Developing integrated primary and community health services: what can we learn from the research evidence?

A report for Counties Manukau District Health Board

Judith Smith and Crispin Ovenden

Health Services Research Centre
School of Government,
Victoria University of Wellington

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Judith Smith
Crispin Ovenden

Health Services Research Centre
School of Government
Victoria University of Wellington

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Executive summary

This report sets out the findings of a review of the literature on the development of integrated primary and community health services for local communities. The work was commissioned by Counties Manukau District Health Board (CMDHB) and seeks to distil key messages for the health board, its community, and partner organisations about how best to approach the next phase of planning for local services in Mangere.

The key messages emerging are:

Primary care as a complex system

Primary health care can be considered as a complex adaptive system.

A short list of simple rules, principles, or minimum specifications, may be the most effective way of bringing about change.

Over-prescription can be counter-productive and stifle creativity and innovation.

Models of integrated primary and community health services

There is no one 'ideal' overall model of integrated primary and community health services, for there is limited decisive quantitative evidence about the beneficial impact on health outcomes of any model.

The combination of models to be used in a particular context will depend on the desired outcomes of the local primary health care system.

There is however an increasing body of evidence about models of process improvement, based on strong clinical engagement. Although much of this relates to qualitative reporting of improvement in outcomes, there are helpful steers about strategies such as multidisciplinary team working, community-oriented primary care, and chronic care models.

Organisational structures are more effective in changing service delivery in primary and community care where they control funds through some form of contracting or planning.

Any devolution of responsibility for primary and community health services delivery and organisation needs to be matched by increased accountability and appropriate governance arrangements.

These governance arrangements need to carefully balance community governance, clinical leadership, the nature of integration with secondary care, and economies of scale.

New organisational arrangements for primary and community care (including integration with secondary care) need time and stability in order to develop community readiness, sustainable capacity, trust, culture and systems.

Investment in primary care infrastructure (including IT) is crucial as a route for improving access, equity, quality and efficiency in primary health care. Such investment should be linked with specified quality and accountability arrangements.

Community-oriented primary care (COPC) offers interesting insights into how population health and general practice can be reconciled at the level of planning and delivering patient care. COPC has been defined as:

'the continual process by which [primary health care teams] provide care to a defined community on the basis of its assessed health needs by the planned integration of public health with [primary care] practice.' (Gillam and Miller, 1997)

Maori models of health underline the value and importance of working with and not just for communities in the planning and delivery of primary and community health services.

Multidisciplinary team-working is vital to service development focused on addressing chronic disease, and professional behaviour change and education are key to this.

Making it happen: bringing about change in primary and community services

The transfer and substitution of skills, professional behaviour change, increased self-management by patients, and identification of high risk patients are all strategies that are generally effective in enabling shifts of care into community settings.

A shortage of clinical staff acts as a stimulus for reform in the organisation of care, and can both improve patient care and the working lives of health personnel.

Multidisciplinary teams and clinical networks are two examples of how care organisation can be reformed, and there is international evidence of such approaches enabling more effective management of chronic illness.

Strong and relentless transactional human resource management is crucial to the effective handling of major organisational change.

Community involvement and ownership of new initiatives in primary and community services can increase the likelihood of success of such ventures, and assessing community readiness for change is a key component of this.

Organisational readiness also needs to be assessed prior to implementing innovative approaches to service delivery and organisation.

A careful assessment of people's concerns about change paves the way for managers, clinicians and community leaders to plan effectively for the design, implementation and review of any transition.

Assessing the outcomes associated with change

International evidence points to a clear link between the strength of a primary health care system and the cost-effectiveness and level of health outcomes achieved for the population of the system.

A primary health care system can be judged according to Starfield's 'four Cs' of first contact, continuity, comprehensiveness, and co-ordination. Another possible set of criteria are NPCRDC's[1] suggestion of equity, efficiency, quality and patient responsiveness.

Community oriented primary care's espoused benefits offer a further potential approach for evaluating the progress of innovative primary care service development.

Whatever the model of care and whatever the criteria used for its evaluation, it is crucial that there is long-term assessment of the impact of change, led by senior managers, and overseen by the main governance bodies.

Such assessment should focus not only on measures associated with the main objectives of the change, but also on the human impact of the change itself.

Conclusions

The review suggests the need for a focus on the following areas as the community services planning process for Mangere moves forward:

- The development of an agreed set of principles to guide the planning process.

- The creation, by community leaders and providers working as partners in the spirit of community-oriented primary care, of a programme of improvement for community and primary services in Mangere that builds on current projects.

- An exploration of how projects could be developed so as to further extend the implementation of evidence-based service improvements (e.g. multidisciplinary team working and self-management of care) within Mangere.

- The nature of planning and contracting for community and primary care services in Mangere and where this responsibility will be located.

- The nature of governance arrangements for planning and contracting services for Mangere, bearing in mind the importance of community and organisational/clinical readiness.

- A commitment to invest resource in primary care infrastructure, along with the development of quality and accountability arrangements to underpin any investment.

[1] The National Primary Care and Research Centre, University of Manchester and University of York, U.K.

- The agreement of management arrangements for the project process that include community ownership of the process, effective clinical engagement, and a commitment to relentless attention to the human elements of any changes.

- The development of an agreed set of desired outcome measures which will be used by project partners to assess project process, and to determine appropriate local models of care.

Introduction

This report sets out the findings of a review of published international research evidence about the development of integrated primary and community health services for local communities and seeks to make it relevant to the specific issues faced by the commissioner of the study; as a result it takes a deliberately focused and pragmatic approach; it relies on systematic reviews already in the public domain as well as individual research papers of interest.

The work was commissioned by Counties Manukau District Health Board (CMDHB); it aims to distil key messages for the health board, its community, and partner organisations about how best to approach the next phase of planning for local services in Mangere, and to be useful to them as they plan future services for the local population. CMDHB asked us to focus on the following issues in carrying out this review:

- models of integrated primary and community health services at the community/wider population level, rather than at individual practice or patient level;
- approaches to the organisation of services that are relevant to high needs communities;
- models of service provision that are appropriate to a population with rising levels of chronic disease; and
- lessons about the implementation and putting into practice, as well as the design, of models of integrated care.

We highlight what we consider to be the papers and research projects of particular relevance to the work facing colleagues in Mangere and where possible we set out weblinks to the material so as to facilitate access to the source information.

Background

Counties Manukau DHB (CMDHB) has embarked on a project (originally entitled ‘Innovative Model of Primary Care’) to address what it sees as the un-sustainability of the current model of general practice from a long-term planning perspective. The issues that inform this view are: the increasing burden of disease, obesity, ageing and population growth; scarcity of workforce; continuing health inequalities; and overall population health outcomes that need improvement.

The DHB has developed an overall Health Services Plan for its population, with a twenty-year view of how health services should be configured. This plan led to the production a ‘straw man’ paper (CMDHB, 2006) that described a possible model of care, named as a Primary and Community Health Service (PCHS), that the DHB felt would in part address the sustainability of primary health services over this time frame. The first step in delivering this twenty-year plan for primary and community health services is the Mangere Integrated Community Healthcare (MICH) project. This is a collaborative process with primary health organisations (PHOs), the community and providers to come up with a business case for a PCHS for Mangere.

Mangere was chosen as the best locality to initiate implementation of this model because:

- it is identified as a growth node in the Manukau City Council's District Plan with significant in-fill housing and projected population growth;
- there is already a shortage of workforce both medical and nursing;
- it is a deprived area with high health inequality; and
- it is a catchment that contributes significantly to the acute demand at Middlemore Hospital and there is a need for better integrated service delivery.

The Mangere Primary and Community Health Service project is designed:

> "To develop a model of care and required infrastructure (workforce, facilities and information) for primary health care to meet the future health needs of the Mangere population in a coordinated way as part of an integrated health system that has the capacity to meet the growing population needs; and which is attractive to the future workforce."

This project

In May 2007, CMDHB approached the Health Services Research Centre (HSRC) at Victoria University of Wellington to assist with:

- establishing the case for change to primary and community health services in Mangere;
- ensuring that the DHB is clear regarding its approach to this change; and
- providing quality assurance to the project from an international best practice perspective.

This literature review is intended to inform the objectives set out in the bullet points above; it explores models of integrated primary and community health services in order to place the Mangere planning work within a broader research-based and international context.

The review has been carried out with the support of the University of Birmingham's Health Services Management Centre's specialist health library and information service, using electronic databases (e.g. Medline, Embase, HMIC), and combined with additional internet searches of international primary care research websites (e.g. Australian Primary Health Care Research Institute, Canadian Health Services Research Foundation, UK National Primary Care Research and Development Centre).

The review has used search terms including: family practice (organisation and administration); models, organisational; primary health care (organisation and administration); co-operative behaviour; community health services (organisation and administration); delivery of health care, integrated (organisation and administration).

The initial review of electronic databases resulted in the identification of 345 references. The lead researcher selected abstracts for in-depth review, plus a further 12 papers from the internet searches, using the project objectives set by CMDHB as the relevance criteria by which to sift the abstracts, and seeking to include review

papers where possible. A total of 54 papers were reviewed in full text version by the two authors of this report, and a conceptual framework for the presentation of findings was developed in order to be relevant to the overall Mangere Project objectives. It should be noted that we have focused on research-based analyses and reviews. In the references and useful resources section of this paper we identify other policy papers and 'grey literature' that include analyses of relevance to this project.

HSRC is also providing facilitation to the district health board (DHB) as it works through its plans for Mangere, and this work, and the literature review report set out here, has been further informed by a series of semi-structured interviews with over 20 local stakeholders in Mangere (general practitioners, PHO managers and chairs, DHB managers), carried out by Judith Smith in June and July 2007 on a telephone and face-to-face basis. These interviews explored:

- Role in the Mangere Integrated Community Health Project to date
- Views about the project, including advantages and disadvantages
- Thoughts about the project process to date
- Ideas for the next phase of the project, including advice to the DHB
- Any other issues of concern to the respondent in relation to the Mangere Project

In a summary of the findings of these interviews, set out in a presentation to the DHB's executive team, Judith Smith highlighted the following points:

- there is widespread enthusiasm for putting effort into improving health in Mangere, and these ideas have been around for many years;
- people in Mangere value their GPs highly;
- providers and community organisations are already developing a range of innovative ideas in Mangere;
- they want this work to be recognised and built on; and
- providers are however very pressed and struggle to make headroom for longer term planning.

In relation to people's positive views about the DHB and its work in relation to Mangere, Judith noted that:

- the DHB is acknowledged as being innovative and primary care focused;
- people are aware of how the DHB is looked to by others in New Zealand (and overseas) as a leader re care development, chronic disease management, etc.;
- there is appreciation of the DHB's desire to get on and do things, and be unpopular if needed;
- there is appreciation of the sense of direction and purpose; and
- people want the Mangere Project to succeed and be a leading edge example.

There were however a range of concerns expressed in the interviews and they were summarised as follows:

- there are widespread concerns about the Mangere Project as currently conceived;
- the process is what is largely seen to be the problem;
- the case for change has not been made in all instances;
- the 'straw man' solution as set out in the DHB paper has little support;

- people feel somewhat 'done to' in relation to the project process; and
- there is a widespread call for a need to rebuild trust and to work in collaboration.

In concluding this feedback from the interviews, Judith pointed out that:

- there is a strong call for clinical engagement and leadership for the process of change, and for harnessing the innovation already in train;
- there is a similarly strong call for a commitment to working with communities in determining direction for Mangere, and in governing the project process;
- the PHOs have a key role to play in developing and supporting clinical and community engagement; and
- they (the PHOs) are committed to working collaboratively with the DHB, providers and community members to make this happen.

This feedback from project interviews is included in this report of the literature review in order to ensure maximum integration of the different elements of the work that HSRC is carrying out for CMDHB, with the reality of local people's views informing the analysis of literature. This, we hope, will make the report a useful working document for community members, providers, and managers in Mangere and Counties Manukau more generally.

Framework for the review

In exploring the literature about models of integrated primary and community health services, we have developed the following thematic framework in order to organise our findings in a way that makes sense for the Mangere Project:

1. Primary care as a complex system

2. Models of integrated primary and community health services

3. Making it happen – bringing about change in primary and community services

4. Assessing the outcomes associated with change

This report follows this structure, and seeks to offer practical advice based on the research findings that are explored within each of the themes. In each section we set out the research evidence first, and then what we consider to be the implications of that evidence. Our intention is to be 'rigorous and relevant' in interpreting research evidence for what we understand to be the presenting issues in Counties Manukau, and in Mangere in particular.

In the final part of the report following the four thematic sections, we discuss what the literature review might mean for Counties Manukau DHB and its partners as they move forward with plans for improving health services and health outcomes for people within Mangere.

1. Primary care as a complex system

Evidence

The observation that modern organisations and systems are characterised by complexity, rapid change and uncertainty has become a key tenet of the literature on organisational development and change. On this basis, many researchers assert that organisations are now less amenable to management approaches and solutions traditionally associated with classical, rational or linear management thinking and require instead the more fluid, flexible and 'sense-making' (Weick, 1995) type of approaches that emerge from a recognition of complexity (Peck, 2004).

An example of the application of this argument to primary health care systems is set out in a paper from the Australian Primary Health Care Research Institute. **Sibthorpe et al (2004)** argue that health care organisations are 'messier' than they are often treated within more classical and linear approaches to health planning and management. They suggest that complexity theory, and in particular a focus on complex adaptive systems (CAS), should be used as a way of enabling a different approach to policy development, management, innovation, and evaluation in health organisations. Sibthorpe et al draw on **Plsek (2003, p2)** to define a complex adaptive system:

> 'a collection of individual agents who have the freedom to act in ways that are not always totally predictable, and whose actions are interconnected such that one agent's actions change the context for the other agents'.

They suggest that a CAS is made up of agents who are characterised by their diversity, yet share a role as 'information processors', exchanging information with others through 'a complex web of relationships'. Relationships are considered the most important aspect of a CAS and Sibthorpe et al go on to assert that addressing these 'massively entangled' relationships is crucial if a system is to be able to adapt.

Agents are said to respond to their environment using 'internalised short lists of rules that drive action and generate behaviour **(Eoyang and Berkas, 1998**; Plsek, 2003)'. Deliberately exposing and changing underlying simple rules can lead directly to innovative ideas **(Institute of Medicine, 2001)**. The Institute of Medicine (2001) suggest ten simple rules or principles to guide redesign work within a health system:

1. Care is based on continuous healing relationships
2. Care is customised according to patient needs and values
3. The patient is the source of control
4. Knowledge is shared and information flows freely
5. Decision making is evidence-based
6. Safety is a system property
7. Transparency is necessary
8. Needs are anticipated
9. Waste is continuously decreased
10. Co-operation among clinicians is a priority

Sibthorpe et al conclude that when a new system is being instituted (such as a change in the organisation of primary care services), a short list of simple rules, or minimum

specifications, may be the most effective way to bring about change. They also point out that over-prescription can be counter-productive and can stifle creativity and innovation.

Sibthorpe et al characterise the primary health care sector as a CAS on the basis that it is characterised by:

- the sharing of responsibilities across institutionalised boundaries;
- dispersed control; and
- asymmetries of information.

Sibthorpe et al's assertion that primary health care systems can be considered as complex adaptive systems seems intuitively to make sense, and it has been implicitly supported by some researchers. For example, GPs in New Zealand have identified complexity as defining both their interaction with and treatment of patients **(Kerse, 2004)**, and the organisation of their practice and its responsiveness to changes in policy **(Gray, 2004)**. This work has stressed that change management and reform in primary care must consider:

- the compliance costs and feasibility of reforms;
- the evidence base, or the development of one through evaluation;
- that innovation will occur at all levels in a CAS, including at the level of providers;
- that this is may be a source of improvements in quality and access;
- and that outcomes such as the quality of care experienced by patients should never become secondary.

This takes us back to the importance, in a CAS, of having a simple set of guiding principles or rules for the change process and the governance of relationships, and a focus on an agreed set of outcome measures. The overall message is one of not trying to over-predict or micro-manage change, given the need to keep sensing changes in the system, respond to feedback and modify the approach. As Sibthorpe et al put it, managers need to 'simultaneously support[ing] evolution of the system by providing impetus and resources for adaptation' (op cit, pp3-4).

Implications – primary care as a complex system

Primary health care can be considered as a complex adaptive system.

A short list of simple rules, principles, or minimum specifications, may be the most effective way of bringing about change.

Over-prescription can be counter-productive and stifle creativity and innovation.

2. Models of integrated primary and community health services

Evidence
There is an extensive literature on models of integrated primary and community health services, and we have categorised this material into two groupings:

- organisational models of primary care and community health management
- models of chronic care and chronic disease management

2a Organisational models of primary care and community health management

In a systematic review of evidence on models that promote comprehensive primary health care through primary care collaboration, **McDonald et al (2006)** concluded that organisational models can achieve change in how primary care is organised and delivered, but noted that there is less evidence for their impact on quality or health outcomes. One of the reasons for this lack of evidence was the rapid pace of change in the health system environment in many countries, making it hard to evaluate change and attribute it to specific interventions or models.

They also highlighted the importance of levers to bring about change, including funding models and approaches to planning and contracting for primary care. Indeed, the study noted that organisational structures were more effective in changing local service delivery where they control the funds for primary health care through some form of purchasing and contracting. This link of organisation and contracting was asserted to enable the development of a wider range and mix of services and community-oriented models to meet population needs. Arguably, PHOs are bodies that are a) an organisational structure for primary care and b) have the capacity and remit to contract or provide new forms of local services in order to meet population health needs.

Given that many models were concerned with using such levers to shift responsibility for service planning and organisation 'closer to the frontline', any devolution of responsibility needed to be matched by increased accountability and appropriate governance. McDonald et al emphasised the need for new organisations to have the time and stability to build capacity, trust, culture and systems, if they were to be sustainable.

This study suggested that in seeking better integrated primary health care, integration needs to take place at two levels: between different types of meso-level organisations (e.g. in the New Zealand context through PHO and DHB collaboration in planning, governance and service development) and secondly at local provider level (e.g. between practices and community health teams). The researchers also emphasised that it is at the local provider level where the actual implementation of integrated service delivery happens.

Finally, McDonald et al underlined the importance of context in relation to what models of primary health care organisation and collaboration are selected in any particular situation. They considered the 'environment for reform' of a particular

country to be critical, both in terms of its effect on what approaches to service organisation are likely to be acceptable and practical in the local setting, and also in how far it is possible to evaluate the impact of specific organisational models when they form part of a wider reform programme.

Another review from Australia **(Naccarella et al, 2006)** explored innovative models for comprehensive primary health care delivery. This review, similar to the work of McDonald et al, concluded that allocating funds to groups of GPs and primary health care teams (rather than to individual GPs) was a means of encouraging joint decision making and team working, and they suggested that this would work most effectively where the funding agreement was between a local or regional organisation and primary care, rather than between central government and practices.

Naccarella et al urged caution about linking quality indicators with financial incentives when seeking to develop innovation in primary health care, pointing instead to the importance of integrated governance and regulatory arrangements, so as to connect policy development and implementation. They further underlined this point by asserting that performance measurement for quality improvement and accountability should be viewed as separate processes.

The Naccarella and McDonald papers both stress that primary health care organisations have the potential to develop innovative care models, and that they are able to act as platforms for implementing primary health care reform. However they suggest that devolution of governance to such bodies needs to address issues of optimal size, economies of scale, balance local ownership with clinical leadership and consider integration with secondary services. Furthermore, they pointed to the value to be had in pooling infrastructure and service delivery funding at regional or practice level.

The crucial role of investment in infrastructure (including information technology) as a route to improving access and equity, enhancing quality and increasing efficiency, was underlined by Naccarella et al. They suggested that this investment should be based on a notion of optimal size and scope of practices, and where possible linked with specified quality and accountability arrangements.

A Canadian review of models of delivery and organisation of primary health care (**Lamarche et al, 2003**) identified four model types for organising primary health care that were deemed relevant to the Canadian context. Two of these were deemed to be ‘community-oriented’ and two to be based on a ‘professional approach’. The models were:

- **an integrated community model** (focused on co-operation and interaction with the community, and featuring healthcare service centres governed by public representatives, centres that are able to sub-contract services from other providers)

- **a non-integrated community model** (differs from integrated model in not using information technology to integrate services with those provided by the rest of the health system, does not provide 24 hour services, and has no formal mechanism to ensure longitudinal continuity of services to individuals. Provides integrated community services within a closed system).

- **professional contact model** (physicians owning their own practices or operating walk-in medical clinics. Seeks to ensure accessibility of primary health care, and focuses more on clients than subscribers. Tends to be focused on general practitioners' care, clinical information is shared only within the organisation itself, no formal mechanisms to ensure longitudinal continuity of care for individuals, and no formal mechanism to integrate with other components of the health care system.)

- **professional co-ordination model** (seeks to provide continuous services, over time, primarily to patients registered to receive care [subscribers]. It is usually funded by capitation, or a capitation/fee-for-service mix, has a care giving team of doctors and nurses, has a professional designated to provide follow-up and continuity for each patient/subscriber, IT is used to transfer information to other parts of the health care system, and a nurse provides leadership to the process of clinical integration beyond the organisation).

Lamarche et al concluded that no single organisational model can meet all the anticipated effects of primary health care: effectiveness; quality; access; continuity productivity; and responsiveness. They suggested that two models stand out, since they meet most of the desired effects: the integrated community model and the professional co-ordination model. They pointed to the inevitable trade-off between co-ordinated professional models whose strengths include responsiveness, and community-oriented models whose strengths include equitable access to services. What this study offers is a clear insight into the importance of determining the desired impacts of primary health care reform, before deciding on what model of provision is most likely to optimise those desired impacts.

A frequently cited model of primary health care organisation is community oriented primary care (COPC). COPC has been described as:

> 'the continual process by which [primary health care teams] provide care to a defined community on the basis of its assessed health needs by the planned integration of public health with [primary care] practice.' **(Gillam and Miller, 1997)**.

The idea of COPC originated in South Africa and Israel (Kark and Kark, 1983) and has been supported by the World Health Organisation (Peckham and Exworthy, 2003). It was adopted in the USA as the basis of many public health programmes (Nutting et al, 1985) and was trialled in the UK through a series of pilot practices supported by the King's Fund (Gillam and Miller, 1997). The COPC approach involves the whole primary health care team and starts with the identification of local health problems – a process of community diagnosis, followed by prioritisation of these problems. The primary health care team then selects one of these problems or detailed assessment, and develops and implements an action plan to deal with it (Peckham and Exworthy, 2003). In pilots of COPC in the UK, one commonly encountered problem is a lack of attention to the active involvement of communities in the process of community diagnosis and action planning, with a continuation of a professionally led approach (Peckham, 1994; Taylor et al, 1998). This demonstrates the inherent tension involved in seeking to bring together clinical professionals and

community members within a model of primary health care that seeks to deliver population based care at a local level.

A good example of the balance between patient and population initiatives which the COPC model emphasises is provided by **Plescia et al (2004)**, who document a COPC initiative in an African American community in the Carolinas with higher than average poverty levels and high prevalence of cardiovascular disease and diabetes. Clinical interventions on a patient by patient basis were supplemented with an examination of the environmental and behavioural barriers to change in the community. Lay advisors from the community were trained to survey members of the population, and a full-time diabetes case manager was appointed to manage the gap between the primary care clinic and community programmes. The population was surveyed to assess (i) their stage of readiness for change in their behaviours and management of their disease, and (ii) their sense of control over their circumstances.

The authors found that the use of lay advisors from the community boosted survey response rates; that the community was more willing to engage with health initiatives when they trusted the data used and felt engaged in the process; and that the responses to the survey allowed them to identify good targets for population based interventions. These included improvement to the built environment which would boost the frequency of exercise (better lighting, reduced fear of crime, better pedestrian access); improved access to healthy foods; community education about healthy eating; and behaviour modification counselling combined with efforts to improve community awareness while using local resources – often through community church leaders who may modulate attitudes and approaches to health care in the community. The authors concluded that "Community assessment activities should move from needs-based analysis to understanding community capacity for change" (op cit p 108).

Williams (2004), in providing an introduction to the strengths and weaknesses of COPC models, argues that COPC is worthwhile because it:

- engages with the psychological, familial, community and societal determinants of disease;
- targets scarce resources to high priority health care needs;
- extends health promotion outward from the primary care practice into the community;
- has a democratising impact that can reduce barriers between health care providers and community residents; and
- has moral as well as practical value in involving the community in the planning and delivery of personal health care.

He goes on to cite the weaknesses of COPC as being:

- the cost (especially if projects are supported by one-off grants);
- the need for significant advocacy and leadership which may not be feasible in a busy practice; and
- limited evidence being available about impact on health outcomes.

However, Bayer and Fiscella assert that COPC approaches in inner city communities have been shown to increase community acceptance of a range of preventive care

services, improved measures of diabetes control and facilitated tobacco cessation efforts, citing evidence from the USA (Bayer and Fiscella, 1999) and community health clinics in Israel **(Epstein et al, 2002)**. They have also been used with success in HIV/AIDS prevention efforts in American Indian communities[2] (**Thurman et al, 2007)**. These studies underline that the involvement of stakeholders other than doctors in the community should lessen the organisational burden of community outreach when implementing COPC. Indeed, at the heart of COPC is a belief in collaborative effort rather than an approach that is driven by doctors working in isolation.

In seeking models or frameworks of comprehensive community health care organisation, one important example is to be found here in New Zealand. **Rochford (2004)** described the 'Whare Tapa Wha – A Maori Model of a Unified Theory of Health', stressing the importance of designing health care systems that provide interventions for Maori along four dimensions: Taha Wairua (cultural), Taha Whanau (social), Taha Hinekaro (emotional), and Taha Tinana (physical). This framework suggests paths of action to address each of these dimensions of health:

- Taha Wairua: the involvement of the community in the development and delivery of policy at every stage, from consultation, to representation in governing bodies, to involvement as providers in the implementation of care. These efforts can enhance the delivery of culturally appropriate care 'downstream', but also promote political and cultural autonomy and improve health 'upstream';
- Taha Whanau: the design of policies aimed at disease prevention and management that engage not only individuals but the whanau, and are 'joined-up' with social policies aimed at improving living conditions.
- Taha Hinekaro: the provision of education services and therapy; emotional and psychosocial loci of support.
- Taha Tinana: improvements in access to and quality of treatment of symptoms through biomedical science.

Whilst developed in the context of Maori culture and experience, it would seem that this model of care – or some of its key insights – can be applied to other communities where the concern is to develop culturally appropriate and community-centred services.

The Ministry of Health's 2002 report 'The Pacific Health and Disability Action Plan' stated strategic goals for each of six areas aimed at improving health outcomes for Pacific Islanders. The areas were child and youth health; healthier lifestyles; improved primary care; the development of Pacific Islanders in the workforce and as providers; higher rates of participation of the disabled; and health and disability information and research. The report stressed the need for co-ordinated, comprehensive and culturally competent community and clinical services, and so included some of the elements of the models discussed in this text. Indeed it covers much of the ground suggested by work on HIV/AIDS prevention efforts in Asian and Pacific Islanders communities in the USA (Sheth et al. 2007; Takahashi et al. 2007).

[2] Thurman et al (2007) present this work as an example of a community readiness model (CRE), but many of the features of the model are common to COPC.

2b Models of chronic care and chronic disease management

Zwar et al (2006) published a systematic review of the evidence relating to interventions for chronic disease management in primary health care, using Wagner's (1996) chronic care model as the framework for analysis. This review, like another from the **Canadian Health Services Research Foundation (2005)**, highlighted the importance of multidisciplinary team working in improving disease measures and adherence to guidelines. It also underlined the role of self-management support, in particular patient education and motivational counselling. The authors suggest that self-management support is best combined with delivery system design, for example, nurses acting as case managers for diabetes, combined with self-management education. Finally, this review pointed to the role of evidence-based guidelines and educational meetings for health professionals in improving adherence by such professionals to guidelines, and also in improving some patient outcomes. It was noted that professional education alone does not improve patient outcomes, and that clinical information systems that provide audit and feedback are effective in encouraging the use of decision support.

Bodenheimer et al (2002a, 2002b) assert the need for a chronic care model by noting that too often in primary care, management of acute symptoms crowds out the need to bring chronic illness under optimal control. Additionally, they stress the problems with acute care systems: patients are not taught to deal with their illnesses; visits to the specialist are brief; little planning occurs; and potential gains from a division of labour that would allow medical staff other than doctors to take greater responsibility in chronic care management are not realised. They offer a multidimensional solution to the problem of chronic illness management, which overlaps three 'galaxies' and has six essential elements. The three galaxies are (i) the entire community, its resources, and pre-existing policies (ii) the health care system above the primary care clinic and (iii) the primary care clinic. The six essential elements of Bodenheimer et al's chronic care model are:

1. community resources and policies
2. health care organisations
3. self-management support
4. delivery system design
5. decision support
6. clinical information systems

The authors review a set of case studies that provide evidence that a 'broad range of practice organizations have implemented the chronic care model at the primary care level', and have had some success, even when they only implement one or two of the six essential elements.

Singh and Ham (2006) reviewed UK and international experience of chronic care frameworks, focusing on the nature and impact of such approaches, and using a mix of literature reviewing and a survey of strategic health authorities in England. The review concluded that the chronic care model (Bodenheimer et al, 2002a, 2002b) and the related innovative care for chronic conditions model (WHO, 2002) were the most common frameworks for conceptualising effective components of care for people

with long-term conditions. Likewise, the ‘Kaiser pyramid of care’ (Feachem et al, 2002) was cited as being apparently in use throughout the developed world as a means of conceptualising service delivery. Singh and Ham reached the following conclusions in their review of chronic care frameworks:

- there is limited high quality evidence about the impact of *any* model;
- it remains unclear whether the chronic care model is any more effective than others, largely because other models are not well conceptualised or described, and also there is limited information as to whether all elements of the chronic care model are necessary or effective;
- there is evidence that improvement programmes that aim to implement the chronic care model can have a sustainable impact on quality of care and some clinical and resource outcomes;
- there is almost no evaluative information about other chronic care frameworks; and
- there are evaluations of specific models of service delivery, such as Kaiser and Evercare, but most high quality evidence is drawn from the USA.

Singh and Ham conclude:

> ‘Programmes to improve care for people with long-term conditions are being implemented throughout the world, however we found no distinct chronic care frameworks in local areas. Most local models either draw heavily on the Chronic Care Model or focus on specific aspects of service delivery without explicitly outlining any underlying conceptual framework. The main point of similarity is a move to reorientate care from episodic or acute interventions towards a continuum of care which enables better prevention and management of chronic conditions.’ (Singh and Ham, 2006, p22)

This exploration of literature concerning models of integrated primary and community health services has demonstrated the relative lack of definitive quantitative evidence about the impact on health comes of different approaches (even where academics have undertaken exhaustive systematic reviews), and the importance of not seeking out or relying on any one particular overall model of primary and community care. However, it should be noted that there is an increasing body of evidence (albeit often qualitative in nature) about the value of process improvement, based on strong clinical engagement, in impacting on health and other outcomes. Examples of strategies that are supported by such evidence include multidisciplinary team working (both within primary care, and in networks across primary and secondary care), the transfer of skills across professional groups, and elements of community oriented primary care. The overall evidence on models of integrated primary and community health services does therefore have implications for those considering changes to the local model of care. These can be summarised as follows:

Implications – models of integrated primary and community health services

There is no one 'ideal' overall model of integrated primary and community health services, for there is limited decisive quantitative evidence about the beneficial impact on health outcomes of any model.

The combination of models to be used in a particular context will depend on the desired outcomes of the local primary health care system.

There is however an increasing body of evidence about models of process improvement, based on strong clinical engagement. Although much of this evidence relates to qualitative reporting of improvement in outcomes, there are helpful steers about strategies such as multidisciplinary team working, community-oriented primary care, and chronic care models.

Organisational structures are more effective in changing service delivery in primary and community care where they control funds through some form of contracting or planning.

Any devolution of responsibility for primary and community health services delivery and organisation needs to be matched by increased accountability and appropriate governance arrangements.

These governance arrangements need to carefully balance community governance, clinical leadership, the nature of integration with secondary care, and economies of scale.

New organisational arrangements for primary and community care (including integration with secondary care) need time and stability in order to develop community readiness, sustainable capacity, trust, culture and systems.

Investment in primary care infrastructure (including IT) is crucial as a route for improving access, equity, quality and efficiency in primary health care. Such investment should be linked with specified quality and accountability arrangements.

Community-oriented primary care offers interesting insights into how population health and general practice can be reconciled at the level of planning and delivering patient care.

Maori models of health underline the value and importance of working with and not just for communities in the planning and delivery of primary and community health services.

Multidisciplinary team-working is vital to service development that intends to address the challenge of chronic disease, and professional behaviour change and education is key to this.

3. Making it happen: bringing about change in primary and community services

Evidence
In considering the evidence related to bringing about change in primary and community services, that is, actually putting into practice new models of care, we have identified the following categories of research material:

- initiatives intended to shift hospital care into the community
- models of multidisciplinary teamwork
- models of community readiness
- the management of change within health care settings

3a Initiatives intended to shift hospital care into the community

Singh (2006) carried out a rapid review of the evidence concerning strategies designed to try and facilitate shifts of care from hospital to community settings. The review pointed out in its conclusion that 'making the shift' is about much more than merely relocating services' (Singh, 2006, p44) and went on to quote the **National Primary Care Research and Development Centre, 2006** who have carried out similar review work about the effectiveness of strategies designed to reduce demand on specialist outpatient services:

> 'Transfer and professional behaviour change are generally effective strategies for reducing outpatient demand, whereas relocation and liaison are largely ineffective'.

The review set out factors that have been demonstrated, in research, to facilitate shifts of care to community settings, along with those factors that have insufficient evidence to support them, and we reproduce these tables below:

Table 1: factors that do help to facilitate shifts	**Table 2: factors with insufficient evidence**
Integration of services broad managed care programmes changes in the attitudes and behaviours of staff partnership working with voluntary groups	*Integration of services* shared care
Substitution developing multidisciplinary teams utilising the skills of service users substituting nurses for doctors multidisciplinary community mental health teams discharge planning service user initiated follow up after discharge primary care follow up after discharge hospital-at-home (but no cost reduction) home visits added to usual care ongoing long term care in primary care shifting care to non-health venues telecare information and support automated telemonitoring self monitoring	*Substitution* general practitioners with special interests relocating specialist services to other venues GPs performing minor surgery* inserting specialists into primary care teams intermediate care outpatient clinics in primary care hospital observation units day case surgery telemedicine consultations substituting telephone calls for clinic visits private sector treatment centres information alone to support self management* written care plans patient-held records*

self management education	
Segmentation targeting people at highest risk	*Segmentation* dividing the population into sectors or types
Simplification direct GP access to hospital based tests direct GP access to specialist treatment	*Simplification* formal care pathways rapid access clinics*
Source: Singh 2006, p45	*Source: Singh 2006, p45)*

*denotes that there is evidence that this strategy does not facilitate care shifts

In a report published by the NHS Institute for Innovation and Improvement **(Ham et al, 2007)** researchers evaluated a series of 14 projects designed to explore the potential for bringing about shifts in care from hospital to community settings. The report drew out wider lessons to be learnt from the pilot projects and two of its conclusions associated with what it called 'getting the basics right' were:

- that such changes need to be integrated into an overarching local strategic framework. The researchers noted that projects driven by clinical microsystems and enthusiastic clinicians outside more strategic priorities generally fail to bring about any sustainable change as they get blocked when issues such as funding arise.

- that responsibility for overcoming barriers to change needs to be at chief executive or executive team level so that issues can be addressed quickly, rather than festering in project meetings.

This study concluded that programmes concerned with trying to shift services into the community need to 'draw explicitly and systematically on the evidence base on service and quality improvement in health care organisations.' (Ham et al, 2007, p42)

Roland et al (2007) published a review of the evidence for four different approaches to reducing demand for specialist outpatient treatment, and as with the work of Singh, they set out those interventions considered 'proven and promising' and also those that were 'potentially harmful strategies where continued funding should be reviewed', noting that there were 'common but unfounded assumptions about the effectiveness of some interventions' (Roland et al, 2007, p1). The overall messages from Roland et al's review were:

Transfer of outpatient services to primary care

- Effective strategies that maintain quality are: primary care clinics for chronic diseases; discharging hospital outpatients to no follow-up, patient-initiated follow-up, or GP follow-up; and direct access by GPs to hospital-based diagnostic tests and treatment.
- The merits of GPs with special interest clinics require further investigation.
- GP minor surgery may reduce quality of care.

Relocating specialists into community settings

- Relocation of specialist services such as consultant outpatient clinics into community/primary care settings improves access to specialist care and increases patient satisfaction
- This does not however reduce outpatient demand

Liaison between primary care and specialists

- This may improve service quality but does not reduce outpatient attendance

Professional behaviour change

- Specialist educational outreach and structured GP referral sheets reduce GP referrals.
- 'In-house' second opinion before referral requires further investigation.
- Ineffective interventions include: passive dissemination of referral guidelines, audit-and-feedback of referral rates; discussion of referral rates with an independent medical advisor.
- Financial incentives to reduce referrals may also reduce the quality of care.

Whilst this review was focused on approaches to reducing demand for specialist outpatient services, it is relevant to this report in that it highlights the need for caution when assuming that relocation of services to community settings is necessarily a 'good thing'. Instead, it highlights the importance of what is perhaps more complex in terms of change management – seeking ways of transferring services and skills between professional groups, and trying to change professional behaviour in structured and evidence-based ways.

3b Models of multidisciplinary teamwork

Carter et al. (2003) consider possible changes to the model of clinical care delivery in the UK National Health Service (NHS). They note that a shortage of clinical staff acts as a stimulus for reform of the organisation of care, with a dual aim of improving both the quality of patient care and the working lives of health care personnel. They consider two potential innovations in the organisation of clinical work – multidisciplinary teams and clinical networks. The authors assert that team work has become accepted practice for treating patients with chronic or complex conditions (e.g. diabetes, cancer, stroke rehabilitation). They suggest that multidisciplinary teams are believed to increase the quality of care because they:

- increase the confidence of the patient that their treatment reflects consensus across a group rather than one individual's view;
- improve continuity of care;
- allow for the embedding of clinical management protocols;
- imply that audit of protocols can be continuous and more robust;
- that communication and care are improved by discussion of clinical cases;
- that knowledge sharing occurs;
- that economies of scale can be exploited; and
- that teams provide support, friendship, and partnership.

Carter et al suggest that teams do not have to sit within one hospital or organisation. They can operate across organisational boundaries, rationalising care in one clinical

speciality across a geographic area and in so doing becoming a clinical network that links parts of the health care system managed by different hierarchies.

Clinical networks are asserted by Carter et al to add value by sharing referrals, establishing subspecialty practices to improve quality, and displaying the flexibility to contract out support services when economies of scale suggest that locating them further up a supply chain would lower costs. Capitalising on these potential benefits can be inhibited when the goals of the network are in conflict with those of individual trusts/hospitals which supply staff, facilities or contracts to the network.

Finally the authors describe a legal 'chambers' model as a possible basis for reorganising clinical practice. This model of practice extends multidisciplinary team work and clinical networks by adding a greater degree of managerial autonomy and local control over working patterns. The authors note that the model is loosely defined, but they draw out the following characteristics. Chambers, they suggest:

- provide efficiencies of scale and organisation in admin and support systems;
- allow for streamlined processes and skill utilisation which should improve productivity and the quality of care;
- are assumed to improve the quality of life of staff;
- negotiate with a variety of agencies for work;
- imply a new managerial structure.

What is clear is that this assessment of the value of multidisciplinary team working supports the findings of Zwar et al (2006) and Singh (2006) who both concluded that this factor was important in the development of services that are likely to improve outcomes for people with long term conditions and enable shifts of care from hospital to community settings. Carter et al set out practical examples of such team-working and helpfully extend the concept into the wider management and organisation of the clinical workforce by exploring clinical networks and clinical chambers.

The Canadian Health Services Research Foundation (2005) published a research review that asserted that interdisciplinary teams in primary health care can effectively manage chronic illness. They stated that 67% of direct health care costs in Canada go on chronic diseases and that a reliance on solo or small group practice GP services was meaning that a 'tyranny of the urgent' was crowding out time for chronic health issues to be properly addressed. The review underlined the importance of doctors working in teams with other health care professionals, and pointed out that there was a need for: legislation to enable allied health professionals to work to their full scope of practice; appropriate financial incentives; and encouragement of a culture of collaboration. The review pointed out:

> 'In these teams, family doctors, specialists, nurses and nurse practitioners, and other allied health professionals work closely with each other and with patients and their families to set goals, monitor patient compliance and outcomes, and provide patient education and support' (CHSRF, 2005, p1).

And the review's overall conclusion was:

> 'Evaluations of interdisciplinary care consistently find that patients who receive care from allied health professionals in addition to their primary care physicians fare at least as well as those receiving care from their doctors alone, and many studies find significant improvements' (op cit, p2).

3c Models of community and organisational readiness

Thurman et al (2007) set out the Community Readiness Model (CRM) in the context of HIV/AIDS prevention efforts in an American Indian community. CRM is a framework for:

- assessing community readiness for intervention;
- designing interventions which are tailored to community resources and strengths; and
- implementing interventions in tandem with the community.

Stakeholders are interviewed to establish the level of readiness; they are involved in discussing the results of the interviews, in identifying resources available for interventions, and in enacting the intervention (whilst ensuring that conflicts of interest are properly managed). This process is said to raise awareness and improve co-operation among stakeholders; it builds capacity in the community to engage with poor outcomes, disseminate information, educate, raise awareness, test, and provide therapies. Community involvement and ownership are thus asserted to increase the likelihood of success, ensure cost-effectiveness and minimise waste.
Reasons for using the community readiness model when seeking to bring about community-focused change are set out in table 3 below.

Table 3: reasons for using the community readiness model
i. Interventions must be specific to the culture and the nature/needs of the community in order to be successful and to prevent apathy and resistance
ii. Communities differ in their resources, attitudes, and modes of association;
iii. Communities are fluid – readiness fluctuates and is key to successful intervention;
iv. Building and maintaining capacity takes effort;
v. To be successful interventions have to be practical, based in the community, and must use community resources;
vi. Self-evaluation and documentation of 'readiness' leads to goals and objectives which are more likely to succeed;
vii. Poor planning, lags in observing results, poor training and a lack of community involvement lead to poor results.
Source: Thurman et al (2007) pp 849-854

Readiness is not something that applies only to communities facing change, it is also a crucial concept for organisations preparing to go through a change and/or adopt new ideas about ways of doing things. **Greenhalgh et al (2004)**, in a review of the evidence concerning the spread and sustainability of innovations in health service delivery and organisation, explored the nature of organisations that demonstrate a readiness for change. This was based on a belief that innovation or major change is

more likely to happen if an organisation is ready to take it up. They set out the features that indicate when an organisation has reached this state of readiness:

- when clinicians and other staff perceive that the current situation is intolerable;
- when the innovation fits with the existing values, norms, strategies, goals and ways of working of the organisation;
- when the organisation has made a full assessment of the implications of the innovation;
- when supporters of the innovation outnumber the opponents, and are more strategically placed than them;
- when the innovation has been allocated adequate resources; and
- when the organisation has systems in place to monitor and evaluate the impact of the innovation, and can therefore respond rapidly to its consequences – both predicted and unpredicted, and intended and unintended.

This analysis goes some way to explaining why, in Counties Manukau, there is a range of views about whether or not the Mangere Integrated Community Health project is the right way ahead for that community and its providers.

3d The management of change within healthcare settings

There is a vast literature on the management of change, so for this review, we have focused on exploring the findings of three existing reviews of research evidence, one concerning the spreading of innovation and new ideas within health delivery and organisation (Greenhalgh et al, 2004), one examining the literature on managing and leading major change and transition in health care (Dickinson et al, 2006), and one which assesses generic change management in health care (Iles and Sutherland, 2001).

In a review of the evidence on spreading and sustaining innovations in health service delivery and organisation, **Greenhalgh et al (2004)** pointed out that the adoption of innovation in organisations is a complex and often drawn-out process that should not be thought of as a single event. They suggested that innovations that are easily adopted and implemented tend to:

- have a clear, observable, unambiguous advantage, such as greater effectiveness;
- be compatible with the values, norms and perceived needs of the intended adopters;
- be perceived by key players to be simple to use; and
- allow intended users to experiment with them. Users can also adapt, refine or otherwise modify them to suit their own needs.

This review also examined the nature of those organisations that appeared most likely to successfully adopt innovations in service delivery and organisation. They concluded that large, mature and specialised organisations stand the best chance of successfully adopting innovations. The reasons for this were: they are differentiated into specific departments and units; they have decentralised decision-making structures; and they have slack resources available for new projects. Other

characteristics that the researchers deemed to be significant in relation to assimilating innovation were:

- a culture that supports the capturing and sharing of knowledge;
- leadership that promotes the sharing of knowledge both internally within the organisation and externally via networking and collaboration;
- strong leadership and good managerial relations;
- clear strategic vision with visionary staff in key positions;
- giving project teams the autonomy to take relevant decisions;
- provision of appropriate staff training;
- a climate conducive to experimentation and risk-taking; and
- effective monitoring and feedback systems.

The importance of strong and relentless transactional human resource management is underlined in a review of the research evidence on good practice in the handling and leadership of such transition (**Dickinson et al, 2006**). This may at first glance seem odd, given the focus on transformational leadership in much of the literature on change and development in recent years, but these authors were clear that in order to manage transition effectively, it is the transactional elements (e.g. communication with staff, recruitment processes, career development support, collaborative planning) that make the real difference for the people engaged in the process.

This review was concerned with distilling practical messages for managers, clinicians and community leaders faced with leading the implementation of major change in health care organisations or communities. Whilst such change is often thought of in the context of institutions such as hospitals, large-scale change in the organisation and delivery of community services is likely to raise very similar concerns and issues for all those concerned, and arguably it is more complex, entailing change for multiple small organisations and communities who together form an overall network of health care. In that review, Dickinson and colleagues set out eight ‘top tips’ for health care managers preparing to lead an organisational merger, but they note that the advice holds true for other major transitions and organisational changes:

- Assess/audit the culture of each of the merging organisations and use this knowledge as part of a careful strategy for highlighting and recognising the differences between the organisations.

- Create and communicate a vision that sets out the purpose of the transition, and do this in an open and participatory manner.

- Provide resources to support the change process for staff.

- Manage the human resource and make this your main activity.

- Communicate the changes and latest developments relentlessly, for people will be hungry for information.

- Set up clear transitional structures that incorporate senior people, and that are able to enact the transition promptly.

- Attend to sense-making, help staff to understand the implications of change.

- Measure the impact of the transition, both in relation to transition objectives and using other measures such as staff attitudes, user/patient satisfaction, and do this for at least three years.

One of the most widely referred to reviews of change management literature within health care settings is the work of **Iles and Sutherland (2001)**, a review that was translated into a handbook for health care managers and clinicians in 2004. The handbook examines evidence-based lessons related to 'making change happen', and Iles and Sutherland underline the fact that the people within a process of change will each have different starting points. However, they assert that the common concerns faced by people are likely to be:

Who wants the change and why?
- Where is the drive for the change coming from?
- How powerful is it?
- Is it from within the service or organisation, or is the change being imposed?
- Who is opposed to the change? And why?

Importance for the unit/organisation
- How does the change fit in with the other performance objectives set for the unit or organisation? What priority should be given to this initiative?
- How radical is the change needed?
- Are we already doing something to address the issues involved in the initiative?

Performance measurement
- Who is measuring the success of the change?
- What are their concerns and how do they measure success?

Consultation with staff
- What professional groups are involved in or affected by the change?
- How easy will it be to involve these groups in discussions and in the development of a solution?
- Are the staff groups concerned already involved with a number of other changes?

The authors of this review suggest that these questions can be helpful in enabling managers and professionals (and, we would add in New Zealand, community leaders) to orientate themselves in relation to the need for renewed change, and to start planning and implementing the change.

The overall implications of this review of evidence concerned with bringing about change in community and primary health care services are:

Implications – making it happen: bringing about change in primary and community services

The transfer and substitution of skills, professional behaviour change, increased self-management by patients, and identification of high risk patients are all strategies that are generally effective in enabling shifts of care into community settings.

A shortage of clinical staff acts as a stimulus for reform in the organisation of care, and can both improve patient care and the working lives of health personnel.

Multidisciplinary teams and clinical networks are two examples of how care organisation can be reformed, and there is international evidence of such approaches enabling more effective management of chronic illness.

Strong and relentless transactional human resource management is crucial to the effective handling of major organisational change.

Community involvement and ownership of new initiatives in primary and community services can increase the likelihood of success of such ventures, and assessing community readiness for change is a key component of this.

Organisational readiness also needs to be assessed prior to implementing innovative approaches to service delivery and organisation.

A careful assessment of people's concerns about change paves the way for managers, clinicians and community leaders to plan effectively for the design, implementation and review of any transition.

4. Assessing the outcomes associated with change

Evidence
A strong theme in many of the studies assessed for this review is the importance of evaluating the outcomes associated with change. Sibthorpe et al (2004) suggested that securing feedback and working towards a set of agreed local outcomes was a way of ensuring some stability and focus within complex and often chaotic local health systems. In this section we set out some of the evaluation criteria that have been proposed by some of the foremost primary health care academic researchers in recent years. We do this on the basis that these evidence-based criteria might provide CMDHB and their community and provider partners with a useful starting point when discussing what is sought within the planning of future primary and community health services for the people of Mangere.

Evidence
Starfield's (1998) research into primary health care in the international context has revealed a clear link between the strength of a country's primary health care system, the degree of cost-effectiveness of the overall health system, and the level of health outcomes achieved for the population. The features identified by Starfield as defining an effective primary health care system are one that offers:

1. the point of first **contact** for all new needs;

2. person-focused rather than disease-focused **continuous** care over time;

3. **comprehensive** care for all needs that are common in the population; and

4. **co-ordinated** care for both those common needs and for needs that are sufficiently uncommon to require special services.

Starfield herself has used these criteria as the basis for extensive international comparative work about the relative strengths and weaknesses of different countries' primary health care systems (Starfield, 1998; Starfield and Shi, 2002). In a paper exploring the overall contribution of primary care to health systems, Starfield and colleagues (2005) identified six mechanisms that (alone and in combination) might account for the beneficial impact of primary care on population health:

1. greater access to needed services;
2. better quality of care;
3. a greater focus on prevention;
4. early management of health problems;
5. the cumulative effect of the main primary care delivery characteristics (the 'four Cs ' above); and
6. the role of primary care in reducing unnecessary and potentially harmful specialist care.

Work such as Starfield's offers robust criteria that can be applied in local, regional, national and international analysis of the effectiveness of primary health care policy and provision. Starfield's evaluative framework is internationally respected, and

provides a benchmark from which local evaluative criteria can be constructed, and desired outcomes for primary and community service development pursued.

In the UK, during the consultation period for a 'care outside hospitals' White Paper in 2005, the **National Primary Care Research and Development Centre at the University of Manchester** published a paper in which they suggested that general practice should be judged on the basis of its ability to deliver four key policy objectives:

- equity;
- efficiency;
- quality; and
- patient responsiveness.

These authors also suggested that there were three patient-centred processes that underlie the capacity of any organisation to achieve the above policy objectives: co-ordination, continuity and comprehensiveness. These three processes clearly draw on the work of Barbara Starfield, and demonstrate how her work is used as a framework of assessment in very different policy contexts. The four policy objectives above seem to be largely congruent with the aims of the New Zealand Primary Health Care Strategy, and again might prove useful to partners in CMDHB as they seek to determine what it is they wish to achieve through the MICH project.

Other potential frameworks for assessing the outcomes of change in primary and community care are embedded within the research evidence set out earlier in this report. For example, the proposed benefits of community-oriented primary care as set out by **Williams (2004)** could form the basis of a set of measures (e.g. re-targeting resources towards high needs people, extension of health promotion from primary care practice into the community, reductions in barriers between providers and community members).

However, what is clear from the vast literature of the management of change and innovation within health care is that there is no simple solution to the planning and assessment of change. Having carried out a systematic, exhaustive and international award-winning review of literature on how to spread and sustain innovation in the delivery and organisation of health services, Greenhalgh et al almost ruefully concluded:

> 'The evidence reviewed in this paper suggests a messy model of assimilation, in which organisations move back and forth, between initiation, development, and implementation, punctuated variously by shocks, setbacks and surprises.' (Greenhalgh et al, 2004, briefing paper, p4)

Dickinson et al (2006) underlined the importance of detailed tracking of a major organisational change on the basis that such assessment will allow the success or otherwise of the transition to be determined, and learning to be distilled for future periods of change. They also, like Sibthorpe et al, highlighted the fact that health care organisations are complex, and as such, there will be a need to assess 'the extent to which unintended effects are controlled or the impact of negative unintended consequences minimised' (Dickinson et al, p9). They underline the need for feedback

loops, and suggest that managers may want to consider the use of tracking techniques such as:

- employee attitude surveys;
- confidential interviews;
- focus groups:
- skip-level meetings (employees meet with managers 2 or 3 levels their senior).

This review emphasised the need for local stakeholders to develop a set of 'aligned measures' that not only focus on management requirements but also assess human impact such as staff attitudes and morale and user/patient satisfaction. In their conclusions, Dickinson et al commented on the importance of senior managers owning and overseeing the monitoring of the effects of a major change:

> 'It is crucial that the board…takes responsibility for overseeing and performance managing the process of transition and for receiving and considering the measures of the impact of the transition. This is important not only in terms of governance, but also in ensuring that a longer term perspective is maintained and executives are made to reflect on the process and outcomes of the transition, considering its effects for staff, users and the overall activity of the organisation. In this way, there is a chance for the organisation to learn from the process of transition and use that learning if a further merger or major change is considered within the organisation in the future'. (Dickinson et al, p9)

Implications – assessing the outcomes associated with change

International evidence points to a clear link between the strength of a primary health care system and the cost-effectiveness and level of health outcomes achieved for the population of the system.

A primary health care system can be judged according to Starfield's 'four Cs' of first contact, continuity, comprehensiveness, and co-ordination. Another possible set of criteria are NPCRDC's suggestion of equity, efficiency, quality and patient responsiveness.

Community oriented primary care's espoused benefits offer a further potential approach for evaluating the progress of innovative primary care service development.

Whatever the model of care and whatever the criteria used for its evaluation, it is crucial that there is long-term assessment of the impact of change, led by senior managers, and overseen by the main governance bodies.

Such assessment should focus not only on measures associated with the main objectives of the change, but also on the human impact of the change itself.

Discussion and conclusions

This review reveals the complexity of the issues facing CMDHB as it seeks to develop a new model of integrated community health services for Mangere. The fact that literature has been searched across four major domains bears witness to the scope and complexity of what is being undertaken by the district health board and its local partners. There are however some core themes that emerge from the review, and we now draw these together into an overall set of conclusions that is intended to inform the planning, implementation and review of the MICH project.

Primary care as a complex system

It feels intuitively right to approach primary health care as a complex adaptive system, given the intricate web of relationships that define any local primary care community. These local primary health care systems typically include: general practices, community providers, local pharmacies, community organisations, child health services, maternity services, home care providers, primary health organisations, local dentists, advice centres, and many other bodies. This array of organisations and individuals are linked via myriad different contacts, funded in many different ways, organised in varying models of ownership, and yet all are concerned with meeting the health needs of local people.

This review of research evidence suggests that if one accepts that primary health care is a complex adaptive system (CAS), it is important to approach a change to that system in a way that avoids being overly prescriptive, and is open to the need for constant feedback, flexing and review as the process of transition goes forward. In order to give some stability and coherence to a process of change within such complexity, it is important to develop a locally agreed set of rules, or minimum specifications that can act as a point of reference for stakeholders.

In Mangere, this would appear to suggest a need for community leaders, providers and the DHB to work together on an agreed set of rules or principles that will underpin and guide the process of developing and implementing a new model of community health care for local people.

In addition, the self-organising property of a CAS suggest that some providers in Mangere will have already changed the organisation of their practices in response to changes in the community – these innovations should be identified, assessed, and replicated if they are deemed to have added value.

Models of integrated primary and community health services

Unsurprisingly, the research literature does not reveal any single ‘ideal’ overall model of integrated primary and community health services. Research in Canada points to two optimal primary health care models deemed relevant for that context (integrated community model and professional co-ordination model), but this work cautions about the need to have a mix of models that enables the desired outcomes of primary care to be realised. There is a strong overall message in the literature about the relative lack of definitive quantitative evidence about the impact of any model, and many of the asserted benefits of different approaches relate more to processes than to outcomes.

However, it should be noted that the evidence that does exist – often in the form of case studies or qualitative examples which rely on the author's judgement – suggests that attempts to improve process (e.g. to improve the ways in which care is organised and delivered) can be important in improving care quality and clinical outcomes, especially where there is effective clinical engagement in place.

This suggests that in Mangere, it may be more helpful to start with a focus on how local stakeholders can work together to improve the delivery and organisation of care, rather than focusing explicitly on a single model of future care provision.

In terms of how any new approach to organising community services can best be structured and managed, the evidence suggests that having local or regional planning and/or contracting of primary health care services can be helpful, as long as this is matched by appropriate and careful governance arrangements which provide transparent, accountable service delivery and avoids conflicts of interest. The evidence likewise points to the need for design of primary care governance to be based on careful weighing of local community and clinical ownership, along with economies of scale. A further suggestion from the evidence is that any new arrangement needs adequate time to develop and that an investment in primary care infrastructure will be crucial.

For Mangere, this may mean that the DHB and its partners need to reflect on the DHB and/or PHO role as a planner or contractor of local primary and community health services, exploring the extent to which existing governance arrangements properly support such planning and contracting. In so doing, the DHB and its partners would do well to commit to a long-term and sustainable process of planning and support for change, and to providing or enabling significant investment in primary care infrastructure as and when local stakeholders deem that to be appropriate. However, it should be noted that research evidence underlines the importance of quality and accountability arrangements being put in place to accompany any investment in primary care infrastructure.

Frameworks that might inform the development of integrated community and primary care services for Mangere include community oriented primary care, Maori models of health, and models of chronic care organisation. These frameworks emphasise the need for strong and embedded community involvement and ownership of local health planning, along with strong clinical leadership of service improvement, in order that this ownership can in turn support the delivery of improved health outcomes for the local community.

Running through the evidence on integrated approaches to primary and community health care is the importance of multidisciplinary team working and achieving change in professional behaviour. This suggests that as the DHB and its community and clinical partners seek to find ways of improving services for the people of Mangere, they would be well advised to base at least some of this improvement programme on the development of further multidisciplinary team working, and on working with professionals to explore how new approaches to care can be achieved through the transfer of skills across professional groups and teams.

Making it happen: bringing about change in primary and community services
In the area of how to bring about change in primary and community services, research evidence is becoming increasingly clear about which strategies are, or are not, effective, especially in relation to activities that are often pursued as part of a general strategy of 'secondary to primary care shift'. We can therefore identify areas such as the transfer and substitution of skills, professional behaviour change, increased participation by patients in the management of their care, and efforts to target services on patients deemed at high risk, as all being worthy of management effort within a wider strategy of seeking to improve primary and chronic disease management care.

Multidisciplinary team working is an approach that is widely supported in the literature, and inevitably entails the changes in professional behaviour and, in many cases, the transfer of skills that are referred to above. A move to this form of working is in some cases sparked by shortages of clinical staff, and also by a desire to improve chronic care management. Given that anticipated workforce pressures and an increasing burden of chronic disease form part of the proposed case for change in Mangere, it would seem that the further development of multidisciplinary team working might represent one element of any improvement programme that is developed for the area.

The importance of community involvement in and ownership of (in terms of engagement with and involvement in governance – not literal ownership as in direct management or employment) new initiatives in primary and community care is deemed to increase the likelihood of success of such ventures, according to research carried out in relation to community oriented primary care. This seems intuitively to make sense for Mangere, given what has emerged from project interviews, and what research has to tell us about the importance of community readiness in order for innovations in community health services to have a good chance of becoming embedded. Similarly, literature on the management of change and innovation points to the need for organisational readiness to be assessed and acted upon.

This suggests that in developing plans for community and primary services in Mangere, some form of assessment of community readiness would make sense, along with work to assess how ready different provider and funding bodies are for the next phase of community service development. In an area of such complexity as a local primary health care system, it is likely that provider organisations will be at different stages of readiness for any proposed changes, so it might make sense for those leading and governing the process of change to identify which providers, and indeed, which communities, they want to use as the earlier stages of a wider programme of service development.

For example, it might be appropriate to set up a small number of pilot projects aimed at extending multidisciplinary team working, extending patient self-management, and carrying out targeting of chronic care services onto high needs patients, all seen as part of the first stages of an overall MICH project. We are aware that some initiatives are already in train, so it may be a question of evaluating progress to date and then determining where to extend and replicate such initiatives and where to add completely new elements.

Whatever form the MICH project takes in the future, there will be a need for careful and relentless management attention to the detailed implementation of the changes, focusing in particular on the HR elements. This is likely to include regular communication to community, clinical and other partners, forums where there is an opportunity to receive feedback and revise plans, and sensitive management of the implications of any changes in how, where and with whom people work. The healthcare world is littered with the debris that has fallen out of hastily implemented projects that suffered from inadequate and insufficiently senior management and HR leadership, and CMDHB and their partners have the opportunity to demonstrate that there is another way of doing things. Namely, there is a chance to develop a project that has effective community support and engagement, enthusiastic clinical leadership of initiatives designed to improve services, and agreed principles for how the process will be taken forward and then assessed.

Assessing the outcomes associated with change

There is widely accepted research evidence to support the link between strong primary health care and the achievement of improved health outcomes in a cost-effective manner. Many studies have suggested criteria for assessing the strength and effectiveness of primary care systems – what is typically more difficult is finding examples of service change and innovation where there has been sufficient organisational and policy stability to enable long-term tracking of the impact of innovation on service outputs and outcomes.

The relative structural stability of the New Zealand health care system in recent years, and the track record of Counties Manukau in taking forward service improvement work that has a primary care or chronic disease management focus would seem to fit the DHB and its partners well for setting up a programme of community service improvement for Mangere that includes an agreed set of outcome measures. This accords with Sibthorpe et al's advice about how to maintain focus and momentum when seeking to bring about change in complex primary health care systems, and with the advice coming from the various large-scale reviews of the change management literature where the failure to focus on measurement of progress and outcomes is such a familiar theme.

Overall conclusions

This review has concentrated on interpreting key lessons from the research literature in a practical and focused manner, and has sought to shed further light on CMDHB's plans to further develop community and primary care services for the people of Mangere. The review appears to support a focus on the following areas as the planning process moves forward:

- The development of an agreed set of principles to guide the planning process

- The creation, by community leaders and providers working as partners in the spirit of community-oriented primary care, of a programme of improvement for community and primary services in Mangere that builds on current projects.

- An exploration of how projects could be developed so as to further extend the implementation of evidence-based service improvements (e.g. multidisciplinary team working and self-management of care) within Mangere.

- The nature of planning and contracting for community and primary care services in Mangere and where this responsibility will be located.

- The nature of governance arrangements for planning and contracting services for Mangere, bearing in mind the importance of community and organisational/clinical readiness.

- A commitment to invest resource in primary care infrastructure, along with the development of quality and accountability arrangements to underpin any investment.

- The agreement of management arrangements for the project process that include community ownership of the process, effective clinical engagement, and a commitment to relentless attention to the human elements of any changes.

- The development of an agreed set of desired outcome measures which will be used by project partners to assess project process, and to determine appropriate local models of care.

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