education and promotion, rehabilitation, and home care as effectively as professional practitioners. A number of government initiated reports have continually noted this finding and the importance of this workforce in the future as the availability of the professional workforce declines while demand increases[29].

The role of Nurse Practitioners and Advanced Practice Nurses (APN) is increasingly evident in the literature relating to chronic care management and home and community care services. These roles are either used for direct care provision (frequently with some prescribing rights), or as the care coordinator for packages of care delivered to older and/or chronically ill people. The role/skills of an APN, as described in the Evercare model for example, typically include:

- physical assessment
- history taking
- pharmacological knowledge
- communication across all agencies
- holistic nursing
- decision making
- proactive monitoring
- palliative care planning.

More recently clinical pharmacists and allied health professionals have begun to take on similar 'mid-level' roles, particularly in the USA and UK. In general, research[30] indicates that these advanced roles improve:

- the quality of care (continuity of care, information and knowledge, improved symptoms and physical and psychosocial functioning)

- access to primary and community health care services (through earlier assessment and referral, short term care, holistic on-going care and access to multidisciplinary networks)

- patient, carer, and practitioner satisfaction.

There are a number of important considerations in the development of substitution and enhancement models. These are the need for education and training to ensure non-medical practitioners gain and maintain the required advanced practice skills; the importance of structured care protocols and care pathways to support quality, coordination and continuity of care; the regulatory environment, including prescribing rights of non-medical providers; and professional attitudes and morale issues (cited in 12).

Enabling Self Management & Supporting Carers: Self-care and informal caregiving are widespread phenomena. Individuals now perform many health care tasks that were at one time the exclusive responsibilities of formal caregivers in institutional settings. In most studies, self-care and informal care have been shown to be effective in response to a variety of health problems.

As discussed earlier, in the case of chronic care management self care is a key component of effective approaches. There is extensive evidence that providing chronic care patients with information, support, advice, and monitoring improves outcomes and reduces health sector costs. The WHO emphasises the importance of patients' behaviours and the value of consistent, quality interactions with healthcare workers in influencing the outcomes of healthcare. These relationships drive the ability of patients and families to manage their chronic condition by providing:

- information about their chronic condition, including strategies to manage their symptoms and prevent complications, which are reflected within their care plan;

- motivation to self-manage their condition and adhere to treatments; and the skills, equipment, and medication to manage their condition at home.

The UK Department of Health advocates self-management training in the early stages of a condition to help prevent the onset of compounded conditions and further disability[31].

Informal and unpaid carers play an integral role in the support of older people and for those with chronic medical illness living in the community. In many instances carers provide considerable amounts of both practical and emotional support, enabling the person they care for to remain living at home. Often the caring responsibility is 24/7. It is well documented that carers often experience considerable stress, grief and isolation, and have been shown to experience increased health problems themselves.

Evidence suggests that if carers receive adequate support, better longer term outcomes for both the care recipient and the carer can be achieved and avoidable flow on health costs can be reduced. A number of common factors are present in successful approaches[32]:

- Proactive; moving from a crisis approach to one of early intervention where the unique needs of both carers and care recipients are considered and addressed early in the caring period. It also includes the development of a wider range of services to enable a flexible response.

- Preventative; aiming to limit deterioration in the carer's physical and psycho-social condition so that they can continue their caring role safely.

- Directed; meaning carers are eligible in their own right for assessment to identify their needs and determine supports to help meet these needs, and are monitored and supported through ongoing review.

The traditional view of the health workforce tends to focus almost exclusively on paid workers with formal training. It is more useful to see the health workforce as a continuum, ranging from those who self care, to those who provide informal care to others, and from community workers through to highly qualified specialists. Self and informal care is a key component of healthcare delivery.

Managing Change: The development of a whole-system approach is not a linear process with just one start and one end point. Every organisation and worker in the system can identify and build on their own strengths. Key elements of health sector reform processes and obstacles to implementation have been identified from a recent review of Finland, the Netherlands, United Kingdom, New Zealand, Australia, and the USA[33].

Positive attributes of implementation of international reform processes:

- decisive direction with incremental steps; main objective set in place within 1-2 years
- on-going refinement as required, with most major refinements occurring within 5-10 years
- pilots not always required, used judiciously for refinements
- supporting leaders: support and encouragement of the willing and efforts to achieve consensus, but opposition not allowed to stop effort
- tolerance for pluralism: new options, plus maintain current models in parallel either ongoing or for limited time period
- targeted funding/incentives to support elements of new approaches/models (eg reward prevention and health promotion) & behaviours (eg improved practices, support for multidisciplinary teams, purchase computers, software and training)
- support for autonomy and influence of new models, with less micro management by government agencies.

Obstacles and barriers to successful implementation:

- political indecision, backing off, direction changes can result in mixed messages about direction of change, delays, reduced momentum, timidity in moving forward
- temptation to micro-manage
- powerful interest groups: resistance, intense lobbying, politicisation of reform, professional tensions -most powerful provider group is GPs in influencing primary & community care reforms
- changing provider roles.

Matrix Research and Consultancy, under contract to the UK Modernisation Agency, have recently reviewed the learning that has taken place through the introduction of different approaches to managing chronic disease in the UK[34]. The review focused on identifying transferable learning about the implementation and change process for wider use. Their work suggests that successful introduction of such system level changes requires:

- clear identification of roles; taking a project management approach to making the changes described, with a project lead, clear allocation of responsibilities and interim and final deadlines

- engagement at a senior level within organisations with support in the form of protected time as well as other resources

- engagement of clinicians, in terms of developing close partnerships with managers, as well as changing practices, for example, devising and utilising care pathways

- developing early on supporting tools and processes such as job descriptions, referral protocols, self-management tools for patients, communication systems and progress monitoring arrangements, so that everyone involved feels supported from the very initial stages of implementation

- training for staff to develop expanded roles should be in place and developed on an ongoing basis.

The findings of the study suggested that dedicated resources are required to drive through change, and that there is also a need to maintain motivation by publicising progress and promoting the changes that are being made. Changes need to be reviewed continually so that it is clear whether or not progress is being made. Monitoring of progress should begin at project initiation stage.

At a more generic level the change process can be conceptualised (see Figure 5) as a series of elements[35]:

- recognition that external events or internal circumstances require a change to take place

- translating the need for change into a desire for change, deciding who will manage the change, and deciding on roles and responsibilities

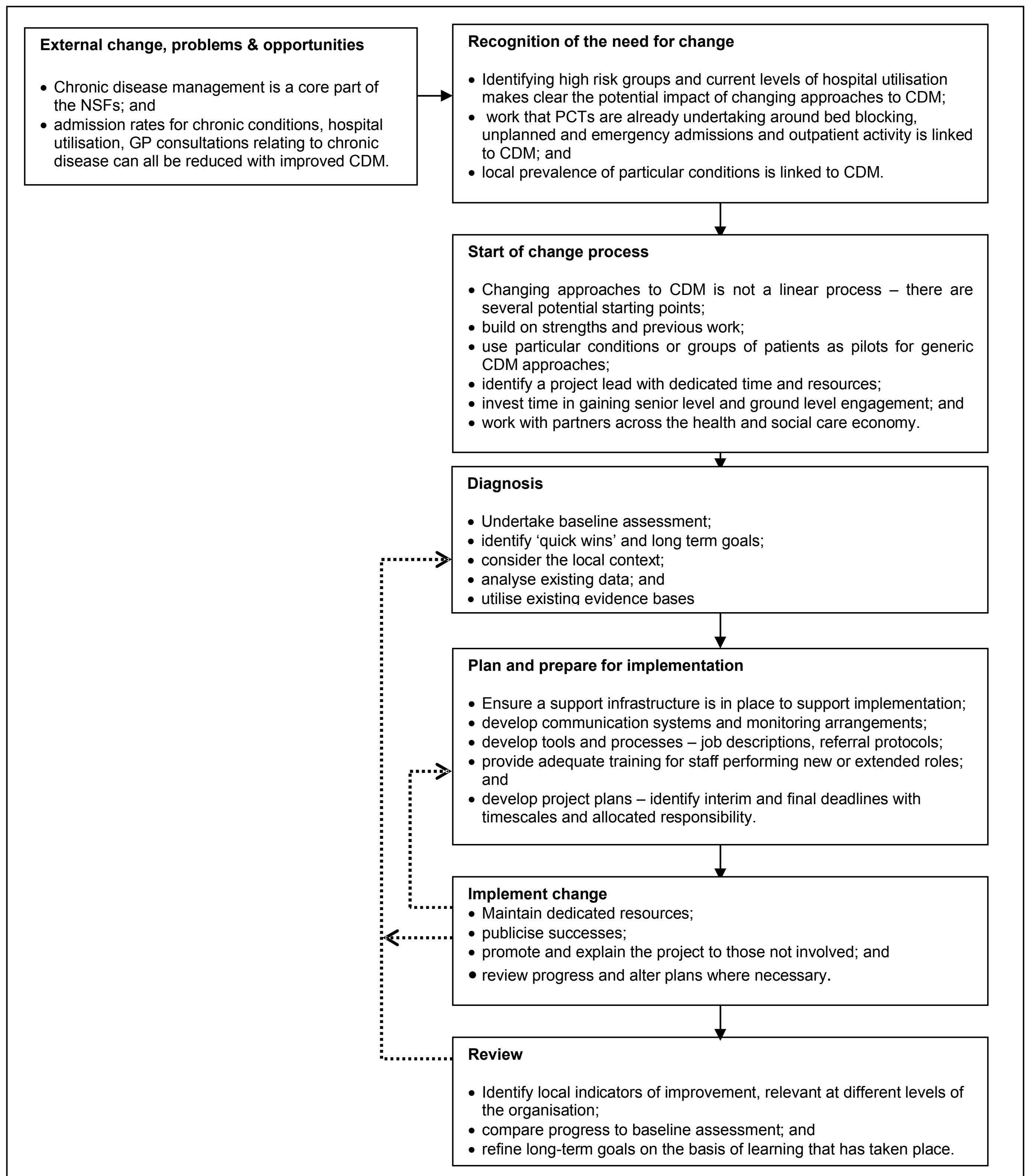
- diagnosis through reviewing the present state and identifying the preferred future state

- preparing, planning and implementing the changes

- ongoing review and monitoring, with feedback mechanisms that reinforce desired new behaviours.

One of the most important factors in change situations is the emotional state of the workforce[36]. People can either react positively - and therefore see new possibilities and opportunities in the changes, or negatively - and therefore focus on what went wrong in the past and feel stressed and defensive. Positive leaders (at all levels of the organization) are the key ingredient to successful management of change. Emotions are contagious and positive leaders influence others to be resilient, adaptive and open.

Figure 5: Management of Change Flow Diagram



Source: Matrix Research & Consultancy: 2004

THE CAPITAL & COAST CONTEXT

The challenges facing C&C DHB over the next five to ten years are not substantially different to those faced by the rest of the developed world as outlined earlier in this report: an ageing population, declining workforce, rising levels of chronic disease, and new consumer and policy expectations. C&C DHB is well placed to respond to these challenges.

Strong foundations

In both a New Zealand and global context, C&C DHB has a diverse and resilient community care sector. One of the major contributing factors to this relative strength is a strategic and organisational focus on developing primary and community care.

The District Strategic Plan (2006 – 2012) establishes the DHB’s main health goals as reducing disparity and the incidence and impact of chronic illness. A number of initiatives are outlined to improve care in the primary and community sectors. This indicates a rare consensus at senior management and Board level on the strategic direction for the DHB and the priorities for change.

At an organisational level C&C DHB has a larger and more active Service Funding & Planning Directorate than most other DHBs in NZ. There are positive working relationships and joint projects with other sectors, and C&C DHB is recognised as having leaders in both planning and service delivery roles in the district.

This consensus and infrastructure is an important enabler of service development. It means that, at least at a high level, the DHB does not need to debate its raison d’etre and can focus instead on how to achieve those important health goals.

At a service delivery level, C&C DHB has innovative and comprehensive primary and community services, including:

- Primary Health Organisations (PHOs) & other primary care services
- integrated home and community care services
- disease state and medication management services
- community nursing and rehabilitation services
- Needs Assessment & Service Coordination (NA/SC) and the in-patient Care Coordination Service

It is worth considering the importance and extent of these services in turn:

PHOs and primary health services:

Almost everyone in the district is enrolled in one of the six PHOs. This means that the population has access to lower cost primary care and a network of community based services. PHOs are funded on a population based formula rather than fee-for-service, which makes multi-disciplinary teamwork and substitution/enhancement models an option.

The patient level information held through PHO information systems makes it possible to stratify patients and target interventions and services to those with, or most at risk of developing, chronic illness. Care Plus provides for a higher level of assessment and care planning/delivery within primary care for high risk patients. All PHOs are delivering health promotion services and some are actively engaged with inter-sectoral initiatives to improve the determinants of health for their enrolled populations.

Some PHOs and other primary care providers are successfully delivering district-wide services previously only provided by hospitals – radiology, retinal screening, sexual health, podiatry, and allied health services, amongst others. Networks between primary care and other providers allow for the possible future development of shared clinical information systems, and other integration initiatives.

Workforce and career development initiatives are in place to support future expansion of the primary health sector. These include professional development through primary health employers, and sponsorship directly through C&C DHB for the development of nurse practitioners and postgraduate training in gerontology and palliative care.

Integrated home and community services:

The district has four NGO providers of home care services, 36 aged residential care facilities, and numerous contracts for palliative care, carer support/respite care, disability information and advice, and other community-based services. In recent years C&C DHB has introduced a new system of care for adults requiring home and community services. The main features of the integrated home and community care approach include:

- one assessment and care planning process across DHB funded home and community services using the InterRAI evidence based tools that continually build on previous assessments and care plans

- combined funding for DHB home and community services at the point of entry for those services, so that they can be accessed on a needs basis rather than on arbitrarily distinctions based on diagnoses, short term versus long term care, and funding streams.

- one Care Coordination Centre which is the single point of entry, assessment, care planning, and care coordination for referrals for DHB funded home and community services, including palliative care services.

- care manager roles providing early (InterRAI) assessment and care planning across clinical, social, and support needs to reduce onset and progression of chronic disease and disability

- restorative home and community care packages which integrate rehabilitative principles into care delivery in the home setting and can include: community nursing, allied health, community support, complex personal care, and telephone monitoring.

While it is still early days for restorative home care services, the other elements of the integrated home and community care programme are now well established and largely functioning as envisaged in the original consultation documents.

The Care Coordination Centre and Care Managers represent a major improvement in service provision in the district – they have streamlined screening, assessment, and care planning processes, and integrated both the clinical and social care elements of service provision. The public can now self refer through the Coordination Centre for a range of services which are free to the user – a role previously only filled by public hospitals.

The InterRAI assessment and care planning system means that there is a consistent and objective way of identifying needs and recording changes in client health status over time. As the InterRAI assessment database builds up, it will provide information about health needs at a population level, and will be a useful resource for planning future service developments. It also provides information about quality of care, and creates the possibility of moving home care providers onto a casemix funding system in future.

The ASPIRE evaluation has reinforced the importance of restorative home care approaches for older people and adults with chronic illness to maintain function, thereby reducing use of residential care and unplanned hospitalisation. Real health status gains should be realised as the restorative home care services component of the programme rolls out.

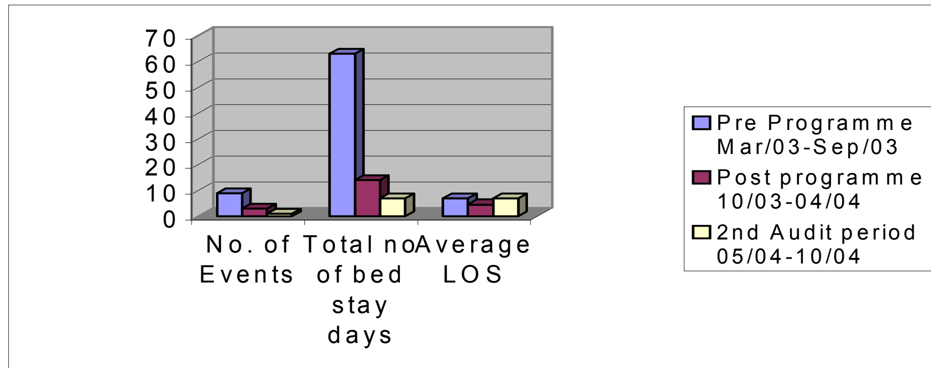
Collectively these processes now in place represent the basis of international best practice in chronic and home/community care service delivery. One point of entry, a single evidence based assessment process, and advanced nursing/allied health care management roles able to access comprehensive community services, are all key features of the models discussed earlier such as Evercare, Kaiser, and Castlefields. The developments appear to have been particularly well received by primary care providers.

Disease state and medication management services:

Services are in place across the district which aim to improve management of diabetes, congestive heart failure (CHF), and medication practices. One of the most visibly successful initiatives is the pilot CHF program based in Porirua. A mobile specialist CHF nurse provides intensive follow up and

support for people with CHF. There are also exercise programmes and other support for people living with heart failure and their families, as well as group/family education and support programmes to address risk factors. Figure 6 shows the hospitalisation rates before and after implementation of the program.

Figure 6: Inpatient events for CHF



Services to better manage diabetes include retinal screening, mobile podiatry and kaiawhina and kaupapa education initiatives. Medication management services include both clinical (where pharmacists with advanced clinical training review medication regimes for complex patients) and practical services (where community pharmacists assist people to better understand and adhere to their medication regime). These are important services for people on multiple and complex medication regimes. Supporting appropriate prescribing and adherence improves outcomes for polypharmacy patients. Research consistently links improper medication regimes with higher levels of hospitalisation, residential care admission, and mortality.

Community Nursing, Therapies and Rehabilitation:

District nursing and allied health services are delivered in the community through the Community Health, Therapies, and Rehabilitation community teams. The home care and rehabilitation services provided through these services fill an important role in community care provision, and allow the hospitals in the district to work towards ambulatory care and early discharge models. These are particularly important services for people with chronic illness and those who have experienced disabling health events.

The psychogeriatric service is a working example of an integrated in-patient and community service delivered through a mutli-disciplinary team. The service philosophy is to assess, treat, and rehabilitate patients in their place of domicile, and consult/liaision processes are used to support primary, residential, and other community providers in their care of older people with mental illness.

Needs Assessment & Service Coordination (NASC) and Care Coordination Services

The NASC service provides assessment and coordination of disability services for people with life long disability who are usually aged under 65. The NASC is hospital managed under contract to the Ministry of Health.

The Patient Coordination Service (not to be confused with the Care Coordination Centre) is a hospital based team of case managers and discharge coordinators who facilitate access to primary and community delivered services to assist discharge from hospital and/or prevent further unplanned admissions.

The tail wagging the dog

Taken together, the services described above paint a picture of a comprehensive primary and community sector which has at least some elements of what are identified in the literature as the most effective models internationally. Some of the population health achievements which can be attributed to these services are significant – since 2003, C&C DHB has seen a 20% reduction in avoidable hospital admissions for the age 65+ group, a 20% reduction in the number of low birth weight babies, and diabetes related amputations have fallen from 22 to four per year.

However, there are significant changes needed to fully realise the benefits of a truly primary and community driven health care system. Most of the current arrangements in the district stem from history –PHOs are only a few years old, and the structures and processes introduced through the home and community care programme are even more recent. Like most health care systems in developed countries, hospital services are the overwhelming service delivery agent in the sector. Until recently this was a matter of necessity since the infrastructure didn't exist in the community sector.

In Capital and Coast, the Hospital and Health Service (HHS) absorbs nearly $380 million from the $600 million annual funding for the DHB. It employs more health professionals than all other services combined, and is the main repository of service development expertise in the district. Of the community services described in the previous section, the HHS delivers the CHF pilot program, the community nursing, therapies, and rehabilitation services, and the NASC and HHS Patient Coordination Service.

A re-balancing of the division of responsibilities between the HHS and primary and community providers is required if we are to improve the primary and community care sector's infrastructure and organisational capacity. Services need to be structured so that the default providers are in primary and community care, rather than the HHS. The scope of primary care is constrained through the HHS having broad service delivery responsibilities in the community. Likewise, community providers, such as home care NGOs, have difficulty delivering a package of services focussed on restoration and

goal achievement when most of the clinical workforce is HHS employed through separate funding arrangements.

Many HHS community services came into being to address needs which could not be met in the community sector. This is no longer the case and, as discussed earlier in this report, there are good reasons for putting the primary and community care sector at the centre of service provision.

We can't go on like this

The current arrangements add duplication and interface issues to the system, and are an added barrier to developing a comprehensive community and primary driven health sector which is focussed on chronic care management.

The Care Coordination Centre has streamlined referral, screening, assessment, and care planning processes as much as possible within its mandate, including moving to shared approaches with primary care and hospice services. However, there are still multiple assessment and care planning systems in place through the HHS, including:

- the NASC for under 65s disability services (including home support)
- the hospital Patient Coordination Service (including outreach case management and discharge planning)
- community nursing, therapies, and rehabilitation (including home based care).

There are also interface issues with community based service delivery, with elements of home care and chronic care services being delivered through HHS community nursing, therapies, and rehabilitation teams, as well as NGO home care providers through restorative packages.

Arbitrary short term / long term distinctions still exist with equipment provision. Short term home equipment is HHS managed, while long term equipment is delivered through Enable – often requiring a re-assessment and waiting time.

This fragmentation makes comprehensive, coordinated service delivery in primary health care more difficult. Without a clear framework for service delivery in the community, primary care (and other providers) have trouble connecting services together for individual patients[37]. There are several different services which could come into play when a patient is being discharged from hospital, and it is not always clear who is responsible for different aspects of discharge planning and care.

There is also a need for greater integration horizontally between primary and community providers. At times the provider relationship, knowledge of the patient, and health history is ignored when a patient is picked up by other providers as a new referral. Integrated clinical information systems would

help in this regard, but basic practitioner level relationships and networks between primary and community providers would also go a long way.

If we are to address rising demand, chronic illness, and consumer expectations with a declining health workforce, the international literature reviewed earlier in this report provides some clear guidance about the type of community care sector needed in future:

- primary health care is viewed as the first and main point of contact with the health system through provision of a wider, more comprehensive range of services delivered through partnerships and networks with other providers

- care and discharge coordination roles are performed by nurses and other practitioners from primary and community organisations on an in-reach basis to hospital, rather than through outreach nurses from hospital

- chronic care management programmes are delivered mainly through primary care, with support and expertise to primary care practitioners being a clear role of, and priority for, hospital specialists

- rapid response assessment, care planning, and service delivery is available through primary & community services to prevent unnecessary hospital and residential care admission, and support early discharge

- one point of entry and an integrated, consistent approach to assessment, care planning, and home and community care service delivery is in place across all services, including primary care

- home and community care is delivered on a package basis with a focus on restoring client function and achieving client goals.

In this type of sector we can expect to see visible changes to the way people work. Patients would firstly be expected and supported to self care wherever possible, and carers would be pro-actively supported in their role.

Professional boundaries and roles would shift, with more advanced nursing, allied health, and home and community support/carer roles. The model of care would become less task orientated and more patient goal focussed. This would see community nursing and allied health practitioners leading care teams by training, delegating, and supervising patients, carers and homecare workers wherever appropriate. There would be a marriage between the new models of care and professional development processes to support attainment of the new skills and competencies required.

People would be more satisfied in their work, as their efforts are more clearly connected to patient outcomes and they would experience greater autonomy, responsibility and accountability. The challenges associated with a diminishing workforce are more easily addressed, as the models of care strengthen multi-disciplinary approaches.

Building on current strengths

While the sector described above may seem a long way away from current reality, it is important to note that the resources, both in terms of personnel and funding, are largely in place. Despite the existing structural and process issues, most patients have a reasonably positive experience of community based care most of the time. This a credit to staff from all organisations across the sector.

Developing more comprehensive programmes and services for chronic care management and home & community care will necessarily involve a re-alignment of existing services and employees into new services and structures. This can be done in a controlled way over time, starting from current points of strength.

Planning for a re-shaped sector should begin now. C&C DHB does not, at this point in time, have a major hospital demand or labour supply crisis. Hospital admission and residential care rates are lower than in many other DHBs, and there is no major shortage of beds in either sector. Demographic changes could change this situation in future years. While making positive, widespread changes in the health sector is always a challenge, it is almost impossible during time of crisis.

FUTURE DEVELOPMENT OF COMMUNITY CARE

The following changes to the configuration of community delivered services in the district are recommended in order to:

- meet the challenges of a declining health workforce and ageing population
- meet consumer and government expectations
- meet the challenges of a rising incidence of chronic disease
- resolve practical issues with current structures and processes
- align C&C DHB's services with evidenced based approaches and internationally successful models.

1. Grow and extend the scope of the primary & community sector

I recommend that:

- Primary health and community care providers be supported to deliver a wider range of community based services, either through single providers delivering to the entire district, or services being delivered through networks and partnerships between providers.

- Primary health and community care providers deliver almost all community based services in the district by 2011.

- The HHS continue to provide a small number of community services which have strong linkages to in-patient care delivery.

- Primary health and community care continue to be the main priority for additional funding, all other factors being equal.

- The Hospital and Health Service (HHS) shifts its focus to be on supporting, through advice, consultation and liaison, the provision of quality community based care services by primary & NGO providers.

- These consult/liaison and/or shared care functions be a clear role of, and priority for, specialist services which are funded more flexibly to achieve this role where necessary.

2. Further integrate processes and systems

I recommend that:

- The current InterRAI homecare assessment process be improved and expanded through the introduction of new InterRAI tools as they become available in a well developed and thoroughly tested state.

- InterRAI tools be the basis of one assessment and care planning process and database across primary, community, and HHS care delivery.

- InterRAI assessments start in primary care with consistent processes for Care Plus patients which link directly to homecare assessments.

- Carers be eligible in their own right for assessment and community services, and be supported through ongoing review.

- The Care Coordination Centre's (CCC) role and capacity be expanded to reduce fragmentation and better coordinate community service delivery.

- The CCC receive and screen referrals for all home and community services in the district, as well as undertaking discharge coordination and care management for patients experiencing in-patient events.

- Current staff and resources associated with the HHS Patient Care Coordination Service be transferred to the CCC to facilitate this expanded role.

- The HHS sub-contract delivery of the Needs Assessment & Service Coordination (NASC) disability service contract to Nurse Maude Association to be managed alongside the CCC in an integrated process.

- The expanded CCC have stronger links to PHOs through the shared assessment processes, its expanded discharge coordination responsibilities, and closer alignment of Care Managers with PHOs.

- The CCC also develops stronger links to other sectors, especially ACC and Income Support, through shared/joint arrangements such as co-location of staff from other agencies.

3. Develop chronic care management programmes

I recommend that:

- Chronic care management becomes a major focus of primary and community providers, with chronic care management programmes being developed as resources and organisational capacity allows - high need groups and areas are the first priority.

- Primary care teams lead the development of these programmes, which will be delivered through joint/shared arrangements between PHOs, NGOs, and the HHS.

- The major focus of chronic care programmes be on facilitating patient self management through education, advice, and support of the patient, their carers, and their family/whanau.

4. Grow and extend home & community care services

I recommend that:

- Restorative and palliative home and community care packages be further developed through joint/shared arrangements between NGOs, PHOs, and the HHS.

- The major focus of home and community care packages be on facilitating achievement of client goals through flexible, rehabilitative focussed care.

- Home and community services be specified and funded to intervene pro-actively with carers to limit deterioration in their condition.

- Rapid response home and community care packages be developed with sub-acute and after hours care components, to help reduce preventable hospital and residential care admissions and to support early discharge.

- Short term equipment provision be contracted to Enable, to be managed along-side long term equipment provision in a seamless process.

5. Enable new ways of working

I recommend that:

- The primary and community care workforce be more effectively deployed to deliver the new programmes and packages, by enabling role substitution and expansion in the new models of care.

- Home and community care support workers/carers be trained and competent in restorative and chronic care management models of care and be able, with supervision, to deliver some of the tasks currently performed by community nurses and allied health professionals.

- The focus of the nursing and allied health workforce, along with some clinical pharmacists, be on training, delegating, and supervising/supporting patients, carers, and homecare support workers to manage chronic illness and achieve client goals.

- Advanced practitioners be supported to become competent in delivering some of the roles and activities currently performed by GPs & specialists.

- Most of the current resources and workforce associated with the HHS congestive heart failure pilot, community nursing, therapies, and rehabilitation services be transferred to PHO and NGO providers as part of the establishment of chronic care programmes and community care packages.

- The CCC continues to be the main gatekeeper of access to the new services and programmes, as it is independent of other primary and community providers, is free to the user, and accepts direct client referrals.

6. Effectively manage the transition

I recommend that:

- The following four principles be adopted for this change process:

  - Rigour – changes should be based on sound analysis and careful design wherever possible. We cannot afford to waste energy and resources on changes that are not evidenced based and therefore unlikely to work.

  - Flexibility and refinement – Not withstanding the above, there are many unknowns in the process and some things can only be known through action. It’s important not to fall into a ‘paralysis by analysis’ trap. Trialling and judicious use of pilots are one way of testing new service approaches when there is limited ‘hard’ information.

  - Supporting leaders - at all stages the change process should support motivated and capable leaders and early adopters, whether they are clinicians, providers, or other DHB staff. This support could be in the form of secondments to project positions, funding pilots/trial services, or publicising successes and progress.

  - Workforce development – new services and models of care require different competencies and approaches. At all stages the changes should begin with upskilling of the workforce and focus on implementing new ways of working.

- A project management approach be taken to the transition process, so that roles, responsibilities, timeframes and approaches are specified clearly from the outset, and senior management and clinicians are involved.

- The transition process be undertaken in three main stages: Discussion, Specification, and Establishment.

Discussion Phase:

- A consultation process be undertaken with the community and affected staff before any decisions are taken or details finalised in regard to the changes recommended in this report.

- As an early priority, existing HHS community staff be offered training in chronic care management and restorative models of home and community care, so that there is a common language and understandings of the models of care under development, and the opportunities the new arrangements offer.

- Potentially affected HHS staff be made aware that they are protected by employment legislation which ensures they will be transferred on existing terms and conditions where their employer changes.

Specification Phase:

- Once staff training and consultation processes have been completed, decisions be taken regarding the extent and timing of the changes.

- Supporting tools and processes such as service specifications, job descriptions, protocols and pathways will be developed early on in the process, with clinicians being the key architects of these tools.

- Clear communication and progress monitoring arrangements be in place throughout the project so that all parties are kept informed and everyone involved feels supported from the very initial stages.

Establishment Phase:

- Once the new services to be implemented have been specified, all potentially affected staff, funding and other associated resources be identified.

- Two main streams of work can occur simultaneously:

  - Integrating processes: This includes expanding the InterRAI tools and Care Manager relationships into primary care and other parts of the sector, transferring NASC, discharge coordination, and care management staff from the HHS to the Care Coordination Centre, and improving assessment and support of carers.

  - Developing new services: Establishing the chronic care management services and extending the home & community care packages. This can begin through a Registration of Expression of Interest (REOI) process to identify potential PHO and NGO providers and their partnership arrangements.

- Further stages in the establishment process can be planned once the REOI has been completed.

- Caution should exercised service contracts which are developed as part of the implementation process – service specifications, payment mechanisms, and performance monitoring arrangements should minimise the potential for adverse selection of patients (‘cream skimming’), ensure that services are accessable by high need/priority users, and that service delivery and outcomes can be effectively monitored.

CONCLUSION

The future of community based services as outlined in this report is based on an assessment of the pressures and opportunities facing C&C DHB in the medium term. The recommended actions are based on international responses to these same issues, and the evidence base for various approaches.

The extent of the changes, and in particular the extent of the shift of service delivery to primary and community providers, may seem radical. However, I believe doing nothing is not an option. The status quo does not allow for the level of innovation required going forward. A fully integrated and comprehensive community care system can be created now, before we're in the throes of a workforce crisis or bed shortage situation.

"The best way to predict the future is to create it"

- Peter Ellyard

APPENDIX 1: THE EVERCARE & KAISER CHRONIC CARE MODELS

The Evercare Model

Evercare started in 1987 as a pilot programme for the U.S. Federal Government and today is a national programme serving over 60,000 individuals. In 1995, Evercare was awarded the status of a “demonstration project” by the U.S. government (demonstration projects are designed to waive federal rules and regulations to promote innovation). Evercare is regarded as the one of the most successful U.S. federal demonstration projects implemented in recent years.

The core principles of Evercare are summarised in the box on the next page. Studies on the Evercare approach in the US have shown that Evercare:

- has demonstrated a 50 percent reduction in the hospitalisation rate of its enrollees in care facilities while achieving the same mortality results as compared to a control group (Kane 2002).
- significantly reduces the number of prescription drugs a Medicare patient takes while maintaining health. This achieves cost savings for beneficiaries and lowers side effects.
- has a 97 percent satisfaction rating among families, as well as an extremely high physician satisfaction rating.
- contributes cost savings to the Medicaid and Medicare programme – estimates are that the programme has resulted in a federal budget savings of seven percent for the population it serves.

The programme is now being rolled out in the UK with the aim of achieving greater integration of services, improving the focus on the individual and working to ensure that the key locus of care is in primary care – with medical care being delivered in the least invasive manner, in the least intensive setting possible.

A key focus of the programme is establishing a collaborative partnership between doctors and specialised nurses (nurse practitioners) where each respects the others’ skills and contributions in improving outcomes for patients. The synergy of this collaborative relationship produces results beyond what either professional could accomplish on their own.

The other key elements of the approach (United Healthcare 2003) are:

- The programme values diverse stakeholder points of view. In the UK, cross-functional teams from Evercare have been established to develop and design programme specifications for each local primary care trust.
- Information regarding care patterns and programme outcomes is collected and used to inform practices, policies and programmes and effectiveness.

- The model aims to improve management of scarce resources—by re-evaluating standard structures, processes, and tools; and by increasing the primary doctor's span of control through use of primary nurses with expanded skills.
- A focus on innovation. These innovations can manifest as: new ways of coordinating across care sites and connecting service needs across the system; new computer applications.
- The programme tries to ensure financial barriers do not impede programme success. For example, 'protected time' payments to GPs, defined work effort payments, or even PCT-salaried geriatric consultants may be necessary to ensure participation in the development of the programme / community-based services.

Core Principles of Evercare

1. Apply an individualized, whole-person approach to care of older persons with all interventions focused on promoting maximal function, independence, comfort, and quality of life.

To achieve this:

- Focus on achievable outcomes where benefits exceed burdens of treatment.
- Delay or stabilize to the extent possible, progression of disabilities and chronic illnesses.
- Educate patients, families, and carers on the natural course of diseases.
- Incorporate patient preferences into treatment decisions, such as planning advance directives near the end of life.

2. Use primary care as the central organizing force for health care across the continuum.

To achieve this:

- Involve primary doctors along the entire care pathway.
- Strengthen primary care's span of control by promoting collaborative partnerships between doctors and specialized nurses with expanded skills.
- Utilize a collaborative, interdisciplinary team of professionals to deliver the broader scope of health services.

3. Provide care in the least invasive manner, in the least intensive setting.

To achieve this:

- Take a proactive, systematic approach to prevention and treatment.
- Watch for subtle clinical changes and initiate early diagnosis and treatment.
- Assure accurate handovers and timely transfers between care settings.
- Minimize serious risks associated with hospitalisations by using hospital only when necessary, and preventing adverse events while hospitalised.
- Include primary care in decisions involving hospital admission, key interventions during admission, and discharge planning.

4. Avoid adverse effects of medications and polypharmacy

To achieve this:

- Prescribe medications judiciously.
- Employ alternatives to medications when appropriate.
- Select medications known to be safe and effective among frail elders.
- Evaluate patients regularly for early signs and symptoms of side effects.

5. Use data to strengthen decision-making.

To achieve this:

- Take a population-based approach to planning and evaluating programmes.
- Measure programme performance.
- Evaluate performance using benchmarks and analysis of trends
- Manage results using patient outcomes, resource utilization, and expenses.

Kaiser Permanente

Kaiser Permanente (Kaiser) is America's largest not-for profit health care organisation, serving 8.4 million members in 9 states and the District of Columbia. There are over 11,000 physicians in the system and 134,000 employees working in over 30 hospitals and medical centres and 430 medical offices. Kaiser has annual revenues of $22.5 billion. The coverage of Kaiser services means that the services and scope are comparable to those of a small country's health care system.

The Kaiser integrated health care delivery system grew out of doctor-led insurance prepayment solutions to meeting the healthcare needs of workers on New Deal construction projects and wartime shipyards. The group comprises three separate organisations—the Kaiser Foundation Health Plans, the Kaiser Foundation Hospitals, and the Permanente Medical Group – to deliver care to the insured membership. These organisations are bound together in mutually exclusive partnership and contractual relationships, as a not-for-profit entity that operates for community benefit.

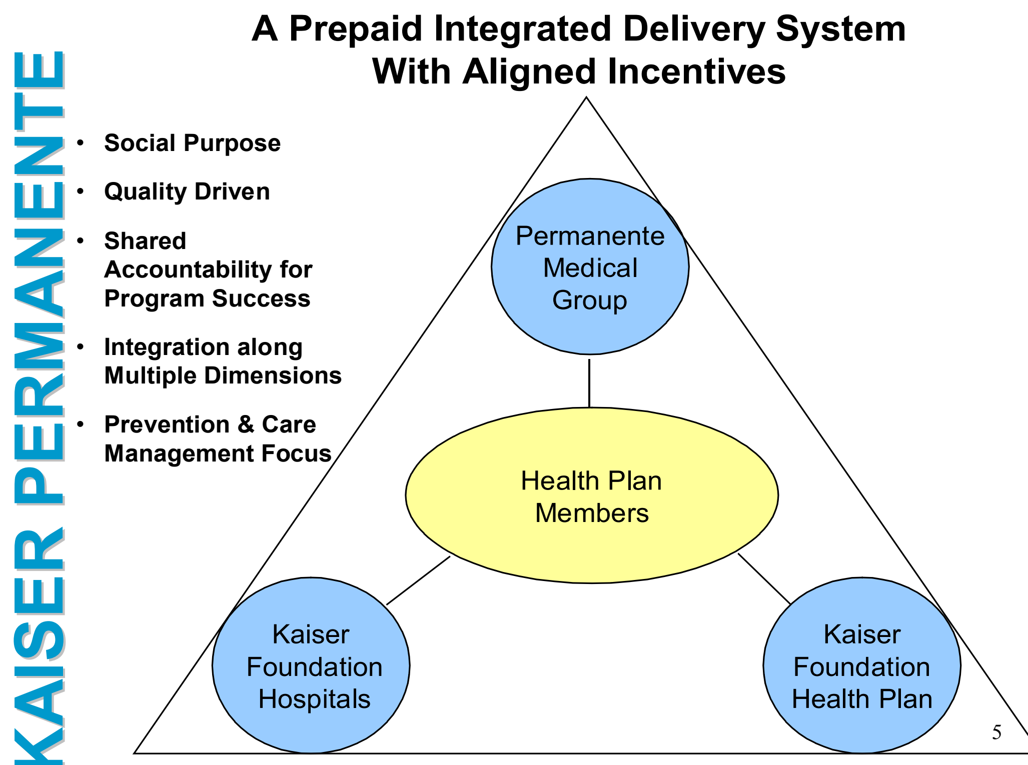
Care in Kaiser is actively planned and managed and this explains its ability to deliver good outcomes. The organisation has minimized the use of acute hospital beds through an integrated approach to service delivery. At the heart of this approach is a strong focus on the management of people with chronic diseases and the breaking down of barriers between secondary and primary care. Compared with the UK NHS, more care is delivered in a community setting, and this includes the use of intermediate care, home care and self-care by patients.

According to a prominent UK academic (Ham 2003) the principles of the model make it a useful model of chronic care management.
The six key principles in the Kaiser model are:

(i) Integration of care
The two key aspects of integration in the Kaiser model are:

- The model integrates inpatient care and outpatient care. This feature enables patients to move easily between hospitals and the community, or into skilled nursing facilities if necessary. Under this arrangement, medical specialists are therefore de-coupled from the hospital and focus on providing care in the most appropriate setting. Specialists work alongside generalists in multi-specialty medical groups that facilitate communication between physicians. There is no incentive to build up facilities and resources in the hospital at the expense of other settings;
- Kaiser integrates prevention, diagnosis, treatment and care. A high priority is attached to keeping people healthy and avoiding the use of hospital services. This is most apparent in relation to chronic disease management where care is delivered within the framework of evidence based clinical guidelines and is actively managed at all stages. Doctors who work for Kaiser also have fast access to diagnostic services in outpatient and medical care settings, thereby avoiding stays in hospital.

Figure 2 - Kaiser Permanente Structure and Focus



(ii) Active Management of Patients

There is a strong emphasis on minimising stays and maintaining the flow of patients through the hospital. Discharge is planned either on or before admission with the emphasis placed on early rehabilitation. Kaiser employs specialist discharge staff to manage this process and to ensure that patients are not kept in hospital unnecessarily. The aim is to keep patients moving through the system and to review readiness for discharge on a daily basis. A good example is orthopaedics where care pathways have been developed for patients undergoing hip and knee replacements specifying what should happen on each day of hospital treatment. Lengths of stay for such conditions are typically around 4 days in Kaiser compared with 12 days in the UK NHS. Within the hospital, general physicians (known as 'hospitalists') are increasingly involved in organising care and keeping treatment active. Like Evercare, Kaiser also employs case managers to work intensively with patients most at risk. Patients are stratified according to need (self care support, assisted care, and intensive management) and intensive management is targeted in the greatest need category.

(iii) Keeping patients out of hospital

Kaiser's philosophy is that 'hospitals are an indicator of system failure'. Patients are admitted to hospital only when prevention and treatment in the community do not succeed. Early discharge is facilitated by the availability of intermediate care (in the form of skilled nursing facilities and home health care services) that ensures hospitals (as the most expensive and most dangerous

health care facility) are used sparingly. Nurses and therapists play a major part in the delivery of intermediate care. Doctors manage patient expectations to enable bed day use to be minimised e.g. by explaining the benefits of early ambulation and day case treatment. UK Department of Health research, cited by Ham (2003), found that Kaiser uses around one quarter of the number of bed days as the NHS for leading causes of admission like asthma, bronchitis, COPD and stroke for the over 65 population. It achieves these results through lower admission rates and particularly shorter hospital stays.

(iv) Self care and Shared Care

Self care is at the heart of Kaiser's philosophy and practice—patients, carers and families are seen as co-providers in health care. Self care and shared care are particularly important in relation to chronic diseases where Kaiser makes a substantial investment in patient education and the provision of information to help people with conditions like diabetes and asthma remain independent and healthy. Kaiser staff offer advice and support either in person or by phone and manage the expectations of patients and families to enable hospitals to be used only when necessary. Patients are enabled to return home by being supported to do as much as possible for themselves. For example, orthopaedic patients are taught how to dress themselves, perform relevant exercises and how to administer medication such as anticoagulation treatment in the home.

(v) Doctors as Leaders

Permanente physicians take on a major role in leading the development of services and managing budgets and other resources in an organisation in which medical leadership is unusually well developed.

Medical leadership is supported by a significant investment in training and development of physicians. Care pathways and clinical guidelines are developed by doctors and the philosophy in the organisation is to gain medical commitment to best practice rather than to secure compliance.

(vi) The Use of Information

Kaiser's existing IT system enables easy access from different sites to patients' records and information on tests that need to be done on patients in line with clinical guidelines. It also enables the development and use of disease registries for chronic conditions. These registries are then used to review compliance with the standards set out in guidelines and to identify doctors and patients whose practice or care may be departing from the guidelines. The data captured on the information system is used in part as a tool for quality improvement/peer review and in part to inform how Permanente physicians are paid.

NOTES AND REFERENCES

[1] World Health Organisation (2002) *Innovative Care for Chronic Conditions: Building Blocks for Action.* Geneva, WHO

[2] See: http://www.who.int/chronic_conditions/en/

[3] Department of Health *Improving Chronic Disease Management.* London, DoH.

[4] New Zealand Guidelines Group. 2001. *Chronic Care Management: Policy and Planning Guide*. Compiled by the Disease Management Working Group

[5] Ministry of Health. 1999. *Our Health Our Future: Hauora Pakari, Koiora Roa*. Wellington: Ministry of Health

[6] Ajwani S, Blakely T, Robson B, Tobias M, Bonne M. 2003. *Decades of Disparity: Ethnic mortality trends in New Zealand 1980-1999*. Wellington: Ministry of Health and University of Otago

[7] Gask, L (2004) "Waking up to chronic care" *Quality & Safety in Health Care,* 13:246: De Rond, M., & Dash, P (2005) *Strategy in the NHS: Science or Sixth Sense?* In Future Health Organisations and Systems.

[8] Rothman, A and Wagner, E (2003) "Chronic iIlness Management: What is the Role of Primary Care?" *Annuals of Internal Medicine,* 138(3).

[9] Organisation for Economic Co-operation and Development (2006) *Projecting OECD Health and Long-Term Expenditures: What are the Main Drivers.* OECD, Paris.

[10] New Zealand Institute for Economic Research (2004) *Ageing NZ and Health and Disability Services; Background Information on International Responses to Ageing Populations*, Ministry of Health, Wellington.

[11] World Health Organisation (2003) *Primary Healthcare: A Framework for Future Strategic Directions Global Report.* WHO.

[12] For a useful summary of the evidence see: McDonald, J., and Lesley, H., (2004) *The contribution of primary and community health services; A Literature Review.* University of New South Wales.

[13] Bower P, Rowland N, and H. R., The clinical effectiveness of counselling in primary care: a systematic review and meta-analysis. Psychological Medicine, 2003. 33(2): p. 203-15.
- Bollard M, Improving primary health care for people with learning disabilities,. British Journal of Nursing, 1999. 8(18): p. 1216-21.
- Steptoe A, et al., Behavioural counselling in general practice for the promotion of healthy behaviour among adults at increased risk of coronary heart disease: randomised trial. BMJ, 1999. 319: p. 943-948.
- Mynors-Wallis L, et al., Randomised controlled trial of problem solving treatment, antidepressant medication and combined treatment for major depression in primary care. BMJ, 2000. 320: p. 26-30.
- Ram, F.S.F., A. Jones, and J.K. Fay, Primary care based clinics for asthma. Cochrane Database of Systematic Reviews, 2003. 1: p. 1.

[14] Starfield B, *Primary care: is it essential*? Lancet, 1994. 344: p. 1129-1133.

[15] Macinko J, S.B., Shi L, *The Contribution of Primary Care systems to Health Outcomes within Organization for Economic Cooperation and Development (OECD) Countries, 1970-1998*. Health Services Research, 2003. 38(3): p. 831- 865.

[16] Bunker j, F.H., Mosteller F,, Improving Health: Measuring the effect of medical care. Millbank Quarterly, 1994. 72: p. 225-58.
- Shi L, S.B., Kennedy BP, Kawachi I, Income inequality, primary care and health indicators. Journal of

Family Practice, 1999. 48(4): p. 275-284.
- Shi L, Macinko J, and S. B, The Relationship Between Primary Care, Income Inequality and Mortality in US States, 1980-1995. JABFP, 2003. 16(5).

[17] Aged Community and Mental Health Division, *Better Access to Services - An Information Resource.* Primary Care Partnerships. 2002, Victorian Government Department of Human Services: Melbourne Victoria.
- Kwan I, Ridsdale L, and Robins D, *An epilepsy care package: the nurse specialist's role*. Journal of Neuroscience Nursing., 2000. 32(3): p. 145-52.
- Kinnersley P, et al., *Randomised controlled trial of nurse practitioner versus general practitioner care for patients requesting "same day" consultations in primary care*. BMJ, 2000. 320(1043-1048).
- Shum C, et al., *Nurse management of patients with minor illnesses in general practice: multicentre, randomised controlled trial*. British Medical Journal, 2000. 320: p. 1038-1043.

[18] Wagner EH, et al., *Quality improvement in chronic illness: a collaborative approach*. Joint Commission Journal on Quality Improvement., 2001. 27(2): p.63-80.
- Browne G, et al., Economic *evaluations of community-based care: lessons from twelve studies in Ontario*. Journal of Evaluation in Clinical Practice., 1999. 5(4):p. 367-385.
- Jolly K Bradley F Sharp S et al, *Randomised controlled trial of follow-up care in general practice of patients with myocardial infarction and angina pectoris: final results of the SHIP trial*. British Medical Journal, 1998. 318: p. 706-11.
- O'Malley, A.S. and C.B. Forrest, *Continuity of care and delivery of ambulatory services to children in community health clinics.* Journal of Community Health, 1996. 21 (3): p. 159-73.
- Byles J, Francis L, and M. M., *The experiences of non-medical professionals undertaking community-based health assessments for people aged 75 years and over*. Health and Social Care in the Community, 2002. 10(2): p. 67-73.
- Wood J, *A review of antenatal care initiatives in primary care settings*. British Journal of General Practice, 1991. 41: p. 26-30.
- Grumbach, K., & Bodenheimer, T., *Can health care teams improve primary care practice*? JAMA, 2004. 291(10): p. 1246-1251.
- Baileff A, *Integrated nursing teams in primary care.* Nursing Standard, 2000.14(48): p. 41-4.
- Schofield RF and Amodeo M, *Interdisciplinary Teams in Health Care and Human Services Settings: Are They Effective?* Health & Social Work, 1999. 24(3): p. 210-219.

[19] Browne G, et al., *Economic evaluations of community-based care: lessons from twelve studies in Ontario.* Journal of Evaluation in Clinical Practice., 1999. 5(4):p. 367-385.

[20] Poulton, B.C. and M.A. West, *The determinants of effectiveness in primary health care.* 13, 1999. 1: p. 7-18.

[21] Department of Health (2004) *Improving Chronic Disease Management* DoH, London

[22] Kane, R (2002), '*University of Minnesota, independent evaluation of the Evercare demonstration*' (unpublished report, submitted to the Centres for Medicare and Medicaid Services, May 2002)

[23] Renders, C, Valk, G, Griffin, S, Wagner, E Eijk, V and Assendelft, W., *Interventions to improve the management of diabetes in primary care, outpatient, and community settings: a systematic review.* Diabetes Care 2001:24 1821-33.

[24] Jolly K Bradley F Sharp S et al, Randomised controlled trial of follow-up care in general practice of patients with myocardial infarction and angina pectoris: final results of the SHIP trial. British Medical Journal, 1998. **318**: p. 706-11.

[25] Crosson F, *Kaiser Permanente: a propensity for partnership*, BMJ 2003; 326:654
- Feachem R et al, *Getting more for their dollar: a comparison of the NHS with California's Kaiser Permanente*, BMJ 2002;324;135-143

[26] Wainright, T., (2003) *Homecare Thoughts From Abroad,* Otago School of Medicine, Dunedin.

[27] Church, J., Saunders, D., Wanke, M., and Pong, R (1995) *Organisational Models in Community-Based Health Care: A Review of the Literature* University of Alberta, Canada.

[28]Bicknell, William J. et al., 1974. *Substantial or decorative? Physicians' assistants and nurse practitioners in the United States*. The Lancet 2: 1241-1244.
- Bray, Martha L. and L.H. Edwards, 1994. *A primary health care approach using Hispanic outreach workers as nurse extenders*. Public Health Nursing 11: 7-11.
- Brown, S.A., and D.E. Grimes, 1993. *Nurses practitioners and certified nurse-midwives: a meta-analysis of studies on nurses in primary care roles*. American Nurses Association Publications.
- Caldera, Debra L. et al., 1991. *The role of the community health aide in rural Alaska*. In B. Postl et al. (eds.), Circumpolar Health 90. Winnipeg, Manitoba: University of Manitoba Press.
- Cameron, Brenda Leigh, 1995. *Multiskilling the health care worker: some urgent concerns.* Alberta Association of Registered Nurses Newsletter 51:1: 7-13.
- Chambers, Larry W. et al., 1977. A controlled trail of the impact of the family practice nurse on volume, quality, and cost of rural health services. Medical Care 15: 971-981.

Pong, et al, (1995) *Health Human Resources in Community Based Healthcare: A Review of the Literature*. University of Alberta.
- Shu, L., et al (1993) The Determinants of utilisation of non-physician providers in community health centres. Journal of Rural Health 9: 27 – 39.

[29] Cochrane D, Conroy M, Crilly T, Rogers J. 1999. *The Future Healthcare Workforce: The second report.* Bournemouth: The University of Bournemouth.
- Cochrane D, Conroy M, Crilly T, Rogers J. 2002. *The Future Healthcare Workforce: The third report.* Chamberlain Dunn Associates.
- Cornwall J, Davey JA. 2004. *Impact of Population Ageing in New Zealand on the Demand for Health Services and Disability Support Services, and Workforce Implications*. A background paper completed for the Ministry of Health in June 2003 by the New Zealand Institute for Research on Ageing (NZiRA) and the Health Services Research Centre (HSRC), Victoria University of Wellington. Wellington: Ministry of Health.
- Health Workforce Advisory Committee. 2002. *The New Zealand Health Workforce: A stocktake of issues and capacity 2001.* Wellington: Health Workforce Advisory Committee.
- Health Workforce Advisory Committee. 2003a. *The New Zealand Health Workforce: Framing future directions: Analysis of submissions and draft recommendations to the Minister of Health for health workforce development.* Wellington: Health Workforce Advisory Committee.
- Health Workforce Advisory Committee. 2003b. *The New Zealand Health Workforce: Framing future directions:* Recommendations to the Minister of Health 2003. Wellington: Health Workforce Advisory Committee.
- Jönsson B, Eckerlund I. 2003. *Why do different countries spend different amounts on health care: macroeconomic analysis of differences in health care expenditure*. In: A Disease-Based Comparison of Health Systems. Paris: OECD
- Ministry of Health. 2004b. *Ageing New Zealand and Health and Disability Services 2001 - 2021: Background information: International responses to ageing populations*. Wellington: Ministry of Health.
- New Zealand Orthopaedic Association. 2003. *The Ageing of New Zealand: An epidemic with major impact on musculo-skeletal disease.* Wellington: New Zealand Orthopaedic Association.
- NHS Modernisation Agency. 2003. *Changing Workforce Programme: Pilot sites progress report.* Manchester: NHS Modernisation Agency

[30] Buchan J, Calman L. 2004. *Skill-mix and Policy Change in the Health Workforce: Nurses in Advanced Roles.* OECD Health Working Papers. Paris: OECD.
- Cochrane D, Conroy M, Crilly T, et al. 2002. *The Future Health Workforce: The third report.* London: Chamberlain Dunn Associates.
- Fleming KC, Evans JM, Chutka DS. 2003. C*aregiver and clinician shortages in an aging nation.* Mayo Clinic Proceedings 78: 1026-40.
- Fooks C, Canadian Policy Research Networks Inc. 2002. *Health Human Resource Planning in Canada: Physician and Nursing Work Force Issues.* [Saskatoon]: Commission on the Future of Health Care in Canada.

- Fooks C, Maslove L. 2004. *Health Human Resources Policy Initiatives for Physicians, Nurses and Pharmacists.* Ottawa: Canadian Policy Research Networks Inc. Accessed from http://www.cprn.org/en/doc.cfm?doc=1112.
- Kovner CT, Mezey M, Harrington C. 2002. *Who cares for older adults?: workforce implications of an aging society*. Health Affairs 21(5): 78-89.
- NHS Modernisation Agency. 2003. *Changing Workforce Programme: Pilot sites progress report: Spring 2003*. Manchester: NHS Modernisation Agency. Accessed from http://www.modern.nhs.uk/cwp/21135/Pilot_Sites_Progress_Report.pdf.
- NHS Modernisation Agency. 2004. A *Career Framework for the NHS: Discussion document*: version 2, June 2004. London: NHS Modernisation Agency.

[31] World Health Organisation (2002) *Innovative Care for Chronic Conditions: Building Blocks for Action.*
- Department of Health (2002) *Chronic disease management and self care, a practical guide to implementation in primary care.*

[32] Arksey H & O'Malley L. et al. Services to Support Carers of People with Mental Health Problems. Literature Review Report for the National Co-ordinating Centre for NHS Service Delivery and Organisation R & D (NCCSDO) 2002
- Arksey H, Jackson K. Access to Health Care for Carers: Barriers and Interventions. NCCSDO SPRU 2003
-Carers Australia. National Survey of Carer Health & Wellbeing Survey. 1999
Carers Australia. Who's going to care? Informal care and an ageing population. National Centre for Social and Economic Modelling, University of Canberra. 2004
- Carers Australia Submission to the House of Representatives Standing Committee on Ageing. Inquiry into Long Term Strategies to Address the Ageing of the Australian Population 2005
- Carers UK. Calculating the value of carers' support 2002
- Carers UK. Missed Opportunities: The impact of new rights for carers 2003
- Carers UK. In Poor Health – The Impact of Caring on Health. 2004
- Feinberg L. & Newman S. The State of the States in Family Caregiver Support: A 50-State Study. USA National Conference of State Legislatures. 2004
- Hirst M. Hearts & Minds: The Health Effects of Caring. SPRU. 2004
- King A, Parsons M. An evaluation of two respite models for older people and their informal caregivers. NZMJ. May 2005. Vol 118 No 1214
- McMillan S. & Small B. Impact of Coping Skills Intervention with Family Caregivers of Hospice Patients with Cancer. American Cancer Society. 2005
- National Health Committee. How Should We Care for the Carers? 1998
- Pickard L. The Effectiveness & Cost Effectiveness of Support & Services to Informal Carers of older People: A review of the literature prepared for the Audit Commission. PSSRU. 2004
- Qureshi H, Patmore C, et al. Outcomes in Community Care Practice – Outcomes of Social Care for Older People & Carers. SPRU 1998
- Twigg J. Issues in Informal Care. Caring for Frail Elderly People: Policies In Evolution. Social Policy Studies No 19. Paris: OECD. 1996

[33] Marriott, J., and Maple, A., (2000) *Opportunities and Potential: A Review on International Literature on Primary Health Care Reform and Models.* Health Canada. Ontario.

[34] Matrix Research and Consultancy (2004) *Learning Distillation of Chronic Disease Management Programmes in the UK.* Modernisation Agency, London.

[35] Hayes, J. and Hyde, P. (1998) *Managing the Merger, a Change Management Simulation*, Novi, Michigan: Organisation Learning Tools. Also described in Hayes, J. (2002) *The Theory and Practice of Change Management*, Basingstoke, UK: Palgrave

[36] Bevan, H (2005) *On Five Emerging Trends in Healthcare Improvement*. Unpublished paper.

[37] For a useful rendition of the issues from a PHO perspective see: Alan Greenslade, *Primary Care in Search of A Future* (NZ Doctor, August 2006).