

Delivering health care through managed clinical networks (MCNs): lessons from the North

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1 Introduction, Background and Design

In 2004 the NIHR SDO Programme put out a call for fresh empirical research into 'The Management and effectiveness of professional and clinical networks' (SDO NR89 2004). This research call recognised the emergence of new professional and clinical networks, and their potential importance for the delivery of health care, and was seeking new studies to build on the insights generated from a recent SDO literature review by Goodwin et al. (2004). The work described in this report was one of the projects funded under this research call – a project that sought to explore and learn from Managed Clinical Networks (MCNs) in Scotland.

1.1 Responding to the SDO Research Call

The SDO research call NR89 offered an ideal opportunity to develop detailed empirical work on Scottish Managed Clinical Networks (MCNs) – some of which were longer established than their English counterparts – and to exploit this work to inform policy making and managerial practice around clinical networks that were now developing in England.

1.1.1 The SDO Research Call: NR89

The SDO research call (SDO NR89 2004) had as its focus 'policy-initiated and/or consciously created networks' rather than the more informal clinical networking that has – to a greater or lesser extent – always existed in the NHS. A key aim of the call was instrumentalist in intent: 'to establish key lessons of best practice in network organisation and management [and] to provide professionals, managers and commissioners of care networks with the information required to effectively facilitate their own networks'.

The research call laid out a wide range of research themes and research questions under three broad headings: network origins; network processes; and network impacts.

The suggestions for new research on network *origins* recognised that 'how clinical networks were conceived and developed [was] likely to have a significant impact on future success and viability'. An early differentiation here – and one which is explored in this project – is the distinction between mandated' networks, that is, networks brought into being by specific policy and/or managerial diktat, and 'voluntary' networks, such as those that are developed bottom-up through informal clinical networking. In practice of course – and to prefigure some of the study findings – such neat distinctions may not be so readily observed on the ground.

Explorations of network *processes* sought to fill recognised gaps in understanding about not just the actual dynamics that unfold as clinical

networking takes place, but also the potential for effective management of these dynamics to achieve explicit policy goals.

Finally, the third element of the research sought by the SDO Programme was an exploration of network *impacts*, including changes to methods of service delivery, and to the costs and quality of care.

1.1.2 The research proposal: 'Lessons from the North'

The project proposal set out in response to the SDO research call sought to respond to this wide range of research challenges, seeking insights across all three domains of origins, processes and impacts. The proposed work had three distinctive features that shaped an articulation of its potential contribution.

First, managed clinical networks in Scotland are in many instances longer established than their English counterparts, and such 'maturity' (in organisational terms) provides distinct opportunities for learning about unfolding network dynamics, path dependencies and management opportunities and pitfalls.

Second, at least at a conceptual level, there is a clear distinction in Scotland between some (some quite long-established) 'voluntary' clinical networks that began through the enthusiasm and drive of clinical leaders before being co-opted for policy ends, and (often more recent) 'mandated' networks that were established regionally through direct policy interventions. Thus Scotland was well placed as a 'natural laboratory' to explore the medium- and longer- term consequences of different start-up conditions for MCNs.

Third, as befits a project funded through English NHS money, the research proposals paid considerable attention to the need to exploit Scottish experience around MCNs for the English policy and managerial context.

The overall aim of this project, therefore, was to generate deeper understandings about the origins, processes and impacts of network organised care with a view to better enable policy design and implementation. We focused on a deep empirical and longitudinal examination of consciously created networks in two disease areas (cardiac disease and diabetes). A full account of the multi-phased research strategy is provided later in this chapter, but first we articulate the distinctive policy context in Scotland within which the MCNs included in this study have emerged, been given shape and evolved.

Following this review of the policy context we explore the literatures germane to our empirical study, and the theoretical perspectives on which we draw to inform and guide the empirical work. The chapter concludes with an outline of the main body of the report which documents the methods and findings of the empirical work.

1.2 Managed clinical networks in Scottish policy

1.2.1 NHS Scotland since devolution

Healthcare policy and organisation in the four UK countries has diverged significantly since devolution in 1999. Greer (2004) characterises this in terms of a 'four way bet', with each country facing similar challenges and having similar broad aims (higher quality and improved safety, reduced inequalities, shifting the balance of care from acute hospitals to the community and so on), but choosing different means to achieve these. He argues that England has bet on the theory and practice of the New Public Management, with an emphasis on contractual relationships, the dismantling of professional bureaucracies, an emphasis on audit and quality improvement schemes, and new ways of defining and measuring performance (Ferlie et al. 1996). Although healthcare governance is always a blend, the dominant form in England is therefore 'comptrol' (Hood 1998), with an emphasis on competition (control through rivalry and choice) and oversight (command and control techniques). This manifested initially in a focus on an increasing number of centrally set targets overseen by a range of new regulators, and more recently with the (re)creation of healthcare markets with purchasers (Primary Care Trusts and practice-based commissioners) commissioning care from both NHS and alternative providers.

In contrast, although Scotland has developed its own set of central targets, these are less strongly performance managed than in England, and Scotland has explicitly rejected purchasing/commissioning and markets. The NHS in Scotland is organised into 14 Health Boards¹ which hold a centrally set budget for their area, and directly manage acute and community provider directorates. The dominant form of governance in Scotland is therefore more a blend of mutuality (control through group processes) and oversight (although with less aggressive performance management by central government, and a more collaborative independent regulator in the form of NHS Quality Improvement Scotland). Greer (2004) argues that this bet on professionalism, internal motivation to improve and collaboration reflects the historical strength of the medical elites in the Scottish policy community, as well as the different political context of the two countries reflected in the very different importance of the Conservative Party in the two countries.

Although it is important to recognise that Greer's national level conceptualisation may not neatly apply on a more micro-level, the importance of professionally led Managed Clinical Networks in Scottish

¹ Originally 15, until Argyll and Clyde Health Board was abolished after prolonged financial problems, with its responsibilities and services divided between, and merged with, two neighbouring Boards

policy at least partially reflects the limits placed on markets and competition in Scotland, and the greater use of compliance orientated regulation relying on trust rather than deterrent orientated performance management (Walshe 2003).

1.2.2 Managed Clinical Networks in Scottish health policy

Managed Clinical Networks were first identified as a key part of Scottish health policy in the Acute Services Review published in mid-1998 (Scottish Office 1998). The review makes explicit that what was envisaged was distinct from the relatively informal existing clinical networks such as those based in historical referral patterns. Rather:

*The network should be seen as a dynamic system, the design and function of which can change as relationships develop and as medicine advances. Some concern was expressed during the Review that the term network can suggest 'non-organisation', loose 'woolly' constructs without authority, defined responsibilities or ability to exert control. Such constructs would be totally unacceptable; clinical networking cannot be a 'free for all', and issues of patient safety, confidentiality, risk management, individual accountability and professional responsibility must be defined and reconciled. It is to underline the importance of these considerations that the Review, in promoting networking, favours the use of the term **managed clinical network** and sees the concept of a lead clinician as having central importance. **The Review sees the development of managed clinical networks as the most important strategic issue for acute services in the NHS in Scotland.** (Scottish Office 1998 paragraphs 47 and 48 REF, emphasis in original)*

Since then, Managed Clinical Networks (MCNs) have remained central in NHS Scotland policy, intended to help deliver higher quality, more accessible and more equitable services (Scottish Executive 1999, 2002a, 2002b, 2003, 2005a, 2005b and 2007). At least partly, this reflects the post-devolution rejection of healthcare markets in Scotland. Drawing on Greer (2004), MCNs can be seen as a mechanism for NHS Scotland to deliver the perceived potential benefits of collaboration and professional motivation to improve quality. This section briefly reviews three key documents, issued by Scottish Executive Health Department to provide guidance to NHS Scotland in creating and maintaining MCNs (Scottish Executive 1999, 2002b and 2007) using these to show how the idea of MCNs has evolved.

NHS Management Executive Letter MEL(1999)10 – Introduction of Managed Clinical Networks within the NHS in Scotland

This short document was sent to all NHS Health Boards and Trusts in February 1999. It noted that the MCN concept had generated considerable interest but also concern that the MCNs might disrupt existing services. It defined MCNs as:

'Linked groups of health professionals and organisations from primary, secondary and tertiary care, working in a co-ordinated manner, unconstrained by existing professional and Health Board boundaries, to ensure equitable provision of high quality clinically effective services throughout Scotland.' (Scottish Executive 1999)

MCNs were conceived as varying in scale from local (covering one NHS Board at most), regional (covering several NHS Boards) or national (for tertiary specialist services), and varying in scope from those concerned with a disease like diabetes or stroke, a specialist service like neurology, or a particular function like emergency care. MCN creation was cast as bottom-up and driven by clinicians, who *'in order to ensure that the necessary overall pattern of provision of services is maintained ... must seek formal approval of their local Trust and Health Board'*. To be approved, MCNs had to satisfy 12 core principles, detailed in appendix 1A, although these were rarely spontaneously discussed by our participants, or identified as particularly important. The core principles were intended to be tested in demonstration MCNs with explicit evaluation (described below). In an accompanying annex drawn from the recommendations of the Acute Services Review (Scottish Office 1998), the MEL suggests that networks could be the vehicle for major changes in service organisation, including the employment of acute specialists by networks rather than hospitals or Trusts, and significant expansion of intermediate care.

NHS Health Department Letter HDL(2002)69 - Promoting the Development of Managed Clinical Networks in NHSScotland

The aim of the 2002 HDL was to restate Scottish Executive commitment to MCNs, to share learning from pilot sites, and to promote calls on central resources to support MCN development (Scottish Executive 2002a). The HDL drew heavily on the recommendations in the CHD and Stroke Strategy (Scottish Executive 2002b) and the Scottish Diabetes Framework (Scottish Executive 2001), and effectively mandated all Boards to create MCNs for coronary heart disease (CHD), stroke and diabetes by the end of 2003. The core principles were restated with minimal amendment, but the guidance that followed was somewhat more explicit than in the 1999 MEL, focusing on the importance of:

- Patient representation at all stages of MCN development
- The potential of networking with social as well as health care
- Integration with Health Boards to ensure that MCNs were not *'disconnected and isolated developments'*
- Explicit quality assurance programmes compliant with standards set by the Clinical Standards Board for Scotland (the precursor to NHS Quality Improvement Scotland)
- Clear arrangements for clinical governance

Additionally, bids were invited for small amounts of national funding for managerial, administrative and IT resource to support the first two years of MCN development.

NHS Health Directorates Letter HDL(2007)21 – Strengthening the Role of Managed Clinical Networks

The Kerr Report (Scottish Executive 2005a) and Delivering for Health (Scottish Executive 2005b) reiterated the importance of networks in general, and Managed Clinical Networks in particular, noting that *'It is time to take stock of the MCNs' role in the light of experience gained to date and the developments signalled in this report.'* (Scottish Executive 2005b p39). It reiterated the central role conceived for MCNs in service redesign, integration and improvement, and emphasised that although MCNs should align with national guidance, local autonomy was critical.

'MCNs can be described by some extent by their structures, but are best defined in terms of their stakeholders, their relationships and their external circumstances. ... The guidance which follows is intended to acknowledge the need for autonomy in shaping MCNs in the way which best meets specific needs, within broad parameters which are not intended to be overly prescriptive.' (Scottish Executive 2002a)

The core principles were reiterated with some changes emphasising the importance of patient, public and voluntary sector involvement. More substantively, the HDL focuses on key areas determining network success, namely:

- The importance of close relationships between MCNs and Health Boards, with MCNs explicitly accountable to Boards but having a key role in informing planning/prioritisation and delivering improvement
- The nature of MCN leadership, discussed in terms of clinical (but not necessarily medical) leaders
- The role of the network manager, although this is less emphasised than clinical leadership and appears mainly conceptualised as an administrative role
- The critical role of meaningful patient and carer involvement in all aspects of MCN work
- Changes to MCN accreditation, with responsibility for local MCN accreditation shifting from NHS Quality Improvement Scotland to host Health Boards.
- The importance of avoiding MCNs creating standalone databases that are incompatible with wider NHS Scotland information technology

The HDL concludes by emphasising the need for MCNs working across existing hierarchies to deliver improvement, but also that MCNs need to be well integrated with existing NHS organisations.

'Whole system change across complicated health and care organisations is unlikely to be achieved through refining traditional hierarchical structures in isolation. Local planning partners and

Regional Planning Groups therefore need to maximise the potential for MCNs to improve service quality and performance management throughout the patient pathway, by using them as planning fora in the relevant disease area or topic. Crucially, they also need to ensure that MCNs are fully integrated into local or regional operational and management structures if their potential to help deliver modern, sustainable services is to be realised.' (Scottish Executive 2002a)

Changing emphases in policy guidance

Although policy has consistently stated that MCNs are *'an integral part of a systematic approach to service redesign, integration and improvement'* (Scottish Executive 2007), policy guidance has changed in several important ways over the 10 years since MCNs were first described in 1998.

First, the initial emphasis was on networks for acute services (unsurprisingly given the remit of the Review in which MCNs were first mooted (Scottish Office 1998)). Mandated regional cancer networks covering several Health Boards provide examples of such networks, but later guidance emphasises local MCNs in each Health Board which focus on *'services that span the traditional primary and secondary care boundaries'* (Scottish Executive 2002a). Notably, the three types of MCN mandated in 2003 (diabetes, coronary heart disease and stroke) were all local networks.

Second, although the 'core principles' which all networks are required to say they are compliant with have not significantly changed, the level of detail in guidance has significantly increased, with particular expansion of guidance on the nature of network leadership and management (emphasising clinical leadership with network managers having a more administrative role), the central place of patient and carer involvement, and relationships with host Health Boards.

Third, the way in which MCNs are conceived as working appears to have become less radical. In early documents (Scottish Office 1998, Scottish Executive 1999), MCNs were cast as potentially taking on at least some core Health Board and Trust functions including holding contracts for consultant medical staff and potentially budgets. Latterly, MCN responsibilities are described primarily as co-ordinating services across different organisations and influencing service planning, since *'responsibility for the delivery of services lies with Operational Management within NHS Boards'* (Scottish Executive 2007). Greater MCN accountability to Health Boards is increasingly emphasised, with it being *'essential that MCNs have explicit organisational arrangements with their local NHS Board or Boards'* (Scottish Executive 2007). Similarly, MCN set-up is now stated as requiring *'the absolute agreement by the head of the different parts of the organisation – NHS Board, Operating Division and Community Health Partnership – that the MCN will be an appropriate focus for work in that area of care'* (Scottish Executive 2007), and local MCN accreditation has shifted from being a direct relationship with NHS Quality Improvement Scotland, to being one with the host Board.

1.2.3 Implementing local MCNs in Scotland

A 'local' MCN is one that covers one Health Board area, usually focusing on care for a relatively common disease like diabetes. In 2000, demonstration local MCNs for diabetes and coronary heart disease (CHD) were created in different Health Boards. Both have been the subject of single case study evaluation focusing on network organisation and activity. In its first two years, the voluntary CHD MCN was characterised by strong, individual leadership by a charismatic clinician, but also by considerable debate about MCN purpose and design, requiring some time to '*bed down*'. The evaluation concluded that the MCN succeeded in engaging clinicians, patients and managers in the redesign of services, notably for the management of myocardial infarction (MI). Process and intermediate outcome data was collected on hospital care for MI, which showed positive trends, although no clear statistically significant improvement (although numbers were small) (Hamilton et al. 2005). The diabetes voluntary MCN was found to have adopted a predominately 'enclave' form with high levels of clinical engagement. It deployed quality improvement activities across a range of levels (individual, small clinical teams, area wide organisations and strategic), with prominent use of innovative information technology (IT). MCN and IT introduction was associated with very large (and statistically very significant) improvements in clinical quality, although the single case study design did not allow strong causal inference (Greene et al. 2009).

In 2003, all Health Boards were mandated to create MCNs for diabetes, CHD and stroke (Scottish Executive 2001, 2002a, 2002b). Ring fenced pump-priming resources were available from Scottish Executive Health Department to support the appointment of lead clinicians and network managers, although this funding was time-limited and Boards were subsequently expected to fund MCNs from their existing funding envelope (Scottish Executive 2002a). By late 2003/early 2004, all Boards had mandated MCNs for these three conditions in some form. This is the context in which the research described in this report is based. The research was conducted from 2005 to 2008, approximately 5-8 years after the two voluntary MCNs were formed, and 1 to 5 years after the mandated MCNs' creation.

1.3 *The relevant research literature*

1.3.1 Literature underpinning the research brief and original proposal

Increasing attention has been paid to inter-organisational networks and networking as a means of delivering public services in recent years. As policy, policy-making and related organisational and professional terrains have become more fragmented and inter-dependent, there has been a simultaneous desire to engender the integration and coordination of such

services amongst policy-makers (Rhodes, 2007 and 1997; Marchington et al, 2005; Leutz, 1999). Growing interest in the topic has also generated a large and diverse academic literature (Provan and Kenis, 2007).

A comprehensive literature review was commissioned and published by the SDO (Goodwin et al, 2004). This identified key aspects of extant literature concerning the structure, management and relevant modes of governance of networks which were of particular relevance for healthcare organisations (SDO, 2005). Three types of network **structures** were identified (enclave, hierarchical, and individualistic), each of which had advantages and disadvantages, with networks often comprising combination of all three. A variety of **management practices** were found to be relevant, in relation to these three structures. These involved achieving a position of centrality within the network; having clear aims and rules of engagement; being inclusive and involving all relevant stakeholders; avoiding the network becoming too large; fostering network cohesion; instituting formalised contracts and agreements to gain participant ownership of the network; securing credible professional participation; avoiding network capture by one dominant participant (organisation or profession); maintaining network relevance for participants; securing agreement from professionals for management legitimacy. Meanwhile, a range of **governance** issues were identified, relating to mandated networks (created by agencies external to networks, frequently hierarchical in nature), and those which arose voluntarily (often enclave or individualistic). The review identified outstanding questions about these aspects of inter-organisational networks which required further empirical investigation in the context of the organisation and delivery of healthcare services. These form the basis for this research.

The 2004 literature review informed the SDO research brief and the research questions it raised. In the next section some of the key themes identified through the review, but published mainly from 2004 onwards, will be discussed briefly. This will inform the subsequent presentation and discussion of the empirical findings of this research project, through which the research questions set out on pages 20 to 21 will be addressed. These concern the origins, processes and impacts of inter-organisational networks.

1.3.2 Drawing on the wider network and governance literature

Whilst interest in inter-organisational networks and networking is by no means new, there are various strands of interest in the topic. These include governance, public policy making, policy implementation, inter- and intra-governmental studies, service delivery and management, and the relations between all of these (Rhodes, 2007; Klijn, 2004). These different strands involve various ways of characterising networks, including structural and relational conceptualisations, related to authors' disciplines and interests

(Provan, Fish and Sydow, 2007). Coverage over time of relevant topics in the literature has been broad, including studies about policy making through policy networks (Hanf and Scharpf, 1978), and issues concerning collaboration, integration, and coordination of service provision through networks (Kickert, Klijn and Koppenjan, 1997).

However, despite its relative longevity there has been continuing disquiet that the concept of inter-organisational networks and networking remains contested and insufficiently theorised (Provan and Kenis, 2007; Galaskiewicz, 2007; Provan, Fish and Sydow, 2007; Klijn, 2004). This may be partially due to the different levels of analytical foci prevalent in much of the published literature: despite the breadth of literature available, it has been suggested that there is little empirical research conducted at the inter-organisational network level of analysis, and that much of the literature concerns single networks, or participating organisations or individuals within networks (Provan and Kenis, 2007; Provan, Fish and Sydow, 2007; Dowding, 2001, 1995). Notwithstanding this criticism, there are a range of more recent empirical studies which address the research questions considered through this study, related to the origins, processes and impacts of inter-organisational networks.

Origins

Origins are discussed in two ways within the literature. First, the underlying motivations for organisations to participate in networks (in the absence of any explicit pressure to do so) are considered, and second, issues relating to the structures or types of network are discussed.

In relation to the first aspect, there appears to be some level of agreement in the literature as to why networks have become an issue of considerable interest. This relates to the potential offered by inter-organisational networks to tackle 'wicked problems' (Rittel and Weber, 1973). These problems are difficult to define, are often differently understood by people with different perceptions related to cultural and organisational characteristics, and for which there will frequently be no clear solutions. However, although networks are seen as a helpful way of beginning to address such problems, this may happen through different processes in different types of network (Weber and Khademian, 2008; van Beuren, Klijn and Koppenjan, 2003).

Origins of networks also relates to issues of network structures, as identified through the SDO review (Goodwin et al, 2004). In this regard, it has been suggested that those networks of enclave or individualistic structures were less likely to fail than those which had been introduced by a third party organisation (SDO, 2005; Metcalfe, 1978). There have been a few papers in which it has been claimed that mandated networks were unlikely to succeed (Human and Provan, 2000; Scharpf, 1978). However it appears that few empirical studies have been conducted to investigate these propositions from an inter-organisational perspective (Provan and Kenis, 2007).

Mandated networks are an example of exogenous interventions to seek to secure coordination and integration between otherwise disconnected organisations involved in mutual tasks (Metcalf, 1978), such as the delivery of healthcare services to a population. Given that MCNs were introduced through policy mandate, these observations would be important when considering the influence of network origins on their success or otherwise over time. This is particularly relevant when two of the MCNs studied here had been of voluntary origins prior to the policy mandate.

Processes

In order to understand the influence of origins on inter-organisational networks, it is necessary to consider the processes through which such groupings operate and are organised.

Referring back to the motivation to participate in such arrangements, and in relation to the need to address 'wicked problems', a key finding in the literature has been the importance of identifying a common purpose around which otherwise potentially disparate groups may coalesce (Rhodes, 2007). Whilst this may seem an obvious issue to consider when discussing networks of service delivery organisations, in addition to the more usual structural and outcomes perspectives, cultural and processual aspects of networking have also been identified as being important in this regard (Bate, 2000). It has also become clearer that, whilst participation in collaborative or networking ventures may appear to be occurring, the quality of such participation may vary in terms of engagement and enthusiasm, with potential implications for the impacts of such collaborations (Sowa, 2008). Widely discussed in the literature from a principal-agent perspective (Feldman and Khademian, 2002) less attention has been paid to the processes of how this works in relation to network origins. As observed by Hanf and Scharpf (1978), participants in networks need to feel they will benefit from taking part in network activities otherwise this would be a costly venture in terms of resource use. It remains unclear how or why such participation occurs in mandated teams, how a common purpose for such networks is found, and what that might be.

Some studies have suggested that participation in networks may be due to more than exogenous factors such as network mandation, and that the notion of managerial 'networking behaviour' should be considered (Walker, O'Toole and Meier, 2007; Feldman and Khademian, 2002). Whilst strategies adopted by managers in inter-organisational networks were discussed at length in the SDO review and other extant literature (e.g. Kickert, Klijn and Koppenjan, 1997) this often referred to the manager's activities within single inter-organisational networks, or within participating organisations. Subsequent studies have suggested that managerial networking behaviour is an important indicator of network success and of organisational performance (but not necessarily of network performance). Managers at different levels in participating organisations within inter-organisational networks may exhibit different types of networking behaviours, for different reasons and with different results (Weber and Khademian, 2008; Walker, O'Toole and Meier, 2007). It has also been suggested that the type of

organisation within which the manager operates (eg. government, not-for-profit, commercial) is important when thinking about managerial networking behaviours (Herranz Jr., 2007).

These later studies have moved the agenda on from the arguably more mechanistic managerial approaches which it has been suggested characterised earlier studies (Meier and O'Toole, 2003; Agranoff and McGuire, 2001). Issues of importance here include many of those identified in the SDO-commissioned literature review (Goodwin et al, 2004). For example, inclusivity as a managerial process has been shown to be important in networks, even if the inter-organisational collaboration has been mandated through policy, but should be in line with network aims (Feldman and Khademian, 2002). Related to inclusivity, boundary spanning activities have been identified as an important aspect of the management of inter-organisational networks (eg. Williams, 2002).

Discussions of boundaries highlight the relational nature of networks, in addition to the more frequently considered structural characteristics. One important set of relationships within inter-organisational networks arises between those managing the network, and those in participating network organisations, including managers of those organisations. These relations, and the collaborative processes through which they operate, have been described as being so difficult that they should be avoided if possible (Huxham and Vangen, 2004; 2000). However, in light of the research questions addressed within this study, conceptualising the management and leadership of inter-organisational networks as processes of collaboration in this way is helpful and has been borne out in the MCN context through empirical study (Hamilton et al, 2005). As MCNs have been mandated, with the aim of promoting integration and collaboration across organisational and professional boundaries (SEHD, 2002a), opting out of collaborative networking altogether is not an option for participants in MCNs, although it is possible to suggest that collaboration may not be undertaken with any great degree of commitment (Sowa, 2008).

These complex interactions highlight the inherent tensions and resultant dilemmas arising as a result of the differences between the aims and ethos of newer inter-organisational network forms of organising, and those of existing or participant organisations, party to those inter-organisational networks, have been and continue to be organised (Poulsen, 2009; Feldman and Khademian, 2002). These difficulties raise the issue of different - even conflicting - but simultaneous accountabilities as an aspect of inter-organisational networking (Addicott, McGivern and Ferlie, 2006; Agranoff and McGuire, 2001). Indeed, empirical study of cancer MCNs in England has found that rhetoric and practice in relation to accountabilities has produced a clear conflict between more readily understood forms of accountabilities for inter-organisational networks and that which pertained under older 'command and control' arrangements, with the latter winning over the former (Addicott, 2008). The empirical literature to date suggests that such accountability problems are associated with problems of conflicting values and aims between existing organisations and newly introduced

arrangements for promoting inter-organisational networking (Poulsen, 2009). It is not clear at this stage how these processes change over time in MCNs, and there has been some consideration of network 'maturity' (Goodwin et al, 2004) and the 'life cycle' of networks which is of relevance here (SDO, 2005; Sharkin-Simon, J. and Donovan, T., 2001).

These difficulties in relation to accountabilities and processes of managing inter-organisational networks in public organisations form an important background for assessing the findings of this research project. They suggest potential implications for any empirical assessment of impacts claimed for such arrangements.

Impacts

Claims have been made that MCNs, as a form of inter-organisational network, would improve integration between otherwise fragmented services and to contribute to improved healthcare service delivery outcomes as a result (HDL(2007)21; Woods, 2001). Doubt has been recently been expressed about such claims in the absence of clear research findings to that effect (Galaskiewicz, 2007).

Establishing impacts attributable to inter-organisational networking is challenging (Klijn, 2004), with measures suggested at community, network and organisation/participant levels of analysis. Effectiveness criteria related to each of these levels include respectively: changes in the incidence of the problem, building social capital and aggregate indicators of client well-being; range of services provided, creation and maintenance of network administrative organisation (NAO), integration and coordination of services, member commitment to network goals; and resource acquisition, service access, client outcomes and minimum conflict for multi-programme agencies across multiple networks. These criteria are of particular interest in relation to the research questions posed in this study.

Although there have been criticisms about the lack of impacts attributable to inter-organisational networks, including MCNs, there is limited empirical evidence of such arrangements having had positive impacts on public service provision, based on analyses of network-level activities. Collaborative leadership, developing shared values, creating a context for coordinative activities and exercising influence over resource allocation where no direct authority existed, was found to have improved the coordination and organisation of trauma services (Bazzoli, Harmata and Chan, 1998). Similarly, improvements were claimed to have been made in relation to the organisation of child mental health services, although the apparent improvements were not manifested in positive changes in client outcomes (Johnsen, Morrissey and Calloway, 1996). More recently, there has been evidence of positive impacts of networking behaviour on the part of managers of individual organisations. Meier and O'Toole (2003) found that public education managers at senior level in Texas, who engaged in networking activities, had better service delivery outcomes than those who did not. It should be noted that these three examples were all located in the

United States, where substantially different arrangements for public services exist.

Although perhaps highly structural in methodological approaches, these studies do suggest that some insights could be gained in relation to the positive impacts of inter-organisational networks.

Meanwhile, other studies have suggested that network disruption can have negative implications for potential impacts of such service delivery arrangements (Johnston and Romzek, 2008; van Beuren, Klijn and Koppenjan, 2003).

This brief consideration of the more recent literature relevant to the research questions addressed here highlighted one particular issue of note. There seems to be broad agreement in the literature that insufficient attention has been paid to the origins, processes and structures, and impacts of inter-organisational networks, analysed at the network level. These issues will be explored through this empirical study.

1.3.3 Theoretical perspectives underpinning the empirical work

There are a variety of possible theoretical perspectives which could be employed in this research. Network research often employs a social networking analysis theoretical approach or perspective, exploring structural ties within and between networks (Kenis and Oerlemans, 2008). Other theoretical perspectives employed include a range of public administration and organisational theories, including those relating to the exchange of resources, complex decision making, and organisational learning (Klijn, 2004). In a recent review of the current inter-organisational network literature, Kenis and Provan (2007) identified issues which required further empirical exploration, in relation to the origins, processes and impacts of whole networks, and between or across whole networks. From this perspective, a governance framework is indicated (Rhodes, 2007, 1997; Salminen, 2003), in order to identify the appropriate forms of organising and overseeing such inter-organisational arrangements which have different analytical requirements from single organisations in relation to notions of management (Kenis and Provan, 2007).

Given the mandated nature of MCNs, some theoretical perspectives become less applicable and some more strongly indicated.

Although a social network analysis approach would be interesting in relation to the composition of MCNs, and how the linkages they have been charged with forming operate, it was decided that it would be unwieldy in practical terms. This was due to the fact that the known possible ties within one MCN were so numerous. For example, in one Health Board area studied, there were over seventy GP Practices, with various permutations of GPs and other clinical, managerial and administrative staff in each one. If relevant secondary and tertiary clinical and other personnel were added in, the numbers would be very large indeed. When multiplied to cover the four

MCNs studied, the sheer weight of numbers would be difficult to manage. Therefore, it was decided that this approach was impractical for the purposes of this research project.

Another possible approach which could have been adopted was that of Actor Network Theory (Latour, 2005). Initially, this was considered as a possible analytical framework due to the potential importance of the construction of databases within the MCNs and the attendant mediating role of information technology. However, as the project progressed and data analysis commenced, it became clear that the approach would be of limited value.

In relation to the mandated nature of MCNs, and the inter-organisational unit of analysis they constituted, two main theoretical perspectives appeared to be relevant to the research questions, in light of recent literatures and the data. Following Kenis and Provan (2007) a network governance theoretical perspective was adopted, to explore the network governance forms most appropriate to the potentially contrasting origins, processes and impacts of the four purposively sampled cases studied in this research (see chapter 3 for full details of cases). The mandated nature of MCNs suggested the 'network administrative organisation' conceptualisation (Provan and Kenis, 2007, p236) may have been an appropriate framework to consider for the study of MCNs' origins, processes and impacts.

Whilst the governance approach of Kenis and Provan may be criticised for conceptualising MCNs in more structural than relational terms, another complementary governance approach was adopted for the analysis of data. This took the form of the recently discussed 'decentred governance' approach (Bevir and Richards, 2009; Rhodes, 2007). This relational conceptualisation of governance provided space to consider the narrative-based accounts of participants which provided the bulk of the qualitative data upon which the findings of this research were based. Based on bottom-up accounts of participants' experiences and beliefs about MCNs, the approach enabled consideration of traditions and dilemmas arising in each of the four MCNs studied from participants' accounts and other related data.

This twin-pronged governance approach was augmented by relevant theoretical aspects of notions of organisational learning (Levitt and March, 1988; Fiol and Lyles, 1985) and knowing-in-practice (Nicolini, Gherardi and Yanow, 2003). These interpretive perspectives are consistent with decentred approaches to governance:

'An interpretive turn encourages us to give up management techniques and strategies for a practice of learning by telling stories and listening to them...Decentred narratives offer a different approach to policy advice...they exhibit new connections within governance and new aspects of governance.' (Rhodes, 2007: p.1257)

It is through these two main theoretical perspectives that the themes and questions of this research will be considered.

1.4 Research themes and project design

The research project proposed – and delivered – followed closely the stipulations of the original research call, addressed through a multi-phased design.

1.4.1 Focus of research attention

The work documented in this project report set out to address a wide range of detailed research questions as laid out in the Research Brief (SDO NR89 2004) under the three broad headings of network origins, processes and impacts. Specifically, the work explored the following key areas:

- How do 'voluntary' and 'mandated' networks differ in structure, processes and impacts, and in relation to, for example, the functions undertaken, the role of managers and/or other boundary spanners, and governance?
- What is the role of local organisational contexts and professional culture(s) in how networks are created, function, deliver benefits or fail, including variations in who takes leadership and boundary spanner roles, and how these roles are shared (or not) between doctors, nurses, allied health professionals, managers and patients?
- How do networks interact with the host organisations and the institutions that they cut across, including commissioning agencies, and how are tensions here mediated?
- To what degree are networks able to alter professional and organisational roles (and underpinning assumptions), rather than simply making marginal service improvements without major change in role composition or boundaries?
- How are the increasingly important relationships between different networks managed, both between local and national networks for the same disease (vertical), and between local networks for different diseases but with overlap in patients served or professionals engaged (horizontal)?
- How have patients been involved (or not) in network activities (design, implementation and development), and what is their place, role and impacts within both hierarchies and professional enclaves?
- How can managed clinical networks continue to evolve and innovate as the limits of collegiality are reached? How can their directions, drive and change capacity be supplied beyond the local professional enclaves?
- How are succession issues handled in enclave networks? For example, what happens when early enthusiasts move on or wane? How can networks be robust to changes in key personnel or key inter-professional relationships?

1.4.2 Investigative strategy

The research project had a multi-method, multi-stage design, drawing on substantial qualitative and quantitative data from comparative intensive case studies. Essential components of the case studies were an organisational analysis, as well as analyses of routinely collected patient data and bespoke new data collected through 'patient tracking'. The analyses was contextualised and made generalisable by additional national level data collection in Scotland and 'road testing' of emergent findings in England

Four key components of work provided extensive data:

- *Component 1:* Preparatory scoping work with key policy makers and network 'designers' was used to surface core ideas (theories in use) on 'what makes an effective network'.
[See Chapter 2]
- *Component 2:* Comparative intensive case studies using documentary, interview, patient tracker and routine longitudinal data was used to test theories in use emerging from the scoping work and to explore the origins, processes, organisational dynamics and impacts of four purposively selected MCNs – two covering diabetes, two covering cardiac disease, with each pair consisting of one 'mandated' network and one 'voluntary' network. Data gathering here provided the empirical heart of the project.
[Chapter 3 covers the qualitative case-study data on MCNs' origins and processes]
[Chapter 4 examines MCN impacts, both tangible and intangible, in terms of professional and patient perspectives, and through analyses of routine data to examine changes in patient admissions for conditions where MCNs could potentially impact]
- *Component 3:* National surveys of diabetes and cardiac MCNs at two time-points were used to clarify the extent to which local patterns seen in the case studies are replicated more widely.
[Chapter 5 covers the first (Scottish) national survey which explores ideas of organisational life-cycles as applied to MCNs; Chapter 6 covers the second national survey which sought broader verification of the case-driven findings]
- *Component 4:* A workshop and consultation with experts on English policy and network implementation was used to help ensure the relevance of emergent findings. This engagement, together with a modified Delphi process, was used to 'reality test' the findings against the English political and institutional context.
[Chapter 6 also presents data from the modified Delphi process carried out as part of engagement with the English context for clinical networks]

1.5 Report structure

The rest of the report is structured to follow the design outlined above, with Chapters 2-6 detailing the empirical work carried out. Given the multiple methods used, there is not a single methodology chapter. Rather each chapter starts with a description of the methods used in that chapter, and concludes with a discussion section that interprets the data presented in that chapter and the story so far.

A final concluding chapter (chapter 7) provides an overview and summary of the project, detailing the main methods and findings, as well as covering the challenges encountered during project implementation, potential publications arising, and any related dissemination activities.

2 Scoping study

2.1 *Aims*

The aim of the scoping study was to use semi-structured interviews with key policy makers and network designers to surface core ideas (theories in use) on what makes an effective network, and expected or hoped for impact of MCN implementation.

2.2 *Methods*

The scoping study analysed data from semi-structured interviews with a purposive sample of policymakers, Health Board senior managers (including clinical managers) and MCN clinicians and managers. Participants were identified from relevant policy documents, and by asking initial participants to suggest key individuals to interview. Sampling sought to recruit a broad range of participants in terms of including policymakers, clinicians and managers, and those working in both central government and in a variety of Health Boards. Many participants were involved in particular diabetes or coronary heart disease (CHD) managed clinical networks (MCNs), but were selected either because they had additional involvement in national policy, or because they were identified in early interviews as having interesting, novel or contrary approaches to, and views on MCN development. Although the focus of the study is Scottish MCNs, we additionally recruited two English managers involved in the development of diabetes and cardiac networks across NHS England, in order to explore the generalisability of findings outside Scotland.

A total of 19 participants were recruited, whose characteristics are shown in table 1.

Table 1. Characteristics of scoping study interview participants

Participant characteristic	No. of participants (n=19)
National policy	4
MCN lead clinician	5
MCN manager	5
MCN patient/public representative	2
NHS England network organisers	2
Other MCN clinician	1

Semi-structured face to face interviews took place in 2006, at a time and place of the participant's choice. Participants were encouraged to identify issues that were most important to them, and to talk freely, with a broad topic guide used to ensure coverage of issues identified by the researchers as important. The topic guide evolved in response to initial analysis, and focused on:

- MCN origins and the key drivers in MCN development
- MCN structures and activities, including the main boundaries worked across
- perceived MCN impacts and definitions of MCN 'success'
- what makes an effective MCN
- the role of the policy mandate in developing and shaping MCNs
- links across MCNs and with the local and national organisational context
- the key challenges MCNs face
- sustaining MCNs.

All interviews were recorded and transcribed for analysis where consent was given. Two participants requested no recording, and several requested particular care in use of quotes. For this reason, there are no participant identifiers on quotes used in this section because even minimal information may be identifiable. Analysis was initially thematic, identifying themes important to many or all participants, but actively seeking disagreement or discrepant data. Subsequently, analysis sought to locate findings in relation to the existing empirical and other literatures on networks in health care, including the results of the SDO scoping review (Goodwin et al., 2004). Findings were then used to help define a framework for taking forward the interview and documentary analysis aspects of the four case studies.

The main focus of analysis has been to elicit respondents' ideas about the importance of network origin and development, what makes an effective MCN ('theories in use' about 'what works' in MCN design and development), and the impact of MCNs. These findings are then discussed in the context of the wider literature, and in particular the SDO Scoping Review's 10 key lessons for network management.

2.3 Findings – what are managed clinical networks for?

There was consensus among scoping study participants that MCNs were primarily concerned with improving the consistency and quality of patient care.

'I think the network is about quality of care and equity.'

'The MCN... has always had values around saying we don't do things differently on different sites we are moving towards equity from the

patient's perspective wherever you may live in X so there is no excuse for doing things differently and we challenge it all the time.'

There was also consensus that these overall aims were achieved through two key roles, although there was some variation in the emphasis given to each by different respondents:

1. Directly, by creating enhanced co-ordination, communication and collaboration across professional groups and boundaries, in ways that support more patient-focused care.

'It is still just trying to get them to forget Secondary and Primary Care and try to get them to deliver a service and that is a big challenge.'

'It's like glue that holds all the disparate parts together, to try and make them function in a coordinated kind of manner.'

'What I think they're for is to bring together the various aspects of the health service in relation to coronary heart disease and to establish systems and services which were designed for the patient.'

2. Indirectly, by influencing strategic decisions about service planning and investment, ensuring a voice for clinicians and patients as part of this process, and providing a source of expertise and advice to Health Board managers.

'It is also to try to raise the profile at a managerial level and at Health Board level. It is about getting resource or getting senior support to do things'

'I think an MCN is much more about influence than anything much else'

'I think they are an advisory group to steer services and ask for money to do things'

This dual role of MCNs is consistent with policy definitions, although over time the relationship between MCNs and Boards has become increasingly prominent in policy documents (Scottish Executive 1999, 2002a, 2007). Key for our own purposes is that the ways in which MCNs are conceived, and the kinds of roles envisaged for them, will in turn shape views on what constitutes a 'successful' MCN, and hence on how MCN success is best achieved.

2.4 Findings - MCN origins and development

2.4.1 MCN origins - mandated vs voluntary

There was considerable variation both between and within accounts as to whether MCNs were best thought of as '*informal*' or '*formal*', or even '*semi-formal*', and which was preferable. Many respondents emphasised the importance of relative informality of relationships within MCNs to achieve

'*informal buy-in*' of MCN members, and to key influence individuals on the Board. These informal relationships were based positively on a desire and willingness to participate and agree, rather than on authority and control, in ways that supported the development of trust, understanding and commitment. This was particularly perceived to be important in creating early clinical and operational management engagement.

However, respondents were also often positive about the degree of formality which they felt the policy mandate had given MCNs relative to previous collaborative activity. They suggested that as mandated bodies, MCNs had greater structure, legitimacy and credibility than earlier collaborations, and that this degree of formalisation had been important for achieving MCN success. For example, in diabetes, MCNs were talked of as typically different from pre-existing collaborative work (such as the Local Diabetes Service Advisory Groups [LDSAGS]) which was often described as ineffective:

'[A] very large group, very immovable, unmanageable, too many voices around the table, none of the patients said anything... just a talking shop.'

It was felt that the development of MCNs had brought a clear direction of travel which was previously lacking, by focusing collaborative work on the patient pathway. MCNs had also, it was suggested, brought a more structured approach to service development, with representation from all key interests and stakeholders, which in turn had secured greater organisational integration and credibility for MCNs:

'Previously there could have been the same number of people but without any kind of legitimacy value. There was no way of knowing whether these were just people who had a vested interest in making a lot of noise or whether they were representing something. Whereas the MCNs do have constituencies and representatives.'

In turn, it was argued by some, this meant that individual clinicians and managers in the MCN were less able to challenge or disagree with a decision which had been more collectively made by the MCN. This also helped enhance MCN's strength and influence both locally and nationally. For these respondents, the mandate had forced local Boards to take collaborative work seriously and to engage with MCN activity: the Board '*have been told to work with us*'. Scottish Executive respondents suggested that the level of formality provided by the mandate had been positive in this regard:

'It aims to sort of bring people together in a semi-formal way and to give them a degree of power that as an informal structure they wouldn't have.'

Respondents also noted that the policy mandate for MCNs had provided vital dedicated resources for networking which had both helped take work forwards, for example by supporting MCN leadership and management posts, and helped draw more people into the MCN:

'A huge carrot to attract people to work in a network or collaborate or just attend meetings.'

Other respondents were less positive about the impact of the policy mandate. For many, the effects of mandation depended on local context and conditions, including the existing kinds of professional and managerial collaborations.

'The task is that much harder to set up an MCN if you haven't got a history of things like agreed standards, agreed evidence and agreed data system, you know, some level of communication and in diabetes there had historically been [these] things.'

Respondents also felt MCNs might fail where the policy mandate had imposed top-down priorities on MCNs which failed to gel with locally identified and defined priorities and hindered MCN cohesion.

'They are less useful when you have mandates which are taken down a road which perhaps isn't locally appropriate.'

An issue specifically explored was the place of the 12 'core principles' in guiding MCN design, function and activities (see Appendix 1). Although a few respondents identified these as the *raison d'être* and definition of MCNs (*'their very existence is to fulfil the parameters of those principles'*), others were less positive. Some felt that the principles were broadly of value, particularly initially to get MCNs up and running and help steer their development: *'a useful guide'*. However, they suggested that some of the principles had been too open to interpretation (*'I bet you can tick all those boxes and not actually make any lasting change'*) or had proved difficult to work towards in practice (such as the development of a quality assurance programme). A majority were more negative, seeing them as an unnecessarily prescriptive form of guidance that risked constraining local innovation.

'[Core principles are] presenting things which are perhaps no longer necessary, I think we can be happily embedded within the Board, report to them, address local needs and have clear objectives ticked off as in other organisations.'

'I would be happy for our network to get rid of that, those shackles.'

In England, where diabetes and CHD networks are not mandated in the same way, the informal nature of existing networks was generally presented as a positive feature:

'Their informality doesn't give them authority or responsibility, but we know that informality actually breeds a huge amount of passion and by getting those people there and it's not something they have to do.'

Interviewees from England suggested that networks are primarily about informal social relationships, and so will be weaker if they are deliberately created and imposed rather than being allowed to develop naturally:

'[With mandation] the benefits of networks are all going to go, because you're just going to be creating another organisation and those people that haven't read about networks, I suppose, and all the social aspects of networks and why they work and don't work, don't understand that and I think that's one of the problems we've had with cancer networks - they were mandated.'

However, they also acknowledged that the informality that not being mandated created might also lead to problems of sustainability.

'I think they need to be able to flexible and to respond to local conditions, but sometimes that leaves them vulnerable and it leaves that in a difficult position when we are asked to talk about things nationally it makes it harder but yes, I think it is the lack of central control and we have got more positives than it has negatives.'

Generally the point was made that the distinction between formal, mandated MCNs, and more informal, 'voluntary' MCNs, was not always clear-cut. Some respondents noted longstanding local recognition that 'more people needed to be involved in the decisions about how we prioritise our resource' before the idea of MCNs emerged. The policy mandate could therefore build on these kinds of concerns, rather than simply imposing new structures and ways of working from above. As such, it is difficult to define whether the MCNs which emerged from these kinds of collaborative ways of thinking and working should be seen as more 'mandated' or more 'voluntary' in origins. It may make more sense to conceive of voluntary and mandated networks as the endpoints of a continuum, rather than diametrically opposed. These findings suggest that mandation and central guidance is neither necessarily positive or a negative, since its effects will vary with local context. A corollary is that the 'right' MCN form will depend on this local context, and so long as MCNs were perceived to have delivered in some way, then variation in network form to suit did not matter:

'There are more than one ways to skin a cat, encouraging good practice - as long as it happens it does not matter exactly how it happens'

2.4.2 MCN development and maturity

Many respondents talked in terms of networks having a lifecycle that included an initial 'development stage' lasting about two years:

'The natural cycle of the MCN, you know you get together and it is all very exciting and things either work or they don't work.'

Participants said that key early work involved building trusting relationships within and outwith the MCN by getting buy-in and engagement from members; creating key 'building blocks' (such as data and MCN infrastructures); establishing ways of working within the MCN; and selling the concept more widely; all of which was necessary before delivering wholesale service change.

'There is a lot of work to start without a lot of output I think.'

Respondents argued that devoting time to this process is necessary in order to establish the kinds of trusting relationships that will provide a secure foundation for a successful MCN:

'It's still a long task of making sure that people are properly engaged as opposed to loosely connected.'

'The pace of change can be frustrating.'

English respondents also noted that building good networks takes time:

'Networks take time to develop because they're built on trust and relationships, that's what the evidence is and that's what social, basing round social models and all that sort of thing. And it's important that you build that foundation because if you have people coming in and out, you set it up very quickly, is it going to work, are you going to get the outcomes that you want?'

One implication is that early impact is more likely to be found in terms of how clinicians and managers work together, with some more tangible 'early wins', but less expectation of major service reorganisation. Respondents then identified a second 'maintenance stage' to MCNs, typically involving service development work and strategy implementation, when the MCN begins to operate in its own right. Key concerns here were identified in terms of maintaining and sustaining the MCN once the initial energy and excitement involved in setting it up have abated. It was suggested this might require a different – or differently focused – set of approaches to MCN management:

'I think starting [a network] is easier than maintaining potentially.'

'The concept [of MCNs] is actually very simple, making it work and making it continue to work is actually not that easy.'

Most often, respondents seemed to suggest that sustaining and maintaining MCNs entailed a difference in emphasis in the kinds of success factors detailed above, rather than a radically new set of approaches. For example, they spoke about the importance of reviewing and renewing MCN priorities, activities and structures, in order to keep the MCN's momentum going, and of keeping effective communications going across the MCN beyond the initial stage of getting MCN buy-in. Discussion of management strategies appropriate to different stages is detailed below (Goodwin et al, 2004).

2.5 Findings – what makes an effective MCN?

There was a good deal of agreement (and a reasonable level of data saturation) across respondents' accounts of the key elements needed for a successful MCN. While many of the broad themes elicited – the need for strong leadership, for example, or for good communication – reflect widely-held notions about what makes for organisational success, our main interest

here is with the particular and peculiar form these take within effective MCNs.

2.5.1 Be inclusive

Respondents agreed that to be successful, MCNs needed to engage, and actively involve, all key stakeholders (usually defined as any agency or individual with a role to play at any point along the patient pathway, including health professionals, managers, patients via specific representatives and sometimes other agencies like local authority partners and universities).

'That's been one of the strongest points of MCNs, it's really having buy-in and making people feel like they're involved in the change rather than having it put upon them'

'It's taking people with you as you make changes rather than sometimes changes being inflicted on people's day-to-day work.'

Respondents suggested that involving 'everyone' right from the start – even those less supportive of the MCN concept – helped to iron out problems early on, and to demonstrate the potential for diverse (and possibly antagonistic) groups to work together successfully.

Patient (and carer) involvement was described a critical aspect of being 'inclusive' in relation to MCN design and development, because it could identify issues that clinicians were blind to, could increase the credibility of the MCN when trying to influence the Board, and because it could sometimes modify clinicians' behaviour in MCN meetings and decisions.

'Getting patients involved is also a very useful key lever to get things changed and taken forward.'

'It is a very strong, very positive thing for the medical profession to say, the public support me on this.'

Patient representatives themselves believed that MCNs were a useful vehicle for achieving patient-centred change. They were generally positive about their own experiences within MCNs, and suggested that the MCN provided a broader base of professionals supportive of their own work and input. A range of approaches to patient involvement were described, but the broader issue of how to get 'good' patient involvement (for example, true patient representation) was a general cause for concern, and was sometimes simply a 'tokenistic gesture'.

For respondents, however, being inclusive meant seeking to ensure active engagement and buy-in from MCN members, in ways that could support making change. However, several respondents noted that inevitably, not all MCN members would be strongly engaged:

'Engagement is optional, some will certainly engage more than others.'

'With primary care you have always got an issue of some people who have an interest who will engage and then you have got most people

who have other interests and priorities so they are more loosely engaged.'

One English respondent noted that it is difficult to engage everyone, and raised the question about whether it was best mainly to engage the enthusiasts and make the best use of them, or whether networks should strive for more broad involvement from the start.

2.5.2 Engage strong, credible and influential MCN leads, who can play key 'boundary spanner' roles and establish MCN buy-in and consensus

Respondents agreed that good MCN leadership was important to MCN success.

'I think areas that have had one or more people who have a commitment to it and have those leadership skills and they have got on better than areas where that has been lacking.'

Leadership was talked about as being embodied by both clinical leads and MCN managers, although the type of leadership described for each varied.

The role of the MCN clinical lead

MCN leads were seen first and foremost as clinicians with '*figurehead credibility*' and an ability to talk – and be heard – across professional groups and involved organisations. This was said to be particularly important early in MCN development to secure MCN ownership, cohesion and '*informal buy-in*' from all clinical groups.

'Commanding the respect of peers is probably the key thing because in setting up an MCN you don't have positional power until it is actually up and working.'

'Somebody who has an absolute passion for the service and who wants to take it forward, who can see where the opportunities are – not just a manager who can facilitate all of that but having somebody with a vision is very important.'

In so doing, they were sometimes characterised as '*entrepreneurial*', or '*pushing*' or '*testing*' traditional boundaries. As well as being able to engage professionals, clinical leads were viewed by many as key to securing the MCN's wider influence and engagement, for example at Board level, and recognition of its role as a source of local advice and expertise. Strong clinical credibility and effective communication skills were seen as vital here.

In general, respondents talked about individual clinical leads, or joint leads from primary and secondary care. This may in part reflect policy guidance, which focuses on '*the appointment of a person who is recognised as having overall responsibility for the operation of the network*' (Scottish Executive 2002a). One respondent, however, emphasised the importance of having a '*distributed leadership team*' for MCNs:

'The last thing one wants is just a pyramidal structure with one, a single figurehead. You know, it's about this leadership team allowing other people to flourish etc, and to allow other people to have their ideas.'

Some respondents raised concerns that MCNs which relied heavily on individual, charismatic leads to push them forward might falter if such individuals left. There were also fears that others might be reluctant to take over the reins from such influential leads. However, most respondents felt that providing a reasonable degree of MCN cohesion had been achieved, then succession was unlikely to be problematic beyond a temporary loss of MCN momentum.

'If that person has been really good at getting people on board and signed up then you would hope that some of that enthusiasm and verve has rubbed off and somebody else has said well, I am prepared to like, to have a go at taking this on.'

Developing multiple MCN leads, and/or careful leadership succession planning, were cited as ways of ensuring that MCNs might be successfully sustained.

English respondents also agreed that strong, clinical leadership is important, as well as having some concerns about relying on a particular individual to drive MCNs forward:

'Absolutely key to the ones that are successful as being clinical involvement and engagement and have strong clinical leadership and an agenda that is driven by clinicians with a clinical agenda, that is a much more successful network than people who concentrate on some of those administrative or managerial things around organisations'

'I have some concerns about sustainability of networks if they're built around charismatic leaders and a good leader, in my view, should be looking at how they do build sustainability into any network they work in so they aren't dependent upon one person'

The role of the MCN manager

In contrast to the higher level role of the clinical lead in creating vision, enthusiasm and engagement, the MCN manager's role was seen as more a facilitative and co-ordinating role, which dealt with the 'nitty-gritty' of day-to-day MCN work and organising MCN activities. Respondents described a range of roles for MCN managers, particularly in translating policy into operational reality, for example, to develop care pathways and audit systems. They were also seen as key in getting MCN members around the table, in supporting the development of MCN consensus, and in ensuring all MCN members have the opportunity to contribute to the MCN. However, MCN management was often seen to span a range of other roles:

'I think there's a tendency for the MCN managers to get drawn into a little bit of planning, a little bit of service development, a little bit of organisational change and a little bit of general management.'

As such, this respondent emphasised the need for MCN managers to be careful not to take work away from each of these departments in the process of managing a MCN.

Some respondents though placed greater emphasis on managers' roles in connecting the MCN to local planning and financial structures and taking a political perspective. For these participants, MCN managers could and should be more involved in planning ahead, and should play a key role in linking the MCN to the local Health Board and in ensuring that the MCN influenced the Board's agenda. Respondents suggested that MCN managers gained credibility among MCN members and within the wider locale through their success in MCN management roles, but that MCN managers did not need the same locally high profile as MCN leads to be effective.

Different models of actual MCN management were described, with variation in the extent to which MCN managers were full- or part-time, and the grade they were employed at. Managers also differed as to the level of support they had from administrators or MCN 'coordinators', and the number and range of MCNs they supported. Issues arising around generic MCN management – across multiple MCNs – are discussed in more detail below. In general though, these different models appeared to reflect differences in the context, scale and complexity of MCNs across Health Board areas.

Relationship between MCN clinical leads and MCN managers

Good working relationships between MCN managers and clinical leads were widely seen as important for MCN effectiveness, with many respondents talking in terms of a 'core team', with the two playing complementary roles. For some (but not all), whereas MCN leads were focused on clinical issues, MCN managers attended to the strategic, political and financial concerns.

'We [network leads] do need managerial support, they're key, they play a key leadership role, but, it's about having a mutual understanding, you know, we as clinicians have poor understanding of fiscal issues, financial balances, we need to be better briefed, and better understanding of these issues, and vice versa.'

Some described how the MCN manager might act as a 'buffer' or 'translation service' between clinical leads and local political and organisational matters, providing them with necessary information but helping to 'protect' them by dealing with other issues directly themselves. Respondents sometimes saw this relationship in terms of a 'partnership', with neither role dominating, and characterised by mutual respect and understanding:

'What makes networks work best is if you're able to demonstrate a balance between good clinical and managerial leadership and there's a synergy there that does, going back to enabling clinical governance to be on a par with corporate governance, just make a very subtle link where people don't feel as if there's two agendas, that there's actually an integrated agenda of clinical and managerial leadership.'

Other respondents were clear that MCNs were fundamentally clinical entities and that the manager played an important, but in essence supportive, role in relation to the clinical lead and clinical network.

'[MCNs provide] synergy of clinical expertise and being able to provide this concentrated area of resource and advice and knowledge and evidence base... That to me is the essence of a network and any of the service managers or planners would be able to use that as a resource of expertise to be able to pull from'

2.5.3 Manage MCNs using negotiation, facilitation and influence

Respondents felt that successful MCN management required an approach based on negotiation, influence and facilitation, both when working with clinicians and with operational and strategic managers. This was expressed in different ways and given different emphases, as '*fostering*' MCN relationships and activities, or more actively as '*steering*' or even '*manipulation*'. Such approaches will likely reflect the fact that MCN clinical leads and managers have no direct managerial authority over MCN members, and do not directly commission or contract for care provided.

Similar kinds of skill for successful MCN management were described as needed by both clinical leads and MCN managers. Being able to establish and maintain communication across the MCN and to support widespread consultation were seen as key to managing MCNs. In particular respondents emphasised the ability to build good personal relationships, and to communicate across different professional groups and boundaries.

'My feeling is that most networks have got someone in them that's passionate about network working and has got the skill, either charisma, skill or influencing, or whatever, to develop those relationships that are critical for the running of the network.'

'It definitely needs to be someone that has good interpersonal skills and that can use different language for different people at different times in the network, recognising that fundamentally you're speaking with clinicians who have got a very different agenda and very different priorities than the management one.'

However, some debates emerged across respondents' accounts about whether – or the extent to which – MCNs can be 'managed'. For some, MCNs needed management, and this was one of the benefits of formalising clinical networks as MCNs:

'I don't think you could have a managed clinical network if it isn't managed and you can't expect clinicians to do it in their tea breaks, they just don't have the time.'

'I don't think there is anything magic in networks, I mean people have been doing it for a long time and I think that what is new and exciting is that when you formalise it and you manage it you have a little bit more

time to actually address the issues because people are busy doing their own job and it is not surprising that they find it difficult to look at what other people are doing so I think it can be very successful. They probably need a little bit of managing.'

Such respondents felt that management support, and adequate resource for this, was vital for MCN success. However these respondents still saw the MCN management role primarily in terms of facilitation and influence. Key was that MCN managers are not operational managers: they are primarily concerned with facilitating service development, or managing interfaces rather than services. For one respondent, this was precisely why MCNs cannot be 'managed' (at least in the conventional sense):

'You can't ever manage a clinical network, that's just stupid.'

'I think an MCN... can influence operational managers and should do, and indeed set some standards that are agreed and then performance manage them but it doesn't do operational things.'

However, many respondents argued similarly that for MCNs to be successful, MCN managers – or the MCN itself – needed to be '*strongly connected*' to operational management or to have operational managers '*fully embedded*' in the MCN itself. This might happen by including managers in MCN groups/teams and structures, for example, and/or through formal meetings between operational managers and MCN core teams. More generally, respondents' accounts suggest that key issues for MCNs arise around questions of accountability, and of how MCNs can and should relate to operational management.

Boundary spanners

Both implicitly and explicitly, respondents saw the work of the MCN clinical leads' and MCN managers' in terms of them being boundary spanners. They often emphasised that their primary affiliation and agenda should lie with the MCN, rather than any personal agenda.

'Not necessarily neutral, that's too bland a word... but certainly not partial to any one group.'

'Interested but disinterested if you know what I mean but they are committed but they don't actually have any particular group to stand with or to push.'

'They don't see me [the network manager] as belonging to either camp [primary or secondary care] and so that is actually very useful in gaining trust from both sides.'

They envisaged both clinical lead's and manager's roles in terms of engaging across different professional groups within the MCN and in terms of securing wider engagement and influence needed to achieve MCN goals. Key was that both MCN clinical leads and managers needed to be able to develop good personal relationships across boundaries. For MCN clinical leads, the ability to enthuse and engage other clinicians was emphasised,

although being able to bridge the boundary with the Board was also often described as important. For MCN managers, managing relationships with operational management and the Board were particularly emphasised, although managers were described as having a key role in turning 'inclusion' of clinicians and others into active engagement through their role in operationalising MCN vision and priorities.

Managing more mature and multiple MCNs

Some respondents felt that the MCN manager's role might change over time. They suggested that the initial MCN development stage might require more management resource, with MCN managers subsequently playing a more generic '*maintenance role*', managing across multiple MCNs. In contrast, others suggested that established MCNs would in fact need more management support, in order to implement agreed priorities.

Those favouring a more generic management role suggested that there are a number of skills and activities common to managing any MCN and that these can be effectively and efficiently applied across a number of MCNs by a single manager (although clinical leads were typically seen as more specialist).

'...because the skills you need to administer and manage a managed network are the same and it doesn't matter what the specialty is it is still the same attributes you need as a manager and the skills you need.'

These participants believed that managing across MCNs was likely to support consistency across conditions, to help avoid duplication of effort, and to implement the developing long-term conditions agenda (although the only examples of such generic models were relatively new and their effectiveness uncertain).

'The challenge is to link with other networks, so we don't produce vertical disease based, like we need to apply the generic principles of clinical managerial leadership, quality data, real time data measurement for real time, quality improvement, patient information, patient education, patient involvement in the network. All these core principles, all need to be nested within a common framework for the management of long term conditions. I think that's the challenge, will be to produce a generic core, which will deliver on a number of networks. Because otherwise, we will just have a multitude of networks.'

Some respondents suggested that generic MCN management is in fact essential to sustaining MCNs in the long term, since it was unsustainable to have a single manager for an ever growing numbers of MCNs. This does however raise the issue of how many MCNs one person can manage: '*you could get spread too thin*'. Some felt that effective generic MCN management might require greater investment in the clinical lead role to '*keep the momentum going*', with additional some support from administrators or more junior co-ordinators, for example to maintain communications.

Other respondents were more circumspect about the value of generic MCN management. They often recognised the risks of excessive MCN proliferation, and acknowledged that generic MCN management might provide for a broader perspective and enhanced co-ordination of activity. But they also feared that bringing MCNs together might entail a loss of focus, enthusiasm and effort:

'If you don't focus on something you lose the focus. But by the same token actually in smaller areas you can't have an MCN for every speciality group under the sun so there has to come a point where you don't focus on one condition'

English respondents also raised issues around successfully merging MCNs.

'In some places I have heard it mooted the cancer and CHD networks should merge, well then why, that is not a network is it? The whole point is the clinical focus, the disease focus, and while there is an obvious overlap for the potential administrative savings or rationalisation which can be made out, I think keeping the essence of what makes a network a network is important.'

Overall, responses suggest that there are many uncertainties about how MCNs should be managed in the future, with the potential for sharing functions or merging balanced against the risk of losing focus, or creating large and complex networks that are more likely to be ineffective (Ferlie and Addicott, 2004; NHS Confederation, 2002).

2.5.4 Establish and maintain effective, two-way communication across the MCN

Communication was seen as key to MCN success, supporting consultation, helping secure engagement and consensus, fostering MCN relationships, ownership and trust, and assisting the spread of good practice.

'I think it's all about communication, you see. I think communication is a vital part of it.'

Respondents emphasised the importance of keeping good communications going – around MCN progress, both good and bad – for sustaining successful MCNs. As such efforts at MCN communication needed to be ongoing, rather than one-off events. MCN clinical leads and managers were seen to play a critical role in MCN communication, and for many this meant developing strong personal relationships with MCN members:

'Having somebody there [a network manager] dedicated to trying to develop some of those relationships has been the biggest advantage.'

Participants also emphasised the importance of creating opportunities for MCN members to feed ideas and issues into the MCN as well as keeping them informed about MCN processes and activities.

A wide range of approaches to communicating across MCNs were described, including telephone and e-mail; one-to-one meetings with the core team;

evening meetings; educational programmes and conferences; newsletters; and web sites. Respondents often recognised that effective MCN communication required a varied and creative approach and that relying on e-mail alone was unlikely to be successful. They suggested that the best – and most powerful – approaches to communication tended to be informal, and were ideally face-to-face. This suggests however that successful MCN communication – in both directions – may be heavily reliant on key individuals fulfilling this role.

English respondents also emphasised the importance of good communication across MCNs: the value of a MCN communications strategy and to ensure that people have the opportunity to engage with the MCN, as well as engaging with them directly:

'The importance of constantly talking to all of the members if you like of the constituents of the network.'

2.5.5 Align with, and secure support from the wider organisational environment

Participants (especially those emphasising the role of MCNs in influencing strategic decision-making) felt that MCNs need to be well connected with their Health Board and larger national NHS structures in order to succeed in the longer term.

'[MCNs] provide a means of keeping together a vision for a service in a changing environment and how connected they are to that changing environment will mean how effective they can be.'

'To be sustainable, I think you do need an organisational endorsement, and a clear strategic fit within health care delivery, either at a locality or regional level.'

Most often, respondents talked about the need to develop good relationships between MCNs and their local Boards:

'To try and raise the profile at a managerial level and at Health Board level. It's about getting resource or getting senior support to do things so I think it's at all levels we are trying to work through.'

They suggested that as a minimum, MCNs need some level of acceptance by the Board. Without this endorsement, MCNs lacked legitimacy within their locales, and would be unlikely to secure buy-in from key groups: MCNs needed to be seen as the *'rightful leader'* in terms of their area of focus. Some felt that the policy mandate had helped ensure Board recognition and support which might have been lacking for previous collaborative structures: *'the Board have been told to work with us'*. More often, though, respondents emphasised the need for MCNs to secure explicit and active support from the Board:

'Where the boards have taken the MCN as the clear route to get advice about how to develop the service and provided some funding to make that happen, it has got on. Where the boards have treated the MCNs as

more semi-detached or several steps away from them then it has been less successful.'

Such support might be secured through both informal and more formal routes including the clinical lead and/or the MCN manager actively seeking to engage senior management both informally (through personal relationships with particular people) and formally (for example by including Board members on MCN committees). Additionally, it was also suggested that MCNs could gain Board support by using condition-specific expertise and MCN engagement of a wide range of stakeholders (including patients and the public) to create a stronger and more credible case for having input to planning, investment and service development.

'Part of the role is actually just providing a legitimacy to what we are doing so if someone then says 'what does the MCN think' we've got a parliament and it's not just one person saying this or that.'

'Whether you call it a MCN or anything else I don't think it actually matters, but you have to have some sort of cohesive, constructive approach that does involve all the relevant people and can then engage with the people who have the money at the end of the day.'

MCNs thus need to be able to persuade Boards where and how they can 'add value'.

English respondents similarly felt that an effective MCN is one that is well integrated into the organisational environment: *'part of the furniture if you like of local health communities'*. They emphasised the need for MCNs to be connected both at local level and at strategic levels as well:

'Good networks use them [Local Implementation Teams] and are very effective at a local level but they also have the ear of the strategic health authority as was and the ability to influence commissioning and the capital investment decisions.'

2.5.6 Aim for early success, and ongoing change

Most respondents felt that MCNs should seek to deliver early change on relatively small, non-contentious problems, to demonstrate the benefits of networking and promote further engagement by clinicians, and to prove the MCN's worth to the Health Board.

'When people see results and they're starting to see resources or change happening in the service, I think it gives you more of an enthusiasm to move on and people have definitely bought into that.'

'Don't get too many boxes open, try to find out the popular and priority issues and deal with those in a simple constructive way that doesn't challenge too many people.'

Ongoing change and success was also seen as important though, as a means to sustaining engagement in and with the MCN and achieving continuous improvements in patient care.

'Some success is needed, because if you end up just beating your head against a brick wall and getting nowhere, you know - you stop.'

Crucially, it was felt that where MCNs deliver 'good' and 'useful' outcomes, then the MCN will become popular and people will want to get involved, with active involvement creating trust and norms of reciprocity, obligation and co-operation (Cropper, 2002). Respondents recognised that this might be more difficult once the 'easy wins' had been gained and less tractable problems needed to be tackled, and additionally stressed the importance of clinical leads providing praise and recognition of effort – even where success has not always been fully achieved.

Respondents were often clear that MCNs should not 'relax or rely on your past, rely on your past success':

'It isn't the sort of thing where you can simply sit back and say well you know fine we have got our network because if we do that you rapidly find you haven't got a network. It is only useful if people actually believe in it and see it doing things and things are changing.'

Many felt that change was important for encouraging people to engage – or re-engage – with the MCN, and viewed MCNs as dynamic and continually evolving entities. However, this should be change that is needed and recognised as important, not just 'change for change's sake'. They emphasised the need for reinvigorating MCNs, and to review and renew their activities as required. Stopping unwanted or moribund work was seen as important as generating new activities: 'get rid of the rubbish really, the bits that people have lost interest in'. Some respondents went so far as to suggest that there may come a point where a formal network is no longer required or worthwhile:

'You might have a meeting where you say well we have done all of this do we still need an MCN, not everything needs to continue forever.'

In other words, if MCNs have successfully 'joined up' professionals and organisations across the care pathway, and people have 'made friends' and are talking and collaborating together effectively, an MCN may no longer be necessary.

English respondents similarly thought that getting some early, easy, network achievements were important for moving networks forward:

'The most successful networks have been the ones who have actually got their teeth into something.'

However, they also noted that while it was useful to 'choose some easy wins' and focus on what is really important in the early days, there was also a need to take a strategic view and not simply to go where they were 'wanted and loved'.

2.5.7 Create a clear and agreed vision and priorities

This emerged less strongly in respondent accounts, but clarity of purpose was mentioned by some respondents as important for MCN success. They emphasised the need for a clear direction of travel, to which everyone is signed up, for MCN success:

'Clear aims and objectives, absolutely clear direction.'

Other respondents might however see this as much as a marker of MCN success in itself:

'The key points of success are just being able to come up with a common set of priorities by having everybody around the table in order to do that.'

Key was the need for agreement within the MCN in order for MCNs to move forward and be effective. Such consensus and cohesion was felt to be supported by effective communication and consultation within the MCN and was also seen to enhance MCN credibility within the Board. For some respondents, getting everyone *'singing from the same hymn sheet'* was far more important to MCN success than having charismatic individuals to drive a MCN forward.

English respondents noted the need for networks to balance local and national policy:

'I think some of the unsuccessful networks have been too focussed on the local things sometimes and have dug themselves into a hole locally, and tackled some really intractable focus and not lifted their heads up on some of the wider stuff.'

Some respondents touched on the need for alignment between MCN vision and local clinical and managerial priorities. One who was more sceptical of MCNs seemed to be disengaged from the MCN concept at least in part precisely because they saw a mismatch between MCN priorities and local concerns, highlighting a potential tension between national, MCN and local clinical/managerial priorities.

2.5.8 MCN leadership and management need to be resourced (and resource for MCN activity helps)

Respondents felt strongly that, as a very minimum, MCNs need some dedicated resource for clinical leadership and managerial support, in order to *'oil the system'*. Respondents sometimes noted that the nature of resource required might vary across the course of a MCN's development, although, as discussed above, there was no clear agreement about when MCNs might need more or less intensive input. Despite this most respondents felt that significant investment was needed *'to encourage'* MCNs and get them up and running. A key factor for MCN success thus emerged as having some dedicated, adequate funds for leading and managing the MCN.

More mixed views were reported about whether MCNs should themselves hold budgets beyond core MCN management resources. Most respondents resisted this idea, feeling that this would simply create another financial 'structure' in the system and increase both competition and bureaucracy:

'MCNs should not be holding a global budget otherwise they are a Health Board in themselves.'

'They would destroy the MCN concept completely if you said here's the public pot or whatever for diabetes spend it as you will.'

On the whole, respondents supported a model in which MCNs bid for funds, either to the Board or elsewhere, and at the same time aimed to advise on and influence local decision making processes around commissioning and investment.

It was seen as a strength of MCNs that they were actively disengaged from bureaucratic issues of finance, human resources and so forth, but some respondents felt that MCNs should have at least some funds to 'play with' to be able to meet targets set and to implement their key priorities and goals:

'Getting some funding helps I think if you have a network and you end up with nothing to do or not able to do anything.'

English respondents felt that network resources could help move networks forward, and that providing funding for network management or coordination could be 'one of the biggest change agents'. However, they also noted that policy support, as much as capital investment, was needed to drive change via networks, and that a good deal could be achieved in the absence of new funds: success may then be the result of a combination of 'motive and means and opportunity'. They also felt that 'improving' and 'ambitious' networks with knowledge of local services and of the resources available can be key in underpinning service change in the absence of key funds.

2.5.9 Getting the right MCN structures can help

Rather than focusing on structures, most respondents talked about MCNs as fundamentally dynamic, changing entities:

'It is fairly dynamic... And I don't think any group should remain static as well. I think it ought to change.'

These ideas were often associated in accounts with talk of MCNs as 'virtual', distinguishing them from conventional organisations:

'Networks are not a separate organisation, they're actually made up of the people already within organisations... so they're not different, they're not legal entities.'

For these respondents MCNs existed in the linkages and relationships between professionals and organisations (a 'glue' or a 'web') rather than being a distinct organisation in themselves. MCNs were therefore primarily concerned with managing the interfaces between organisations.

The MCN is very much... it's a virtual body, in some ways it doesn't exist. It's like glue that holds all the disparate parts together, to try and make them function in a coordinated kind of manner.'

This implies that MCNs are likely to be characterised by changing activities, drivers and demands, rather than having a clear '*optimal*' structure.

In the accounts from English respondents, a key metaphor emerged around networks as '*natural*' entities. They defined networks in terms of '*natural population flows*' (from primary into specialist care) and suggested that '*true*' networks are those based on such flows, rather than those formed around powerful people and organisations or charismatic leaders:

'Networks to some extent are we hope natural features that have natural affinities. The ones that are will be easier to hold together. The ones that aren't are already starting to be questioned and thinking about their existence and where you have got that situation and a lack of maturity and I think some of those networks are vulnerable to change.'

Network success was thus seen in part to reflect the '*naturalness*' of the networks themselves. In accounts of Scottish respondents, similar assumptions were made, but naturalness for local MCNs such as those for diabetes and coronary heart disease was taken for granted to mean being co-terminous with Health Board areas, even where patient flow across Board boundaries did not always match this.

Conversely, a small number of respondents saw MCNs as '*organisations*' in themselves. They talked about MCNs in ways that indicated more structured, hierarchical conceptualisations. More commonly though, MCN structures were described as facilitating MCN aims, rather than defining what the MCN was, with some participants expressing concern that that '*if people are too focused on organisational structures, nothing happens*', and that patient care, rather than MCN arrangements, should take centre stage.

Nevertheless, many respondents also recognised that having the right kinds of MCN structures could facilitate the development of effective relationships, and support effective MCN processes and activities. For example, respondents felt that having the right structures in place ensured appropriate representation of all stakeholder groups within the MCN, for example in the way that MCN steering groups could provide a '*parliamentary function*', physically bringing stakeholders together to share ideas and issues from their constituents to the MCN; providing a sanction for its strategy and activities; cascading information back down to representatives' groups. Similarly, giving responsibility for ensuring that planned work actually happened to an executive '*core team*' and a range of sub-groups, was perceived as more effective than attempting this with a very large, representative steering group.

English respondents too felt that successful networks were about more than just having good structures in place. However, they also noted the variation in network size and structure south of the border because of the lack of

mandates around networks. One felt there needed to be a balance between some form of 'core' network model, and necessary local variation:

'I think they need to be able to flexible and to respond to local conditions, but sometimes that leaves them vulnerable and it leaves that in a difficult position when we are asked to talk about things nationally it makes it harder but yes, I think it is the lack of central control and we have got more positives than it has negatives.'

Not all respondents mentioned structures as important to MCN success, and as noted above some felt that focusing on organisational concerns could in fact be detrimental to MCNs' progress. There is little discussion of the specific role of network structures (as opposed to forms) in the literature. Overall, the data suggests that having the right kinds of network structures in place supports network processes associated with greater effectiveness, rather than playing a key role in network success in itself.

2.5.10 MCN success is enhanced by good data, strong evidence, and supportive IT systems

A number of respondents (but not all) felt that good data and evidence, supported by effective IT systems, were important for MCN success, because it was a prerequisite for systematic quality improvement.

'Importance of data, knowing what's happening, knowing what you are doing well, knowing what you are doing not so well, is a main driver for change.'

Some suggested that by enabling comparison with peers, good data might help draw people into the MCN. Such data – especially when accompanied by a strong underpinning evidence base for action – were also thought to enhance bids for resources, bolstering the chances of success. More generally, they were seen as useful to increase the value and credibility of the MCNs' plans and strategies, and of the MCN as a whole. IT systems were seen as potentially supporting this, but some respondents stressed that IT systems underpin MCN processes, but do not provide MCN 'solutions' in themselves:

'People see IT as a solution and it's not.'

2.6 Findings - MCN impact

Respondents from the scoping study interviews talked about a very wide range of impacts and outcomes from the MCNs they knew. These ranged from relatively intangible changes in ways of working and culture, to specific outputs such as guidelines, to tangible changes in services and outcomes.

Most participants emphasised less tangible impacts and outcomes in the MCNs they knew. Many suggested that the MCN had brought about a greater vigour and enthusiasm locally for making changes in the clinical

area concerned: *'we've created an energy to try and do things',* enhanced by a sense that MCNs are achieving gains.

'It has enabled there to be dialogues that used to get bogged down in we are in our silo you are in your silo and, okay we will have a meeting talk about it and go away and bad mouth you and so I think it has broken down some of that.'

They spoke about how MCNs drew a much wider range of partners into developing and delivering services, such as the voluntary sector and social care, and had promoted a more outward-looking perspective in terms of the search for solutions. Similarly respondents talked about a greater understanding and respect for different professional groups and roles that had come about as a result of MCN engagement, with a realisation about the potential and possibility of working together to make improvements in care:

'[There is] very much greater increased understanding of everybody involved in the network of everybody else's roles and capabilities and the ... sense of cohesion and support for each other.'

'You're definitely breaking down the barriers and before I suppose secondary care felt like a team, primary care felt like a team whereas now... the cardiac MCN almost think of themselves as a team which are involved in planning the service.'

Respondents also described some very tangible outputs of MCNs. These included a variety of products and activities such as:

- developing new guidelines, systems and protocols for care
- patient and professional education and training
- getting better patient information and involvement
- developing MCN strategy
- new systems for data collection, sharing and audit
- developing – and winning – bids for additional resource for services.

Some respondents suggested that in turn such tangible outputs enhanced MCN success in other ways. For example, new systems for data sharing had in turn enhanced connections and communications across primary and secondary care, while improved audit systems had supported stronger bids for additional resource.

Many respondents were also able to identify real changes in the provision of services as a result of MCN activity. This might have come about through reorganisation within existing resource, or by developing new or changed services through additional resource, sometimes secured by the MCN itself. Respondents described better organisation of existing local services as well as the development of entirely new posts and services, although many emphasised that these could not always be solely attributed to the MCN.

2.7 Discussion and mapping to the SDO scoping study

This section briefly discusses the findings of the scoping study in relation to the literature and in particular the SDO scoping study (Goodwin et al., 2004), signposting where particular themes will be picked up in later studies and chapters.

2.7.1 Network origins and development

Voluntary vs mandated networks

Although the existing voluntary networks were often identified as partial exemplars, there was no clear view that voluntary were naturally better than mandated. Many respondents saw mandation as generally positive in terms of creating a space within which clinical networks had a more obvious legitimacy and purpose in relation to existing NHS organisations and management. Potential problems were also identified if over-prescriptive mandation stifled innovation and dampened enthusiasm, consistent with the literature that more informal, less regulated approaches may be particularly important in promoting commitment, voluntary participation and equality within networks (Goodwin et al., 2004).

However, although the Scottish Executive mandate contained 12 core principles that MCNs were expected to adhere to (see Appendix 1), its main requirement was that MCNs had to exist in each Health Board for diabetes, CHD and stroke, with little prescriptive guidance and little evidence that formal compliance with core principles was particularly difficult. MCNs therefore had an ambiguous status of being required to exist, but with little formal specification of what form they should take. This was reflected in slippage within individual respondents' accounts as to whether MCNs were seen as '*formal*' or '*informal*' entities, and it may be that sustaining precisely this ambiguity or productive tension around the degree of formality of MCNs is important for sustaining MCN success. In a similar vein, Cropper (2002) suggests that although networks may need a clear identity and visibility, no one version will be definitive. Goodwin et al. (2004) notes that in the partnership-based Health Action Zones informality supported innovation and autonomy, but a degree of formality was needed to sustain any collaborative activity. Others have suggested that network effectiveness is inversely related to network formality: imposing overly bureaucratic procedures will destroy precisely those benefits informal networks provide, such as flexibility, creativity, and the development of strong interpersonal relationships (eg NHS Confederation, 2002), although others argue that networks are not *necessarily* superior in flexibility, trust and innovation (6, 2004).

Overall, scoping study respondents viewed mandation as providing a level of credibility to networks that would otherwise be difficult to achieve. Others have also argued that some level of formality is probably necessary for

networks to operate effectively within a health care context (NHS Confederation, 2002), and this issue is further explored in chapter 3.

Network development and maturity

Respondents distinguished initial developmental stages of MCNs focusing on creating networks, with later evolution to focusing on service change once networks were cohesive (although these were not wholly distinct in the accounts, and most respondents' experience at the time of interviewing was in relatively young networks). The 'right' kind of network and ways of working were therefore expected to change as MCNs matured, for example as reflected in discussion of the network manager's role, and managing across multiple networks. Other commentators have noted that developing and sustaining networks is a time consuming process that in turn needs a long-term view of investment (Cropper, 2002). The Skills for Health project identified a similar range of beliefs about the need for managers' roles to evolve as networks did (Boak, 2006), with networks needing to employ a flexible or '*living*' design to allow them to adapt and therefore endure over time (Goodwin et al., 2004).

There is also a considerable literature proposing that network management activities are organised in a sequence from initiation to termination. Goodwin et al. (2004) identifies some common elements to these frameworks:

- Initiation: selection and recruitment
- Objective negotiation: developing aims, norms and values
- Design: establishing network structures and rules
- Environment management: securing legitimacy and resources among external stakeholders
- Joint production: collaborating to produce goods or services
- Adjustment: making changes in the course of the life of the group
- Termination, transfer or fundamental change: ending the network, moving its functions elsewhere, or transforming its nature.

Many of our respondents described similar network management activities, and some recognised the need for both adjustment and even termination over time. Goodwin et al. (2004) note that most commentators argue such stages are unlikely neatly to follow one another in a linear sequence, but may be conducted simultaneously, or more iteratively, than such designations suggest. Stages may even be omitted, or the sequence completed more than once. Some of our respondents similarly conceptualised network management as an ongoing and evolutionary process, which involves flexibility and continual change rather than fixed goals or stages, and this is examined in more detail in chapter 3.

2.7.2 What makes an effective network?

Table 2 on p51 summarises how the scoping study findings map to the ten “key lessons” from the SDO scoping review (Goodwin et al., 2004), with considerable overlap, but also some difference.

Inclusiveness

The findings relating to inclusiveness are broadly consistent with the existing literature on networks. The idea that networks need to be inclusive in their membership and involvement mirrors one of the key lessons to emerge from the findings of the SDO review, which highlighted the importance of making sure that all agencies and individuals gain ownership of the network and are actively involved in its work (Goodwin et al., 2004). Other authors have emphasised the importance of wide stakeholder involvement in health care networks and of inclusive, ‘bottom-up’ processes to developing network strategies (e.g. Conner, 2001; Cropper, 2002). For most respondents, inclusiveness and engagement were prerequisites of an effective MCN, and achieved primarily through the work of the clinical leads and network managers.

Leadership and network management

Many of the key lessons of the SDO scoping study relate to leadership and network management, including the importance of managers achieving ‘a *position of centrality*’ in the network; engaging ‘*respected professional leaders who will promote the network to their peers*’; professionals in the network providing a ‘*mandate to allow managers to manage and govern their activities*’; and developing a range of ‘*strategies for network cohesion*’ (Goodwin et al., 2004; and see table 2).

Consistent with the literature (e.g. Edwards, 2002; Ferlie, 2001; Goodwin et al., 2004), strong leadership was perceived as important. Although sometimes talked about in terms of particular charismatic individuals, such reliance on key ‘*linkers*’ prompted concern about MCN vulnerability if they left (Livingstone, 2003; Ferlie, 2003). Respondents indicated that MCN leadership was usually distributed across a core team that at a minimum consists of the clinical lead and network manager. Accounts of the clinical lead’s role emphasised creating shared vision and clinical engagement, and of the network manager’s role, organising network activities and liaising with operational management. However, there was significant overlap, particularly in regard to working with Health Boards. Like participants in the evaluation of the Scottish Cancer networks (Livingstone, 2003), most respondents therefore perceived leadership and network management as best distributed to help develop a climate of trust and collaboration across multiple boundaries, and requiring a similar range of boundary spanning skills from both clinical lead and manager.

Several authors note the importance of skills in building and maintaining relationships across networks, the ability to influence and secure buy-in,

and the skills to build a collective vision (Conner, 2001; Cropper, 2002; Ferlie, 2003; NHS Confederation, 2002; Goodwin et al., 2004; Boak, 2006). All of these were emphasised by respondents, with trust in the core team being significantly based on members' perceptions that they were broadly neutral (or at least not wholly self-interested or aligned to one group or organisation) (Goodwin et al., 2004). Centrality in the MCN was said to be largely achieved through personal relationships, although facilitated by the core team's providing the dedicated network co-ordination function that is *'financed, pro-active and in control of the information, knowledge and/or incentives at the centre of the network'* (Goodwin et al., 2004).

In terms of professionals in the network providing a *'mandate to allow managers to manage and govern their activities'* (Goodwin et al., 2004), respondents described this as achieved almost entirely by negotiation, influence and securing voluntary buy-in rather than by MCNs exerting more direct managerial authority. The literature similarly emphasises that network management is more likely to involve facilitation and *'enablement'*, rather than a command and control-style approach (e.g. Goodwin et al., 2004). More coercive or manipulative styles may meet with resistance and undermine the development of collective trust across the network (e.g. NHS Confederation, 2002; Ferlie, 2003; Goodwin et al., 2004). Cropper (2002) also distinguishes formal approaches to network management, for example through care pathways and contracts, and more informal approaches that involve the development of trust, co-operation and relationships. In general, respondents did not talk about more formal means of network management, such as having unambiguous rules of engagement, explicit contracts and agreements, or pooled budgets or other joint financial arrangements as a route to network cohesion and success, although the SDO key lessons for network management suggest these may be important in at least some contexts (Goodwin et al., 2004). Some of our respondents felt that some responsibility for resources, or at least a degree of MCN control or influence over resource allocation might be helpful, but there was no general desire for MCNs to take on large budgets or commissioning functions. This at least partly reflected that such authority was perceived likely to bring with it greater regulation and bureaucracy that risked limiting MCNs ability to innovate and to secure the commitment of autonomous network professionals (Goodwin et al., 2004). This is not to say that these forms of governance were not sometimes used or co-opted by MCNs through influencing Health Boards, but rather that such formal mechanisms did not seem to be viewed as core to achieving a successful network. However, it is important to recognise that Scottish policy effectively forbids commissioning and contracting authority, and by placing networks outside existing line management, constrains them *not* to have direct managerial authority (Greer, 2004; Scottish Executive, 2007).

Overall, respondents therefore tended to emphasise 'softer', more informal and interpersonal forms of governance of network members, using approaches that relied on influence, persuasion, facilitation and negotiation, and on building strong personal relationships (Sheaff, 2003; Sheaff, 2004). Livingston (2003 referencing Monaghan, 2000), distinguish different

'common building blocks' for establishing an MCN, from those involving *'trust, goodwill, respect, communication and an interest in developing clinical relationships'*, to *'structural blocks'*, such as agreed protocols and pathways, joint audit, peer review and common leadership. The latter were sometimes mentioned as important for network effectiveness, but they tended to be seen as (mutually) supportive of these other, softer processes rather than critical in their own right.

Leadership and network management were central to accounts of what makes an effective network, and are further examined in the case studies in chapter 3.

Communication within networks

The SDO key lessons for successful network management do not refer specifically to the importance of effective network communication, although it is suggested that IT systems can help secure network cohesion (Goodwin et al., 2004). It is also clear that good network communication can in turn support inclusiveness in network design and development. However, developing strong communication strategies emerged as a key strategy for Scottish MCN cohesion and success among our respondents. Other commentators have suggested that securing local and participative 'bottom-up' network development requires significant investment in communication, by all network members (NHS Confederation, 2002). The SDO key lessons do emphasise that networks must respond to members' needs in order to ensure the network remains relevant and worthwhile to them, and an emphasis on two-way communication – ensuring network members have the opportunity to feed in their own information and concerns – may help support this. Cropper et al. (2002) note however that traditional communication methods – including face-to-face meetings – will be harder where networks are geographically dispersed and, like our respondents, emphasise the importance of taking a creative approach to network communication.

Relationship with wider organisational context

In general, the literature also suggests that collaborative and network approaches need a supportive organisational environment if they are to flourish (Conner, 2001; Ferlie, 2001). The SDO key lessons for network management refer to 'environment management' as a key network management activity, involving work to secure legitimacy, acceptance and resources from external stakeholders (Goodwin et al., 2004). Other studies have found that major tensions can emerge around accountability and governance between networks and the organisations with which they intersect (Goodwin et al., 2004; Livingston, 2003). One way that this emerges is in the importance – and difficulties – of aligning network priorities with those of individual network members, and with those of local, regional and national organisations and agencies (Conner, 2001; Goodwin et al., 2004). Goodwin et al. (2004) note that this is a particular concern for imposed and mandated networks, which may be less than successful, and

suggested that government targets and incentive arrangements need to be harmonised in ways that promote and reward working in networks (Goodwin et al., 2005). The problem of creating consensus around priorities within networks, while remaining aligned to broader priorities was noted as a particular tension in the scoping study, and highlighted for exploration in the case studies (chapter 3) in particular.

Table 2. Mapping of scoping study findings to SDO Briefing “Ten key lessons” (Goodwin et al., 2004)

Key lessons from SDO review (reordered)	Scoping study findings
<p>1. Achieve a position of centrality within the network. Centrality is crucial in individualistic and hierarchical networks. Network co-ordination should be financed, proactive and ‘in-control’. Consider employing a neutral manager or agency where there are competing interests.</p> <p>5. Develop strategies for network cohesion _ Joint finance arrangements, pooled budgets, agreed care protocols and common targets help promote cohesion across hierarchical and enclaved networks, as does the removal of physical and jurisdictional boundaries. A ‘boundary spanner’ acting as an intermediary between organisations and agencies allows individualistic networks to function effectively and helps hierarchical networks engage with peripheral agencies. IT can be a key enabler in promoting network cohesion across all network types.</p> <p>7. Actively engage respected professional leaders who will promote the network to peers (all networks).</p> <p>10. Professionals in networks must provide the mandate to allow managers to manage and govern their activities (individualistic, hierarchical).</p>	<p>Employ a network management style based on negotiation, facilitation and influence (maps to 1, 5 and 10). The emphasis in interviews was on informal management approaches, creating trust and co-operation through facilitation, consultation, communication and the development of personal relationships, to “foster”, “steer” and “manipulate” network processes and activities. A good working relationship between network managers and leads, creating a network executive or “core team” was often seen as important and might provide the position of centrality suggested as important in the SDO review (although because of the context in which they operate, Scottish MCNs are neither particularly individualistic nor hierarchical). Respondents emphasised the importance of a ‘boundary spanner’ role for both clinical leads and network managers, which required these individuals to have (and be perceived to have) a network rather than an individual agenda, have a good understanding of members’ organisations and contexts, strong interpersonal skills, and the ability to communicate with and influence a range of professional groups.</p> <p>Engage strong, credible and influential network leads (maps to 1, 7 and 10). Network leadership was usually conceived as being shared between a clinical lead and a network</p>

	<p>manager. Often, the clinical lead was perceived as providing the vision, enthusiasm and credibility to engage the whole range of clinical colleagues, whereas the network manager was more often said to deliver the “nitty-gritty” of organising and operationalising network objectives. On the other hand, network managers were more often described as linking with operational management, and both clinical leads and network managers were central in building effective relationships with Health Boards to influence strategic decision making. Maps to key lesson 7 and 10 as well.</p> <p>Network co-ordination needs to be adequately resourced. Respondents agreed that dedicated funds are required to support the network clinical lead and manager roles.</p>
<p>2. Have a clear mission statement and unambiguous rules of engagement particularly within hierarchical networks.</p>	<p>Have clear and agreed vision and goals. Respondents felt that a clear purpose and agreed direction of travel help support network success. Consensus over network aims and goals was seen as important, and was thought to help secure network cohesion and ownership, and to facilitate change. Respondents also emphasised the need to ensure that network goals were aligned to members’ own priorities, and identified a tension for networks where national and local priorities differed, since networks might themselves be expected to align with national priorities.</p>
<p>3. Be inclusive – ensure all agencies and individuals gain ownership of the network especially within enclaved networks, but also helpful in hierarchical ones.</p>	<p>Be inclusive and ensure that all relevant stakeholders (those with any role in the particular patient pathway) are included in, and actively engaged with, the network. Participants suggested that an inclusive approach helps secure network ownership and credibility, and reduces resistance to change.</p>
<p>4. Large networks should be avoided – they incur high administrative</p>	<p>Not directly raised as an issue (likely reflecting that ‘local’ MCNs for common</p>

<p>costs and lead to inertia in all networks.</p>	<p>conditions may not reach this scale) but partly implicit in discussion of the potential risks of merging networks for different conditions in terms of loss of focus and cohesion.</p>
<p>6. Ownership may be facilitated by formalised contracts and agreements since clear and established operational procedures can lead to trust and understanding. However, over-regulation of hierarchical networks should be avoided.</p>	<p>Scottish MCNs are not characterised by formalised contracts and agreements, and exert their influence through persuasion and facilitation. There was variation between respondents, and within individual accounts about the best balance between formality and informality in network organisation. Whereas some network structures were perceived to facilitate network processes, most respondents thought too much emphasis on structures was detrimental. Many Scottish respondents perceived mandation as helpful in providing MCNs with greater legitimacy and credibility with Boards in particular (although at the risk of national priorities crowding out local ones), whereas English respondents perceived mandation as leading to less clinical engagement (which may reflect different styles of national management and of managerial-clinical relationships in the two countries).</p>
<p>8. Avoid network capture by, for example, a professional elite or a dominant organisational culture (all networks).</p>	<p>This was not identified as a concern, although arguably that may reflect that the “clinical network” sense of MCNs has capture by a clinical elite implicit in it, consistent with Greer’s analysis of health policy in Scotland both pre- and post-devolution (Greer 2004)</p>
<p>9. Respond to the needs of network members in such a way that the network remains relevant and worthwhile (all networks).</p>	<p>Aim for early success and ongoing, visible achievements. Respondents agreed that networks should start with relatively small, non-contentious issues to achieve some “early wins” in order to demonstrate the benefits of networks and secure broader engagement and ownership. Achieving ongoing visible change was also thought to be critical to long term sustainability.</p>

<p>Not explicitly highlighted in SDO key lessons</p>	<p>Establish and maintain effective two-way communication across the network. Communication was seen as key to network cohesion, consensus, fostering productive relationships, and helping develop ownership and trust. Such communication had to include opportunities for members to contribute, for example by identifying issues and concerns for network action. As well as written communication, good IT systems could contribute, but above all network clinical lead and manager informal, and ideally face-to-face communication was thought to be most powerful.</p>
<p>Not explicitly highlighted in SDO key lessons, although the review does note that “environmental management” – work to secure external resources and legitimacy and acceptance from core stakeholders – is a key network activity</p>	<p>Link with, and secure support from, the wider organisational context. Being able to influence their local Health Board was seen as critical for network success, and could be achieved both informally (eg personal relationships; ensuring that the network was representative and could legitimately claim to speak for all relevant stakeholders) and formally (eg network representation on Board committees, and Board members being part of network committees; business planning).</p>
<p>Not explicitly highlighted in SDO key lessons, although the review does suggest that network form (enclave, hierarchical, individualistic) underlies network success, although the ‘best’ form is context dependent.</p>	<p>Getting the right structures can help. Network success depended primarily on developing effective and productive relationships between members, but network structures could support this. Examples include network steering groups ensuring broad representation and inclusion, supporting effective communication and helping construct the network as credible and legitimate with other organisations.</p>

2.7.3 Network impact

Again in line with our findings here, the key lessons for network management that emerge from the SDO review emphasise the need for networks to demonstrate their benefits and value to the individuals and organisations which they engage, stating that networks need to respond to

their members in such a way that the network remains relevant and worthwhile to them (Goodwin et al., 2004). Participants identified changes to relatively intangible processes like culture and communication as being the most frequent early outcome of MCN implementation, alongside outputs such as new guidelines. Clear examples of tangible service change or quality improvement were described, although often more circumspectly, and respondents were typically reluctant to attribute these solely to MCNs, since MCNs were only ever one potential cause. A clear implication is that radical service reorganisation is unlikely to be an early outcome of networks (and indeed may never occur). Cropper (2002) similarly argue that a long-term view on investment is needed when considering network outcomes, and English respondents also suggested that it may be too early yet to see substantive changes from network activity. An alternative perspective is that networks may in fact find it difficult to 'move beyond talk to action' (Ferlie, 2003), or may struggle to deliver more radical restructuring of services because of the need to build consensus. However, the majority of participants in the scoping study were interviewed at a time when the MCNs they had direct experience of were still in the initial, developmental phase, with impact again examined in other studies (chapter 4).

2.8 Conclusions and implications for further research in this project

The scoping study findings are of interest in their own right. There is considerable overlap with the SDO scoping study as demonstrated in table 2 (Goodwin et al, 2004), although also important differences, notably in the ambiguity of the voluntary/mandated distinction; the bundling up of 'leadership' and 'management' in a core team consisting of at least one clinical lead and one network manager with overlapping roles, and with similar skills required of both; and the overwhelming emphasis in Scottish MCNs of fostering, steering and influencing through mechanisms of 'soft governance' (Sheaff, 2003; Sheaff, 2004). Some, but not all of the differences probably reflecting the distinction between global lessons for 'networks' as opposed to an examination of the local implementation of networks in a particular context.

The rest of the report examines the most important issues identified in the scoping study in more detail.

- The case studies (chapter 3) were explicitly designed to examine differences between voluntary and mandated MCNs, specifically explored how MCN leadership and management were achieved (or not) in different contexts, and examined the boundaries which MCNs prioritised for bridging.
- The first national survey of Scottish diabetes and CHD MCNs focused on MCN development and lifecycle (chapter 5)
- Professional and patient perceptions of longer-term impact were qualitatively examined as part of the case studies, complemented

by a patient experience survey and analysis of routine quantitative data (chapter 4).

- Generalisability of the scoping study and case study findings was additionally examined in the second national survey of Scottish diabetes and CHD MCNs, and the English Delphi study (chapter 6).

3 Network origins and processes

3.1 Aims

Following on from the scoping study, through which some of the mid-range theories about networks based on the SDO review of network literature (Goodwin et al, 2004) were identified as being relevant in the experience of Scottish network participants, case studies were conducted to further explore these and other emergent issues in order to gain better perspective on 'what makes an effective network'. In this chapter, the empirical findings from these comparative case studies of two 'mandated' and two 'non-mandated', or 'voluntary' Managed Clinical Networks (MCNs), will be presented and discussed.

3.1.1 From Scoping Study to Case Studies

In order to meet the broad brief of this research about how to organise for effective networks, it has been necessary to identify the purpose of exemplar MCNs from participants' perspectives. Gaining insight into what MCN participants felt they were trying to do, against the backdrop of Scottish healthcare policy in relation to MCNs, provided some analytical purchase on what may be deemed to be effective ways of achieving such a purpose. As reported in chapter 2, the scoping study findings suggested there was broad agreement that MCNs were introduced to improve the consistency and quality of patient care. This view fits well with the aims set down in Scottish policy documents relating to MCNs during the time frame of the scoping study, which emphasised the aim of MCNs as promoting integration between professionals which transcended organisational and professional boundaries to meet patients' needs, and the inclusion of patients in the discussions about services and how they should be delivered (SEHD, 1999; SEHD, 2002a).

When asked about some theoretically-based ways in which MCN participants might set about this task, scoping study participants' conceptualisations of MCNs were important, as these seemed to inform their views about the role(s) for MCNs in achieving the broadly agreed aims. Participants identified a dual conceptualisation of the MCN as both a 'virtual', flexible, changing grouping drawn from a variety of professional and organisational backgrounds and settings, which at the same time had (and needed) a 'core' to facilitate the activities through which MCN roles would be enacted. Two types of MCN role were identified in that endeavour: a direct role, which involved co-ordination, communication and collaboration across professional and organisational boundaries; and an indirect role, which involved influencing strategic decisions about service planning and investment.

The scoping study findings indicated that some of the issues raised in the SDO review of network literatures and theories (Goodwin et al 2004) were less salient than others in the experience of participants in Scottish MCNs, concerned mainly with the 'direct' role of MCNs. In summary, these included formal mechanisms for incentivising participation in networks, issues of (management) centrality within networks, avoiding large-scale networks and the 'capture' of networks.

But there were other emergent issues arising from the scoping study, related to both the 'direct' and 'indirect' MCN roles identified by participants. These included the importance of more informal means of securing participation in MCNs, the importance of communication, co-ordination and co-operation and of enabling these processes (in terms of resources and helpful ways of organising), the importance of evidence in securing agreement to act, and relationships with existing organisations.

These findings informed the next research phase during which four case studies were undertaken to explore the relevant and emergent themes further. Through these case studies more in-depth findings were elicited based on experiences of participants in Scottish MCNs. The findings from the case studies - building on those of the scoping study - address the SDO research brief generally, and the project-specific research questions specifically, as set out in the next section.

3.1.2 Case studies: research questions

Emergent issues from the scoping study data coalesced around analytical themes concerning the origins of networks, network development and maturity, and local context. These themes are clearly relevant to the general research questions posed within the SDO brief concerning network origins and processes.

In addition to the general questions in the SDO brief, there were additional project-specific questions. Those which will be addressed in this chapter are:

1. how, if at all, voluntary and mandated MCNs differ in composition and the processes through which they operate;
2. how MCNs (voluntary and mandated) deal with issues of leadership, including succession of leaders over time;
3. what is the role and impact of local context in the way MCNs (voluntary and mandated) operate;
4. what are relationships and linkages like between MCNs (voluntary and mandated) and existing organisations, particularly Health Boards.

The findings presented in this chapter will prepare the ground for dealing with additional project-specific questions about patient involvement and impacts. These are addressed in chapter 4.

3.1.3 Case studies: analytical framework

Managed Clinical Networks, by their very nature, encompass issues concerned with inter-, rather than only intra-, organisational relations, together with inter- and intra-professional relations. Although each MCN is situated within single Health Board areas, they encompass a variety of existing organisations both within – and sometimes outwith – that area. They also incorporate people from a variety of professional backgrounds, as well as different aspects of single professions (for example, different medical or nursing specialties and/or roles concerned with a single clinical condition or disease).

Many of the methods and techniques of organising in networks (like MCNs) may be regarded as similar to that featured in single organisations. However, as observed in the scoping study, the complexity of the range of potential participants suggests that more usual conceptualisations of management and organisation may be less helpful when considering questions about inter-organisational groupings. As many participants identified, the notion of 'managing' an MCN from a traditional perspective did not fit well with their experiences of participating in MCNs.

Therefore, in light of the data generated through this project, and more recent developments in the network literature, the findings and discussion presented in this chapter will be framed against a theoretical background of conceptualisations of governance (Provan and Kenis, 2007; Rhodes 2007) in order to address the project-specific research questions at the heart of this study.

3.1.4 Methods

The findings presented in this chapter have been derived from qualitative data based on in-depth case studies of four Scottish Managed Clinical Networks (Stake, 2005; Yin, 1999). MCNs were purposively sampled (Mason, 1996): two were Diabetes MCNs and two were CHD MCNs, each pair consisting of one "voluntary" MCN and one "mandated" MCN. A range of data were drawn upon from interviews and a variety of documents pertaining to the relevant MCNs and/or MCNs more broadly.

Within each case, participants were purposively sampled to provide a range of insights from members of key stakeholder groups, covering a broad range of backgrounds, as indicated in Table 3. These included members of MCN 'boards' and working groups. Also, those occupying key MCN roles, or senior positions in other participating organisations, were interviewed. A total of 69 interviews were conducted with 63 participants between 2006 and 2008 (six of whom were interviewed twice over the course of the research).

Table 3. Case studies: participants' backgrounds

Participants' background	Number of participants (n=64)
MCN management/leadership role	14 (20 interviews)
MCN administration	3 (3 interviews)
Doctors	15 (15 interviews)
Nurses	11 (11 interviews)
AHPs	4 (4 interviews)
Health Board personnel	6 (6 interviews)
Clinical managers existing orgs	6 (6 interviews)
Patient representatives (local)	2 (2 interviews)
Patient representative (nat. org.)	1 (1 interview)
Other (MCN "board" member)	1 (1 interview)
Total	63 (69 interviews)

Semi-structured, one-to-one interviews were conducted by a range of researchers (IW, GG, AD) at a place chosen by participants (usually their own place of work, although a few were conducted at the University), and typically lasted 45-60 minutes. Researchers used the same topic guide/interview schedule around which to conduct the interviews, which included:

- The participant's involvement with the MCN
- The MCN's history from the participant's perspective (origins and MCN development)
- Participants' perceptions of MCN "successes" and "failures", and what differences (if any) MCNs had made which participants' could identify (MCN processes and impacts)
- Participants' definitions of what MCNs are, and MCN purposes (origins, processes and impacts)
- Participants' identification of challenges MCNs faced (processes and development)
- Participants' perceptions about the role of MCN managers and lead clinicians (MCN processes)
- Participants' views about MCN's future (processes and impacts)

All interviews were recorded and transcribed, with the exception of two interviews (different to those in the scoping study), where notes were taken due to participants declining to consent to being recorded. Many participants were concerned about confidentiality issues and about being

identified through the use of quotes. Therefore, where quotes are used in this chapter they have the MCN attribution given, but not the participant's role or background, as this could inadvertently identify the individual in light of what is being said.

Analysis was undertaken through the use of NVIVO software. Thematic codes were agreed by the research team members and analysis was undertaken by three members of the team (BG, GG, JC). Emergent findings discussed with the research team at monthly project meetings. Themes reflected those identified in the scoping study, together with other emergent themes as the analysis proceeded. These included:

- Network priorities and goals
- Strategies for network cohesion
- Network management and leadership
- Stakeholder inclusion
- Links with the organisational environment
- Network status
- Network development
- Educational role
- Local context
- Outcomes and impacts

When all interviews within an MCN had been analysed, case study reports were prepared for project team meetings and emergent findings discussed. These informed on-going strands of the project such as the national surveys and Delphi process, plus the patient experience interviews. Policy documents, some MCN documents and general MCN documents were also imported into NVIVO for inclusion in the analysis. Finally, when all four MCNs had been analysed and discussed, cross-case analysis was undertaken in relation to project research questions. These formed the basis of a presentation to the national workshop in Manchester and were found to resonate with participants from both Scotland and England. In addition, a summary of the findings was presented to representatives of all participating MCNs. On this basis, and following discussion amongst the project team, the cross-case findings were agreed and are presented here.

Cases studied

A brief description of each of these networks is provided here to act as background to the rest of this chapter.

Voluntary CHD MCN: The MCN is located in Scottish Health Board area serving a total population of around 150 000, with high level of rurality. Full secondary services are available, but tertiary/interventional cardiology services accessed by patients served by this MCN are located outwith the

local Health Board area. This MCN has been formally established for almost 10 years, having been created as a voluntary demonstration MCN in 2000.

Mandated CHD MCN: This MCN came into being in 2003 following the policy mandate in 2002 for MCNs for CHD. It is located in a Scottish Health Board area serving a total population of around 400 000 with primary, secondary and tertiary/teaching hospital services. These are situated within different localities throughout the Health Board area, which is characterised by areas of significant urban deprivation in addition to a high degree of rurality.

Mandated Diabetes MCN: This MCN also came into being following the policy mandate in 2002 and is located in a Scottish Health Board area serving a total population of around 150 000 with a mixture of primary and secondary care services and a high degree of rurality.

Voluntary Diabetes MCN: This MCN is located in a Scottish Health Board area serving a total population of around 400 000 through a mixed range of healthcare services which incorporate primary, secondary and tertiary/teaching hospital services, located throughout the Health Board area. There is both urban deprivation and a high degree of rurality. The MCN has been in existence formally since 2000.

The rest of the chapter is set out in the following way. In section 3.2, issues related to network origins will be discussed. Then in section 3.3., network processes will be examined, including what have been termed 'procedural' processes, such as network structures and resources for MCNs to work. Emergent challenges involved in organising MCNs will be discussed in relation to leadership and management processes. The boundaries across which MCNs work will then be examined. Working processes of the MCNs studied will be considered which provide some insight into the work of these MCNs. In section 3.4. the influence of local context on MCN processes will be briefly discussed. Finally in section 3.5., discussion and conclusions about the case study findings will provide insights which address the research questions posed.

3.2 Findings: Network origins

Building on findings of the scoping study, issues related to network origins were explored further in the case studies, the findings from which are presented here.

3.2.1 'Voluntary' and 'mandated' network origins

The term 'voluntary' refers to networks formed when combinations of individuals, groups and sometimes organisations identify issues of mutual interest or mutual problems which require to be addressed, about which they feel some degree of collaboration would be useful; in contrast, the term 'mandated' refers to networks which are created by organisations or individuals from outwith the potential network membership, often as a way of seeking to counter fragmentation and co-ordinate disconnected groups to

achieve an externally-identified aim (Marchington et al, 2005; Kickert, Klijn and Koppenjan, 1997; Metcalfe, 1978).

Whilst this may appear to be a relatively straight-forward distinction, deciding which description applied most readily to the case studies MCNs was complicated for a variety of reasons. First, from a social network analysis perspective (Kenis and Oerlemans, 2008), and based on the data from this research, it could be argued that all four of the participating MCNs could have had voluntary origins: given the nature of the clinical work involved for participants in all MCNs, it is likely there were at least some ties between some individuals involved prior to any formal identification of these groupings as clinical, or even Managed Clinical, networks. Second, identifying a definitive beginning to any of the MCNs involved in the study proved difficult, even for individuals who had apparently been involved with these groupings from the earliest identified time up to the time of the research. Third, there was some overlap in participants' discussions about the origins of the MCNs in relation to the introduction of the concept of *Managed Clinical Networks*, as distinct from clinical networking.

These difficulties perhaps reflected the problem participants had in being able to clearly identify at which point in time things changed, or to clearly identify any changes which may have occurred over time, since any changes which were sustained had become absorbed as part of normal daily working. Consequently, the accounts provided by participants within the same MCNs varied based on their own experiences of participating in the MCNs over varying lengths of time, whilst documents studied provided a historical picture of the MCN at a particular point in time. This presents analytical and methodological challenges in relation to findings about the origins, or beginnings, of MCNs and the way they change over time in relation to those perceived origins (Bevir and Richardson, 2009).

Notwithstanding this ambiguity, and that the MCN concept came from policy, participants in the study distinguished MCNs formally established in 2000 as 'voluntary' (in that there was no requirement for them to be created), and those established after 2003 as 'mandated' (in that policy then required them to be created in every Health Board area). Taking this distinction as the departure point, findings about network origins will be presented based on case studies data.

Findings – 'voluntary' MCNs

MCNs with 'voluntary' origins in this research were designated as Managed Clinical Networks from 2000 onwards. However, each could be claimed to have undertaken clinical networking prior to that time with varying degrees of organisation or formality. In both cases however, clinicians voluntarily made efforts to establish linkages with colleagues across primary, secondary, and tertiary care to achieve a range of aims in connection with their areas of clinical interest. In the case of the voluntary coronary heart disease MCN, this involved providing a smoother transition between healthcare settings for one group of patients. Meanwhile, for clinicians within the voluntary diabetes MCN, efforts had been made to establish

informal linkages in relation to the on-going chronic disease suffered by their mutual patients. This early clinical networking became more formalised prior to the introduction of the MCN through a range of more organised activities, including a research project to improve clinical data about both their patients and the condition itself.

These informal clinical linkages provided the foundations upon which the subsequent Managed Clinical Networks were built. The concept of a *managed* clinical network incorporated aspects not present in the previous clinical networking. As set out on pages 9 and 10, these mainly organisational criteria changed the orientation of the prior linkages, with implications for each MCN as the data presented here will show, beginning with the CHD MCN.

The voluntary CHD MCN had a range of aims when it became an early MCN:

'...in terms of something that was really making a difference [It] is about the patient journey, joining up care, removing the blockages and apply standards universally right across the whole service. Of course for cardiology that includes tertiary care for us. That is quite a significant issue for this MCN, the fact the increasing specialisation in the central belt [of Scotland] - that tension it produces with the local service.' (Int 10, vol CHD)

'...linking primary and secondary care, leading on education, developments of drug formularies, [] establishing standards about how we should be doing things and making it more universal for patients, so that even if you live in somewhere out in the sticks here you should get pretty much the same treatment.' (Int 16, vol CHD)

Clearly the clinical networking aims of this MCN around the provision of a comprehensive range of coronary heart disease services within this Health Board area were challenging. This involved not only the services within the Health Board area, but also linkages to other organisations which operated within other Health Board areas.

'An MCN should be across – not just within a health board.. Our acute services planner...goes to regional meetings about cardiology...so those links are probably there. But we have issues...we need to refer some of our patients for interventions to [city], and potentially there are issues over how long do they wait before that happens and how convenient is the time for them...' (Int 14, vol CHD)

'[we] cannot hope to provide a comprehensive service. We can't do the dilating of arteries and bypass grafting here. We are going to have to refer to a tertiary service somewhere else to undertake the services for us... There is the move going on to nationalise the services in [regional city]...and there is a lot of sense in what is being planned. But in some ways we have to be careful that it doesn't make access to services even more difficult for our patients...' (Int 4, vol CHD)

Perhaps it was this aspect of CHD services within this Health Board area, especially in relation to cardiology services, which provided an additional aim for this early MCN:

The idea was, (a) to prove that you can actually have a Managed Clinical Network and you can make it work, but also probably more importantly to answer the generic questions about, how do you run it? What would it look like? And what do you do about clinical governance across boundaries between professions and across geographic boundaries, and when you have people employed by different organisations working within the network.' (Int 70, vol CHD)

The voluntary CHD MCN therefore had both clinical and organisational aims. Clinically, it was intended to establish better links and integration between primary and secondary CHD clinicians within the Health Board area. But due to the nature of the Health Board area, it was to explore new ways for clinicians in both primary and secondary care to forge links with tertiary colleagues undertaking interventionist cardiology procedures outwith the Health Board area. Organisationally, it was intended to act as a test-bed for the new Managed Clinical Network concept, and to explore the attendant (clinical and corporate) governance and accountability issues implied in this new way of organising healthcare. In relation to this second aim, its origins may be considered to be more 'volunteered' by key individuals who assumed leadership positions in the MCN, than 'voluntary' in the sense of a broader collaboration deciding to formally adopt MCN status:

'...there was a perception that it was very much the work of an individual and although the intentions of the individual were to be admired, the reality is that the process of engaging the people that actually were potentially going to make a change in delivering making things different, wasn't there really.' Int 17, vol CHD and man D, cross MCN participant)

However, although it was one of the earliest examples of a Managed Clinical Network, participants' accounts of its history suggested that its origins actually lay in informal clinical networking, which began several years prior to the advent of the concept of the MCN, even in pilot form:

'...I think the concept arose in [Health Board area] through the fact that we had a very innovative [cardiac] rehabilitation structure, and I think the whole concept has really grown out of the very efficient follow up service that was trying to link what happened to the patients in hospital with their after care [in] primary care.' (Int 4, vol CHD)

Often cited as one of the early successes of integration between primary and secondary care for the MCN, the cardiac rehabilitation service seemed to be built upon the work of various clinicians networking with each other around the clinical needs of their patients. This suggests a more voluntary, rather than 'volunteered', origin for clinical networking in the area than might otherwise be apparent initially:

'P: [Cardiac rehab] started long before the [Managed Clinical] Network. It started even before I had my heart attack, and I had my one in '93. I think it was about '92 that the rehab started, and it was actually set up by one of the cardiac sisters that's the manager of the Network now. That's how long it's been going...but it's only been about six or seven years since the Network was set up...

Int: So did the Network change anything about the rehab?

P: I don't think so...I think it *is* the Network, because it's the same people that are running the rehab, which they were doing years before, that are more or less in the Network.' (Int 10, vol CHD)

In much the same way as the voluntary CHD MCN had been in existence as an informal clinical network prior to the inception of its early MCN status, the voluntary diabetes MCN was built on a set of previous professional clinical linkages:

'Diabetes in [area] has been out in the forefront of [developing] a managed clinical network and [we] just past our 10 years of [name], which was the original centralised database of patient information and allows us to work cohesively between secondary care and primary care because we can always see what everybody else is doing. It's been quite innovative over the years and continues to be... The managed clinical network starts with the [database] and the key Diabetic Advisory Group, which was a sort of pre-cursor to the MCN.' (Int 59, vol D)

Reflecting widespread acknowledgement of the longstanding and innovative use of clinical data and informatics to support the management of diabetes as a chronic disease in this particular case study, participants who had been involved for many years identified a prior set of linkages. These older linkages could be seen to have supported not only the development of the MCN, but also of the work done in relation to the clinical data/information aspect of the more widely-known informal clinical network:

'Looking at the history I've missed out a step before [the database project], and that was that we were already working together in shared care in diabetes and using the eye van, so that went back probably five or ten years before that. There was a degree of sort of collaborative care at a clinical level, even before that... So there was a tradition in diabetes that really came from two of the senior diabetologists, ten, fifteen, twenty years ago, wanting to engage between primary and secondary care in a more meaningful way.' (Int 68, vol D)

Clearly some long-standing clinical linkages had been established, which underpinned many of the participants' accounts of their experiences of the voluntary diabetes MCN. These participants viewed the MCN as highly inclusive and they seemed to associate strongly with it. However, it is important to note that clinicians who became involved after the MCN mandate in 2002 did not exhibit this high degree of association. When

asked how the MCN had changed since this participant first became involved (in 2002), a contrasting picture emerged:

'...Administratively it hasn't really changed. Function wise, I think it is becoming more inclusive over time - I think traditionally it's been quite a secondary care focused organisation and I think there's recognition of the work that's done in primary care now' (Int 58, vol D).

This participant's view contrasted with the more usual accounts of those who had been involved prior to 2002, which usually highlighted the integration between primary and secondary care around diabetes, and the work done by early secondary (even tertiary care) consultants in making linkages with colleagues in primary care. In addition, the patient involvement aspect of this MCN's work was usually identified as innovative and a success.

These contrasting views from this more recent MCN participant were echoed by others in a similar position. This difference between MCN participants perhaps suggests that this pre-existing voluntary network may have undergone a change in emphasis and orientation after the introduction of the policy mandate, or even perhaps since it moved from being an informal clinical network to a managed clinical network in 2000.

As these brief insights into the networks deemed as "voluntary" indicate, the descriptor is more complex than it appears initially. There were differences in these two networks, with the CHD MCN appearing more "volunteered" than "voluntary" in relation to the organisational, governance-related objectives for its pilot period between 2000 and the introduction of the policy mandate in 2002/03. Meanwhile, although the voluntary diabetes MCN began prior to 2000, it appeared to have had layers of linkages prior to that time. However, these linkages did not seem to exert as much influence on the opinions of those who participated in the MCN after 2002, and the formalisation of MCNs for diabetes through policy, as those involved prior to that time (SEHD, 2002a).

Findings – 'mandated' MCNs

The origins of the other two participating networks lay within the 2002 policy mandate, acted upon subsequently by Health Boards to bring these MCNs into being (SEHD, 2002a), as discussed by participants in the mandated diabetes MCN:

'My memory was that we were set up because that's what the Scottish Executive or NHS up the top, wanted to happen. They wanted us to have a group that sort of managed the diabetes in this area...it was really a hell of a long time ago... The MCN was launched in October 2004.' (Int 31, man D)

'[The mandate was] probably just one of the main reasons why it [MCN] was developed...We wouldn't necessarily have had a managed clinical network if we hadn't been forced [to], but perhaps the structures would have developed in a different format, not in quite the

same way. Having to do it makes you do it, you give it a priority... it is difficult to prioritise things, when you are very busy, unless they are actually imposed upon you.' (Int 24, man D)

Whilst the mandate had the effect of imposing the MCN concept on the participants involved in diabetes services as indicated, this did not mean that there were no perceived linkages between clinicians prior to that time. As the same participants each observed, there had been some measure of clinical networking around diabetes services prior to the formal creation of the MCN:

[But] before that we had this other thing – the LDSAG [Local Diabetes Support and Awareness Group]. Yes, I think it was. But it was all triggered off, of course, by something like that Scottish Diabetes Action Plan. You know, we set it all up and its taken all these years to develop but, there we are.' (Int 31, man D)

Although the other participant also indicates some prior linkage, this did not seem to have a positive effect in terms of linkages between clinicians providing services to patients:

'I know we have had two years of MCN and prior to that I don't know how long it had been established... There were lots of problems historically within the region in terms of communication between Primary and Secondary Care - there had been a lot of changes in staff, a lot of changes and ideas and, really Primary and Secondary Care were not really engaging very well, there was lots of disruption between the two of them...' (Int 24, man D)

This participant had been involved in the voluntary diabetes MCN studied here previously and contrasted the experiences of both to offer an explanation as to why the prior linkages didn't help as much in the man D MCN:

'The reason I think [vol D MCN] was so successful was that the relationships of the general practice were pre-existing, and therefore when the network came in to being it didn't have to overcome the prejudices and the history. The other thing that is very different about [vol D MCN area] compared to [man D area] is that all patients came through the secondary care service. I know that is changing now and primary care is taking on much more of the role but, there was a real sense of share and care in [vol D location] and in [man D location] it was very much that care wasn't shared. You were either hospital patient or you were a primary care patient. The two didn't mix, you didn't share care... So it was about care...and that then made it much easier for them [vol D MCN] to implement a group of people who were interested because there were genuinely good links there.' (Int 24, man D)

So although imposed, it seemed the aspirations of the MCN concept in terms of integration between professionals in relation to a clinical area may

have been beneficial – if not always plain sailing - in this case, as suggested by another mandated diabetes MCN participant:

'Diabetes is an excellent example of something that needs a managed clinical network, because there is enormous kind of transfer back and forwards across the primary and secondary care boundary and there, I mean, I think we had a very poor service... So the diabetic one has worked well, because although it was imposed from above, it was fine because it needed doing anyway and there was a little bit of a crisis that we went through and then I think with the right people, the framework that people understand.' (Int 16, man D)

The attractiveness of the MCN concept to clinicians also seemed to be a feature of the mandated CHD MCN. However, for some participants at least, there were problems:

'Apparently it was a Government mandate, so it had to be done. But irrespective of that, it did seem a good idea at the time, because it seemed to tick all the right boxes and was all about integrating care, and sort of integrating primary care and secondary care, and emphasis on prevention and trying to make things work smoothly and coherently. So it all seemed a good idea. [But in practice] I would say it is a spectacular waste of time and money.... I think it was designed badly.' (Int 35, man CHD)

These views were echoed with varying degrees of intensity, and for a variety of reasons, by participants across the network. Despite the spread of concerns voiced by participants, their mutual misgivings about the MCN appeared to have something to do with the clinical topic of the network, namely coronary heart disease:

'We were very aware of what both of those networks [pilot "voluntary" MCNs prior to the policy mandate] had been doing and I think they [the Health Board] knew that guidance was going to come out. So I think they were reasonably pre-emptive and I think the CHD and stroke networks were set up before there was a sort of absolute mandate. But obviously when the HDL came out it gave more format and structure. But there was a lot of discussions as to what the format should be and should it replicate diabetes and things, because obviously with diabetes being predominantly delivered out with hospital, it is a different context. But there are issues around people within NHS who have powerful voices, very much focus on acute stuff - admission rates, waiting lists, that kind of thing. So there does tend to be a focus on more acute aspects and that's where a lot of complaints are, and that's where people expect to receive really high sort of service levels and care delivery. So it does create issues, I think.' (Int 47, man CHD)

The issues raised about the different clinical interests relating to MCNs will be discussed in more detail in section 3.3. However, in relation to the mandated origin of the MCN, some participants identified an issue which

may have accounted for some of the undoubted difficulties faced by this particular network, as exemplified here:

'The cardiology network was based on the diabetes network which had been developed and had been run, I think, highly successfully within [HB area] and had achieved a number of really quite spectacular accomplishments...[there were] concerns about the set up of the [CHD] MCN which was essentially based on the same model. [But] unlike diabetes, cardiology is very much a hospital based speciality [there were doubts] that cardiology would fit as neatly into the diabetic model as diabetes obviously does... the key thing in cardiology, unlike diabetes - diabetes being a condition that can be managed almost entirely as an outpatient now. Cardiology, now proper diagnosis and investigation should involve some contact with the centre.' (Int 34, man CHD)

The mandated CHD MCN in this study had been set up within its host Health Board following the precedent set by the diabetes MCN with which managers had some experience. It would appear from the accounts of participants from the CHD MCN, including some who were involved with a range of local MCNs, that this strategy had created problems from the outset, as indicated by this participant:

'The clinical leadership has a high degree of respect from all multi-disciplinary areas operating within diabetes. I think the CHD MCN has struggled and been very challenged by not being able to replicate that particular benefit... If it's simply mandated and you can't get that recipe together, that's where I think you do struggle.' (Int 50, man CHD)

The apparent difficulties of the mandated CHD MCN studied here seemed to be about the way the network was created and organised, rather than in relation to actual relationships between clinicians. As some otherwise less than enthusiastic participants indicated, there had been a tradition of clinical networking within the local area prior to the advent of the MCN:

'I think there probably always was. I think we're quite lucky in [HB area] because we have got a relatively big university compared to the size of the population that it serves, and a lot of people tend to stay in [area] once they've been undergraduates here in medicine certainly. So you know most people or somebody in each Practice, and equally they know most of us. So there's always very good relationships and reasonable networking...and certainly good dialogue between the different sides.' (Int 35, man CHD)

It seemed that the characterisation of MCNs as 'mandated' was less clear-cut than it may have appeared initially, with differences emerging through participants' accounts of their experiences of such MCNs.

Voluntary/mandated MCN origins

The data suggests that the descriptors “voluntary” and “mandated” are less clear-cut than they appear initially. Each of these MCNs had previous histories of networking between clinicians, regardless of assigned origins. The opportunity for clinicians to engage with one another across healthcare sectors and settings seemed attractive to all, whether their views about the respective MCNs were favourable or otherwise. The imposition of MCNs did seem to generate some difficulties, although the reasons for this were complex and varied. Meanwhile, the accounts of participants engaged in those MCNs regarded as voluntary suggested that people’s perceptions of those MCNs differed depending on when they first became involved in, or aware of, the MCN. As with the prior histories of informal clinical networking, this hinted at some degree of perceptual commonality across both voluntary and mandated MCNs.

3.2.2 MCN origin and focus: what is the MCN for?

The aims for MCNs were broadly set out in the relevant policy documents (SEHD 2007, 2002a, 1999). As suggested by the scoping study findings and confirmed in the case studies, these over-arching aims appeared to have been well understood by participants across all four MCNs, amongst whom there was consensus on this issue. The prevailing view was summed up neatly thus:

‘The main role for MCNs is to help contribute to the raising of standard of care that, for...the disease or the illness that they’re actually responsible for...the way I’ve described them working [involving people across primary, secondary and tertiary care], that is what they need to do in order to ensure that they are raising that standard of care.’ (Int 50, man CHD)

However, these aims are wide-ranging and do not provide any specifics about which professionals may feel motivated to become involved in MCNs in addition to their day-to-day work. In this section, the need for a purpose for the MCN to work towards these broad aims will be discussed.

Voluntary MCNs

As demonstrated, MCNs described as voluntary had some specific aims which gave rise to their establishment amongst participants.

For the voluntary CHD MCN it was to improve access to tertiary service provision across Health Board boundaries and to smooth the linkages between primary and secondary care within the HB area, by reaching consensus on:

‘...what should be happening within the cardiology services...and to make sure that it is getting done, or if there’s any problems to try and iron out the problems.’ (Int 6, vol CHD)

In addition, the MCN sought to identify the organisational and governance arrangements which might support such a boundary-crossing service arrangement:

'Each of these groups [in the MCN] was charged with looking at not only these issues for [area] but actually trying to draw up things would be of generic use. So one of the groups that was looking at standards was actually tasked with the idea of looking at clinical governance across boundaries between professions and across geographic boundaries. And how would clinical governance work when you have people employed by different organisations working within the network.' (Int 70, vol CHD)

The voluntary diabetes MCN built upon the platform of liaising across clinical disciplines and sectors, which led to the production of comprehensive clinical data relating to their mutual patients. But they also saw a more strategic purpose for the MCN:

'Our aims are about collaborative working and integrated care and effective equal care for all patients across [MCN area]. So it's not just about the sort of rather woolly areas of helping clinicians to communicate with each other, albeit that's important, and using the IT systems for that, and a bit of education and upskilling and offering courses and that sort of thing -we do all that, and that's key to what we do, but we also see ourselves as being the strategic voice for planning diabetes services. So we see that it's the responsibility of the Network to identify areas where the service is not working well and to come up with the perceived wisdom in terms of solution for that.' (Int 68, vol D)

Participants shared the motivation of colleagues in the voluntary CHD MCN to improve the consistency and standards of care by organising in order to achieve this:

'It's about working to standards...and guidelines. And, I mean the communication between the different groups.' (Int 69, vol D)

Organising in this way to enable the MCN to work was seen by participants as a secondary, but necessary, aspect of networking in voluntary MCNs in order to achieve clinical/service aims:

'You know, we needed the working groups to do the ground work to get things set up and to discuss the sort of boundaries and remit for the group. I am not sure we could have ever have got started without doing that necessary stuff I mean...there was a lot of detail to discuss...which was just necessary work to get it started.' (Int 5, vol CHD)

Mandated MCNs

Perhaps understandably, the purpose for mandated MCNs – at least initially - tended to be the creation of the MCNs themselves:

'The diabetes one took longer to get going because it was almost enforced upon them, so it took longer to actually get going and there wasn't a driver for a while.' (Int 19, vol CHD and man D cross MCN participant)

Whilst policy aims have always been clearly stated, clinicians and others working in healthcare need to agree what they will do to work towards those aims, and how this could be done in a widely acceptable fashion:

'I think in an ideal world you would have complete consensus and there is no such thing as an ideal world, so you would want to have wide consensus, and I think that is probably the best you can hope for. I think one of the strengths that we have in [HB area] is that we have a wide consensus now...We have got some lack of clarity, but we have got willingness all round for people to address that, to find out what other people are doing.' (Int 22, man D)

One participant identified a task around which participants involved in diabetes services could undertake to provide a common purpose which might support network cohesion. This copied one of the activities which had been identified as successful for the voluntary diabetes MCN:

'I think like many networks, it often has to have a bit of a focus as to where it starts. And my feeling is that it was [electronic database] that actually gave people something to look at. That seemed to be the connecting strand. Then the network started out...and actually it was much more formalised than the scattered diabetic services [previously]. So it put a bit of discipline into the whole thing. It made people a bit more accountable – a lot more accountable. It listed, obviously, actions from one meeting to the other, so I would say things have got a lot better. In other words the formality which was badly needed.' (Int 30, man D)

The same process seemed to happen in the mandated CHD MCN, where there was agreement about the overall aim of the MCN:

'I think the aim was to integrate the hospital service with the community service... Absolutely, [the remit] of the MCN as a whole,[of] cardiac services as a whole...' (Int 33, man CHD)

In the mandated CHD MCN, the creation of documents pertaining to the planning of CHD services in the area was employed as a focal point for MCN activity:

'A vast amount of effort has been put into a number of high profile documents for the region...The cardiovascular strategy, for example. That clearly is MCN driven.' (Int 34, man CHD)

This was viewed positively by some MCN members:

'I think that having a focus, having a manager, having a strategic document which is saying what we're trying to achieve and setting some goals and outcomes, even though they're extremely difficult to achieve, is in fact worthwhile because they can be focused within a commissioning document. People can refer to it, the managed clinical network as the effecter of change, or should be the deliverer of change - in that document, and that I think has helped. I think that's been a focus.' (Int 37, man CHD)

Again, the creation of the MCN itself acted as a focus for the MCN initially, as efforts to ensure representation of all groups were accommodated:

'I think part and parcel of it was that it was focussing down on what the objective was, and I think the one thing with clinicians was, "how is it going to impact on me and what benefit will it have". I think the patients felt that professionals were the experts. They would tell them what would happen. However they wanted to know quite clearly and in plain English "what would it mean for me"... So again it was around a specific objective. So initially I would be driving forward that objective... "do we have the right people around the table"'. (Int 53, man CHD)

Whilst voluntary MCNs had a variety of concerns which provided the motivation for participating in the MCN, the distinction between voluntary and mandated MCNs suggested a common purpose was needed to motivate people to engage in MCNs:

'I think [MCNs] are incredibly useful and an obvious way forward if you have got major problems. If actually everything is working alright and you don't have major problems, I think it is incredibly difficult to persuade people that they should be doing things differently because some external organisation or source says, "this is how it should be".' (Int 70, Vol CHD)

Initially, this seemed more straightforward for MCNs of voluntary rather than mandated origins. Voluntary MCNs seemed more purposeful when initiated, as they continued to work on the problems which participants had sought to address through previously existing clinical networking efforts. Whilst these were often concerned with clinical services or care, it would be erroneous to suggest that these aims were exclusively the province of voluntary MCNs, or that such MCNs did not have other types of purposes. Indeed, voluntary MCNs also had more explicitly organisational or governance-oriented purposes, as demonstrated through the example of the voluntary CHD MCN. And although mandated MCNs clearly had purposes related to the relevant clinical topics, it is probably fair to say that their predominant early purposes seemed to be creation of the MCN itself. In addition, it appeared that the purposes of MCNs of both types of origin altered over time.

These findings point towards a conceptualisation of "what MCNs are for", which differs subtly from the initially identified purposes delineated in policy documents and in participants' initial answers about improving the quality

and delivery clinical services. This resonates with the emergent findings of the scoping study (see section 2.5.2) In addition, the apparent differences between MCNs of voluntary and mandated origins became less obvious over time. However a clear finding was that, whatever it may be, MCNs of both voluntary and mandated origins needed a goal or purpose which would motivate clinicians and others to participate in them.

In this section, the changing process for MCNs to find a focus around which people could coalesce to bring the MCN to life has been identified. It appears that "what an MCN is for" is subtle and susceptible to change over time, as the initial apparent differences identified between voluntary and mandated MCNs began to blur. In the next section, these and other time-related issues will be considered for both voluntary and mandated MCNs.

3.2.3 MCN development and maturity

If finding a common purpose or aim was crucial in making the MCN "work", the cumulative findings of the scoping study and case studies suggested that this was something which fluctuated over time. Given the relative longevity of the voluntary MCNs studied, it became possible to contrast the experiences of participants in those networks with those involved in the mandated MCNs. Although the mandated MCNs were "younger", they had nonetheless been established for a minimum of two years at the outset of the case studies.

As reflected in the SDO review (Goodwin et al, 2004), the literature on networks suggests a series of phases in network development, beginning with a 'set-up' phase. Scoping study participants identified this phase, which it appeared lasted for between 12-24 months after which time the 'real' work of the MCN could commence. As suggested in section 3.2.2., changing conceptualisations of the purpose of the MCN appeared to be related to participants' experiences in MCNs over time. This hinted that the phased - and to some extent, linear - account of network development over time may be misconceived. Therefore, the nature of network development and 'maturity' became an issue for further exploration through the case studies, in relation to MCNs of both mandated and voluntary origins.

Voluntary MCNs

In section 3.2.1., the originating differences between voluntary and mandated MCNs were shown to be less definitive than the terms suggest. In addition, the purposes or aims of the voluntary MCNs tended to be related to things they were trying to do through informal networking prior to their establishment around 2000 (SEHD, 1999). The continuation of many of the same aims and participants from being an informal, enclave or individualistic network (Goodwin et al, 2004), to becoming established as a Managed Clinical Network, allowed MCNs of voluntary origins to make a smoother transition than might be the case for MCNs of mandated origins:

'I think we've been able to develop ours in a sort of intuitive way over a long period of time without there being any rules. For many other Networks that have been mandated, people have been told you must have a clinical network, and I think many networks have struggled in terms of finding just how that should work, and finding what the roles are. Whereas because ours has developed almost organically, it's been less of a struggle I think for us, just because of the nature of how we've evolved.' (Int 68, vol D)

However, this 'evolutionary' developmental process should not be regarded as trouble-free. This became evident through the accounts of participants from the voluntary CHD MCN, which had encountered periods of difficulty over time. Speaking after the MCN had been in existence for approximately 7 years, this participant highlighted a period of difficulty:

'I think it has been a frustrating year, not being sure of what our roles and responsibilities are and what authority we had, and how we tied into structures...' (Int 4, vol CHD)

Clearly, the MCN had gone beyond the presumed 'set-up phase', and was in a period of reflection about its purpose and where it fitted in to the healthcare system. However, about a year later, things had clearly moved on in the MCN, as indicated here:

'I guess defining an ongoing objective once everybody is talking to each other and able to refer into different bits of the system as appropriate - what is the role then? We have not got to that point yet, although I had wondered a year or two before [name] came along and changed things round a little bit just where it [the MCN] was heading - because it really didn't seem to be heading anywhere. So I think while it's [the MCN] probably the most effective almost as a project group. And once the thing is up and running, does it need to be there still? I am not sure....' (Int 5, vol CHD)

In this MCN, a renewed sense of purpose was found following a period of uncertainty and reflection about its role, and whether or not it needed to continue at all. A change in leadership and management helped with this reinvigoration. This was a consistent theme identified by participants from all MCNs in relation to getting started, finding a common purpose, and reinvigorating or remaking the MCN over time as things changed (discussed in section 3.3.1.).

However, this process was also related to changes in orientation of the MCNs of voluntary origins, which in turn reflected changes in policy and the wider organisational context. This included the introduction of mandated MCNs for specific conditions (SEHD, 2002a). Having had some experience of early voluntary origin MCNs, policy-makers' expectations of these new MCNs may have been influenced by the way the early MCNs operated and their achievements:

'When the cardiovascular and diabetes MCNs...were mandated, I think there was an assumption that they'd all have what we have within 2

years, and it would all be singing and dancing. I think that was naïve because these things have to evolve. And they have to evolve at the pace that the local situation dictates, to meet the needs in response to the climate of the local area at the time, and they will all be different. And what we've achieved in 10 years is unlikely to be achieved by others in 2.' (Int 68, vol D)

This note of caution was echoed by mandated MCN participants who clearly identified the need for time to establish the whole ethos and logistics of MCNs.

Mandated MCNs

As the data presented so far suggests, MCNs are about relationships between people in different professions and organisational settings. As with most relationships, time is needed to establish the characteristics which make them worthwhile. This was certainly the case for those MCNs created through the policy mandate after 2002. In these MCNs their own creation became the predominant mutual aim until relationships formed and other issues could be tackled.

Such relationship formation may be assisted by continuity of people, processes and organisations (Huxham and Vangen, 2004). For these mandated MCNs, continuity of some of these characteristics between MCN participants from earlier, pre-MCN networking encounters may have been helpful. Nonetheless, time was important to become established:

'It's taken us probably 18 months to actually get it to a point where any of us actually feel like we're moving towards working in a network. I don't know whether you could argue it was particularly robust but it's getting there. We're going in the right direction at last.' (Int 20, man D – speaking in June 2006)

Relationships underpinned by more mutual respect, trust and legitimacy, were only formed over time and through sometimes bruising exposure to one another through MCN activities:

'But I do feel that the network has evolved over the years, they've become much more functional, rather than it being...very much the sort of confrontational approach within the actual network meeting... Whereas now I feel...that I can actually say what I think and that will be respected and taken on board, and it doesn't necessarily mean that I have to win. It just means that I can listen to other people's views and perhaps then come to a better decision. So I think we have moved on in terms of how we function.' (Int 26, man D)

The importance of establishing such relationships was a crucial aspect of creating an effective MCN. This MCN-making work was perhaps more important for mandated MCNs which ostensibly arrived suddenly, in contrast to those voluntary MCNs which had the opportunity to adapt to their MCN

status over time. As this participant who had experience of both voluntary and mandated MCNs observed:

'...which then lead to - not a lack of direction, I think people acknowledged where they wanted to go - but a lack of ability to go along that direction until things settled down and some working relationships got organised and key people came to the fore and evolved as it were. Once that happened and the team actually became a team, then it took off after that. So that took a while.' (Int 19, vol CHD and man D cross MCN participant)

'Re-making' MCNs over time

The linear, phased conceptualisation of networks was one which participants across all four MCNs challenged through accounts of their experiences. It became clear that MCNs of both origins were continuously being sustained and "re-made" as time passed:

'I certainly think that the idea that you can have the finished article - well there isn't a finished article, that's the first thing to say....' (Int 68, vol D)

This 're-making' work reflected, to some extent, the blurring of priorities across voluntary and mandated MCNs as orientations changed over time. The idea that there is no finished article was borne out by the same voluntary MCN participant's later comment, about having reached a certain point in terms of achieving some of their original, more tangible service redesign aims, and requiring a period of reflection to identify new MCN priorities and goals:

'I think we've reached the stage where we've done really quite a lot of redesign of how we offer services and we've looked at services fairly hard for quite a long time - four or five years actively, and informally for longer than that - and I think we've reached a bit of a ceiling in terms of how much we can do in terms of services with redesign...I think we've probably reached the level of redesign efficiency that we can get.' (Int 68, vol D)

Such turning points were often related to changes in key personnel in the MCNs, such as the clinical lead or manager. These discontinuities may have appeared disruptive initially, but they also led to a period of reinvigoration for the MCN:

'I think the first clinical lead was instrumental in setting up the project. He was very much the driver and it was his vision and his baby, so things moved on quite quickly. But after he left our next clinical lead was having to take over and find out about new things that were alien to him, so things slowed down for quite a while and now we seem to be beginning to start rolling again and are managing to do things.' (Int 2, vol CHD)

This process was also experienced in mandated MCNs. In some respects this happened more obviously and readily in mandated MCNs, perhaps reflecting

the frequently more organisational or governance-related purposes which were central to their creation. Here, once certain aims had been fulfilled, participants began to review their progress and ask fundamental questions about what was next for the MCN:

'...part of this was about strategic vision. We've driven the strategy, we've fed into the over-arching Board strategy, so what do we continue this group for? Is there a need to continue? But the decision was that there was, because this group will be feeding into things like regional planning. We need to know what our vision for service development is, so that we are actually targeting and linking regional planning activity and are aware - because we're conscious that potentially future funding is often coming on a regional route, so we need to be proactive in our engagement.' (Int 51, man CHD)

3.2.4 Voluntary and mandated MCN origins: issues for MCN processes

These findings have provided insights about MCN origins. Although they seem intuitively different from one another, the descriptors 'voluntary' and 'mandated' have been shown to be points on a spectrum, rather than a dichotomy. This echoed the findings of the scoping study, and suggests that the effects of network origins on the composition and processes of MCNs may best be understood in relation to other aspects of MCNs.

The way MCNs changed over time as they 'matured' or developed seemed particularly relevant in this respect. Participants' perceptions of 'what MCNs were for', and about their mutual aims or purposes, changed depending on how long the MCN had been in operation and in light of the experiences gained during that time. Although rhetorically MCNs had clinical or service aims, their efforts actually seemed to be devoted to MCN-making and/or maintenance activities, regardless of origins. However, these altered over time with the emphasis on reviewing and re-making the MCNs at different points, depending on origins. MCN development was shown to be a recursive and dynamic, rather than linear or sequential, process.

These findings have implications for network processes. One of those most frequently highlighted was MCN leadership and management. Disruption to MCN processes provided a common point for MCN review of priorities and purposes, or even MCN re-making (Nicolini, Gherardi and Yanow, 2003). These happened at different points and for different reasons which seemed partially related origins and maturity. Such changes indicated contextual characteristics, including aspects such as policy, organisational and local norms, and the clinical topic of interest for the particular MCN. They also suggest that judging the effectiveness of MCNs against clinical or service developments or changes may not be the most appropriate criteria, and that there are others which would be more indicative of the efficacy or otherwise of this way of working.

3.3 Findings: Network processes – organising MCNs

A key area of inquiry for this research concerns the processes through which networks may be organised in order to be most effective. In the call for research proposals, processes of interest were identified as management techniques, leadership, structures, and key challenges for the management and organisation of networks. The findings of the scoping study suggested that there were additional specific challenges for the management and organisation of MCNs in relation to a range of organisational, professional, clinical, geographical and cultural boundaries. Findings about these processes will be presented in this section, bearing in mind the findings about MCN origins.

3.3.1 Network leadership and management: ‘governing’ MCNs?

Much has been written about methods for managing networks and the challenges thereof (for example, see Kickert, Klijn and Koppenjan, 1997). Various strategies for dealing with the particular issues relating to network management have been proposed for healthcare managers (SDO, 2005; Goodwin et al, 2004). Some of these emerged as applicable for MCNs through the scoping study, including being inclusive, ensuring ‘buy-in’ and consensus from MCN participants, the need for effective two-way communication, the need for leadership legitimacy and an appropriate leadership and management style based on negotiation, facilitation, and informal methods of incentivising participation.

The notion of ‘managing’ networks from a traditional ‘command and control’ perspective and associated techniques has been called into question previously (Meier and O’Toole, 2003; Agranoff and McGuire, 2001). As participants in the scoping study pointed out, it may not be possible to ‘manage’ an MCN in the more conventional understanding of the term, due to the lack of authority vested in the MCN lead clinician and/or manager, over most of those involved. Recent empirical studies have highlighted the difficulties this creates for those charged with such a task (Huxham and Vangen, 2004). These reflect a range of different strategies and approaches identified to be helpful in attempts to manage such inter-organisational groupings (for example, see Williams, 2002). The core principles (see Appendix 1) for MCNs suggest policy-makers’ awareness of these issues, but even the most recent policy document does not address how some of the difficulties may be resolved, as identified by MCN participants at a recent Scottish Government Health Department conference (Managed Clinical Networks: 10 Years On! November 2008).

These findings highlight this on-going tension. Space precludes discussing all of the management techniques identified through the literature, but rather a selection of issues will be presented which provide an overview of the way the MCNs are being ‘managed’, in order to identify issues for further consideration. First, notions of the ‘management of’ MCNs by

agencies regarded as external to them will be briefly considered, followed by an examination of the processes of 'managing within' MCNs, in order to achieve mutual aims.

'Management of' MCNs

The notion of the 'management of' MCNs suggests governance and invites consideration of the aims of those individuals or organisations which would seek to undertake such a task. These would normally be perceived to be outwith the MCN, which generally meant either the Scottish Executive Health Department and/or the Health Boards (usually on behalf of the SEHD). Their aims for the MCN were not necessarily perceived to be the same as those of participants who might be regarded as being 'within' the MCN. The resulting tensions arising between these potentially different aims have been identified as a key issue for network forms of organising (Addicott, McGivern and Ferlie, 2007; SDO, 2005; Goodwin et al, 2004).

'...it depends whether you're inside looking out or outside looking in... But the MCNs are the management tool that makes sure that services are [available] across [Health Board area] and they're of a good quality.' (Int 18, vol CHD)

This tension emerged across participants' accounts, from various perspectives which were partially related to the person's position within the organisations involved, and partially related to their MCN involvement. The introduction of MCNs on a voluntary basis at first secured commitment from participating clinicians, as reflected in the findings presented under the 'origins' heading. Most clinicians seemed to feel the MCN concept gave them a way of pursuing their area of clinical interest whilst having some involvement in deciding how things would be organised in relation to it. But some clinicians involved during the transition from voluntary MCNs to the introduction of the policy mandate for MCNs detected a disinclination on the part of Health Boards to embrace the concept, which meant a balance had to be found between MCNs and Health Boards as to how they might accommodate one another:

'In a way I think MCN's have been a[n] essentially [externally] driven initiative. Perhaps boards haven't been properly signed up and don't feel they own the initiative. And that is probably a cultural thing, that "we are expected to have an MCN, we have set one up, we have ticked the box". And probably, understanding at Board level [about] what MCN's are about... So there has probably been a learning curve on both sides.' Int 4, Vol CHD

This participant's identification of Health Board reluctance to become involved in MCNs was given some credence by a comment from a participant occupying a position within the Health Board:

'...we [Health Board] have a policy which I guess, you could almost say we're not going to start any managed clinical networks unless we have overwhelming need for it or we actually get some money

for doing so.' (Int 16, vol CHD and man D cross-network participant)

The reasons for this apparent disinclination to embrace the MCN concept within at least this Health Board are unclear, but it perhaps offers an indication of the level of difficulty involved in working in inter-organisational networks (Huxham and Vangen, 2004). However, it seems at odds with recent policy documents and documentation from at least one Health Board relating to the potential benefits for Health Boards of hosting MCNs, in relation to new forms of collaborative commissioning, value for money and clinical governance aims (SEHD 2007; 2002a).

Amongst MCN participants, the feeling that the priorities of the MCN were being determined by those in positions of authority outwith the MCN was problematic. As noted previously (Goodwin et al, 2004), if participating clinicians felt that the priorities were being entirely imposed and that they had no opportunity to influence or advise on those priorities (as apparently intended in the original conceptualisation of the MCN), this could result in clinicians disengaging from the MCN:

'If they are [imposing priorities from above] someone is doing it very cleverly so I don't notice - because I would immediately resist!' (Int 5, vol CHD)

Although well aware of the clinical governance obligations of the MCN, the participant was broadly in agreement with them at the time, or at least not in active disagreement. This highlighted the need for a balance between organisational objectives and clinical interests. As another participant indicated, when this was struck, equilibrium appeared to be maintained:

'I have made it clear that I have been appointed to work one session a week and I am not going to spend all that time fulfilling meaningless criteria that are imposed from above. I am happy to address issues that come from above where they overlap with what I think the strategy should be, and certainly I think the action plan as it stands is entirely reasonable and certainly it is a useful set of points to be working towards.' (Int 22, man D)

The duality of MCN objectives, identified in both the scoping study and case studies as emphasising clinical and/or organisational aims to varying degrees depending on MCN origins and maturity, meant this tension could be regarded as inherent in the MCN concept. It was likely that the requirement to accommodate it by all concerned would inevitably continue.

'Management within' MCNs

As well as issues related to the 'management of' or governance of MCNs, methods of 'managing within' MCNs have been the subject of great interest. The 10 key lessons for network management (SDO, 2005) made various helpful suggestions for those involved in this task. In the scoping study, managing through negotiation and facilitation seemed to be an appropriate style for this role. This finding was confirmed in the case studies, along with other aspects of MCN organising processes.

In all four MCNs studied, participants were clear that the role of MCN management/leadership processes was to achieve participation and integration within the MCN in relation to the clinical topic of interest. This seemed to be more effective when clinical and organisational aims were aligned, as demonstrated by the experiences of the longer-established MCNs. This might be expected given the inter-organisational nature of MCNs which lacked the direct authority of employing and decision-making organisations:

'We don't have is any direct link into the strategic management and the financial planning of things so it doesn't matter what concept we come up with, we don't have any handle on finances or responsibility. So you are in a bit of a wish fulfilment rather than tied into the practicalities of "how can this actually be achieved within the limits of finance and service"... The MCN in its current structure can't do that, because it doesn't have any muscle. In a way it's an advisory body.' (Int 4, vol CHD)

'...they've got a huge resource there of people with different skills, knowledge, information and experiences. I feel they should be coordinating that, pulling that together, pulling the best parts out and moving it forward, together as a team...I suppose the key word is coordinating it...I think if it coordinated better as a team, it would work much better than it does being dictated to. I understand where the balance comes from because, obviously the information comes from the Scottish Executive, the [Health Board] NHS management network, the chief executive. But I think it's trying to marry up all these issues so that the management and the clinical fit together.' (Int 27, man D)

Additionally, there was widespread agreement that that way in which these potentially incompatible objectives might be met was through influencing those within the MCN, as well as those who would seek to govern the MCN:

'I suppose because we have now got better relationships I would hope that as a result of that we would be better placed influence changes in practice.' (Int 24, man D)

'I think it is about influencing change, I think it's about influencing change and promoting service that's already there and identifying positives and negatives of the service that are there and trying to address those issues.' (Int 27, man D)

How influence was exerted, either within or outwith the MCN, was regarded as crucial to its chances of success or otherwise, as observed by one experienced participant:

'You have to work at the influence you can have. And influence is always about hearts and minds, it is never about authority. It is about...knowledge and support and all those things...It is slippery, it is more slippery [than "traditional" management].' (Int 1, vol CHD)

This was endorsed by participants in all MCNs amongst whom the role of 'management' was widely perceived to be about coordination, taking an overview of all the different aspects of the MCN, and smoothing relationships, rather than 'management' in the more traditional sense:

'It's probably my age, and it's maybe my perception of the manager. I have a great manager, but she doesn't feel what I consider to be a manager. I just consider her a senior level colleague. Now...when I left school a manager was your gaffer and was usually time and motion personified. He didn't really want to hear anything, a "you're not paid to think" attitude. Managers were always something to me that were, not bullying, but they weren't on the same level. It wasn't, "I'll share my time with you", it was a structure, a [top-]down structure. Whereas certainly in this working environment [the] manager is just someone who deals with the politics - we have separate things. I'll deal when it's patients but [name] deals with the politics. And I think that's a great way and probably the term manager does mean she manages things rather than manages people. So I think that was the thing with a Managed Clinical Network [as opposed to the previous voluntary enclave network] "we [the MCN] were going to manage them [clinicians] and tell them, do this, do that" but that seems to have...' (Int 64, vol D)

'...the coordinator. Meeting attender for all huge meetings. There are a lot of wee things and she's probably there to represent...Yes, a coordinator.' (Int 6, vol CHD)

'[Name] is the network manager and she tends to coordinate meetings. [Name] has gone out and met Practices and brought information from primary care to the secondary care team.' (Int 24, man D)

'I think the manager has certainly got a good overview of what is going on in CHD across [Health Board area] and she certainly communicates that extremely well, both within the group and outwith the group.' (Int 43, man CHD)

The role of clinical leadership was also deemed to be an important element in the process of organising MCNs. Here, issues of legitimacy and style were important in relation to how effective the position might be:

'It has to be someone with a clinical background and obviously the leadership skills. It's about maintaining enthusiasm and being able to keep that support for everyone and also take on board people's views, because we need to reach consensus. We can't just go off and doing what we want as well. It's really being very inclusive and consulting with people and being willing to take on board people's views.' (Int 69, vol D)

As with the other aspects of 'managing within' MCNs, if such leadership was perceived to be imposed from above, or not aligned with the clinical

interests of participants, this could create difficulties rather than motivate clinicians to participate in MCN activities:

'The whole idea of a MCN was that it should be clinicians. We interpreted that as meaning clinicians who were actually doing clinical practice, as opposed to people that have a clinical background but were now in management or something else. So there was slight resistance right from the beginning that it wasn't a medical clinician leading it or somebody that was in current clinical practice.' (Int 35, man CHD)

This suggests the informal, negotiated style identified in the scoping studies was more likely to be effective in relation to the organising processes of MCNs than those which were more directive, regardless of the origins of the MCNs. When clinicians felt supported, they tended to have more favourable responses towards the MCNs, even those which had been mandated:

'If you had interviewed me right back three years ago when we were going through the trauma of redesign and everything, I would have said, "I think MCN is just a waste of time and money. Give me the money that you would be giving to them, let me put it into service." But recently I've been trying to develop phase 2 cardiac rehab in the community and the MCN has been very supportive with that.' (Int 49, man CHD)

The management/leadership process of three out of the four MCNs studied was conducted through what could be described as 'distributed leadership' (Huxham and Vangen, 2000). Other evaluations of MCNs have also identified this tendency and that it seems to fit well with the ethos and aims of MCNs (Hamilton et al, 2005). This could be deemed to be in direct contradiction to the policy guidance and core principles of MCNs (SEHD, 2007; 2002a; 1999). In one MCN, the issue was taken up directly with the Scottish Executive Health Department:

'Well [SEHD official]'s not keen on not having a lead clinician...had written, but once it was explained at Board level exactly what was happening, who was taking on which roles and whatever, our Medical Director was quite happy and so was the Chief Executive and that was fed back to [SEHD official]. I think [person]'s quite accepting of it now.' (Int 15, vol CHD)

These distributed leadership arrangements seemed to suit three of the MCNs studied well. The fourth MCN, (mandated CHD MCN) had persevered with a single lead clinician which had proved extremely controversial, as previous quotes from participants indicated. Aside from ensuring legitimacy of leadership distributed between clinicians from different areas of the healthcare system - notably secondary and primary care, working together with their managerial colleagues - the arrangement addressed other concerns identified over time. For example, it avoided the problem of 'burn out' of individual lead clinicians charged with ensuring participation across the clinical spectrum (Hamilton et al, 2005; Huxham and Vangen, 2004), as clinicians felt supported in the role and did not become overwhelmed. In

this way, it helped provide a solution to the problems of succession of leadership experienced in at least one of the MCNs of voluntary origins, which could be categorised as having been an individualistic network initially (Goodwin et al, 2004).

When viewed in light of the data from the case studies, the process of management in inter-organisational networks may be understood to be more akin to indirect influence and steerage, than direct command and control, with the emphasis on interpersonal and informational aspects of managing than those related to exercising control and decision-making (Mintzberg, 1975). When enacted in these ways, the processes seemed to achieve the desired 'buy-in' and engagement which resulted in their more active participation in the MCN.

However, sometimes a more direct style was adopted, particularly when those involved in MCN management and leadership positions sought to meet the governance obligations placed upon them through the organisational aims set out in more recent policy documents (NHS Tayside, 2009; SEHD, 2007). When this happened, it tended to have a detrimental effect on relationships and perceptions within the MCN in the long term, although it may have delivered the organisational objectives or requirements in the short term. Participants began to feel there was a conflict between the MCN and their employing organisations which did have direct managerial authority over their actions. This could result in disengagement from the MCN and undermine support for the concept:

'I feel it's hindered us slightly. It's almost like another tier of management that you've got to go through, so you've got your line managers, then all of a sudden, we've got this group that don't manage as such but they have got influence on how your service runs and what figures you collect. Sometimes, there's not a conflict but it's almost like two different people you're reporting to... There's been a couple of things recently that I've thought, "wait a minute, you don't line manage me as a person or us as a service, so you can't make these demands of us." And I think maybe sometimes there's an expectation that, "you must do this because the MCN says you must do it", and I don't think that's necessarily right.' (Int 41, man CHD)

All in all, it seemed a consensual, motivational, inclusive, facilitative, negotiated style was likely to be most successful in terms of organising, management and leadership processes in MCNs, regardless of origins. MCN management and leadership exercised on a distributed basis resulted in MCN participants identifying with a 'core MCN team' through which the collective aims of participants could be fostered, furthered and supported through the exercise of influence over those within the MCN and those in positions of authority over them. This could best be summed up thus:

'I would see their roles as managing the Network, disseminating information, involving people, representing opinions of the Network as a whole to other individuals, perhaps nurses, to GPs, to the

Board. [It's] about collating responses, and organisational issues. So like ambassadors, coordinating the responses and then trying to disseminate that information, rather than necessarily acting as managers to the individuals within the team.' (Int 26, man D)

3.3.2 MCN structures

All four MCNs studied were similar in structures relating to activities undertaken within the MCNs (although they had subtly different governance structures, in relation to accountability through their host health boards. This will be discussed separately under section 3.3.4.).

Each had an MCN 'board', through which a wide variety of stakeholders were represented, and through which decisions relating to MCN activities took place. In addition, each has some form of 'core group' which meets to discuss operational issues related to MCN 'board' level decisions, together with a range of 'working groups'. These typically deal with specific matters related to the clinical topic of interest (for example, in CHD, this might be a heart failure or cardiac rehabilitation, whilst in diabetes this might be related to retinal screening or diet). MCNs also had a range of other more generally applicable 'working groups' dealing with issues such as professional and/or patient education, data and information, or guidelines. However, although similar on the surface, these structures worked in practice demonstrated differences regarding MCN origins, local context and areas of clinical interest.

Getting the right structures can help...

Participants from all four MCNs, regardless of origins and maturity, did not regard the structures of the MCN as being of primary importance to the way their MCN worked. However, echoing the findings of the scoping study, they did identify situations in which having the appropriate structures could make things easier:

'We have special groups set up to take forward specific areas of work where people from lots of different areas get together to take that forward.' (Int 69, vol D)

'It is a Network of people who have an interest, either because they have the condition or because they are caring for people that have a condition. So it's a case of... being influenced or supported by the programmes or structures or developments that are discerned as being things that our priority is to work for. So there are people who are members of action groups, work groups, committees of the Network...' (Int 69, vol D)

These participants identified a key aspect of MCNs, namely the creation of working groups through which issues discussed at overall MCN 'boards' were progressed. As the second participant indicates, people participated in such structures because they enabled them to work together on their area of mutual interest. Through the work of such 'standing' work groups, other

activities could be arranged through which a wider range of views and expertise could be drawn upon, for example:

'...we set up focus groups to look at ... preventing the problem in the general population, right through to the patient who has had the heart attack with the bypass graft and rehabilitation back into the community.' (Int 4, vol CHD)

'Rather than us suggesting things and maybe the few enthusiasts going along with it because we were already proving that these changes are being beneficial elsewhere then people would be more likely to buy into it and more likely to contribute to the networks. It is about building a bigger circle of links as apposed to the core ones that were enthusiastic to begin with. It is about making it a wider network and developing the sub groups more freely, so that they are more effective rather than us all working inefficiently on things that we can't deal with.' (Int 24, man D)

Therefore, through the creation of appropriate 'working groups, MCNs were able to establish structures in which clinicians, patient representatives and managers wished to participate because they helped them to do things related to their areas of mutual interest. These participants indicate the dual role fulfilled through the creation of such structures, which was partially practical (getting something done about CHD/diabetes) and partially network-building (enhancing inclusivity and the range of participants).

...And the wrong structures can undermine

As indicated, structures seemed to help. However, this did not always work in all of the MCNs studied, even in relation to the overall MCN 'board' or decision-making group:

'A lot of implementation groups were cancelled. People were putting in apologies because they thought that they're not going to be worthwhile and no key decisions were going to be made, and you get into that vicious cycle..., so it just self-perpetuates and makes itself worse.' (Int 47, man CHD)

It would appear that structures only help in MCNs if people feel they are doing something useful through their attendance, or if they feel that the group has legitimacy throughout the MCN. As indicated by this participant, where this was not the case, participants indicated a disengagement from the MCN which resulted in exclusivity, rather than inclusivity. This had obvious implications for the sustainability of this MCN, and perhaps for MCNs more broadly.

In fact, the mandated CHD MCN presented an example of what happened when structures were imported without regard for the particular MCN's clinical area of interest:

'We had rumblings of dissent - some people did not agree with the structure that we were taking. We were modelling our structure on the diabetes network and there was a very small number voiced their

opinion that diabetes was a very different disease, and this network didn't have to follow the way diabetes were structured. However they did not come up with alternative solutions. And... in light that we don't actually have anything else, being that we wanted to be all inclusive at the inception of the network, we would try it for one year and then we would re-evaluate it.' (Int 53, man CHD)

As suggested in the preceding quote, this resulted in problems of engagement with the overall MCN 'board', but there were additional problems relating to the working groups within this MCN. There was a fairly widespread view that these groups proliferated:

'I think at one stage there were 17 sub-groups. And then you have to have a meeting every now and then of the heads of all the sub-groups. I think it doesn't take long for the Health Service to get bogged down in the process of meetings. Everybody has monthly meeting[s], there's minutes in circulation, and it gets to the point with lead clinicians of them [sub-groups] are bombarded almost. And they get turned off by the whole thing and don't engage any more.' (Int 35, man CHD)

This view was quite frequently expressed within this MCN, and seemed to indicate that the purpose of the groups was unclear. In addition, lack of acceptance of structures introduced when the MCN began, suggested a lack of cohesion from the outset. This illustrated the point that MCNs need a purpose around which participants could coalesce. Whilst disagreement is predictable within MCNs, at some basic level there requires to be consensus about some form of mutual aim. The presence of sub-networks within the mandated CHD MCN, as clinicians created their own groupings which they felt enabled their own areas of interest to be discussed and acted upon, reinforced these points:

'Yes, we have our own Acute Cardiac Services Group which the Chairman of the MCN attends, so [name] knows what's going on. Attendance is variable at that but [the lead clinician] attends [whenever possible], and the decisions remain there. And they are really made according to what we've recommended and what funding is available.' (Int 36, man CHD)

These difficulties demonstrated the inability of MCN 'core teams' to enforce participation amongst clinicians, without whom the MCN was unlikely to achieve whatever aims it identified as pertinent. This suggests that, whilst MCNs may be mandated, engagement cannot be enforced by structural means. This highlights a crucial limit of mandation, and the relational nature of MCNs.

Structures for involving patients

Patients were involved in the structures of all four MCNs, although the voluntary diabetes MCN was arguably the most developed in this regard, through the creation of a 'patient council'. However, each MCN had at least

one patient member of the overall MCN 'board', and one (voluntary diabetes MCN) included a national patient group representative. MCNs also included both national and local patient representatives on 'working groups', particularly in relation to patient education. National bodies working with the MCNs studied included the British Heart Foundation, Diabetes UK, and Chest, Heart and Stroke Scotland.

Patients' roles within these structures varied. In one instance, a patient representative acted as the Chair of the overall MCN 'board':

'The Medical Director...turned round to me and said, "you're just the chap to be the chairman". I said "you are joking. I have no medical background; I don't really know how the NHS works." And he said, "no, but you can take charge of a meeting." So I said okay. I did it for about a year...' (Int 31, man D)

However, the participant did not find the style of leadership, through influence and negotiation, fitted with his own values and experience and sought to vacate the chair, although remaining as an MCN 'board' member.

Understanding how the NHS works, and how to make one's voice heard as a patient within MCN structures became a focus for MCN efforts, as each MCN undertook training for patient participants in such matters.

In chapter 4, various forms of patient involvement in, and experiences of, MCNs will be discussed in full.

3.3.3 Resources for governing MCNs

MCN 'distributed leadership'

MCNs need resources of various sorts in order to carry out their governance role, in terms of promoting integration and coordination. These resources are most frequently associated with leadership, in the form of the lead clinician and manager roles:

'[If] there is not the funding or inclination to appoint or retain [leaders and managers of] ability and... enthusiasm, or because the support does not seem to be there, and if those that are giving of their own time and effort enthusiastically... lose the will to live and go off and do something else, then I think the Network would flounder.' (Int 68, vol D)

In addition, there are resource implications for other participants who attend meetings and participate on MCN 'boards' and working groups. In some instances clinicians, particularly those in primary care, are required to fund replacement clinicians to deal with clinical duties whilst they are absent. This led to situations which were unlikely to be sustainable in the longer term, as exemplified by this participant's experience of occupying an MCN role:

'I do this in my own time. I take my holidays - I have to take the time off and it's not a major issue, because we have quite generous holiday

time... But I don't have local funding. It just comes out of my time...I have missed a meeting because there were clinical priorities here - we were short staffed and I was just not in a position to go.' (Int 59, vol D)

This problem was particularly challenging in view of the 'distributed leadership' style which developed in three of the four MCNs studied, with which arrangements for MCN funding had not kept pace.

'Generic' MCN management

Another developing issue emerged through the case studies, related to resources for MCN leadership and management. This concerned the growing pressure from Health Boards to establish 'generic' MCN management arrangements. This referred to sharing the same MCN manager across more than one MCN, and therefore covering different clinical areas of interest. This arrangement was viewed with trepidation by clinicians involved in MCNs:

'Because of all the other networks that are developing and because there's a limited amount [of money], there will be a challenge in terms of network managers - sharing that across a variety of different areas. The less... dedicated leadership we have, the less we will achieve. I think there would be a danger, if your management is spread thinly, that you just lost the momentum.' (Int 68, vol D)

'[MCN manager] is being removed and that is not by choice. I foresee that as a very major challenge - and potentially a "make or break" - because what is suggested as a replacement in my view isn't viable. It is basically to hand the portfolio on to one of the [C]HP managers who was working full time beforehand. I frankly think it is completely unrealistic to expect [person] to take all this on. So that is something that I am going to be taking up with the [Health] Board [because] I don't see that as being workable.' (Int 22, man D)

It is clear that, whilst it may have seemed sensible to share resources - in the form of management time - across the steadily increasing numbers of MCNs, the idea was not regarded as 'workable' by MCN clinical participants. This perhaps indicates a lack of appreciation of the way these 'resources' are employed within MCNs. Notably, it suggests a lack of insight into the *process* of leadership, and the synergy between MCN managers and clinicians (especially lead clinicians), within three out of four participating MCNs.

Good data, IT and evidence to support MCNs

As well as 'human resources', MCNs require informational and technical resources to support this way of working. Such technical resources are important because they are useful in enabling MCN participants to provide 'evidence-based' services of consistent quality:

'partly it's about making sure people have the information to be able to do their jobs, to make decisions safely, partly it's about promoting

best practice and identifying the evidence base and being able to support people to develop against an evidence base.’ (Int 22, man D)

However, these ‘technical’ resources fulfilled another more relational role in MCN processes, as indicated here:

‘Clinical communication and IT has a lot to do with that, but also having people who are prepared to make a bit of a buzz on the email and get people a bit more enthusiastic about things that are going on. One is in terms of audit and decision support so that you’re actually, as individuals - and increasingly that [involves] patients as well - and as healthcare planners and providers, you have data that means that you can analyse what’s going on... sharing protocols and best practice, and working out ways of helping clinicians to make decisions at the coalface. Clinical governance ties in with that... Knowledge management, decision support and audit, and clinical evidence - really, those are the three.’ (Int 61, vol D)

Good data, IT and evidence could support MCN processes of inclusivity, fostered 2-way communication and involvement, enabled patients to participate in an informed manner in their own care and discussions about the planning and development of services, and informed clinicians’ decisions by providing information about the growing number of guidelines and protocols with which they were required to be familiar. Whilst technical resources supported MCNs, their use was related to origins, maturity and leadership processes.

Tensions over resources

A controversial topic which emerged in the case studies concerned whether or not it would be helpful for MCNs to hold their own budgets for services, in addition to funding for MCN ‘core teams’. This was a source of dilemma and tension for MCN participants, especially for ‘core teams’ and managerial and Health Board participants (with whom the authority for such funds presently resided). Views were divided about this issue:

‘The Network has no money, it has no budget and therefore without that it has limited influence. Along with that comes the issue of this dichotomy, if that’s the right word, between the NHS’s concept of single system working - of trying to work across all of the areas within a Health Board area for example - and to produce a strategy and a policy that is aligned to everybody.’ (Int 68, vol D)

As the participant indicates, the issue of not having a budget was central to the coordinating role played by MCNs. It highlights MCNs’ lack of direct control over MCN participants (individuals and organisations), and the responsibility of those participants for service delivery. This widespread tension, which surfaced in many accounts about ‘what MCNs are for’, alludes to the dual nature of governance within and through MCNs. This was identified by another participant and represents the other side of this dilemma about MCNs:

'It's that odd sort of balance isn't it, because if you've got more influence in a budget of your own then it becomes more difficult to make independent decisions. So there is that balance between being able to recommend the "gold standard", without actually having to be held to account for that. On the other hand it would be lovely if we actually had some power to say, "well this is what we want and this is how we want to spend our money and this is how we move things forward".' (Int 26, man D)

As indicated, the implications of MCNs acquiring budgetary authority would perhaps change the nature of the MCNs. The focus on clinical matters, and on bridging the boundaries between participating individuals and organisations engaged in the delivery of services to meet clinical needs, could be compromised.

The importance and implications of various resources, to support governance in and through MCNs, therefore require to be considered in relation to MCNs' role in bridging boundaries.

3.3.4 Bridging boundaries: MCNs and the organisational environment

A key finding to emerge from the case studies concerned the relational nature of MCNs. It became clear that questions about how MCNs operated and might be organised depended on 'what MCNs are for'. Data from both the scoping and case studies suggest that MCNs' purpose is to bridge build, to forge and maintain linkages across a range of boundaries. Participants' views about the purpose of MCNs demonstrated some confusion, as understandings about MCNs' integrative role became intertwined with ideas about service delivery and management. However, through discussion, participants sometimes differentiated these key roles:

'A lot of people ask me, "what do you think the managed clinical networks have achieved?" and it's really a difficult question to answer because of the way managed clinical networks are structured. They've not got any significant budget. They're not about operationalising things or implementing them particularly. So what are they actually doing? If it's just about getting people to agree things and making decisions, then is that really making a big enough difference to the patients in [Health Board area]...? And I do still think - despite all the reservations that people have expressed - that the principle is the right one and that we should be still trying to achieve that. It's just how we can achieve that effectively, particularly when we've not good sign up in participation.' (Int 47, man CHD)

This demonstrates the multiple dilemmas participants faced when talking about MCNs and their participation in them. But it clearly identifies and affirms their bridge-building role within the overall healthcare system. This is particularly important, given the MCN with which the participant was involved, which arguably exhibited the most mixed fortunes of the four MCNs studied. However, the difficulties of establishing a presence in order

to fulfil this role should not be underestimated, as indicated by this voluntary MCN participant when asked to identify the biggest challenge the MCN had faced:

'Getting the network accepted within the system. Getting it recognised for what it does. And fitting in - just across the board.' (Int 2, vol CHD)

The question of where the MCN 'fitted in' highlights the range of boundaries across which MCNs worked. These involved primary, secondary and tertiary health care sectors, professions, existing healthcare organisations, as well as other MCNs.

Boundaries within MCNs: Primary/secondary care

The perception of a boundary between primary and secondary care was clear in participants' accounts from all four MCNs, even the voluntary diabetes MCN which was widely regarded as having 'dealt with' this boundary. However, the data suggested otherwise:

'I think traditionally it's been, well, my perception - I may be wrong - but it was quite a secondary care focused organisation [but]... I think it has become more inclusive of primary care now.' (Int 58, Vol D)

Although this may be the view of clinicians who became involved later in the MCN's development, the boundary issue was perceived even by those primary care clinicians who occupied fairly central roles within the MCN:

'Well certainly as far as diabetes is concerned there's been a big shift of clinical care from secondary to primary care. I think there is always a danger that we take that on without having some insight into where the human resource is going to come from... We have to...fight our corner for resources to manage these things... I think that it is important that we give a perspective of how much we do give... When I say "they" I suppose it is "us". I suppose we should look on it as that.' [Note: the participant has not said 'they' in the course of the interview, but use of term 'we' in this context to signify primary care suggests 'they' refers to secondary care.] (Int 59, Vol D)

These views may reflect the dynamics between primary and secondary care more broadly. However, they highlight the importance of the work done with regard to this interface concerning diabetes, across both the voluntary and mandated MCNs:

'All the personalities involved ultimately wanted the service to move in the right direction. People had different views in some of the detail, and people continue to have different views around some of the detail, but I don't see that as something negative. I think inevitably a secondary care clinician will have a different outlook on life to a primary care clinician and it would be worrying if they didn't. I feel within diabetes, and I suppose within the managed clinical network, is that there's been a greater mutual understanding - and it's work that

needs to continue to be done. But certainly think things have improved.’ (Int 23, man D)

Despite their different origins and situations, the two diabetes MCNs shared the need to address the primary/secondary care boundary, and each was perceived as having some positive effect on it, although the on-going nature of such efforts were noted. In order to gain further perspective on this MCN role, the views of primary care participants who straddled MCNs were sought. There was agreement about the nature, and perceived efficacy, of the bridge-building role of MCNs as regards diabetes; but there were suggestions that there may be differences between MCNs on this issue, associated with their areas of clinical interest:

I think that was the great whoop for managed clinical networks, that they were going to make a big difference to integrated working across primary and secondary care. I think we’ve got a lot of work to do on that. We’re talking now in a way that we probably weren’t, certainly around diabetes, seven or eight years ago. From a coronary heart disease perspective, we’re still on the first lap of that race. I think we’ve got a lot of unhappiness in primary care about the way coronary heart disease services are delivered at the moment. The network really hasn’t improved that significantly. (Int 17, cross MCN, vol CHD and man D)

These views about this CHD MCN were noteworthy given its voluntary origins. Despite many of the processes of the MCN mirroring the descriptions of what might make the MCN most effective, it seemed that challenges remained.

When participants’ accounts from the mandated CHD MCN were reviewed in relation to this issue, similar views were voiced to those of participants in both the voluntary CHD MCNs:

‘I had hoped that we’d be able to get better agreement, a more joined up way of working. As it was, it still ended up with the MCN being still in competition with cardiology services for some aspects of what we’ve got here. It wasn’t out and out war but there was just not the level of collaboration that would have been most helpful...’ (Int 56, man CHD)

‘I do believe the CHD one from its very inception has struggled to deliver strong respected primary care, secondary care leadership. So from the very beginning, the buy in from the constituent parts of the MCN was less evident which made the challenge for delivering on CHD objectives, far, far greater and from a CHD perspective, we have continued much more to work in silos.’ (Int 50, man CHD)

‘I suppose the one thing I feel, it’s [MCN] helped people see that it’s a [Health Board area]-wide approach we need to take. This is a service that’s running [across Health Board area] and we all need to be banging the same drum.’ (Int 41, man CHD)

From this perspective, it appears that some of the difficulties highlighted previously with the mandated CHD MCN’s leadership process and inclusivity

may have related – at least partially - to coronary heart disease. It appeared that this clinical area proved particularly problematic in the practical MCN work of bridge-building. This seemed to be related to the complexity of the range of professionals and healthcare sectors involved. So whilst the primary/secondary care boundary presented challenges for CHD MCNs, they also faced the additional challenge of dealing with secondary/tertiary care boundaries.

Boundaries within MCNs: secondary/tertiary care

Whilst the need to deal with the primary/secondary care boundary is likely to be evident to most people, the less obvious - but nonetheless crucial - boundary between secondary and tertiary care clinicians formed a central aspect of work for CHD MCNs. This highlighted the presence of both intra- and inter-professional boundaries at these levels.

These boundaries remained largely out of sight in discussions about diabetes, but emerged in CHD MCN participants' accounts. The complexities involved touched upon the local organisation of services, including the presence or otherwise of District General and Teaching Hospitals within a Health Board area, and the expanding range of professionals involved in providing services for patients suffering from the full range of CHD problems. Participants in both the voluntary and mandated CHD MCNs identified these boundaries as challenging:

'I think there was no doubt that when I first arrived here as a consultant some years ago, there was very much an us and them culture, not just in cardiology, but throughout between [DGH] and [tertiary hospital]...I think that those attitudes have definitely softened and one thing that I would probably see as being a benefit within...the managed clinical network is that there is a much healthier regional wide view of many things. For example, the running and staffing of the ECG departments ... I would probably say that yes, there probably more ties have developed regionally... So that's probably a benefit.' (Int 34, man CHD)

'Well, from my perspective, I have found the MCN just so useful in the fact that it has brought very disparate services and pieces of work together. I don't know whether it's peculiar to [Health Board area], but in my opinion, cardiology didn't link terribly effectively with other [CHD] services... Part of that was because of a lack of understanding. To me, the MCN is the opportunity to share knowledge about what the different roles are for the different services, how the services can work better together. And that has definitely been happening through the MCN.' (Int 11, vol CHD)

Despite the challenges presented by these boundaries, and particularly in light of the problems identified particularly in relation to the mandated CHD MCN, it is interesting to note the positive views these participants in the two CHD MCNs expressed in relation to the bridge-building work of these MCNs. This indicates that - whatever the evident problems with MCNs - clinicians

valued the opportunities MCNs offered to deal with these boundary issues, which coloured their everyday working practices:

'I think going to these meetings you meet colleagues that you would not normally come into contact with and that can't be a bad thing. I think being made aware of the pressures other people face helps put into context your own desires and pressures that you are facing. So all of those I would say are good things.' (Int 34, man CHD)

So although there were distinct, contextual issues related to both the voluntary and mandated CHD MCNs (discussed further under section 3.4.), the bridge-building work of MCNs emerged as a key aspect of 'what MCNs are for'.

Boundaries between MCNs and Health Boards

Perhaps the key boundary across which MCNs had to work was that between the MCN and the Health Board. This involved a complex and difficult relationship which changed over time in all four MCNs studied. As discussed in section 3.2., origins played a part in these interactions. MCNs of voluntary origin found their relations with host Health Boards challenging, as exemplified through this participant's comment:

'I mean I just felt extremely frustrated and inadequate and a bit cynical. I felt that our local [Health] Board has Networks because it [puts a] tick in the box...[They] really haven't grasped the opportunity that the Networks present to work in a more integrated way. I think the concept is good but it is bureaucratic... it's standing still here at the moment, and I think if you talked to our patient representative [name]...he would endorse that. I said that at the National Advisory Committee meeting, really quite nervously to start with, but it stimulated quite a vigorous discussion. So I don't think it is just here that we are having these sorts of problems.' (Int 4, vol CHD)

However, it would be too simplistic to say that mandated MCNs did not find the relationship difficult too:

'I feel that there is lack of willingness from the Board executive to support development in diabetes. And I also foresee a challenge around actual support for the Managed Clinical Network and the MCN structure...There has been a fair bit of involvement in the operational aspects by the [Health Board] chief executive to a level that I personally don't feel is appropriate.' (Int 22, man D)

This lack of enthusiasm from host Health Boards may have been partly due to the way MCNs were created to sit in the middle of the range of existing healthcare organisations, and partly due to the difficulties people had in clearly identifying the purpose of MCNs. Health Boards appeared to wish to exert control over MCN activities. This occurred particularly in relation to the role MCNs were supposed to have in providing clinician and patient input into service planning and investment priorities:

'What has taken much more work, and we're still working on, is the... Health Board - the people who hand out money. We have the ideas and we feel we know what should be happening, but it's difficult to get that translated into money. And money is often needed for change. I suppose that was an obstacle which in some ways is beginning to unravel, because MCNs are becoming more accepted' (Int 60, vol D)

As MCNs began to mature, more strenuous efforts were made to establish better relations with host Health Boards. Voluntary MCNs in particular began to shift their focus away from the internal enclave and on to external relations within the overall healthcare system:

'We are beginning to link in more with general management. That was a difficult thing in the first few years of the MCN - it was seen as something separate, [the MCN] didn't fit into the general management structure of the NHS. But now, we have got more roles where we are getting to feed in, and we have got things like waiting time targets and things - you know, general management stuff. We are now able to work a bit more with them.' (Int 2, vol CHD)

This represented a change in governance arrangements for MCNs, instigated by Health Boards. By involving MCNs more in existing (clinical) governance frameworks, they would be more accountable to the Health Boards and this might ease some of the tensions within those relationships:

'We have quite good links with the NHS Board now and...we have a very clear reporting structure into the Board. We have to report annually into there and we have to set out our "table to commitment", that's what it's called. And actually [it is] our work plan for the year.' (Int 69, vol D)

However, there was the potential to change the MCN ethos and concept, and to undermine their bridge-building role, if the pendulum swung too far towards these sorts of 'harder' governance measures. Difficulties might arise for MCNs in pursuing their 'soft' governance role in forging and maintaining the variety of relationships and linkages which characterised their work:

'...some of the new targets...are quite interesting because they're a step away from collaborative working and moving into performance management and waiting targets. And it will be interesting to see where the responsibility actually lies. Because waiting targets are very clearly set, they're the general business manager's at the moment... How well they'll sit within a Network, which has been very much about communication, networking, clinical focus and developing clinical practice, not about... - some of it's around clinical services. But...' (Int 20, man D)

This participant highlighted the dilemma faced by MCNs in relation to tighter governance requirements set by Health Boards. The mention of general business managers also captured an area of concern for both MCN 'core teams' and existing organisational managers.

This tension illuminated the dual-facing nature of MCNs, which located their 'core teams' at the centre of a range of relationships, in particular between the Health Boards and participating organisations and professionals:

'They're [MCN managers] really an interface between the [Health] Board management and the various elements of the network.' (Int 35, man CHD)

In this regard, MCNs had what was termed an 'ambassadorial role' (ints 24 and 26) to play in influencing host Health Boards to take 'grass-roots' clinician and patient views into account in the formulation of strategic decisions concerning prioritisation of service developments and investment decisions for service delivery. Interestingly, participants involved in those activities within Health Boards identified MCNs as achieving this role to a degree, and even finding it helpful:

'As far as the [Health] Board's concerned itself, I don't see a lot of pressure from the Board. I think it's the other way round, the main push is the other way round almost. So that in a way the Managed Clinical Networks drive the Board, rather than the Board driving the Managed Clinical Networks.' (Int 19, vol CHD and man D, cross MCN participant)

'What I've liked about the MCNs is the joint working. Our senior management group here below the directors is what we call the corporate management team, and when we've had discussions around how we continue to develop joint working and getting more robust systems in place, one of the examples I personally have always chosen to use was the MCNs, because I do see that as a good way of developing services. It's this shared goal, shared interest and nobody sits round that table who does not want to see an improvement in cardiac services. And I'm assuming it is the same for diabetes.' (Int 11, vol CHD)

Therefore, although those involved in MCN 'core teams' and participating organisations perceived Health Boards as unenthusiastic about MCNs, there was some suggestion that they may be underestimated the influence the bridge-building role of MCNs across a variety of boundaries was having within the whole inter-organisational network.

Nevertheless, it was impossible to ignore the overwhelming view of participants that the challenges presented for and by MCNs should not be underestimated. These were summarised neatly as follows:

'So that is always a weakness of the MCN: it doesn't have the power - in either a[n]... economic or even just a sapiential authority over the system - to be able to say, "this is what's going to happen". They can encourage, but they can't ensure that certain things will happen... I think it goes to the heart of it, that there's a gap between power and responsibility. MCNs are often asked to do things which they don't have the power to achieve, and then they're lambasted for not having

achieved what they never realistically could achieve.’ (Int 56, cross MCN int, vol D & man CHD)

This captures the central dilemma of MCNs and the introduction of such inter-organisational networks within the Scottish healthcare system as a way of governing an increasingly fragmented set of service provider organisations and professionals, to meet patients’ needs.

Boundaries with other MCNs within HB areas

Meanwhile, the increasing numbers of MCNs generated a new set of boundaries which required attention: those between MCNs themselves. This was commonly understood to concern ‘core teams’ and MCN ‘boards’, rather than any serious attempt to consider linkages across the full range of participating organisations, professionals and patients.

This was an issue which emerged to some extent from the scoping study, and has been touched upon in the presentation of findings about MCN leadership and ‘management’ processes. However, although participants in the case studies were asked directly about these potential linkages, little of note emerged from those discussions:

‘There is no formal link. The network managers communicate fairly regularly so I think there is communication there and I wouldn’t perceive a great difficulty if it came to needing to link up on specific issues. There may be challenges particularly if you are looking at competing for resources.’ (Int 22, man D)

Although participants did mention the linkages some MCNs made into regional level planning groups, comprising host Health Boards across local MCN areas, little was said here about linkages between and across MCNs, either within or between host Health Board areas. This perhaps reflects the ‘local’ nature of the participating MCNs and does not indicate that such issues are of no importance more generally in relation to inter-organisational networks.

3.4 Origins and processes: influence of local context

One of the policy aims for MCNs was the ability to standardise access to consistently high quality services, regardless of where patients were located (SEHD, 1999; 2002a; 2007). As the finding of this study show, this can prove impractical. The data from this study suggests that local context was influential for all issues discussed so far in relation to the origins and processes of MCNs.

This final data section highlights the influence of related local geography, culture and service provision models within MCNs, which underpins the data presented so far.

Tensions between evidence-based practice and local needs

The requirement for MCNs to base discussions about service developments on evidence raised challenges for those involved. Several examples emerged in discussion with participants. In particular, the introduction of two nursing roles, one in diabetes and one in CHD, caused some controversies when put into practice. Although the introduction of Diabetes Specialist Nurse roles and Heart Failure Nurse positions followed 'best practice', the ways in which these were incorporated in the different areas highlighted some of the tensions related to context.

This was even the case within one single Health Board area where there were different needs different localities in relation to the Diabetes Specialist Nurse role:

'I think [MCN priorities] come both from the Scottish Exec and the [Health] Board... but obviously hospitals in specific areas have different priorities and different pulls on their resources... Even in an area that's small like this - because it's quite geographically wide spread - there are always going to be differences. I think that's why it's so important that people from different areas feed in... We are offering quite differing issues because of the geographic spread...particularly [place] in comparison to [place] and then in comparison to [place].' (Int 27, man D)

These local differences were most obvious within the more rural Health Board area. Here, although the 'gold standard' might suggest doing something in a specific way, this would not always deliver the best service for local people. This made engagement in MCNs attractive for some clinicians who felt these important differences would remain hidden otherwise:

'I think that is one of the motivating factors - that someone from my background, from the rural 20% of the population, is there just to say "hang on a minute but this will not work for my patients"'. (Int 4, vol CHD)

This need for locally-tailored services required MCNs to have flexible processes. The same issues presented in different ways within larger, more mixed urban and rural settings. Here, flexibility was also required as there were distinct localities within the overall area, with different configurations of primary and secondary care facilities.

Different localities also had their own distinct cultural characteristics. Although the localities within the voluntary diabetes MCN were now amalgamated within one overall area, this had not always been the case, and independent ways of doing things remained a feature which MCNs had to accommodate. One example of such flexibility displayed by the MCN related to professional educational initiatives:

'It's [MCN] developed a lot of patient education activities which are very good. I think it's very good at fostering. One of my things I'm involved with, and actually set up originally, was the [locality]

diabetes forum, which is for professionals who are delivering the care for people with diabetes, and the network has been very supportive of that.' (Int 58, vol D)

But, as indicated by the mandated diabetes MCN participant above, there were simultaneous tensions as both MCN and locality struggled to balance the need for local services and planning, with Health Board-wide approaches to ensuring equity and access to services and training:

'Things that we might want to develop which, really to get them done - it's very hard to be individual about it, we often have to go back to the network and they say, "well it's not a priority for us right now". Likewise, I think there's times we might want more help from the network...but I sense we've been left more locally. [But] they're very supportive.' (Int 58, vol D).

As indicated in previous sections presenting findings about MCN processes, origins and maturity, contextual issues were influential in all cases. The overlapping aspects of geography, cultural norms and existing organisational arrangements, in relation to the particular characteristics of either diabetes or CHD, combined to produce specific challenges for MCNs. These required flexibility of approach on all sides and illustrated the complexity of participating in MCN processes.

3.5 Discussion and conclusions

In this chapter, findings through which research questions about the origins and processes of MCNs may be addressed have been presented. These will now be discussed. Relevant insights about the origins of inter-organisational networks, in relation to processes of how they might be organised and managed, or governed, will be set out.

3.5.1 Network origins

MCNs were established through policy mandate with the intention of tackling a clutch of 'wicked problems' (Rittel and Webber, 1973). They were charged with promoting access to, and consistency of quality of, Scottish healthcare services by fostering collaboration and/or integration across geographical, organisational and professional boundaries. However, the issue of network origins has been shown to be more complex than was initially apparent.

Whilst two of the MCNs studied were voluntary in origin, and two were mandated, the data demonstrated that such apparent differences were less clear-cut than they seemed initially: there was evidence of previous informal networking in all four cases, whilst all four cases fell under the same mandate over time. As discussed, this seemed initially to make a difference to the way in which MCNs operated with the resulting implications for MCN governance. This seemed to confirm previous suggestions that

networks with voluntary origins are more effective than those which have been mandated by external agencies such as government (Goodwin et al, 2004; Human and Provan 2000; Scharpf, 1978).

However, the changing status of Scottish MCNs over time presented an opportunity to research how networks with such apparently different origins developed, and whether those differences influenced the content and process of what MCNs did (Weber and Khademian, 2008; van Beuren, Klijn and Koppenjan, 2003).

This revealed that as MCNs “matured”, the apparent differences related to origins became less clearly defined. Those MCNs with voluntary origins – within which the emphasis had been tilted more towards the dynamics of the “enclave” within – changed orientation and became more concerned with external relationships and tasks. Meanwhile, in MCNs with mandated origins the emphasis moved from external relationships, for example with host Health Boards, and tilted towards internal MCN relationships and tasks.

This suggests implications for governance of, and within, these forms of inter-organisational network as they change over time. The apparent advantage conferred through voluntary origins, in relation to the internal dynamics of MCNs in their earlier days, seemed less helpful in relation to the relationships with external organisations such as host Health Boards during this period. When MCNs became mandated through policy as a governance method to provoke existing organisations to become more collaborative and to promote integration (Provan and Kenis, 2007; Metcalfe, 1978), MCNs with voluntary origins required to re-orient their efforts in order to deal with the more formalised governance requirements they now encountered. The previous influence of informal networking prior to becoming MCNs began to wane, particularly in relation to new participants. This suggested that the importance of MCN origins may be linked to the level of MCN maturity and the introduction of the policy mandate.

This was highlighted particularly in relation to the need for MCNs to have a purpose in order to become operational, whether voluntary or mandated (Rhodes, 2007). It became clear that origins had an influence on the participants’ perceptions about such purposes, which again pointed towards the influence of time on MCNs and their operation. By their very nature, voluntary MCNs emphasised the purpose of improving clinical services, whilst mandated MCNs emphasised the creation of the MCN and how it might operate. But these respective emphases appeared to become reversed over time in MCNs of both voluntary and mandated origins.

Therefore voluntary and mandated origins could be conceptualised as different ends of a spectrum rather than alternatives which changed over time. This had important implications for the ways in which MCNs might be managed or governed at different points in their histories (Provan and Kenis, 2007). Whether voluntary or mandated, it was important to foster participation in the MCN amongst clinicians **and** amongst managers in existing organisations. However, the relative ease with which this might be achieved amongst these respective professional groupings depended

partially on the “maturity” of the MCNs in relation to their origins. In addition, this was a process which happened repeatedly over time, reflecting new demands and developments in healthcare and healthcare organisation.

3.5.2 Network processes

The relational nature of MCN origins and maturity or development over time had substantial implications for the processes through which MCNs operated and were organised.

Key in this respect was the way in which MCNs were lead and managed. The findings of this study echoed the findings of other empirical research (Huxham and Vangen, 2000), which suggested that leadership and management in inter-organisational networks should be regarded less as singular positions or jobs, and more as a process of this way of organising. In this respect, MCNs were not so much “managed” in the more traditional sense, but rather “governed” (Feldman and Khademian, 2002). This seemed to be achieved most effectively when done through a distributed process shared amongst several key MCN members, rather than vested in single individuals. This process emerged over time in MCNs of both voluntary and mandated origins and involved persuasion, influence, negotiation and facilitation, rather than the exercise of direct authority and control (Bevir and Richards, 2009).

This leadership/governing process was organised through the establishment of various MCN structures, which all looked similar on the surface. Whilst all MCNs shared the same sorts of structural characteristics by having ‘boards’ which oversaw the activities conducted through the MCNs, in addition to a variety of ‘working groups’ addressing different areas of interest to MCN participants, the way these structures emerged seemed to be important. Although MCN participants felt structures were not important *per se*, they could have important effects on participation in MCNs. Participants needed to feel that structures were tailored to the particular circumstances of each MCN, particularly in relation to the clinical interests of each MCN, and not imposed from outside. If participants felt structures had been imposed or imported from other MCNs, this sometimes created disengagement by or active dissent amongst participants in relation to the operation of the MCN. This was especially relevant in relation to the complexity of the healthcare organisations and professions involved in different clinical areas. Clearly, if clinicians and managers of existing services disengaged from active participation in MCN activities, this became detrimental for the governance of the MCN given the processes through which this seemed to operate.

In addition to the appropriate structures, resources were required in order for governance to work in MCNs. Whilst traditional perceptions of management proved unattractive in the inter-organisational setting, participants were all agreed about the need for the facilitation provided through the distributed leadership observed in three out of four of the MCNs studied. However, this was not enough to ensure MCNs could work

effectively. In order to achieve this, participants from the various organisations involved needed to be enabled to fulfil their MCN roles. Whilst voluntary participation at the individual member's own expense (either financial, or in terms of time, or both) may have been a reasonable way to proceed in the pre-MCN informal clinical networking which pertained in all four cases studied, this did not seem a sustainable solution once MCNs had been mandated and overtook such arrangements. Here, the differing priorities of different MCN organisations produced difficulties for participation in MCN activities (Poulsen, 2009; Addicott, 2008; Feldman and Khademian, 2002). Whilst some organisations were able to allow staff time to attend, without apparent financial penalty, other organisations found this more difficult. This was particularly the case for primary care participants. In these situations, the disinclination of Health Boards to fulfil the policy expectation to provide appropriate recompense to enable such participation was perhaps an indication of the difficulties of MCN governance (Sowa, 2008).

In addition, patient involvement emerged as an issue which MCNs had mixed fortunes in enabling. Whilst policy indicated the intention to involve patients in the planning and delivery of services through participation in MCN activities, this was more difficult to achieve in practice. There was some overlap between what was termed patient education about their conditions in order to help them with self-care and decision-making about their own care, and training patients to participate in governance processes within MCNs. In relation to the latter activity, this raised some confusion about the nature of patient involvement: was this related to individual patients representing patients with the relevant condition within the MCNs, or was this a public representational role? Whichever form of representation was envisaged, similar issues regarding enabling participation in governance processes and structures emerged for patients as for some professional participants. In addition to the financial aspect, there were issues about time and distance which created problems for patient participants. There was also an apparent requirement for patients to learn how to participate which was regarded as more or less helpful by participants. Some felt the role of patient representation was to challenge the status quo and to question clinicians' assumptions, whilst others felt that their role was to act with clinicians to bring pressure to bear on the managers of existing organisations to support developments in their clinical area of interest. These respective views seemed to be associated with voluntary or mandated MCN origins, although as with other governance processes, these distinctions tended to blur over time with patients from all MCNs undergoing training to participate in various MCN structures and being provided with educational opportunities relating to their conditions. All in all, the nature and purpose of patient representation and participation in MCN processes was a contested area of MCN governance, the implications of which were unclear. (Patients' participation in, and experience of, MCNs will be discussed further in the next chapter.)

These difficulties with structures and resources for MCN governance highlighted inherent tensions which emerged in relation to inter-

organisational networking and networks. Policy emphasised the role of MCNs in improving the quality and consistency of services for patients, which created some confusion about "what MCNs were for" amongst participants (Rhodes, 2007). However, it also stated that the MCNs' role was to contribute to the overall achievement of such a high-level aim by promoting collaboration and integration across organisational, professional and geographical boundaries. This was clearly different from the role of existing organisations, whose responsibility was to deliver services, for which they would be held accountable. Instead, MCNs were charged with "managing the linkages" (Woods, 2001) between these existing organisations and the professionals who were employed by them. For "local" MCNs like the ones studied here, this involved organisations, professionals and patients within defined geographical areas presided over by Health Boards (as discussed in Chapter 1).

In order to fulfil this governance role, a range of boundaries emerged across which MCNs' were required to establish linkages through which collaboration, and to some extent integration, could take place. These included the obvious intra- and inter-professional boundaries, which were related to governance within MCNs. But in addition, MCNs played an important "governance within" role in bridging the boundaries between existing organisations involved in MCNs. Here tensions emerged between the process of governance within the MCN, personified through relations between the "core teams" - particularly the MCN manager position - and the operational managers of participating organisations. This occasionally could create an element of disengagement and resistance to the collaborative and integrative aims of MCNs as a method of governance, as responsibilities and accountabilities clashed (Addicott, McGivern and Ferlie, 2006; Agranoff and McGuire, 2001). This suggested that the confusion around the purpose of MCNs in relation to service provision, and the criticism sometimes voiced about their lack of concrete service achievements, had a negative impact on their actual role of bridging boundaries and promoting collaboration and integration. When MCN "core teams", either advertently or inadvertently and for whatever reason, became involved in what were regarded as "operational" management of services managed by existing participating organisations, the "governance within" processes did not operate well.

This confusion was heightened by the presence of cultural and geographical boundaries, which were sometimes related to the clinical condition of interest, in each of the MCNs studied. The importance of context was evident in relation to the cultural traditions and norms which emerged within and between Health Board areas and the expectations about services, of professionals and patients, within those respective areas. An important aspect of MCNs' "governance within" processes was the ability to work across these less obvious boundaries and to promote Health Board area-wide views to be taken in order to fulfil their role in enabling access to consistently high quality services.

The "governance within" processes involved were particularly complex in relation to clinical interests which did not fit well within single Health Board

areas. This raised questions about the scale and scope of MCNs in relation to some conditions and/or diseases (Scharpf, 1978). For example, coronary heart disease emerged as a clinical area which seemed to generate sub-MCNs within the overall MCNs, depending on the Health Board context. The ability to bridge boundaries between professionals here, across different geographical areas, and primary, secondary and tertiary care sectors, suggested that these groupings were not straightforward. For example, linkages were formed across primary and secondary care for some aspects of CHD like heart failure, whereas other areas of CHD such as cardiology, required more effort in relation to the boundaries between secondary and tertiary care, and often at cross-Health Board level. Therefore, it may be that these internal sub-sets required to be acknowledged and different governance processes established to enable the overall network-level processes to operate more smoothly (Provan and Kenis, 2007).

But perhaps the most controversial and crucial boundaries for MCNs were those they shared with their host Health Boards. These indicated the "governance of" MCNs, and were complex in all cases. These linkages were influenced by MCN origins, and involved different processes over time as MCNs shifted their emphases in relation to the introduction of the policy mandate. Health Boards had a dual role in terms of network-level analysis: they were the accountable body on behalf of the Scottish Health Minister on the one hand, but were also part of the overall inter-organisational network as the lead organisation in the Scottish healthcare after its reorganisation as an integrated healthcare system (SEHD, 2005a; 2005b; 2003). In the course of this research it was mainly in their role of exercising "governance of" MCNs which was relevant.

In this regard, Health Boards began to introduce more formal requirements in terms of the overall accountability and governance framework for the MCNs in their areas in the years after the policy mandate (for example, see: <http://www.improvingnhstayside.com>). These more formalised accountability structures created tensions for MCNs in their own inter-organisational network governance roles. Increasingly, MCNs were required to resemble Janus and face in two directions simultaneously. On the one hand, they were dealing with their "governance within" role, of promoting integration and collaboration of professionals and organisations related to their areas of clinical interest; on the other hand, they were being required to be accountable to the host Health Board for the operation of the services delivered through those linkages by existing services – and for which the Health Board itself was ultimately the accountable organisation. (A clear example of this MCN role was their increasing responsibility to provide reports for standards inspections conducted by NHS QIS.) This involved MCNs simultaneously in 'governance of' and 'governance within' roles, which created difficulties. Tensions emerged in the processes through which these two, often conflicting, roles could be fulfilled. This created confusion amongst participants 'within' MCNs and sometimes undermined the negotiated, facilitated, persuasive processes through which 'governance within' MCNs was operated.

This particular boundary was also important in respect of the influencing role of MCNs in promoting the involvement of front-line clinicians and patients in service planning within existing organisations, especially at Health Board level (SEHD, 2007). Here, the relationships between Health Boards and MCNs were ambiguous and, again, seemed to be related to the origins of the MCNs in question. The increasingly formal accountability structures introduced by Health Boards in the 'governance of' role, in relation to MCNs, created tensions for MCNs, particularly in maintaining their legitimacy amongst participating clinicians and operational managers. Again, this strained the established 'governance within' processes in MCNs and suggested that these processes were not aligned with the 'governance of' processes being adopted by Health Boards. Indeed, the processes and structures adopted for 'governance of' MCNs were more recognisable as those in operation with existing organisations, and may be less appropriate for the more complex, inter-organisational network arrangements evident through MCNs.

These findings relating to MCN origins and processes indicated that further exploration of the stated policy purposes (of improving the consistency and quality of services) for which MCN had been created would be helpful when addressing questions about the impacts of MCNs. Findings which explore this issue will be presented and discussed in the next chapter.

4 Impact of MCNs

Examination of the impact of 'whole networks' is relatively rare (Provan, 2007), although there are examples in the literature using network professionals' perceptions of impact or single case study examination of change in clinical process and/or outcome (eg Bazzoli et al. , 1998; Ferlie and Addicott, 2004; Hamilton et al., 2005; Greene et al., 2009). The range of impacts that could be examined is large, and their perceived importance is likely to vary across stakeholders (Provan and Kenis, 2007). As a consequence, there is no generally accepted single best method of evaluating the impact of clinical networks. Randomised trials are the typical gold standard method for assessing effectiveness in biomedical research, but are usually not possible when the intervention is a change to the way that large organisations or systems work. 'Natural experiments' due to differential policy implementation can provide opportunities to measure effectiveness, but require differential implementation and consistent data to be available over prolonged periods of time. The way that MCNs were created means that there is a potential natural experiment comparing the two voluntary MCNs created in 2000 and the mandated MCNs created in all other Health Boards in 2003/4, but the routine data available is not ideally suited to directly measuring change in quality of care.

Drawing on key issues identified in the SDO Brief (SDO, 2005), the study therefore used mixed methods to examine three research questions relating to impact in the four case study MCNs:

1. Have networks led to better integration between professionals and institutions, and have new models of care provision developed as a result of networks?

Method: qualitative analysis of interviews with professionals in the case study MCNs to understand what they perceived as 'success', and whether it had been achieved (section 4.1).

2. Is there evidence to suggest that patients/users receive better or timelier care?

Method: drawing on professional perceptions of impact to choose outcomes, difference-in-differences analysis using routine data of changes in emergency hospital admissions for ambulatory care sensitive admissions (section 4.2).

3. What has been the experience of users? Do users report improved experiences, standards of care and quality of life as a result of the network?

Method 1: analysis of survey data of patients' experience of care, including how well care is aligned to the Chronic Care Model

(Wagner, 1998) and satisfaction with services, comparing the more established, voluntary MCNs with the newer, mandated ones (section 4.3).

Method 2: qualitative analysis of interviews with patients sampled from survey respondents, to explore whether patients were aware of MCNs, and whether what they thought important was reflected in professional perceptions of impact (section 4.4).

4.1 Professional perceptions of impact

4.1.1 Methods

The sampling, data collection and analysis of the professional interviews in the four case study MCNs is described in chapter 3. This section reports analysis of the same data focused on professional perceptions of impact.

4.1.2 Findings – professional perceptions of impact

Like those in the scoping study, case-study participants identified both intangible and tangible impacts of MCNs. Intangible impacts included improved communication and collaboration, changes to inter-professional relationships and management of potential conflict, changes in roles, relationships and working practices, greater sharing of knowledge and expertise, cultural changes such as improved professional morale, enthusiasm for collaboration, and increased understanding and respect for different professional roles. Tangible impacts included changing professional practice through guideline implementation, better information systems and uses of data, and professional education; enhanced influence and resource mobilisation; and service improvement.

Participants differed in the strength of the attribution of these impacts to MCNs, although broadly the intangible impacts tended to be most strongly attributed to the MCN, while the tangible impacts were often perceived as only partly brought about by the MCN. This highlights that MCN implementation is only one of many simultaneous changes in healthcare organisation.

The appropriateness of these as markers of MCN success appeared to partly depend on MCN maturity, with less tangible impacts often regarded as intermediate outcomes that successful MCNs achieve early on the road to becoming more established. Tangible outcomes were important to demonstrate early on to facilitate engagement and commitment, but more were expected as MCNs developed. So, rather than impose an a priori definition of impact on participants, the qualitative data suggested that a multifaceted broad based and inclusive approach was most appropriate in analysis, since participants themselves highlighted a very broad range of perceived impacts.

Professionally defined intangible impacts

A new forum for effective collaboration.

Professionals highlighted that MCNs created a space within which inter- and intra-professional collaboration was easier to achieve.

'Definitely a cultural impact. And I think that comes from the feeling, that we can change things, influence things and that's the big cultural thing to get over. It's happened in the coronary heart disease one, over time, but it had a much more dramatic impact in the diabetes one. And that was from a feeling of inability to get things sorted out, ... very much there too a feeling that I pick up now of "oh, we can't solve all the problems, but we are certainly managing to get somewhere". And there's that change in culture [which] has happened within a relatively short time.' (Int 19, vol CHD and man D)

In part, this was because three of the four MCNs played a key role in managing disagreement and potential conflict locally, by providing a forum to discuss and resolve differences for health professionals who had previously experienced difficulty in working together (the partial exception was the mandated CHD MCN, discussed further below). The discussions helped reduce the tensions which promoted better working relations. Some participants said that the MCN provided space for GPs and hospital consultants to discuss and resolve possible areas of professional contention in the treatment of patients.

'We then appointed an excellent enthusiastic young consultant. She has teamed up with a GP as joint clinical leads. They had a really dramatic war of words when they started because they came from completely different perceptions, the hospital specialist saying everyone has to be seen in hospital, the GP saying everyone [pause]. And it was very good because it was a dialogue... and the network forced them to actually sit down and sort that out and they are an excellent pair now, they have actually worked out exactly who should be treated where and when and what the criteria for referral would be.' Interview 16, Voluntary CHD.

Many MCN members suggested that doctors within MCNs tended to '*listen*' more to non-medical staff and to a lesser extent patients. Although most participants commented on patient participation as being improved by having an MCN, considerable uncertainty was also expressed about how best to involve patients. However, in the more established voluntary diabetes MCN participants felt that patients were more vocal, confident and forthright when participating within forums organised by the MCN.

'We have patients on our Board or the patient council and yes, we would like to think we're not just paying political lip service to the concept of patient involvement ... the patients are making their voice felt. They do bring to our Network Board challenging perspectives...but it is certainly healthier than it would be without them.' Interview 68, Voluntary Diabetes

Improved inter-professional communication was particularly highlighted within the voluntary CHD MCN, where nearly all members interviewed commented that it had improved, and that different professionals were now more able to understand and respect each other's views and expertise, and work together in a more cohesive way. A specialist nurse explains how the voluntary CHD MCN has helped flatten old professional hierarchies that used to be a barrier to interdisciplinary communication:

'Years ago we were very much used to the nursing hierarchy...not seen as having a voice. And in the bigger network you get to know these people better and probably have a better rapport. So therefore you can feel as though you can bring things to the table without feeling intimidated... We are all specialists in our own area and respect each other for that. There's not the sort of hierarchy.' Interview 7, Voluntary CHD

To some extent, this way of working appeared more embedded in diabetes services even before MCNs, but in contrast, enhanced interdisciplinary communication did not appear to have happened to the same extent within the mandated CHD MCN. Consultants in particular in this MCN did not regard it as improving multidisciplinary communication or understanding across professional boundaries and sectors. Some members of the mandated CHD MCN who had experience of other MCNs suggested that this may be because the MCN was less well established, had fewer resources and was less experienced in running the group than nearby diabetes MCNs. However, even those who looked to diabetes MCNs as partial models, emphasised that CHD was a more complex topic where lack of agreed definition of the clinical problem might make creating an MCN more difficult.

'I think the diabetes network provides a very impressive model for dealing with a condition which is defined, very well defined, highly researched and has a huge quantitative base.' Interview 37, Mandated CHD

The resulting improved communication between different professionals and sectors in most MCNs was perceived to have the added benefit of clarifying professional and working roles. This resulted in better working relations and clarity around tasks in the care of the patient.

'So people were aware of the roles of each other and maybe better linkages between the personnel that don't work in isolation. There is more communication I suppose through everybody.' Interview 2, Voluntary CHD.

Achieving cohesion and consensus.

Many participants believed that their MCN had promoted professional cohesion across the primary-secondary care boundary in particular. This was critical because GPs had historically worked independently, both geographically and clinically.

'In primary care...it's quite difficult to engage a disparate group of individuals and pull them into a concept of a network, particularly

general practice who are by their very nature independent contractors...I think that the diabetes network has succeeded in engaging with those more disparate parts of the organisation.’
Interview 17, Mandated Diabetes and Voluntary CHD.

A perceived consequence among many members of the diabetes and voluntary CHD MCNs (but less so the mandated CHD MCN) believed that morale amongst clinicians has increased since the MCN was established. Clinicians felt they were now more able to instigate change in the service and influence key decisions about service delivery.

‘...there’s the ownership, the joint ownership of a service that comes from team working and the feeling that clinicians can actually alter a service, they can actually achieve things and take a service forward.’
Interview 19 Mandated Diabetes, Voluntary CHD.

Again, with the partial exception of the mandated CHD MCN, participants said that the discussions and collation of evidence had produced a broad consensus on what appropriate care was, and how it should be delivered. This helped to standardise care and helped ensure that practitioners working outside this consensus changed their clinical practice.

‘I think if you wanted a cultural change, one of the issues which I reflect on ... is clinician to clinician variability, I think that the network by having people locally setting up a consensus view of what should happen to patients... if you have someone who is considerably outside normal opinion, they have to work very hard to justify it and usually, they don’t, they actually just come in to do what everyone else is doing’. Int 16, Man Diabetes, Voluntary CHD.

Although most participants described intangible MCN impact in terms of an inclusive and voluntary collaboration, some believed that the creation of a shared purpose additionally drew in less willing members and constrained their ability to block change.

‘...from my point of view, I find the MCNs I’m involved with very good, because they have built bridges that were previously quite difficult bridges to build. They’ve given a hook to hang some of the stuff on, with a shared understanding and a shared goal which perhaps wasn’t there before and also, let’s be honest, has taken away the ability for some people who didn’t want to play the game. They kind of have to play the game if they’re part of the MCN and I like that about it.’
Interview 11, voluntary CHD

However, consensus on purpose, and a sense of inclusiveness was clearly less present in the accounts of members of the mandated CHD MCN. Many members felt that a cultural consensus based on discussion and agreement based on evidence had yet to be established.

‘I think there is maybe a little bit. It would be unfair to say that when you are bringing people together from different component parts of the health service family, that there is no influence on how people think, the culture etc. I think though that it would not be unfair to say

that it's been extremely limited.' Interview 50, Mandated CHD and Voluntary Diabetes

4.1.3 Professionally defined tangible impacts

Although 'tangibility' is more of a spectrum than a neat dichotomy, three main types of more tangible impact were identified by participants: changing professional practice; enhanced influence and resource mobilisation; and service change/improvement.

Changing professional practice

Participants described a range of more tangible impacts, in terms of MCNs delivering integration by helping to manage the boundaries and gaps between professionals and services.

'I think it's leading a service, that integrating care is hugely important as part of it and ... If I compare managed clinical networks with some of the other shared care areas that haven't got managed clinical networks, the big thing that sticks out to me is that it's much more integrated.' Interview 19, voluntary CHD and mandated Diabetes

There were many ways in which MCNs achieved this, with the key ones identified being the creation and implementation of guidelines (often adapted from national ones), the creation of new clinical information systems, and professional education.

Guideline implementation.

Participants cited several examples of MCNs creating their own guidelines from scratch and embedding them in practice, including the development of care pathways for acute MI and chest pain in the voluntary CHD MCN, and new models of care for type 2 diabetes in the diabetes MCN. Where local guidelines had been created from scratch by the two voluntary MCNs, then in some cases these had been influential in developing national policy guidance. However, participants more commonly described adapting national clinical guidelines for the local context, and creating local targets and work plans to deliver these.

'I mean the strategic framework is set nationally.... The network itself is developing our five year strategy and much of that is based on national priorities, but localised so working groups have been looking at each section ... It is to get that into a workable document that sets the strategic targets and more importantly the work plans that fall from them.' Interview 1, Voluntary CHD.

Again, the partial exception was the (newer) mandated CHD MCN, where the results of trying to create and/or implement guidelines appeared to be less tangible (to them) than for the other MCNs. One clinical manager expressed frustration that their initiatives had not yet impacted on patient care.

'I think for the CHD MCN it is limited. There have been other initiatives that have been ongoing, quite frustrating actually. I'm thinking particularly about the development of the CHD strategy... there may be some longer term benefit from that but there's no concrete evidence as we sit here today that the patient has benefited from that.' Interview 50, Mandated CHD

Information systems.

Many health professionals involved in diabetes care in particular commented upon new information systems being set up which give them access to information which enabled them to make better decisions both in relation to individual patients and to the patient population as a whole.

'The unit has an audit facility which we can all identify our diabetic patients on; which ones are reaching targets, which aren't... Its going to be used as the retinal photography system. So the data has an influence, and its also used ... in [the] consultation to show people what's happening with their own diabetes.' Interview 60, Voluntary Diabetes

The service and patient care had improved according to these MCN members because relevant information about the condition was being targeted to those professionals who would actually use it.

'Each practice has a diabetes, well, there's usually a GP and a practice nurse who are lead people for each practice. So it's an email communication to go directly to those people... ... So that sort of communication has been a lot better, it's instant really'. Interview 18 Mandated Diabetes, Voluntary CHD.

Professional education.

Participants from all MCNs described a range of professional education and training organised and run by the MCN. This included conferences, educational input days, programmes, forums, and handbooks.

'We do quite a lot of things in terms of professional education, we run forums in the evening quarterly in all three CHP areas. We have a big conference every 2 years, so I suppose if you're asking for things that will make me think, yes, we've succeeded. If I can get two or three hundred people turning out to my Network conference in October I will think well...' Interview 68, Voluntary Diabetes

Many participants felt that the MCNs were particularly good at organising and providing educational support. This was particularly effective because the trainers went out to practices and centres in the localities. One GP from the mandated CHD MCN explains how he is involved in providing training for other professionals.

'..providing educational support, because one of the things they're very good at - I was speaking at one of their days just two weeks' ago, they organise a lot of educational input days for the people on the ground to hear what's going on, hear what we're trying to achieve

and what education that they actually need to help achieve it - and that's been actually quite the success for the managed clinical network.' Interview 37 Mandated CHD

Enhanced influence and resource mobilisation.

Study participants frequently commented that their MCN promoted awareness of relevant conditions and highlighted gaps in service to NHS decision making bodies. They saw the role of the MCN as collating data about the locality and presenting evidence for the development of the service. For some members the MCN acted as a 'pressure group' campaigning for increased resources for their condition.

'I think it's about identifying where the service needs to go, gaps in the service and risks that we're not covering. It's about keeping in touch with what's happening elsewhere and making sure that service is compatible with, and even better than elsewhere and actually recommending to the Board of where the service needs to go... almost being a pressure body... for that service to change.' Interview 19 Mandated Diabetes, Voluntary CHD.

However, this role was less evident among members of the mandated CHD MCN. Although they valued the potential role that could be played by an MCN in collating evidence for the development of a service locally, they did not feel their own MCN had achieved this to date.

'That may mean redesigning the service, stop doing things that are less of a priority or less evidence based and reinvest that time and resource within priority areas. I've not seen a great deal of that, I can't give an example that the MCN has done this.' Interview 39 Mandated CHD

Participants in the longer standing voluntary MCNs (particularly diabetes) were more likely to identify their MCNs being able to influence policy decisions, funding allocations and staffing. Many participants felt their MCN was also better able to effectively mobilise existing (human) resources and non-NHS resources to achieve targets more rapidly. This enabled the MCN to play the role of a facilitator in the setting up of new services, helping changes to be achieved smoothly and quickly.

'I suppose you achieve more of the targets more rapidly - and a lot of the resource isn't financial, it's people being willing to work in a different way, mobilising resources outwith formal structures, so more patient involvement and other groups like Chest, Heart and Stroke and the British Heart Foundation.' Interview 56 Mandated CHD.

Service change/improvement.

Establishing new services.

Respondents in both the diabetes MCNs, and in the voluntary CHD claimed their MCN played a major role in establishing one or more new services. One example was a liaison heart failure specialist nurse service set up by

the voluntary CHD MCN which successfully bid for external funding for this service, and was the first to implement it outside the major city (Blue et al., 2001) where it had been developed and tested (although most other Boards implemented similar services relatively soon afterwards).

'We set up heart failure service through the MCN, and we were one of the trailblazers there.' Interview 16, Mandated Diabetes, Voluntary CHD

Members of the voluntary CHD MCN in particular, commented that the MCN had supported the smooth functioning of the new service. This was achieved by the improved communication among different professionals and clear guidelines agreed at the MCN.

'Things like the heart failure service and our planned community ECG monitoring is easier to manage without people either feeling that they are losing control - one of my concerns is that we have to agree protocols in order for that to work properly and the network has provided a forum which is more than just a talking shop, where it is the place we come together to agree things'. Interview 5 Voluntary CHD

Many respondents in all the MCNs, however, recognised that these tangible achievements could only be partially attributed to the MCN and were gained in collaboration with other NHS bodies. For the mandated diabetes MCN, a significant achievement identified by many participants was the creation of a community diabetes specialist nurse in the more remote half of the Health Board traditionally very poorly served by specialist services.

'The key is the development of community based diabetes specialist nurses... That was partly delivered through agreement through the managed clinical network, partly driven by the local health partnership recognising that there was a real need in the community for something like that.' Interview 17, Mandated Diabetes, Voluntary CHD.

However, although this service was created in partnership with a statutory locality body, a feature of it was that it was paid for from General Practice enhanced services money that would normally have gone direct to practices.

'The diabetes MCN had a strong influence on the negotiations... around enhanced services for GPs and it resulted in something that was quite unique, in that GPs agreed that what they wanted was actually more diabetic specialist nurses and so enhanced services money which is normally considered by GPs as their income, was actually spent on diabetic nurses.' Interview 16, Mandated Diabetes, Voluntary CHD.

Members of the voluntary diabetes MCN identified a number of service improvements, including the development and successful implementation of a single, shared diabetes record (since rolled out across NHS Scotland) and associated web-based support tools including access to guidelines and education, and major shifts in where patients with type 2 diabetes were

cared for with very few newly diagnosed patients now being referred to the hospital. In contrast, and consistent with other findings, members of the mandated CHD MCN were the most uncertain about where to attribute the new service developments (such as the heart failure nurses and cardio rehabilitation). The comments of one GP were typical.

'There have been lots of initiatives in cardiovascular medicine and there continues to be so and I'm not certain who we attribute that to, whether it's been the MCN or whether it's been other bodies that have developed these things.' Interview 39 Mandated CHD

Typically, members of this MCN believed that new cardiac services like heart failure nurses would have been achieved with or without the MCN. This was because similar services had been set up in other areas before the introduction of MCNs. Some members of the mandated CHD MCN also pointed out that the new service was limited in that it would only serve a small proportion of their cardiac patients.

'It's important to remember however that the heart failure nurses only get their hands on a relatively small percentage of heart failure patients, because the way they work. They identify patients admitted to hospital with heart failure and then get their claws into them. Follow them out into the community, but at any one time, that's a low percentage of the heart failure population.' Interview 33 Mandated CHD

Improving patient education and enhancing self care.

MCN members described significant changes to education activities and resources for patients. This included new programmes, meetings, and patient booklets.

'...another success of the Network would be that we set up the Tayside education programme for type 2 diabetics who are newly diagnosed and again that's a group of patients. .and it helps us because obviously it's easier to see 8 people than one, and carers are invited along to that so from that respect that's been another positive' Interview 62 Voluntary Diabetes

This was believed to have resulted in a growing confidence among patients to voice their opinions not only in a public setting but also in relation to their individual care. Consequently, patients were believed to be more active in their own self management.

'they are becoming much more geared up to self management, to asking the right questions of their carers, as opposed to assuming that the doctor's always right... They are much more keen to know and ask and then that allows them to take much more control and responsibility for their own care.' Interview 62 Voluntary Diabetes

Although similar activities were described across all four MCNs, the IT focus of the voluntary diabetes MCN had led it to start implementing a patient portal through which patients would be able to access their own diabetes

record in a way that was structured to their needs, with initial work focusing on automating the production of reports supporting self care and with advice on achieving individualised targets.

'One of the things we've been worrying away about is how to allow patients more meaningful access to their own data so that they can use that somehow to inform their own self care. And we've developed a paper held print-off from the database that we have that patients can leave with which includes goal setting objectives and things'. Interview 68 Voluntary Diabetes.

4.1.4 Summary of professional perceptions of impact

Professionals described a range of impacts ranging from the relatively intangible relating to inter-professional and inter-organisational working (achieving inclusion, shared vision, and improved collaboration) to the much more tangible relating to clinical practice and patient care (changing professional practice, enhancing influence and ability to mobilise resources, and examples of service improvement). More intangible impacts were typically strongly attributed to the MCN, whereas more tangible impacts were typically more weakly attributed. However, participants perceived the intangibles to be necessary but not sufficient conditions for service improvement. A clear example was the new diabetes specialist nurse service in the voluntary MCN Health Board. This was created in partnership with the statutory locality NHS organisation, but the MCN played a key role in brokering agreement in funding the service from resources that would normally have been paid direct to GPs as an enhanced service. Whether or not the MCN 'created' the new service, at a minimum it made its implementation more possible and easier to achieve.

Although there was considerable consistency across the accounts of participants from three of the MCNs, members of the mandated CHD MCN were less consistent in their perceptions of impact, with considerable scepticism expressed that their MCN had delivered inclusion, shared vision or better collaboration, or that the implementation of new services had much to do with the MCN. However, these participants were also much less likely to believe that there had been any change in patient care even as a result of new services, which is consistent with the accounts from members of other MCNs that a well functioning MCN facilitates and enhances service improvement that is externally driven, as well as improving areas of care that MCN members prioritise.

4.2 The impact on emergency hospital admissions for ambulatory care sensitive conditions

4.2.1 Introduction

Alongside more intangible changes to professional working, interview participants in the scoping study and the four case studies identified a

number of tangible changes including guideline implementation and a range of new services. The attribution of these more tangible benefits was cautious, since other policy was also important, but even where they were reluctant to attribute all change to MCNs, participants believed that the intangible benefits of closer and more collaborative working contributed to better implementation of other policy and improvement work.

In the voluntary diabetes MCN, the tangible benefits identified included the implementation of guidelines, better professional, high quality patient information and structured education for the newly diagnosed, and successful implementation of a web-based shared clinical record across primary and secondary care. A previous evaluation has shown that clinical process of care improved dramatically in the period 1999-2001, with slower improvement in intermediate outcomes (Greene et al., 2009). Later work in this MCN included achieving substantial changes in the management of people newly diagnosed with type 2 diabetes, such that less than 10% were referred in the first year after diagnosis in 2007 compared to ~50% in 2002.

In the voluntary CHD MCN, participants and documents identified early MCN work focusing on care pathways particularly for chest pain and acute MI (Hamilton et al., 2005), and the successful bid for external funding to create a specialist nurse led service for people with heart failure which was implemented in 2002. Later work included the local translation and implementation of new national clinical and organisational guidance SIGN 2007a, 2007b, 2007c, 2007d).

Voluntary MCN participants in the qualitative study were clear that the quality of patient care had improved as a result, but quantitatively examining the impact on patient care of policy changes like MCN implementation is difficult because consistent collection of clinical data over the long periods of time required is rare. Although the voluntary diabetes MCN had excellent patient level data recording clinical process and intermediate outcome as part of its shared web-based clinical record from about 1999, this data collection happened precisely because they were forming a voluntary clinical network. Such data collection was not the case for diabetes elsewhere until some years later, nor for CHD.

However, the service improvements claimed would all be expected to reduce longer term complications (SIGN 1999a; 1999b; 2000; 2001a; 2001b; 2007). For example, the heart failure specialist nurse service was modelled on a similar service in Glasgow, which had been shown in clinical trials to reduce future complications and hospital admissions (Blue et al., 2001; SIGN 1999a). There is ample evidence that careful control of intermediate outcomes such as blood glucose, blood pressure and cholesterol reduces future long-term complications of diabetes, although tight blood glucose control is associated with an increase in hypoglycaemia including that serious enough to cause hospital admission (UK Prospective Diabetes Study Group, 1998; SIGN, 2001a). This led us to form a testable quantitative hypothesis that there will have been differential changes in avoidable emergency admissions across health board areas.

Emergency admissions that are avoidable have been defined as “ambulatory-care sensitive conditions” in previous literature and quality assessment processes in the USA and UK (AHRQ, 2009, Purdy et al., 2009). They are indicated by a pre-defined set of ICD-10 codes on admission records. Although criticised when used as cross sectional performance indicators in England (Jankowski, 1999), they have been produced longitudinally as a guide to quality improvement in Clinical Outcome Indicators Reports for Local Health Care Cooperatives in Scotland (Yeung, MacLeod and Sutton, 2004; 2005).

Data on ACSC admissions were therefore used to estimate the impact of the introduction of the voluntary diabetes MCN and the voluntary CHD MCN in different Health Boards in 2000. Since these were introduced at a time when the care of these patients was subject to other improvement initiatives, the design adopted to test the hypothesis that voluntary MCNs impact on ACSC emergency admissions seeks to control for common underlying trends using a difference-in-differences framework.

4.2.2 Methods

Data sources

The data were taken from the Scottish Morbidity Record (SMR) 01 data system provided by the Information Services Division of NHS National Services Scotland (ISD, 2009). This episode level data set contains basic patient demographics, diagnoses, admission type, financial year of admission, and health board of residence. The data cover the period from 1st April 1997 to 31st March 2008. Episodes defined as urgent or emergency admissions (admission type ≥ 20) were included. Continuous inpatient stays that contained multiple episodes due to patients being transferred between consultants or hospitals were defined as a single admission.

The population figures were the mid-year population estimates produced for administrative areas by the General Register Office for Scotland on an annual basis. These are available on the GRO website (GRO, 2009) and have been revised on several occasions. The series used in the final analysis was that available as at 1st July 2009.

Definition of ambulatory care sensitive conditions

ICD-10 codes used were taken from a systematic review of codes used in a number of studies and contexts (Purdy et al. 2009). The code sets chosen were those most commonly used for studying the NHS, with the exception of the extended set for angina, where the additional codes identified were used to define admissions with chest pain where a diagnosis of angina or other specific cause was not made. As Purdy et al (2009) suggest, these admissions are likely to reflect how services are organised for people with symptoms, rather than the prevention of future morbidity or mortality by better community care which is the underlying assumption of the disease

specific code sets. Since the implementation of a Board wide 'chest pain pathway' was one of the early pieces of work for the voluntary CHD MCN, this is relevant to examine in this study. The US Agency for Healthcare Research and Quality code set further distinguishes between short-term and long-term complications of diabetes (AHRQ, 2009), and this sub-classification of diabetes emergency admissions was adopted in this analysis.

Table 4. ICD-10 codes used to define admissions for ambulatory care sensitive conditions

Condition	ICD-10 codes
Diabetes (all complications)	E10.0–E10.8, E11.0–E11.8, E12.0–E12.8, E13.0–E13.8, E14.0–E14.8
Diabetes (short-term complications)	As above, if last digit equals 1 or 2
Diabetes (long-term complications)	As above, if last digit equals 3 to 8
Angina	I20, I24.0, I24.8, I24.9
Chest pain	I25, R072, R073, R074, Z034, Z035
Congestive heart failure	I11.0, I50, J81

Overview of method

The impacts of the voluntary MCNs were estimated using a difference-in-differences approach. At its simplest, the difference-in-difference technique makes use of outcome measures (y) taken in control ($g=c$) and experimental ($g=e$) groups in the pre-intervention ($t=0$) and post-intervention periods ($t=1$). Indicating the outcomes for group g at time t as y_{gt} , the estimated impact of the intervention is given by:

$$\text{Difference-in-differences} = (y_{e1} - y_{e0}) - (y_{c1} - y_{c0})$$

The first term is the change over time in the experimental group and the second term is the change over time in the control group. The approach allows for differences between the two groups in the level of outcome in the pre-intervention period. It also allows for any underlying time trends, by subtracting the change over time in the control group from the change over time in the experimental group. The intervention in the experimental group is found to have had an impact if the improvement in outcome in the experimental group exceeds the improvement in outcome in the control group.

Experimental and control groups

From all analyses, the observations from the three Boards whose entire populations live on islands off the Scottish mainland were excluded. Their care structures are different and annual admissions rates are highly volatile since they are based on small population counts.

For CHD, teaching Boards were excluded as controls because (unlike the Board in which the voluntary MCN is situated) they provide specialist/tertiary cardiac services (such as angiography, angioplasty, cardiac surgery, and electrophysiology). Additionally, the case studies found that specialist boundaries within cardiology in the mandated CHD MCN were associated with a different pattern of MCN development compared to the voluntary MCN. Patterns of care and hospital admission in teaching Boards would therefore be expected to be different than in other Health Boards with only secondary level cardiac services. In contrast, within diabetes services, there is essentially no tertiary level of specialisation, and patterns of admission were not expected to vary between teaching and non-teaching Boards. For the diabetes analysis, all mainland Health Boards were therefore included in the analysis.

On 1st April 2006, Argyll and Clyde Health Board was abolished and the areas that it covered were distributed between two other existing Boards. Accordingly, the dataset is treated as an unbalanced panel with the series on the three original Boards ending in 2005/6. Two new series for the post-merger Boards are introduced from 2006/7 onwards.

Time periods

Both the voluntary CHD and voluntary diabetes MCN were officially created in 2000. The mandated MCNs began at different times but almost all officially started in the period April 2003 to March 2004. A further consideration for specifying the time period of the intervention is the implementation of the General Practice Quality and Outcomes Framework (QOF) from April 2004, which was associated with improvements in ambulatory care for chronic conditions (Campbell et al., 2007; Sutton et al., 2009) and reductions in variation between practices and areas (Doran et al, 2008).

The qualitative findings were that MCNs were assumed to have an initial developmental period of one to two years, during which the focus of activity was creating trusting relationships. However, participants also emphasised that MCNs had to deliver tangible 'early wins' to facilitate the development of such relationships. The analysis therefore assumes that new MCNs would not have an impact on emergency admissions in their first year of establishment, but would have subsequently. Four financial years were therefore assigned to the pre-intervention period (1997/8 to 2000/1), three years to the intervention period for the voluntary MCNs (2001/2 to 2003/4), and four years to the intervention period for the mandated MCNs (2004/5 to 2007/8).

Standardisation

A critical assumption of the difference-in-differences framework is that the change over time in the control group accurately reflects the change over time that would have been observed in the experimental group if it had not been subject to the intervention. This will not be the case if the composition of the control and experimental groups change in different ways over time.

The trends in prevalence of these conditions are known at a national level but complex and therefore uncertain at local level. Over the period examined, CHD prevalence has slowly fallen, and heart failure prevalence has risen. Diabetes prevalence has also steadily risen, although the impact of this on hospital admission is complicated by changing criteria for diagnosis and increasing screening for type 2 diabetes, so that the population at risk of complications is not constant (short term complications are significantly a consequence of treatment which those recently diagnosed may be at risk of, whereas longer term complications are a consequence of duration of diagnosis). There are no Health Board level estimates of prevalence that are annual and have been measured consistently over the period 1997/8 to 2007/8.

The Rest of Scotland control groups were therefore used to account for changes caused by common trends in prevalence, with dummy variables for each Health Board incorporating differences in prevalence between Boards caused by (largely) time-invariant factors such as deprivation and ethnic composition. To allow for the fact that some Boards are gaining population and others are losing population, Standardised Admission Ratios were calculated using indirect-standardisation. National rates for each of 38 population groups were calculated, with gender and 19 age groups in five-year bands from 0-4 years to 90+ years. This was undertaken in each year separately so that the mean value in each year is 100. The main analysis is therefore standardised for changing age and sex compositions of each Board, with the assumption that deprivation, and ethnic composition of populations are time invariant, and that prevalence of disease changes at the same rate in all Boards.

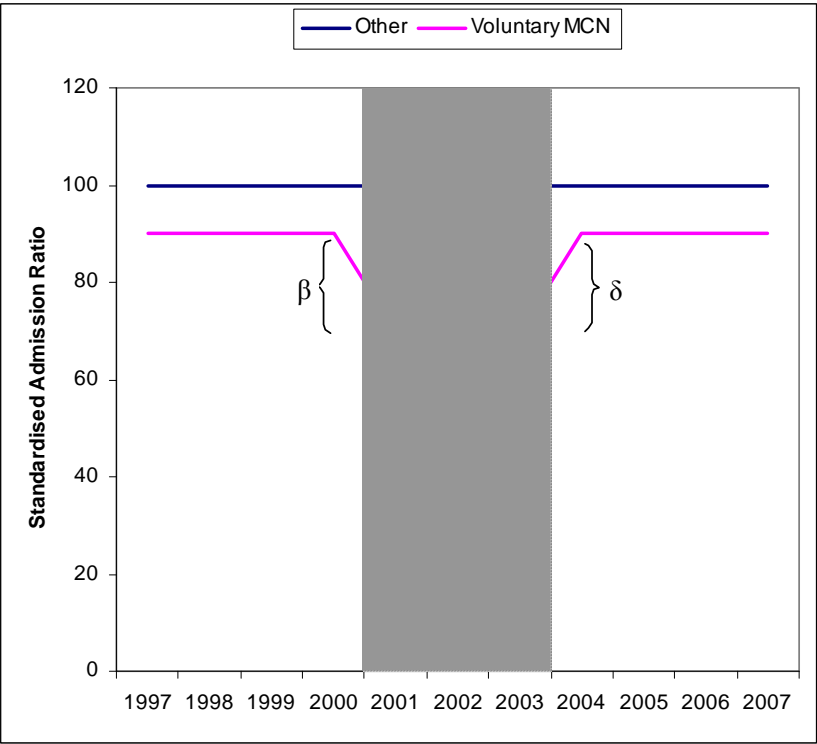
Testing the impacts of MCNs

A simplified form of the analysis undertaken is illustrated in Figure 1. The series for the Board with the voluntary MCN is compared to that for the 'control' Boards, which are represented in this figure by a single series. In the period before the introduction of the voluntary MCN, rates of admission may differ between the two groups because of differences in population characteristics. Once the voluntary MCN is introduced, the analysis examines whether the admission rate in the voluntary MCN deviates from that in the control Boards. This effect is measured by β . Essentially, the effect of the voluntary MCN is modelled as a temporary deviation from the national trend in the years 2001/2 to 2003/4.

There is the possibility of a further change once the mandated MCNs (and QOF) are introduced. This effect is measured by δ . In figure 1 this is shown

as a return in the series for the voluntary MCN to its pre-intervention level, such that $\delta = -\beta$. As the series are standardised within year to a group average of 100, such an effect would be observed if the average effect of introducing the mandated MCNs was equal to that seen when the voluntary MCN was introduced.

Figure 1. Simplified graphical illustration of analysis undertaken



The effects δ and β can take a range of values. Some possibilities, and their interpretations, are shown in table 5.

Table 5. Interpretation of model coefficients

Value of β	Value of δ	Interpretation(s)
= 0	= 0	MCNs have no effect on admissions.
= 0	< 0	MCNs reduce admissions in the long-term
< 0	< 0	Voluntary MCNs have both a short-term and (a larger) long-term impact on admissions.
< 0	= 0	Voluntary MCNs have a permanent effect on admissions that begins in the short-term. Implementation of mandated MCNs has no effect.
< 0	> 0	<p>Voluntary MCNs reduce admissions in the short term, but this impact is reduced or reversed when mandated MCNs appear. The exact interpretation depends on the relative magnitude of β and δ, but for example:</p> <ul style="list-style-type: none"> • If $\delta < -\beta$ then the gap is partially closed when mandated MCNs are created. • If $\delta \geq -\beta$, then initial relative improvement is negated or reversed when mandated MCNs are created. <p>Since it is measuring changes in admissions in the voluntary MCN relative to the rest of Scotland, δ may be >0 either because admissions rates rise faster in the voluntary MCN than in the rest of Scotland, or because admission rates fall faster in the rest of Scotland. This can be inferred by examining the top graph for each measure in the appendix.</p>

Although the interpretations of β and δ remain the same, the actual analysis allowed for more complexity, with pre-intervention rates allowed to vary across individual Boards, and year-on-year changes in the national admission rate accounted for. Using data series that are stratified by year and by NHS Board, models of the form below were estimated:

$$y_{it} = \alpha_i + \gamma_t + \beta.D_{it}^1 + \delta.D_{it}^2 + \varepsilon_{it}$$

in which y is the Standardised Admission Ratio for health board i in financial year t ; α_i represents the differences across health boards; γ_t represents the changes over time; and ε_{it} is a random error term that varies across boards and years. The α_i and γ_t terms are estimated using vectors of dummy variables, thereby allowing flexibly for variation across areas and time periods.

D_{it}^1 is a binary variable that takes a value of one in the Board with the voluntary MCN from 2001/2 onwards, and zero otherwise. D_{it}^2 is a binary variable that takes a value of one in the Board with the voluntary MCN from 2004/5 onwards, and zero otherwise. The parameters of interest are β and δ . The magnitude of the β parameter represents the effect of the voluntary MCN per year in the short-term, i.e. before the mandated MCNs are introduced. The magnitude of the δ parameter shows how the gap changes between the voluntary MCN and the mandated MCNs once the mandatory MCNs are introduced. Both effects are measured in percentage points of the national average admission rate. Their statistical significance represents a formal test of the impact of the intervention.

All analyses were undertaken in Stata 10.1SE. Analyses were weighted to allow for the differences in population size served by different Boards. The weights are the expected number of admissions used as the denominator for the Standardised Admission Ratios. Heteroskedasticity was accounted for using robust standard errors.

4.2.3 Results

Appendix 2 has two graphs for each of the six ACSC emergency hospital admission variables. For each variable, the top graph shows annual trends in the crude numbers of admissions. In the bottom graph, trends in the admission ratios standardised for the age-sex compositions and sizes of the populations are shown.

Diabetes

Emergency admissions for all complications of diabetes have risen throughout the period. This rise is predominately caused by admissions for short-term complications, which account for ~75% of all admissions for diabetic complications in 2007. Admissions for long-term complications of diabetes are smaller in magnitude, and have fallen through the period. The standardised admissions ratio graphs suggest that the introduction of the voluntary MCN was associated with a temporary slowing in the increase in admissions for all complications and for short-term complications. However, at the time of the mandate of diabetes MCNs in other Boards, admissions in the Board with the voluntary MCN rose more quickly. Rates of admission for long-term complications are substantially lower in the voluntary MCN than in the other Boards after 2001/2.

These observations are broadly confirmed by the formal regression results in Table 6. The values for β and δ are interpreted as the percentage change in admissions relative to the rest of Scotland control group. There is a

reduction in the standardised admission ratios in the voluntary MCN in the period 2001/2-2003/4 for all three variables, with the B coefficients for all complications and long-term complications being larger but not quite statistically significant at the 5% level. Compared to the rest of Scotland trend, the voluntary MCN had 21.7% fewer admissions in the period 2001/2-2003/4 (equivalent to approximately 13-14 fewer admissions per year than expected, almost all admissions with long term complications which are typically long and costly). The standardised admission ratios for all three variables in the voluntary MCN increase in the period 2004/5 onwards (the δ coefficient). For all complications and short-term complications, this increase is substantially larger in magnitude than the reduction in the previous period (equivalent to approximately 30 more admissions per year than expected in the voluntary MCN, mostly driven by admissions with short term complications which are typically short). These increases are the only effects that achieve statistical significance at the 5% level.

Table 6. Regression results for diabetes related admissions

Variable	All complications	Short-term complications	Long-term complications
B (95% C.I.)	-6.8 (-15.8 to 2.2) p=0.136	-2.7 (-13.3 to 8.0) p=0.621	-21.7 (-45.6 to 2.1) p=0.073
δ (95% C.I.)	21.0 (11.0 to 30.9) p<0.001	29.5 (12.8 to 46.3) p=0.001	11.3 (-14.2 to 36.9) p=0.388

B measures whether the admission rate in the voluntary MCN deviates from that in the control Boards from the year after voluntary MCN implementation in 2000. δ measures subsequent effect of mandation of MCNs in all other Health Boards in 2003. Models also contain dummy variables for years and for individual Health Boards (not shown).

Coronary Heart Disease

Emergency admissions for angina and heart failure have steadily fallen over the period examined, whereas emergency admissions for chest pain have increased. The standardised admission ratio graphs (appendix 2) suggest that the introduction of the voluntary MCN was associated with a sustained reduction in admissions with angina. For chest pain, admission rates are lower in the voluntary MCN throughout the period examined, but there is no evidence of a differential trend. For heart failure, the shape of the curve for the voluntary MCN suggests that a previously rising trend was temporarily reversed following MCN implementation, although the overall trend is essentially flat relative to the rest of Scotland.

In the regression analysis (table 7), there is a reduction in the standardised admission ratios for angina and chest pain in the voluntary MCN in the period 2001/2-2003/4, and an increase for heart failure. However, no estimate is statistically significant at the 5% level (the B coefficient for chest pain approaches significance). In the period 2004/5 onwards, the δ coefficient is negative, large and statistically significant indicating a sustained lower rate of admissions with angina (equivalent to approximately 100 fewer admissions per year in the voluntary MCN). The δ coefficients for chest pain and heart failure reverse in direction, but are small and not statistically significant.

Table 7. Regression results for CHD related admissions

Variable	Angina	Chest Pain	Heart Failure
B (95% C.I.)	-9.6 (-27.6 to 8.4) p=0.292	-6.3 (-13.3 to 0.6) p=0.074	5.1 (-1.7 to 12.0) p=0.141
δ (95% C.I.)	-19.7 (-36.2 to -3.2) p=0.020	1.9 (-6.7 to 10.6) p=0.657	-3.4 (-12.8 to 6.0) p=0.472

B measures whether the admission rate in the voluntary MCN deviates from that in the control Boards from the year after voluntary MCN implementation in 2000. δ measures subsequent effect of mandation of MCNs in all other Health Boards in 2003. Models also contain dummy variables for years and for individual Health Boards (not shown).

4.2.4 Summary of routine data analysis

Strengths and limitations of the analysis

The difference-in-differences analysis undertaken relies on a number of assumptions which cannot be directly tested. What is being measured is therefore association, not causality, and interpretation should be cautious. The key assumption is that the change over time in the control group accurately reflects the change over time that would have been observed in the experimental group if it had not been subject to the intervention. Since the design is observational, there may be unmeasured confounders that bias the analysis in ways that cannot be controlled for. However, the design is as strong as is possible given the data available, and although interpretation should be cautious, it is unlikely that much stronger quantitative evidence of MCN impact based on hospital admission data is possible.

Interpretation and conclusions

For diabetes, reductions in admission rates for long term complications were substantially greater in the voluntary MCN in the three years after

implementation. After mandated MCN creation, reductions in admission rates were lower in the voluntary MCN, although this was more due to improvements in the mandated MCNs than a worsening in the voluntary MCN. However, the numbers of admissions are small (although the number of bed days involved is very substantial – Scottish Executive, 2002), and the changes are *not* statistically significant at the 5% level. In contrast, for admissions for short term complications (and all complications), there were large, statistically significant relative rises in rates in the voluntary MCN in the later period.

Interpreting these findings is not straightforward. The assumption behind the idea of 'ambulatory care sensitive conditions' (ACSC) is that admission for them should be reduced by better ambulatory care. This is highly plausible for long-term complications of diabetes, and the trends seen suggested that voluntary MCN implementation was associated with a relatively more rapid reduction in such admissions, with mandated MCNs then partially closing the gap. These findings did not reach statistical significance, since although the coefficients are large, the number of such admissions is relatively small even at Health Board level, and confidence intervals therefore wide.

The assumption underlying ACSC is more complicated for short-term complications of diabetes which are a mixture of hyper-glycaemia (which predominately affects people with type 1 diabetes, and should be reduced by better ambulatory care) and hypo-glycaemia (which affects all people with diabetes on drug treatment, and is known to be increased by guideline recommended strategies to tighten glycaemic control through more intense drug treatment – UK Prospective Diabetes Study Group, 1998; SIGN, 2001a). From this perspective, it is possible (or probable) that relatively more rapidly rising rates of short term diabetes admissions reflects more guideline compliant intensification of hypo-glycaemic drug treatment in the voluntary MCN, although this is not possible to directly examine in routine data.

For CHD, there was a large, sustained and statistically significant relative reduction in admissions with angina. There was some evidence of an initial relative reduction in chest pain admissions although this did not quite reach statistical significance, but no evidence of an impact on heart failure admissions.

The findings therefore provide some support for the hypothesis that Health Boards with voluntary MCNs improved the quality of ambulatory care faster than Health Boards where MCNs were not created till 2003/4. In particular, admissions with angina showed a sustained relative decrease in the voluntary CHD MCN, and admissions with long term complications of diabetes showed a (large but non significant) relative decrease in the voluntary diabetes MCN initially, with mandated MCNs then appearing to close the gap. However, professional claims about improving heart failure care in the voluntary CHD MCN were not supported. Although admissions with heart failure fell in the voluntary CHD MCN, they fell equally fast in other similar Health Boards, and there was therefore no evidence of a

specific MCN effect. As discussed above, interpreting the large relative rise in admissions for short term complications of diabetes (and in consequence for all complications, since short term account for ~75% of these) is not straightforward since these admissions are less clearly ambulatory care sensitive than the other groups, and arguably 'better care' in the sense of intensifying hypoglycaemic treatment is likely to increase them.

4.3 Patient experience survey

This research proposed to '*examine the impacts of MCN activities from patient and user perspectives*' (quote from proposal) in the case study MCNs by sampling patients with 'tracker' conditions or following particular care pathways. Methods proposed included quantitative measurement using survey methods, and qualitative interviews with a purposive sample of respondents to the survey. This chapter reports the findings of the quantitative survey, and the next chapter the qualitative interviews.

4.3.1 Methods

The original intention had been to sample patients from diabetes and coronary heart disease (CHD) registers held at Board level, using the MCNs both to identify suitable patients, and to recruit patients diagnosed with relevant conditions in 2002 (shortly before mandated MCNs were created) and 2006. The aim was to examine patient experience of, and satisfaction with care in both 'new' and 'experienced' patients, and explore associations between experience and satisfaction on the one hand, and quality of life on the other. The sampling method had been successfully used to conduct a patient survey previously in one of the MCNs, and this study received NHS Research Ethics Committee (REC) for the same design. Unfortunately, Health Board R&D departments and some of the MCNs themselves felt that only clinicians directly involved in a patient's care should contact them with information about research projects, and declined to participate. An alternative sampling method was agreed with all four MCNs, and REC approval obtained, but one of the MCNs subsequently decided that what was proposed was again unacceptable. The third sampling method described below was then agreed with all four MCNs, and REC and Health Board R&D approval for this revision obtained.

Given the time taken to negotiate an acceptable method, the final study design was a cross-sectional survey sent to patients with selected conditions by volunteer practices. All practices in the relevant Board areas were invited to participate. Patients were identified from central registers, and lists sent to volunteer practices for them to screen, and send a standard pack with letters of invitation, surveys and return envelopes. Practices were asked to send a single reminder letter to all patients.

Patient sampling was for people with type 2 diabetes, and people with previous admission with myocardial infarction. Type 2 (adult onset) diabetes was chosen as the tracker condition for diabetes MCNs, because it comprises ~90% of the diabetes workload and the qualitative work

identified that it had been the focus of MCN work because care is shared across the primary-secondary care interface. Myocardial infarction (MI) was chosen as the tracker condition for CHD MCNs because all patients with symptomatic MI who survive the immediate event are admitted to hospital, their care in the first year at least is shared between primary and secondary care, and a significant proportion require tertiary care investigation. In addition, the voluntary CHD MCN had made improving care pathways for people with MI an early priority. In both cases, we therefore had a reasonable expectation that MCN activity might have altered patient experience of care.

There were several consequences of the design and sampling method finally agreed with the various stakeholders.

- The original intention to try to follow patients longitudinally could not be operationalised because the negotiation of permissions took so long that there was not enough time to do this. Similarly, the original intention of using case note review was not practical given the permitted design and time constraints.
- The research team was not able to be involved in the running of the survey, and the permitted workload for practices was restricted. This meant that only one reminder letter was sent (which probably contributed to the very low response rate discussed below), and there is limited information on the process (for example, how many patients were screened as unsuitable by the practice; the timing of initial and reminder letters etc).
- The number of patients available to be invited was considerably smaller than intended in the original population sampling. One consequence is that we had to sample from a wider range of years to achieve reasonable numbers, making the distinction between 'new' and 'experienced' patients less clear cut than originally planned.
- 'Research fatigue' in the Health Boards with the mandated CHD and voluntary diabetes MCNs led to considerable problems recruiting practices (and to a lesser extent patients).
- The volunteer practices included may not be representative. Although the research team has relatively little information about the practices recruited, volunteers for research would be expected to be different from average, for example by being more likely to volunteer to work with the MCN (eg there is some evidence that research volunteers are more likely to volunteer for quality improvement activity (Elder et al., 2007)). There is no data available on the representativeness of the patients.

Data collection

The data collection instrument included:

- The Patient Assessment of Chronic Illness Care instrument (PACIC). PACIC is designed to assess whether healthcare delivery systems

align to 'best practice' in terms of the Chronic Care Model (CCM) (Wagner, 1998; Bodenheimer et al., 2002; Glasgow et al., 2005a; Glasgow et al., 2005b). For the modified version used in this study that has additional relevant questions, two scoring systems are available. One maps to the original PACIC/CCM domains, the other to the 5A's framework for chronic care self-management support (Glasgow et al., 2005b; Glasgow et al., 2003). Although developed in the US, PACIC and 5A's domains broadly map to many of the concerns and strategies identified by participants in the qualitative study (although neither model was explicitly referred to by participants). PACIC has been validated in more than one population, including a general practice sample in the Netherlands (Wensing et al., 2008). Scores do not vary with demography, and higher mean scores at organisational level are associated with better clinical process for diabetes (Glasgow et al., 2005b; Schmittdiel et al., 2008). Items and scoring are shown in appendix 3.

- The CSQ18 is a validated measure of patient satisfaction with healthcare services, developed for use in complex mental healthcare services (LeVois et al., 1981; Nguyen et al., 1983). CSQ18 is designed to produce a single summary score. Items and scoring are shown in appendix 4.
- The SF36 is a widely used, well validated measure of quality of life (Ware et al., 1993).
- A small number of questions relating to perception of changes to the quality of care over time were created, piloted and used in the survey. Items were developed based on qualitative data of changes or improvements which patients were likely to have been aware of. Items and scoring are shown in appendix 4.
- Demography questions were largely adapted from existing instruments (eg census questions).
- To ascertain whether differences in patient experience were associated with resource use, questions about self-reported volume of service use were included. These were adapted from existing instruments, and a profile of the use units of NHS inputs for each patient was constructed. Unit costs for each type of NHS input were identified from the Personal and Social Services Research Unit Report on the Unit Costs of Health and Social Care (PSSRU, 2007) and the Scottish Health Service Costs (ISD, 2007). Resource use was calculated by type of care for each MCN.

Response rates

A total of 25 (23%) practices agreed to take part. A total of 2083 surveys were sent to practices to screen, and an unknown number were sent to patients. A total of 365 (17.5%) surveys were returned to the research team, 291/1475 (19.7%) for type 2 diabetes, and 74/608 (12.2%) for MI. True response rates are probably modestly higher, since we do not know

how many patients were screened out by practices as unsuitable or no longer registered (some practices informally commented that more patients were screened out for MI, often because they had died). Six diabetes surveys had not been completed, leaving 285 diabetes and 74 MI surveys available for analysis.

4.3.2 Results

The age of patients responding ranged from 31 to 94 years, with a mean age of 65.8 (SD 11) years, which did not significantly vary by condition or MCN. Ages in the MCN groups were comparable, with overall mean (SD) 65.8 (11) years. The overall proportion of men was 58% but this was higher in CHD than the diabetes MCNs (80% vs 53%, respectively). Just over half of patients for both conditions were diagnosed in the period 2000-2004 ('experienced' service users), and the rest in the period 2005-2007 ('new' patients).

Participants identified little change in experience over time, meaning that the original intention to relate experience of change with quality of life was no longer appropriate. Results presented therefore focus on the experience of care questions (PACIC/5A's, CSQ18 and questions designed by the research team) and on costs. Initial analysis showed that PACIC, 5A's and CSQ18 scores did not vary significantly with demographic characteristics. Results presented therefore focus on differences between MCNs for the same condition. The number of patients with CHD in each MCN was small, limiting more detailed analysis (eg by whether patients were 'experienced' or 'new') to the diabetes data. Given the low response rate, and small numbers (particularly for MI), analysis is therefore essentially descriptive, and caution in interpretation is required.

Perception of change over time

Only 2% of patients with diabetes in each MCN said the quality of their care was getting worse, with 14% in the voluntary MCN and 11% in the mandated MCN saying it was getting better (table 8). For people with diabetes, in both MCNs more than 83% of patients said that each specified aspect of their care had not been a problem in the past, and was not a problem now. The item most frequently identified as problematic was the provision of information and educational material, where 11% in both MCN said it had been a problem in the past and still was, and a further 5-6% saying it had been a problem but was now improving, or had not been a problem but was getting worse. Overall, therefore few patients identified problems with these issues in the past, or perceived that services had changed significantly.

Similar results were found for patients with CHD, although the small numbers (particularly in the mandated CHD MCN where there are only 28 patients) prevents any strong interpretation.

Table 8. Perceived change in quality over time for people with diabetes

Item	Response	Voluntary diabetes % of respondents (n=127)	Mandated diabetes % of respondents (n=158)
The quality of care I receive is...	Getting better	14%	11%
	Getting worse	2%	2%
	About the same	83%	87%
The convenience of my appointment times...	Was a problem, getting better	4%	5%
	Was a problem and still is	6%	4%
	Wasn't a problem, getting worse	5%	1%
	Wasn't a problem and still isn't	85%	90%
The convenience of where my appointments take place...	Was a problem, getting better	0%	3%
	Was a problem and still is	4%	3%
	Wasn't a problem, getting worse	0%	1%
	Wasn't a problem and still isn't	96%	93%
Receiving contradictory opinions and advice from the different health care professionals I see...	Was a problem, getting better	4%	7%
	Was a problem and still is	6%	2%
	Wasn't a problem, getting worse	2%	2%
	Wasn't a problem and still isn't	89%	89%
The way my care is organised between the different people I see...	Was a problem, getting better	6%	3%
	Was a problem and still is	4%	5%
	Wasn't a problem, getting worse	4%	3%
	Wasn't a problem and still isn't	86%	88%
The amount of information and educational material I receive to help me understand and manage my condition...	Was a problem, getting better	3%	3%
	Was a problem and still is	11%	11%
	Wasn't a problem, getting worse	2%	3%
	Wasn't a problem and still isn't	84%	83%
The amount of duplication in the care I receive...	Was a problem, getting better	0%	3%
	Was a problem and still is	2%	2%
	Wasn't a problem, getting worse	3%	1%
	Wasn't a problem and still isn't	94%	94%

Table 9. Perceived change in quality over time for people with CHD

Item	Response	Voluntary CHD % of respondents (n=46)	Mandated CHD % of respondents (n=28)
The quality of care I receive is...	Getting better	10%	19%
	Getting worse	0%	8%
	About the same	90%	73%
The convenience of my appointment times...	Was a problem, getting better	9%	7%
	Was a problem and still is	7%	7%
	Wasn't a problem, getting worse	0%	11%
	Wasn't a problem and still isn't	84%	74%
The convenience of where my appointments take place...	Was a problem, getting better	4%	0%
	Was a problem and still is	2%	4%
	Wasn't a problem, getting worse	0%	4%
	Wasn't a problem and still isn't	93%	93%
Receiving contradictory opinions and advice from the different health care professionals I see...	Was a problem, getting better	5%	12%
	Was a problem and still is	0%	17%
	Wasn't a problem, getting worse	0%	4%
	Wasn't a problem and still isn't	95%	67%
The way my care is organised between the different people I see...	Was a problem, getting better	4%	8%
	Was a problem and still is	0%	21%
	Wasn't a problem, getting worse	2%	4%
	Wasn't a problem and still isn't	93%	67%
The amount of information and educational material I receive to help me understand and manage my condition...	Was a problem, getting better	10%	4%
	Was a problem and still is	2%	20%
	Wasn't a problem, getting worse	2%	4%
	Wasn't a problem and still isn't	86%	72%
The amount of duplication in the care I receive...	Was a problem, getting better	7%	0%
	Was a problem and still is	5%	8%
	Wasn't a problem, getting worse	0%	4%
	Wasn't a problem and still isn't	88%	88%

PACIC, 5As and CSQ18 scores comparing voluntary and mandated MCNs for the same condition

With a null hypothesis of no difference, differences between proportions were tested using chi-squared, and differences between mean PACIC, 5A and CSQ18 scores compared using t-test for independent samples.

In all MCNs, PACIC and 5A total and scale scores were typically in the range two to three on a five point scale, corresponding to specified care having been given at best 'sometimes' in the past 6-12 months. People with type 2 diabetes rated their care as somewhat more CCM compliant than people with MI, although the differences are not large. There was no strong evidence of differences between voluntary and mandated MCNs for either diabetes or CHD.

Mean CSQ18 score was ~3.3 on a four point scale (where 1 and 2 are negative ratings, and 3 and 4 positive), indicating high levels of satisfaction with services. There were no differences between conditions, or between voluntary and mandated MCNs for the same condition.

Table 10. Demographics, PACIC, 5As and CSQ 18 mean (SD) scores for people with type 2 diabetes

	Overall (n=285)	Voluntary diabetes (n=127)	Mandated diabetes (n=158)	Difference (95% CI) voluntary vs mandated
Mean age (SD)	65.8 (11.0)	65.0 (10.8)	66.5 (11.0)	NS
% male	58	55	51	NS
% diagnosed 2002-2002	61	57	64	NS
PACIC (mean (SD))				
Total	2.6 (0.9)	2.5 (0.9)	2.6 (0.9)	-0.10 (-0.35 to 0.14)
Patient activation	2.6 (1.3)	2.6 (1.3)	2.6 (1.3)	-0.05 (-0.36 to 0.26)
Delivery system/ practice design	3.2 (1.0)	3.2 (1.1)	3.2 (1.0)	-0.03 (-0.28 to 0.22)
Goal setting/ tailoring	2.5 (1.0)	2.4 (1.0)	2.5 (1.0)	-0.09 (-0.34 to 0.15)
Problem solving context	2.8 (1.2)	2.7 (1.2)	2.9 (1.2)	-0.16 (-0.47 to 0.14)
Follow-up & co-ordination	2.4 (1.0)	2.3 (0.9)	2.5 (1.0)	-0.21 (-0.44 to 0.03)
Five As (mean (SD))				
Total	2.6 (1.1)	2.6 (1.1)	2.6 (1.0)	-0.08 (-0.34 to 0.19)
Assess	2.7 (1.1)	2.7 (1.1)	2.7 (1.2)	-0.08 (-0.35 to 0.20)
Advise	2.8 (1.0)	2.8 (1.1)	2.9 (1.0)	-0.03 (-0.28 to 0.23)
Agree	2.7 (1.2)	2.6 (1.2)	2.8 (1.2)	-0.20 (-0.50 to 0.09)
Assist	2.4 (1.0)	2.3 (1.0)	2.5 (1.0)	-0.13 (-0.38 to 0.12)
Arrange	2.1 (1.0)	1.9 (0.9)	2.2 (1.0)	-0.26 (-0.49 to -0.04)*
CSQ18 mean (SD)	3.3 (0.5)	3.3 (0.5)	3.3 (0.5)	0.0 (-0.14 to 0.13)

* p<0.05

Table 11. Demographics, PACIC, 5As and CSQ 18 mean (SD) scores for people with CHD

	Overall (n=74)	Voluntary CHD (n=46)	Mandated CHD (n=28)	Difference (95% CI) voluntary vs mandated
Mean age (SD)	65.8 (11.0)	68.0 (9.3)	63.5 (9.7)	NS
% male	58	80	79	NS
% diagnosed 2002-2002	68	69	65	NS
PACIC (Mean (SD))				
Total	2.4 (1.0)	2.4 (1.0)	2.3 (1.0)	0.16 (-0.42 to 0.75)
Patient activation	2.5 (1.3)	2.6 (1.3)	2.2 (1.2)	0.39 (-0.26 to 1.05)
Delivery system/ practice design	3.1 (1.1)	3.2 (1.0)	2.9 (1.2)	0.36 (-0.18 to 0.89)
Goal setting/ tailoring	2.4 (1.1)	2.4 (1.2)	2.4 (1.0)	0.00 (-0.56 to 0.56)
Problem solving context	2.7 (1.3)	2.6 (1.2)	2.7 (1.4)	-0.07 (-0.71 to 0.56)
Follow-up & co-ordination	2.0 (1.0)	2.0 (1.0)	1.9 (0.8)	0.17 (-0.32 to 0.66)
Five As (mean (SD))				
Total	2.5 (1.1)	2.5 (1.1)	2.4 (1.1)	0.11 (-0.49 to 0.72)
Assess	2.5 (1.2)	2.5 (1.1)	2.5 (1.3)	0.00 (-0.59 to 0.59)
Advise	2.4 (1.1)	2.4 (1.1)	2.3 (1.0)	0.10 (-0.49 to 0.68)
Agree	2.5 (1.2)	2.5 (1.2)	2.4 (1.1)	0.11 (-0.49 to 0.70)
Assist	2.4 (1.1)	2.5 (1.2)	2.3 (1.0)	0.14 (-0.43 to 0.72)
Arrange	2.1 (1.0)	2.1 (1.0)	2.0 (0.8)	0.13 (-0.34 to 0.61)
CSQ18 mean (SD)	3.3 (0.6)	3.4 (0.5)	3.2 (0.7)	0.2 (-0.20 to 0.40)

PACIC, 5As and CSQ18 scores comparing 'experienced' and 'new' people with type 2 diabetes

More recently diagnosed patients had higher PACIC and 5A scores for the total and every subscale, although there was no difference in satisfaction with services compared to the CSQ18. However, only two of these differences were statistically significant relating to the delivery system/practice design and goal setting and tailoring of goals to individuals.

Table 12. Mean (SD) of Scores by Year of Diagnosis (diabetic cases only)

	Diagnosed 2000-2004 (n=173)	Diagnosed 2005-2007 (n=112)	Difference (95% CI) 'new' vs experienced
PACIC (Mean (SD))			
Total	2.5 (0.9)	2.7 (1.0)	0.19 (-0.07 to 0.45)
Patient activation	2.5 (1.2)	2.8 (1.4)	0.29 (-0.05 to 0.62)
Delivery system/ practice design	3.1 (1.0)	3.4 (1.0)	0.28 (0.02 to 0.55)*
Goal setting/ tailoring	2.4 (1.0)	2.7 (1.1)	0.30 (0.04 to 0.57)*
Problem solving context	2.7 (1.2)	2.9 (1.4)	0.25 (-0.08 to 0.57)
Follow-up & co-ordination	2.4 (1.0)	2.5 (1.0)	0.17 (-0.09 to 0.42)
Five As (mean (SD))			
Total	2.5 (1.0)	2.8 (1.1)	0.30 (0.01 to 0.58)*
Assess	2.6 (1.1)	2.9 (1.2)	0.25 (-0.05 to 0.54)
Advise	2.8 (1.0)	3.0 (1.1)	0.25 (-0.03 to 0.53)
Agree	2.6 (1.2)	2.8 (1.3)	0.25 (-0.07 to 0.57)
Assist	2.3 (0.9)	2.6 (1.1)	0.30 (0.03 to 0.56)*
Arrange	2.0 (0.9)	2.2 (1.0)	0.16 (-0.08 to 0.40)
CSQ18 mean (SD)	3.3 (0.5)	3.3 (0.5)	0.0 (-0.11 to 0.13)

* p<0.05

NHS resource use comparing voluntary and mandatory MCNs for the same condition

For respondents with type 2 diabetes there was little difference between the mean total costs per respondent in mandated and voluntary networks. This similarity masks some differences in the distribution of costs. In the voluntary network, costs are higher within the community and general practice settings, in contrast to the mandated MCN where the patients are more likely to receive hospital based care. The higher general practice costs in the mandatory network reflect high usage of practice nurses by respondents. A&E usage is low, with both networks showing a maximum usage of two visits per respondent over the year, and inpatient care rare.

Table 13. Self reported NHS resource use for people with type 2 diabetes (2007 prices)

Type of cost	Voluntary MCN		Mandated MCN	
	Mean cost (£) (minimum – maximum)	Percentage of total costs (%)	Mean cost (£) (minimum – maximum)	Percentage of total costs (%)
Inpatient	0 (0 – 0)	0	31 (0 – 3090)	11
Day & outpatient	59 (0 – 733)	20	78 (0 – 1020)	26
General Practice	129 (0 – 935)	45	111 (0 – 581)	37
Community	89 (0 – 639)	31	65 (0 – 640)	22
A&E	11 (0 – 222)	4	13 (0 – 222)	4
Total	288 (0 – 1506)	100	297 (0 – 4010)	100

The total mean NHS costs for respondents with CHD are greater in the mandated than in the voluntary MCN. Mean costs per patient in all categories of care are higher for mandated than voluntary. Comparing categories of cost as a percentage of total costs, these are similar for the two MCNs. Inpatient costs account for the highest percentage of total costs, around 64%, although this would be much reduced in the mandated CHD network if one outlier were removed (probably reflecting that the mandated CHD network is in a teaching hospital Board and therefore provides tertiary cardiology care).

Table 14. Self reported NHS resource use for people with previous myocardial infarction (2007 prices)

	Voluntary (n=46)		Mandated (n=28)	
Type of cost	Mean cost (£) (minimum – maximum)	Percentage of total costs (%)	Mean cost (£) (minimum – maximum)	Percentage of total costs (%)
Inpatient	705 (0 – 6695)	63	1508 (0 – 21630)	64
Day & outpatient	156 (0 – 1700)	14	365 (0 – 6374)	16
General Practice	149 (0 – 1451)	13	176 (0 – 832)	8
Community	89 (0 – 1105)	8	226 (0 – 4020)	10
A&E	24 (0 – 222)	2	75 (0 – 1554)	3
Total	1124 (0 – 6695)	100	2351(0 - 1163*)	100

It is not clear whether a more effective MCN would be associated with lower NHS costs, as patients are better managed, or higher NHS costs, reflecting more intensive use of resources to achieve that better management. The small numbers, low response rate, and lack of a clear distinction between the MCNs in terms of the patient experience, does not permit commentary on whether the patterns of resource use observed are associated with better or improving care. An interesting (but essentially hypothesis generating) finding is that although there are no differences in overall NHS cost between the two diabetes MCNs, there is a greater use of general practice and community resources in the voluntary MCN, which is more consistent with guideline recommended patterns of care.

4.3.3 Summary of patient experience survey

Long negotiation over the design of the patient experience survey study, and the method of contacting patients imposed significant limitations. The response rate was disappointingly low, both in terms of the proportion of practices recruited (<25%) and the patient response rate (<20%, although at least some of this is due to an unknown number of patients being screened out as 'unsuitable' by practices). Given this, any interpretation of

the results should be very cautious, and we have therefore only presented selected descriptive findings.

The – ethics and NHS research governance required – way that the survey was conducted makes it difficult to explore reasons for the low response rate, for example in terms of differential response. However, one reason for the low response rate may be the number of instruments included in the survey. The instruments were chosen to cover as efficiently as possible aspects of patient experience which were relevant to the kinds of claims for improvement in the professional interviews (PACIC – congruence of care with Chronic Care Model; CSQ18 – satisfaction with services; perceptions of change in nature and quality of services; and resource use questions) and outcomes in terms of quality of life (SF36). In piloting, the size of the aggregated survey was not identified as being a major issue, but in retrospect a smaller more focused survey might have achieved a better response.

On first sight, the overall scores for PACIC and 5As appear low ('sometimes' at best), although they are comparable to the original PACIC developmental cohort (patients with a range of conditions enrolled with the Group Health Co-operative in Seattle, USA, which is widely regarded as a beacon of excellence in chronic care; Glasgow et al., 2005b). Scores are also similar to patients with a range of six chronic conditions in Kaiser Permanente (PACIC mean score 2.7), another commonly identified high quality healthcare organisation. Scores for people with diabetes are somewhat lower than for people with diabetes enrolled in 30 primary care practices in the USA, where mean PACIC and 5A scores were both 3.2 compared to 2.4 to 2.6 in this study. However, the patients included in the USA were participating in a study of improving diabetes care, the context making it likely that quality of care will be higher than typical.

Overall, the very low response rate consequent on the design required by key stakeholders does not allow any strong interpretation of the survey findings, and caution should be exercised. However, there was no evidence that voluntary and mandated MCNs differed in terms of patient satisfaction with services, or in terms of patient assessment of care in terms of compliance with the Chronic Care Model or the 5As model of chronic care self management. Put another way, there was no evidence of differences between MCNs that were ~8 years old at the time of the survey (the two voluntary MCNs) and those that were ~4-5 years old (the two mandated MCNs). Most patients expressed high satisfaction for the care they received, and few identified much change for the areas specifically examined (although relying on retrospective data for this is problematic). Although international comparisons are fraught because of differences in the population served, the MCNs studied here appear to be delivering care to entire populations, that is similar in terms of alignment to the CCM and 5As as high performing organisations in the US serving selected populations of insured individuals.

4.4 Patient perceptions of impact

Although it was considered unlikely that many patients would be aware of the work of MCNs in bringing professionals together, one aim of the overall study was to examine if and how patients' perceptions of quality of care and change over time differed from professionals'. The patient experience survey broadly sought to identify if patients' perceptions changed in ways predicted by professionals. The qualitative study described in this section was designed to explore patient perspectives on which aspects of health care were important to them, and compare these with professional perceptions of success and impact.

4.4.1 Methods

Patients responding to the quantitative patient experience survey were asked if they were willing to be contacted for an interview. Sampling was purposive, aiming for 10 patients from each of the case study MCNs, with heterogeneity in terms of length of diagnosis, and perceptions of whether quality was changing. However, as discussed later in this chapter, most patients did not identify change in quality which is reflected in recruitment (all patients volunteering who identified quality of care as 'better' or 'worse' than in the past were interviewed). In the CHD MCNs in particular where there were few survey responders, then the pool of volunteers for interview was limited. In the mandated MCN, only men volunteered for interview, and in the voluntary MCN, only those saying there had been no change in their overall quality of care volunteered. Table 15 shows details of participants.

Table 15. Participants in patient interviews

MCN	No. of men	Diagnosed 2004 or before	Overall quality of care:		
			Better	Same	Worse
Voluntary CHD (n=10)	8	4	0	10	0
Mandated CHD (n=10)	10	5	2	7	1
Voluntary diabetes (n=10)	3	5	3	6	1
Mandated diabetes (n=10)	5	6	1	8	1

Participating patients were offered a choice of telephone or face-to-face interviews, at a time and place of their choosing. Interviews were semi-structured and followed a broad topic guide seeking to elucidate whether patients were aware of the MCN as a way of organising care or of any

specific MCN activities, what they valued (or did not value) about their care, and how their perceptions mapped (or did not) to professional perceptions of impact.

The original intention had been to use peer interviewers, but since recruitment and interviewing were dependent on the patient experience survey, the delays to the latter compressed data collection and analysis too tightly to allow this. All interviewing was therefore done by a single, non-clinical experienced qualitative researcher (JC).

With consent, all interviews were recorded and transcribed for analysis where consent was given. Analysis followed the framework approach (Ritchie and Spencer, 1993; Pope, Ziebland and Mays, 2000) and primarily sought to identify themes common to many or all accounts, but actively seeking disagreement or discrepant data.

4.4.2 Findings

As expected, patients did not spontaneously talk about any of the MCNs and few had more than vague or rudimentary knowledge of MCNs in their area. Rather, patients predominately discussed their experience of illness and their experience of care from one or more clinicians, and it is the latter which will be considered in this section. However, many patients did comment that their experience of care had improved over time.

'I put on [the survey that] I thought it was much better. I'll tell you why that is. We had a doctor there before Dr [name] but seemingly this one didn't know as much about diabetic as Dr [name] did and him and I get on grand. I can just ask him anything, I felt the one before that he couldn't answer my questions some times ... Of course it's like everything else, they're getting a lot more training in it now, aren't they? And maybe this one before Dr [name] hadn't the training that he had.' Interview 54 female voluntary diabetes

Although the majority of patients described changes as positive improvements, a few had negative or mixed experiences.

'It has changed since that particular nurse left, I think that she had probably a huge amount of expertise, I think she had a lot of additional reading and training and I got on with her really, really well. I get on with the nurse that I'm with now but I feel that she's maybe not the kind who gets the knowledge that the other nurse had.' Interview 34 female mandated diabetes

Continuity and co-ordination of care

Patients felt that regular monitoring enabled medical professions to collate all the information they required to care for the patient. Patients who were satisfied with the frequency and content of the checks felt reassured and confident that the health professionals were fully informed and offering them the correct treatment. These patients said this meant they were made them more likely to follow their regimes and health education advice. One

patient with diabetes and cardiac problems explains his reassurance and confidence in health professionals.

'I'm also checked every six months for my heart condition and every six months for my diabetic condition. So that meant for a while I was being seen four times a year and my bloods were taken and all that, so really they were on top of it all. , I saw the practice nurse this morning, and I'm going to see her in three months time ... it's all routine really.'

Patients who were regularly monitored made certain positive assumptions about the professional. They believe them to be informed and vigilant, and ready to pick up and act upon information. This again reassured the patient and gives them confidence to manage their own condition

'Well I'm assuming that all the information the hospital and GP have about my condition is sufficient, you know, no warning signals, I mean I now know how important it is to tell them if I get angina.' Male Voluntary CHD

Patients who felt they were adequately monitored and who trusted the expertise of their practitioners said they felt more confident about caring for themselves. This confidence was reflected in their willingness to take on more aspects of their medical care.

'I'm always well advised on my treatment but I'm left with the injection nowadays to make some of my own judgements. I can find the area, just adjusting insulin levels. I inject before each meal, I'm making a judgement about how much I'll need before what I'm about to eat, and other things that I'm quite pleased with.' Interview 17 male mandated Diabetes

In contrast, patients who believed they are not adequately monitored or questioned often lost trust and confidence in the health professional. They surmised that since the professional did not collate sufficient information from them, then the advice given about medication and lifestyle must also be deficient. Patients were then less likely to follow that advice.

As well as whether care was systematic and regular, the extent to which each service was integrated and communicated with each other was important to patients, and several patients in every MCN commented that it had improved over time.

'I feel that the service has smartened up, and I felt that the links between the nurse who was assigned to diabetic control and the chiropody service had improved. But I think that there has been slight change since then, that I've noticed that the management of the patients coming through is better ... the timing for the reviews and so on, it's I think clarified.' Interview 21 female mandated Diabetes

Similarly, many other diabetes patients commented that the process of care had improved. For example, some patients said they were now given the

results of blood tests soon after they are taken with the opportunity to discuss them at a subsequent consultation.

'I go to see the nurse for a diabetic review, I have bloods taken beforehand, and then when I go to see the nurse she'll tell me the results of the testing, which is good, because for a period with another nurse, blood testing didn't coincide with when I went to see her so I never knew what the results were. But that's improved.'

Interview 15 female mandated Diabetes

Finally, seeing the same person was of particular importance to the majority of patients, usually described in terms of making concerted efforts to see the same GP each time they visited the practice. This was partly due to the desire not to explain their entire case to a new practitioner (especially if they had a long history) and partly due to their belief that the doctor/nurse would have sufficient knowledge (information) to pick up on problems and abnormalities at an early stage.

'I see the same [GP] but actually I make the appointment like a week in advance or two weeks in advance so whenever I want to see him, sometimes I'll even make it a month in advance to see him and then I know I've got my appointment with him. Because I think there's nothing worse than you see a different GP all the time and they all start and everybody has different ideas.' Interview 29 female mandated CHD

Not infrequently, patients commented that the GP (or less often the practice nurse) took a more general co-ordinating or advocacy role, which reinforced a desire for personal continuity with an individual.

'No, any odd effects I've gone back to my doctor, he hasn't been afraid to ask specialists and get answers back and if we've wanted to change or tweak drugs we've done it, for any side effects that might arise. So I think all in all we've covered the ground.' Interview 39 male mandated CHD

Information from the patient's perspective

In the professional interviews, improved patient information and education was one of the tangible benefits claimed for MCNs, but patients were largely assumed to be passive recipients of information from professionals (professionals' discussion of patient involvement in MCN committees and planning is a partial, but very particular, exception to this). Patients did discuss information at some length, but framed it rather differently from professionals.

Patients as recipients of information from professionals.

Patients said they needed information to be able to interpret and give meaning to their bodily changes, symptoms and to objective measurements. But this information needed to be individually tailored and delivered in specific ways. It had to be personalised, the prognosis and the

purpose of treatment had to be explained, and where necessary the patient should be given help with comprehension of the information.

Information was extremely important for both cardiac and diabetes patients. Those attending patient education events found the general health education informative and helpful. However, it was the individually tailored information that was most useful to them in their self-care. One CHD patient explains how the personalised exercise rehabilitation enabled him to continue his regime as part of his self-care.

'Well, it was extremely well personalised and very informative ... there were people actually instructing us and ... they were very caring about each of us and they had quite long chats,... it was really nice, and we've learnt even more. So I think it tied in really well with my information sheet that I'd got from the hospital to ...it all tied in with my exercises I did at home and I could feel the benefits all the time.'

Interview 26 male voluntary CHD

It was important for patients to know the purpose of treatments and regimes and how they were intended to help them personally. If they fully understood what the medication was intended to do and its possible side effects they were more able to distinguish between the symptoms of the condition and the effects of the medication. This facilitated their on-going interpretation of their bodily changes, signs and symptoms. This was crucial to most patients because they felt responsible for their own self-care. One CHD patient explains how a lack of a clear explanation about treatment led to problems in his ability to interpret his bodily signs and manage his own condition.

'I'm now on additional medication which my GP tells me actually prevents angina. This is a new concept for me because I had understood from all the information I'd got at ... from the heart department... it can't do that, so I thought they might be masking my angina pain, you know, almost like a pain killer and I thought 'what on earth is the point of him putting me on this' and he didn't really explain properly at all. ...I thought ' I'm not sure whether I'm still getting angina or not' you see... I think that led to some of the problem of me trying to judge whether I did have angina.'

Interview 5
Male voluntary CHD

Patients therefore needed specific information to be able to interpret and appropriately respond to bodily signs and objective measures. Without specific information about their individual body and collection of symptoms it was difficult for them to attribute cause. If they were uncertain about the cause of a problem or symptom then self-management became difficult. A diabetes patient explains this dilemma.

'...what to be aware of if the blood sugar levels went up, what to notice, and (long pause), and I have had problems with proteins in my blood that made me have gout which I think could be also associated with the diabetes in that the tablets I think can sometimes cause

kidney problems (pause) and I think a, a little more information about that aspect.' Interview 15 female mandated Diabetes

Many CHD patients said that they wanted more information about their prognosis, and that lack of discussion had caused some anxiety. While most felt able to manage the condition day to day, contemplating their longer term outcome in the absence of medical advice and discussion caused anxiety. A 69 year old CHD patient explains.

'I would like them to tell me... what the prognosis is for the future for me...In other words, what's my long term thing going to be...I am alright on a day to day basis but I'm a wee bit worried what would happen, ...Cause I sit here worrying about it you know...And nobody seems to tell me anything and that's what worries me... Interview 13 male mandated CHD

Finally, some patients expressed gratitude at the help they were given in comprehending information that was supplied in a written form such as leaflets and information sheets. An older CHD patient explains how this help motivated him to make changes in his lifestyle (diet).

Patient:... 'the lassies [nurses, physiotherapists] would go through some of the pamphlets that you'd promised to read but you never do'.

Interviewer: ' Was it better when somebody went through them?'

Patient: 'Oh yes, to be honest I am not a reader, I promise to do it but I will read things and then once the novelty wears off I'll put it down and say I'll go back to that but I never do. I tend to read the things that might be relevant to myself and that's it. But what I had done, my diet has improved.' Interview 8 male mandated CHD

The information that patients receive often contributed to their sense of emotional well-being, with information sometimes being reassuring or relieving, and sometimes making them feel empowered that there was something they could do to tackle a problem if one arose. It thus gave them confidence in managing their own condition. A male diabetes patient explains:

'It eases the problem. The first thing they say you learn when you're diabetic is you're never going to get better, and it's always going to get worse, but it can take 30 years to get worse if you play the game... But it - reassures is the word I'm looking for - when you go and get the results they say "oh you're looking good here" . And that reassurance is good.' Interview 17 male mandated Diabetes

Patients as providers of information to professionals.

Patients also felt that professionals themselves needed specific information to help them interpret the disease and its progression. Thus the health professional required personalised information from the patient and they needed to regularly monitor and check the patients' condition.

Patients believed that the professionals also required information to be able to interpret the individual patient's bodily signs and symptoms and to offer suitable treatment. To do this, professionals had to probe for, and collate detailed information from the patient. However, some patients felt that this was not done thoroughly enough, that is, they were not fully questioned about their symptoms, lifestyle and behaviour. One diabetic patient explains how an objective measure (such as a blood sugar reading) may not be a good indication of her self-care and lifestyle in the absence of probing for further information.

'I think there isn't a care for probing, listening and... questioning and so on, that it is possible for me to go knowing that I've just been careful for the last few days before the bloods were taken and for the nurse to say "your diabetic control is really very good," and I'm thinking "if you knew what I'm eating." Interview 15 female mandated Diabetes

From this perspective, the patient is not just a passive recipient of information, but an active provider of it, and at least partly able to carry information about their own condition and care across organisational and professional boundaries.

The process of consultation and interpersonal skills of clinicians

Patients regarded professionals' interpersonal skills as critical, in terms of whether clinicians of all kinds treated them politely and respectfully, listened carefully, and (as discussed in the previous sub-section) ensured that decisions reflected their personal circumstances, and that information was tailored to them as an individual.

The ability to listen and ask meaningful questions conveyed to the patient that they had been heard and that the professional was skilled and could be trusted. Politeness was important to patients as it suggested that the professional respected them and was treating them as an individual.

'Well they were just very nice people to talk to, the nurses and doctors that dealt with me were extremely polite and courteous and they were the sort of people that can communicate well, and they seemed to care for me as a person which is good'. Interview 5 male voluntary CHD

A diabetes patient describes what was good about the interpersonal skills of the diabetes nurse.

'She was very good at listening ... answering questions and concerns and, and sort of listening for underlying worries and things, and she had information to hand that she could give me. (pause) and she was just a nice person. Just a very friendly and nice person to go to.' Interview 15 female mandated Diabetes

Not all patients had such positive experiences, with some describing consultations in the past which had been more negative, and some

experiencing consultations where protocol driven tasks appeared to crowd out interpersonal care since time was usually limited.

'I get the feeling that the nurses are so busy that they have no time other than to rush around and sit down and kind of to quickly talk to the person then off to the next thing and next thing and next thing'.

Interview 34 female mandated diabetes

However, patients were clear about the kind of interpersonal care they preferred, and good experiences of interpersonal care were an important reason why patients tried to see the same GP if possible.

Other issues

Two other issues were relatively commonly discussed in interviews, and are briefly described here.

First, issues of access were of particular concern to many patients. Patients in more rural areas especially appreciated when services were locally available and the ease with which they could obtain a telephone consultation. Some patients in all four MCNs experienced difficulty in obtaining GP appointments (in terms of both waiting time for appointment and choice of GP). CHD patients were less likely than diabetes patients to receive most of their tests and treatments locally, some having to attend the teaching hospitals that were often relatively distant depending on the procedure required. Whereas many patients said that other aspects of care such as co-ordination or systematic follow up had improved, there was no sense that this was true for access.

Second, aids to lifestyle change were highlighted by patients in all four MCNs, reflecting the importance put on changing lifestyle by professionals for both diabetes and CHD. Exercise rehabilitation classes were extremely important to cardiac patients and the overwhelming majority found them motivating and enjoyable. Some, however, experienced problems in sustaining their exercise regime after the prescribed period was over. This was mainly due to a lack of, or lack of access to local gyms. Many patients (especially those with diabetes) wanted some sort of individualised weight management programme or package, since they found it difficult to lose weight on their own and professional intervention largely consisted of advice giving that was often quite general and therefore less helpful. CHD and diabetes patients who had attended support groups commented that exchanging information and sharing experiences with people with the same condition had been extremely helpful to them. They had found them interesting and often felt they had picked up little bits of information that had been useful in their own self-care.

Interviewer: 'What was good about those meetings? *Patient:* 'Just the fact that you were sitting chatting and you were hearing about what other people were saying, ... there was quite a few on the insulin injection. You were hearing what other people were doing and what their thoughts were and the lady that took them, she just kind of sat and listened and kind of put her oar in now and again. We could do

this...Well that to me is maybe something that we, we are missing'.
Interview 4 female mandated Diabetes

4.4.3 Summary of patient perceptions of impact

Although patients were not aware of MCNs as organisations or the changes to professional working described by MCN members, a significant number (but not all) did identify improvements to the co-ordination of care, to communication between professionals, and to systematic follow-up of their conditions. In contrast, improvements to access and accessibility were not identified and this was more frequently described by patients as problematic. Interpretation of this should be cautious, since the data comes from one cross-sectional interview, and patients who have only ever experienced one service may not easily identify problems without a contrasting experience (Porter and Macintyre, 1984), but it provides some support for professional claims of better co-ordination and communication.

Patients' valued structured or standardised information in the sense of leaflets or group education, but preferred this general knowledge to be personalised to their condition and circumstances. Additionally, they believed that professionals required information from them about their condition and circumstances to make effective decisions. If this kind of two way personalised information flow did not occur, then they had less trust that their care was good, and it appeared less likely that they would follow advice.

Finally, patients emphasised the importance of the interpersonal care they experienced in one to one consultations with clinicians, valuing being respected, being listened to, and having their care tailored to their individual circumstances. This was one reason that they often sought to see the same professional, most often talked about in terms of choosing to see the same GP even if that meant waiting for appointments or planning ahead.

4.5 Discussion and conclusions

The four studies in this chapter have been described in the order in which they were conceived and put into effect, but this section discusses them in a different order, by initially directly comparing professional and patient qualitative accounts of impact and perceptions of what 'good' care is, and then discussing the quantitative evidence of impact.

Professional and patient perspectives

Professionals described a range of impacts on a spectrum from the relatively intangible to the relatively tangible. Although 'tangibility' is not a neat dichotomy, broadly speaking, intangible impacts related to how professionals worked together in terms of communication, collaboration, shared vision and the management of potential conflict. In contrast, tangible impacts related to professional clinical work and patient care.

Professionals strongly attributed changes in intangibles to the MCN. Attribution of tangible changes was almost always weaker because it was often either at least partly driven by other agencies, or partly reliant on existing NHS organisations. However, participants were typically clear that MCNs facilitated and often improved implementation. An example is the implementation of national clinical guidelines. These are produced whether or not MCNs exist, and Boards are charged with implementing them. In that sense, improvements related to implementation cannot be (and were not) strongly attributed to MCNs, but MCNs were perceived to function as a more effective delivery mechanism than previous ways of organising. A second example is the implementation of a diabetes specialist nurse service in a more remote area of the mandated diabetes MCN. Here the MCN acted as a broker between GPs and the local NHS organisation, with a relatively unusual financial arrangement where money that would normally have been paid to practices was used to pay for a locality service. Here the drive to create the service did not solely come from the MCN, but again the MCN facilitated implementation. As well as these relatively weakly attributed tangible impacts, participants did also identify impacts that they did strongly attribute to MCNs. Examples included informatics in the voluntary diabetes network, a nurse led heart-failure service and acute MI/chest pain pathways in the voluntary CHD MCN, and local guideline production in the mandated diabetes MCN.

In contrast to the other three MCNs, members of the mandated CHD MCN expressed more scepticism and there was no consensus that their MCN had delivered either intangible or tangible benefits. However, they were also much less likely to believe that there had been *any* improvement in patient care even as a result of new services, which is consistent with the accounts from members of other MCNs that a well functioning MCN facilitates and enhances service improvement that is externally driven, as well as improving areas of care that MCN members prioritise.

As expected, patients were typically not aware of MCNs or inter-professional working within the MCN (as opposed to multi-professional working to deliver clinical care). The intangibles identified by professionals were therefore not apparent to them. However, many (but not all) did say that there had been improvements to co-ordination, communication between professionals, and systematic follow-up of their conditions. In contrast, improvements to access and accessibility were not identified and this was more frequently described by patients as problematic. Although this data relies on recollection in a single cross-sectional interview, this does provide some support for professional claims of better co-ordination and communication. However, there were two important ways in which patient accounts differed from professional ones.

First, professionals and patients agree that information is critical to providing optimal care and enabling self-management. However, while patients emphasised personalised information tailored to their specific circumstances and needs, professional accounts focused on more standardised forms of information in the sense of patient leaflets,

information on websites, and structured group-based education. Thus while it was important to patients to be treated as 'personalised' individuals, professionals emphasis for information, as for clinical process and treatment, was more on treating 'standardised' patients. That is, in the same way that every individual with the condition should be given similar quality treatment and care, every patient was effectively cast as a relatively passive recipient of standardised information. Furthermore, patients strongly believed that for professional advice to be credible, it had to be based on personal information that only the patient could provide. However, while an exchange (two way flow) of information was present in patient accounts, it was rarely mentioned in professional ones. Instead professionals talked more in terms of a one directional flow of information from the clinician/service to the patient. From the patients' perspective, MCN professionals' perceptions of information related impacts too narrowly conceived them as standardised technical or disease-related information, delivered to passive patients.

Second, but linked to this, the focus of professional interviews was almost exclusively on care for the disease, and the organisation of technical care. Patients did not much discuss technical care or medical expertise, and (with some exceptions) usually appeared to assume that the clinicians they saw were practicing to appropriate standards. However, the absence of discussion of the technical should not be taken to imply that patients did not value it (those who mention it thought it crucial), but rather that medical knowledge and expertise is a topic that patients often avoid discussing in research interviews, since to appear to question clinicians risks placing the patient in a morally ambiguous position in the interview (Baruch, 1981; Guthrie, 2008). However, the key point is that patients *also* valued interpersonal skills in the consultation, which was entirely absent from professional accounts. MCNs' disease focus therefore appeared to exclude an area which was an important determinant of the patient experience of care. To some extent this is unsurprising. The MCNs studied **were** defined by particular diseases, but it highlights that disease focused MCNs largely define their impact in terms of the content of the consultation (eg delivering guideline compliant care) rather than its process, even though that process is a critical determinant of patient experience.

One way of framing the differences between professional and patient accounts is in terms of continuity, an idea which embodies many (but not all) of the expected and hoped for impacts of MCNs. Although there are many competing definitions of continuity, most reduce to three main dimensions:

- *'Informational continuity—Formally recorded information is complemented by tacit knowledge of patient preferences, values, and context that is usually held in the memory of clinicians with whom the patient has an established relationship*
- *Management continuity—Shared management plans or care protocols, and explicit responsibility for follow-up and coordination,*

provide a sense of predictability and security in future care for both patients and providers

- *Relationship continuity—Built on accumulated knowledge of patient preferences and circumstances that is rarely recorded in formal records and interpersonal trust based on experience of past care and positive expectations of future competence and care.’ (Guthrie, 2008)*

Professional accounts of MCN impacts emphasise management continuity and informational continuity (in the narrow sense of the transfer of formally recorded information between professionals). In both dimensions, the focus is on care for particular diseases. Patient accounts of their experience of care value management and informational continuity because of the sense of coherence and security that these provided, but also emphasised relationship continuity and the kinds informational continuity relying on tacit knowledge that it facilitated. This was because relationship continuity additionally appeared to facilitate the kind of personalised care that patients valued, although patients still expected and wanted to be treated respectfully and listened to in consultations with clinicians they did not know.

There is no absolute reason why a diabetes or CHD MCN *should* seek to influence interpersonal skills of clinicians, since this goes beyond their disease-focused remit (especially in primary care where the disease that is the MCN’s *raison d’être* will only ever be a small part of total workload). However, if all clinical networks are disease focused, then there is a risk that improving continuity for the disease may ignore, or even fragment care for the individual as a person.

Patient experience survey

The patient experience survey has several limitations, significantly imposed by the design required to satisfy the changing requirements of multiple stakeholders with gate-keeping and governance authority. The final design was complicated, required considerable work by practices (which reduced practice recruitment) and had limited ability to personalise invitations or send reminders (which reduced patient recruitment). The response rate was low, and complex analysis and strong interpretation was therefore judged not to be appropriate.

In terms of PACIC scores measuring alignment to the Chronic Care Model (Wagner, 1998) and 5As scores measuring alignment to chronic disease self-care models (Glasgow et al., 2003), mean and sub-scale scores were only median or slightly higher at best. However, responders rated the quality of their care as comparable to US organisations serving narrower market segments, but which are widely regarded as beacons of excellence in chronic care (Group Health Co-operative of Seattle and Kaiser Permanente – Glasgow et al., 2005a; Glasgow et al. 2005b). Respondents expressed high satisfaction with their care, and most said they did not perceive improvement or worsening (although when asked in detail in

qualitative interviews, many patients did describe change in particular aspects that the quantitative instrument did not appear to detect). However, the underlying instruments used in the survey were based on professional claims of impact, and areas important to patients like interpersonal care in consultations with clinicians were not specifically examined.

Overall, the very low response rate consequent on the design required by key stakeholders does not allow any strong interpretation of the survey findings, and caution should be exercised. However, there was no evidence that voluntary and mandated MCNs differed in terms of patient satisfaction with services, or in terms of patient assessment of care in terms of compliance with the Chronic Care Model or the 5As model of chronic care self management. Put another way, there was no evidence of differences between MCNs that were ~8 years old at the time of the survey (the two voluntary MCNs) and those that were ~4-5 years old (the two mandated MCNs).

Impact on emergency admissions for ambulatory care sensitive admissions

The routine data analysis was based on two key assumptions. First, that the service improvements described as early tangible impacts in the voluntary MCNs would improve care for patients in ways which reduced future emergency admissions for 'ambulatory care sensitive conditions'. This is widely (AHRQ, 2009; Purdy et al., 2009; Yeung, MacLeod and Sutton, 2004), but not universally accepted (Jankowski, 1999), and ACSC admissions are acting as a proxy for changes to clinical processes and intermediate outcomes that could not be directly measured in this study. Second, that the change over time in the 'rest of Scotland' control group accurately reflects the change over time that would have been observed in the 'treatment' Health Board if a voluntary MCN had not been created. Since the design is observational, there will be unmeasured confounders that may bias the analysis in ways that cannot be accounted for. However, the design is as strong as is possible given the data available, and the model fitted adjusts for as many known confounders as possible.

For CHD, there was a large, statistically significant relative reduction in emergency admissions with angina which was sustained throughout the six years examined after MCN implementation. There was some evidence of an initial relative reduction in chest pain admissions although this did not quite reach statistical significance, but no evidence of an impact on heart failure admissions despite the heart failure specialist nursing service being commonly cited as an example of MCN impact. Although heart failure admissions fell in the voluntary MCN Health Board, they fell at similar rates across Scotland.

For diabetes, reductions in admission rates for long term conditions were 22% greater in the voluntary MCN in the three years after implementation. After mandated MCN creation, admission rates fell at a relatively slower rate in the voluntary MCN, although this more due to improvements in the

mandated MCNs than a worsening in the voluntary MCN. However, these changes are not statistically significant, partly because the numbers of these admissions are small (although the number of bed days involved is very substantial – Scottish Executive, 2002). In contrast, for admissions for short term complications (and all complications), there were large, statistically significant relative rises in admission rates in the voluntary MCN in the later period.

As discussed in section 4.2. above, interpreting these findings is not straightforward. There is some, but not statistically significant, evidence to support the professionals assertion that chronic care for people with diabetes has improved in terms of changes in admissions for long term complications. There is strong evidence that admissions for short-term complications have increased in the voluntary MCN, but this could be interpreted both as worse ambulatory care (lack of patient education leading to hypo- and hyper-glycaemia) and better ambulatory care (guideline compliant intensification of treatment causing more hypo-glycaemia).

The findings therefore provide some, but far from conclusive, evidence for the hypothesis that Health Boards with voluntary MCNs improved the quality of ambulatory care faster than Health Boards where MCNs were not created till 2003/4.

Conclusion

Assessing the impact of large scale organisational change like the creation of MCNs is difficult. The four studies in this chapter have qualitatively examined impact from both professional and patient perspectives, and attempted to measure impact in terms of patient experience of care and a proxy for the quality of clinical process and outcome.

Professionals in three of the four MCNs studied identified a range of impacts that spanned the spectrum of relatively intangible changes to inter-professional working to the implementation of new services. In the fourth MCN, there was no consensus around either intangible or tangible impacts.

Patient accounts provided some support that co-ordination had improved and care had become more systematic. However, patient accounts also identified that professionals' definitions of MCN impact excluded aspects of care that were important to patients, namely personalised as opposed to standardised information, the importance of the patient as a provider of information to professionals, and the importance of interpersonal care in clinical consultations to overall experience of care. A challenge for disease focused MCNs is whether or how they should be involved in improving interpersonal skills (the 'how' of the consultation and face to face delivery of care) as opposed to medical processes (the 'what' or technical content of the consultation).

Difficulties in implementing the patient experience survey due to unpredictably changing governance requirements meant that it was limited to a cross-sectional analysis with a low response rate. Overall satisfaction

with care was high, and alignment to the Chronic Care Model comparable to organisations in the US generally regarded as excellent in chronic disease management. For each condition, there were no differences between the older, voluntary MCNs and the newer, mandated MCNs.

Finally, impact on clinical process and outcome was examined through analysis of routine hospital admissions data using the proxy of emergency admissions for ambulatory care sensitive admissions. There was evidence of an impact of the voluntary CHD MCN for angina, and trends for admissions with long term complications of diabetes favoured the voluntary diabetes MCN but (although large in magnitude) were not statistically significant.

Overall therefore, and drawing on all four studies, there is some evidence of beneficial impacts, but more relating to ways of inter-professional working than impacts on patient experience or clinical quality of care.

5 Exploring the generalisability of the findings in Scotland (part 1)

As crucial issues for MCN formation and management emerged from the detailed case studies, the aim was to explore the extent to which such issues were seen as important across other MCNs on diabetes and CHD across Scotland. As well as exploring *what* activities and issues were perceived as important, the aim was to explore perceptions about *when* these received most attention, as the case-study analysis and earlier scoping work had seemed to indicate that certain issues and challenges were given more emphasis in start-up and that the focus of MCN activity changed over time.

5.1 Background and theoretical underpinnings

From a themed narrative analysis of the qualitative data emerging from the four in-depth case studies, there was widespread agreement among participants that MCN attention, activities and challenges were changing over time. The differences recalled (between set-up and the present time) were wide-ranging, including what was done, who did it, and how, why and where. Many participants suggested explicitly or more implicitly that MCNs may develop and mature through a series of distinct stages, and that there may be differences in the kinds of activities, processes and success factors that are important at different MCN stages. Existing theories of organisational life-cycles may have a contribution to make to teasing out these longitudinal issues.

5.1.1 Organisational Life-Cycle Theory

Over several decades many theorists have suggested that organisations can be thought to go through life stages akin to the developmental stages experienced by living creatures (Mooney and Reiley, 1931; Haire, 1959; Chandler, 1962; Lippit and Schmidt, 1967). These stages are characterised by differing needs, goals and activities (Greiner, 1972; Scott et al., 1981) and methods of engaging key stakeholders (Dodge et al., 1994). The most generic theories suggest five simple stages: birth, growth, maturity, decline and death (for a useful summary of these stages see: Miller, 1984), and depict the process as following a bell-shaped curve.

Most obviously, this theoretical concept is based on a biological metaphor of organisations (Morgan, 1997), that organisations can be considered to share characteristics with, and behave like, living things, with needs – namely to avoid harm and survive. Further than this, it is often explicitly stated that all organisations inevitably follow a maturation process – growing, maturing (and embedding established ways) until decline and

death, as the organisation is replaced or surpassed by a more adaptive counterpart. Apart from the obvious critique that organisations are not living beings and that sometimes the metaphor is overextended, there are several specific criticisms of organisational life-cycle theory. First, many differing organisational life-cycle theories exist, yet the life stages they outline are different in number and kind (Galbraith, 1982; Miller and Friesen, 1984; Smith, Mitchell and Summer, 1985), suggesting either poor agreement among theorists or (more likely), wide variations in the organisations studied that informed the models. This in itself may suggest that the nature, remit and context of an organisation is hugely influential in shaping its life-stages.

Research has suggested that not all organisations go through all stages (cf. Adizes, 1979; Quinn and Cameron, 1984), challenging the idea that maturation occurs in a specific order or is inevitable – e.g. some small organisations stay small. Also challenged is the idea of clearly defined and distinct stages. It is claimed to be more realistic to suppose that the stages are iteratively visited and revisited many times and that stages may overlap and the distinctions between them blur (Amalya, 2001).

However, despite these criticisms and lack of empirical evidence to support a definitive theoretical model, the concept of developmental stages in organisations persists. Indeed the findings in the case studies reiterated this. MCN members do consider MCNs to develop in stages, as a brief quote from the narrative data illustrates:

'...the first year is you know very much what is it all about and do we really want to do it and you know engagements of people. It really is only after the second year where you get some sort of forming of Committee structures or relationships built and you start to do some work, because networks are not about structures although that is how we always tend to describe them.' (Key national figure: scoping study)

5.1.2 Organisational Life-cycle theory as applied to MCN development

Like the broader organisational literature, and the data from the fieldwork for this study, the specific literature on networks is also characterised by concepts of network "stages", with network management activities organised in a sequence from initiation to termination (Goodwin et al., 2004). It was decided to pursue the theme of organisational life stages within MCNs and to incorporate it into data gathering, to allow for theory-testing (organisational life-cycle theory) as well as for consideration of the empirical data from a theoretical perspective. To explore this idea of MCN development stages more widely across Scotland's other diabetes and CHD MCNs, a questionnaire was constructed to capture, in a structured way, qualitative data on clinical MCN developments over time.

5.2 Methods

5.2.1 Choosing a sample

As the focus of interest was MCNs covering CHD and diabetes in Scotland, data were collected from MCNs for these conditions in all 14 Scottish Health Boards. Selected respondents were clinical and managerial leads for each MCN.

5.2.2 Constructing the questionnaire

Data were collected from respondents by questionnaire administered by post and/or by email, with some data completed through telephone follow up.

Creating statements on MCN activities

The extensive interview data from the scoping studies and the case studies were used to identify the types of things that MCNs reported they were doing at different times in their development. This included tasks and activities MCNs were involved in, processes they followed, structures they worked within and outcomes they sought (for convenience these will usually be referred to collectively as 'activities and issues'). Forty-nine statements about activities and issues were generated in total.

Taking the statements from the empirical data had several benefits: it captured activities and issues as recalled by those actually engaged in MCN activity and allowed the statements to be expressed in their terms. The statements were piloted on a small sample of health care practitioners and academic researchers for readability and acceptability. Once tested in this way the statements became items in the questionnaire (a full list of the statements generated from the interview data follows shortly, as does an explanation of the questionnaire format).

Mapping statements to models of the organisational life cycle.

Two forms of the organisational life-cycle theory were drawn upon: one is not really a model as such, but more a synthesis of the major components of other models that have been applied to MCN development as discussed by Goodwin et al. (2004); the other is the specific life-cycle model proposed by Sharken-Simon and Donovan (SS) (2001). The SS model was selected because it claims to have been specifically developed from and for application in non-profit (voluntary) settings. Details of both models and the life-cycle stages that they identify can be seen in table 16.

Table 16. The organisational life-cycle stages of the Sharkin-Simon Model (SS) and the Goodwin et al summary

Sharkin-Simon and Donovan Model of the Organisational Life Cycle for not-for-profit organisations (2001)	Goodwin et al summary of network stages (2004)
STAGES	STAGES
1) Imagine and Inspire	1) Objective negotiation: developing aims, norms and values
2) Found and Frame	2) Design: establishing network structures and rules
3) Ground and Grow	3) Environment management: securing legitimacy and resources among external stakeholders
4) Produce and Sustain	4) Joint production: collaborating to produce goods or services
5) Review and Renew	5) Adjustment: making changes in the course of the life of the group
6) Decline and Dissolution	6) Termination, transfer or fundamental change: ending the network, moving its functions elsewhere, or transforming its nature

The empirically-derived statements on MCN activities and issues were mapped against the theoretical life-cycle stages, to establish to which developmental stages questionnaire items belonged. It was hoped that the approach would provide a theoretically-informed set of constructs against which returns could be analysed, and that it would be possible to identify the different stages of development the Scottish MCNs were at by the activities they were undertaking and the issues with which they were concerned.

The mapping process was undertaken by two researchers and the results can be seen in Table 2 below. In the main, it was relatively easy to identify the life-cycle stage the empirically-derived statements mapped onto. However, the match was not perfect. Not all the statements could be mapped onto the stages of the models as described. First, some activities and issues were clearly being addressed by MCNs but did not correspond to any of the theoretical stages. Such items were nevertheless included, to remain true to the account of the MCN members.

Secondly, some activities and issues could have been included in more than one stage of development (e.g. leadership activity). Such items were

mapped to the stage that seemed to be the best fit, with the caveat that decisions might need to be revisited when undertaking the analysis.

Thirdly, the statements extracted from the interview data did not give even coverage across all the life-cycle stages. Some stages had many questionnaire items, while other stages were nearly empty. The decision was made not to create additional (theoretically-driven) statements for inclusion in the questionnaire for the sake of 'balancing' the instrument, lest activities and issues not actually present be introduced. Only items that were supported by the empirical data were included - what those involved in Scottish MCNs said of their activity, concerns and challenges.

Table 17 below shows the full range of statements and their mapping to both the Sharken-Simon and Goodwin life-cycle stages.

Table 17. How the questionnaire items mapped onto the Sharken-Simon (SS) and Goodwin summary of Organisational Life Cycle models

STATEMENT	Sharken-Simon stages	Goodwin stages
We visit new members in order to engage them	1 / 2	1
Most GP Practices are engaged with the network	3	5
Most hospital practitioners are engaged with the network	3	5
Selling a vision of what the MCN could achieve is vital to engagement	1	1
It is easy to see the benefits of joining-up services	1 / 2	1
It is taking time to understand the roles of other members of the network	1 / 2	2
Engagement with the MCN is based on <i>trust</i> that we will improve care	1 / 2	1
Engagement with the MCN is based on <i>proof</i> of improved care already	3 / 4	5
Members have different opinions and aspirations for the network	3 / 4	2
MCN activity creates more work for those delivering care		
Overall, network members trust each other	2	2

Our prime task is to identify activities for the MCN	1 / 2	2
Our prime task is to taking action on those issues identified as necessary	2	5
We are a network with clearly defined management structures and processes [and/or clinical governance]	3 / 4	4
Forms and processes for recording clinical information are in place	3 / 4	4
Clinical tasks are shared across the network to reduce duplication		
One or two key people are vital to the success of the MCN	1 / 2	1
Decisions on MCN activities are taken by one or two key members	1 / 2	3
Decisions on MCN activities are taken by representative groups	3 / 4	3
All professional groups have an equal voice in MCN decision-making	3 / 4	3
Securing adequate resources is a challenge	1 / 2	4
Adequate resources are secured for MCN premises	3 / 4	4
Staff benefit from MCN activities		
Care for patients is more efficient	3 / 4	5
Care for patients is more effective	3 / 4	5
Care for patients is more consistently delivered to all patients	3 / 4	5
Care for patients is delivered more locally to them	3 / 4	5
We have changed the people who deliver the service to patients	3 / 4	5
We have changed the services patients receive	3 / 4	5
We have changed the place(s) in which services are received	3 / 4	5
Patients have a greater say in the care they receive	3 / 4	5

Clinical information is shared effectively across the network	3 / 4	3
Network information (news about services, guidelines, etc.) is shared effectively across the network	3 / 4	3
We are clear what the network's purpose is and what we are trying to do	2	2
We focus on short-term wins	2	5
We focus on longer-term gains	3 / 4	5
The integrated care pathway(s) is / are mapped out	3 / 4	5
Clinical protocols are in place	3 / 4	5
Network protocols are in place	3 / 4	3
We have regular meetings with other MCNs	4	4
We will merge with other MCNs	5	6 / 7
We have a good relationship with our NHS Board	4	4
We are represented at our NHS board	5	4
The MCN is able to influence local strategy	5	5
The MCN is able to influence regional planning	5	5
The MCN is able to influence national policy	5	5
It is easy to maintain momentum and enthusiasm for the MCN	5	6 / 7
It is easy to find out what patients think of services		
The MCN has an impact on clinical outcomes to patients		

5.2.3 The Format of the Questionnaire

The main aim of the questionnaire was to capture opinion as to whether certain activities and issues were germane to Scottish diabetes and CHD MCNs, and if so, at what period in the MCNs development was that so. Hence the questionnaire format needed to reflect the longitudinal nature of the data that was sought. The empirically derived statements listed in Table 17 above were used to form the basis of temporally-specific questions as shown in Table 18 (below).

To do this, three notional time periods were introduced. These time periods were broad in range but conceptually different: the first two years (i.e. beginning and setting-up); the present day (i.e. now as opposed to then); and the future (i.e. to reflect aspirations or plans for further activities). This step was taken to prompt respondents to mentally chunk-up their experiences into discernable time periods. Participants were asked to complete every box. Answers could be 'yes' or 'no'; a '?', meaning 'don't know'; or 'B4', meaning 'before my time with the MCN'. There were 49 questions altogether. The questionnaire was issued as a targeted census sweep of all clinical leads and managers of the diabetes and CHD MCNs in Scotland, to give the views of those actually involved in MCN activities.

Table 18. The format of the national survey

For each STATEMENT, please indicate Y, N, ? or B4 under each column Please complete <u>all</u> boxes	When did this apply?		
	During the first 2 years	PRESENT	FUTURE
We visit new network members in order to engage them			
Most GP Practices are engaged with the network			
Most hospital practitioners are engaged with the network			
<i>And so on for each of the 49 statements...</i>			

5.2.4 Response rate

After repeated mail, email and telephone follow-ups, the response rate was 86% (37 out of 43 MCN members). Half of these (49%; 18 out of 37) were MCN clinical leads, and half (51%; 19 out of 37) were MCN network managers. Responses were returned from 25 of the 28 clinical MCNs in Diabetes and CHD in Scotland (89%).

5.3 Findings

5.3.1 Coherence with life-cycle models

Questionnaire items were analysed using both the SS model and the Goodwin at al model of life-cycles, to ascertain whether particular MCN activities and issues were more or less concentrated in the stages of the organisational life cycle that the models predicted.

Two types of pattern emerged in the data. In the first, activities and issues that were predicted to be 'early stage' were frequently reported to have been spread (reasonably equally) across the three notional time periods (set-up, present day and future). If the life-cycle models had had predictive validity, 'early stage' activities and issues would have been expected to have fallen off in the present day and future time periods. That did not appear to have happened.

Moreover, the second type of pattern observed showed that many activities (regardless of when the life-cycle models predicted they should be occurring) were reported to be *increasing* in frequency across all three time periods. This suggested that these activities were becoming more and more common and that respondents believed that they would continue to do so in future.

Therefore, the data gathered from across Scottish MCNs did **not** show that the activities theoretically associated with a particular stage of the organisational life-cycle models were, in practice, associated with that stage alone. In sum, the theoretical assumption that specific activities took place only at certain stages of an MCN's development could not be supported. Instead the data supported a picture of sustained and escalating activity across a growing range of issues and concerns.

5.3.2 An inductive analysis

The failure of the data to reflect any coherence with the organisational life-cycle predictions left a key question unanswered: 'what were the MCNs (reportedly) doing at the different stages of their development?'

A decision was taken to go back to the data afresh – this time not to extract information on the basis of pre-set theoretical constructs but to consider what patterns emerged and how best to interpret them. For each statement that had been generated, consideration was given to its reported prevalence across the sample of MCNs at each of the three notional time points (as calculated by the number of 'yes' answers divided by the total number of 'yes' plus 'no' answers, i.e. excluding the two categories of 'don't know's: '?' and 'B4').

5.3.3 Changes in MCN concerns from early days to the present

Each statement was plotted against the *first two* notional time periods (early days; and current practices) to see when it was happening. Three basic patterns emerged: aggregated across all the MCNs, focus on activities and issues sometimes rose over time (a rising line); sometimes fell (a falling line); and sometimes remained largely the same (a flat line). MCN reported activities were then grouped according to these three patterns: that is, as MCNs developed, for what activities did prevalent attention increase (n=34), reduce (9), or remain largely constant (6). This analysis alone showed an escalating range of activities being given attention as MCNs develop, with 40 of the 49 activities seeing more prevalent attention (82%), and only 9 (18%) seeing any fall off in attention.

Looking from the present to the future

Taking these three basic patterns reported about activities and issues in the MCNs to date, consideration was given to what respondents suggested would happen into the future, to ascertain whether the attention given to activities and issues was predicted to rise further, stay the same or fall away (Table 19).

Table 19. Distribution of the questionnaire items across the patterns of activity identified

From SET-UP to the PRESENT	Predictions for the FUTURE		
	Rising	Staying the same	Falling away
Rising (34)	28	6	0
Staying the same (6)	2	4	0
Falling away (9)	2	3	4
49	32	13	4

Of the nine possible combinations, seven were populated, with by far the largest category of reported activities and issues being those that are seen as already increasing in importance and attention, and predicted to be even more prevalent concerns in future (n=28; 57% of statements asked about). A further four activities and issues that had been reported as either stable or even falling away to date were also predicted to receive more attention in future.

Only 13 activities and issues (26% of those asked about) were assessed as being largely the same into the future, and just 4 (8%) were expected to fall away.

These data present a strong picture of an ever-widening range of activities being given attention by MCNs, with even supposed early-stage activities expected to be resurrected and given new or on-going attention over time.

The activities and issues that fell into these particular groupings will be explored in more detail.

MCN concerns gaining increased attention

The biggest single category (34/49; 69%) contains those activities and issues that rise from set-up to the present day and are expected to continue rising in the future. These are the activities that MCNs increasingly engage in, and they are predominantly concerned with establishing MCN structures and governance, establishing integrated pathways and protocols, engaging GPs, sharing clinical information, co-ordinating care and enhancing the effectiveness, efficiency, consistency of care. Other items are about changing who delivers care and about where that happens. These are the items that respondents said occur increasingly and are a focus for sustained and rising activity.

Q2 Most GP Practices are engaged with the network

Q3 Most hospital practitioners are engaged with the network

Q5 It is easy to see the benefits of joining-up services

Q8 Engagement with the MCN is based on proof of improved care already

Q14 We are a network with clearly defined management structures and processes / and/or clinical governance

Q15 Forms and processes for recording clinical information are in place

Q16 Clinical tasks are shared across the network to reduce duplication

Q19 Decisions on MCN activities are taken by representative groups

Q20 All professional groups have an equal voice in MCN decision-making

Q24 Care for patients is more efficient

Q25 Care for patients is more effective

Q26 Care for patients is more consistently delivered to all patients

Q27 Care for patients is more consistently delivered to all patients

Q28 We have changed the people who deliver the service to patients

Q29 We have changed the services patients receive

Q30 We have changed the place(s) in which services are received

Q31 Patients have a greater say in the care they receive

Q32 Clinical information is shared effectively across the network

- Q33 Clinical information is shared effectively across the network
- Q34 We are clear what the network's purpose is and what we are trying to do
- Q37 The integrated care pathway(s) is/are mapped out
- Q41 We will merge with other MCNs
- Q43 We are represented at our NHS board
- Q45 The MCN is able to influence regional planning
- Q46 The MCN is able to influence national policy
- Q48 It is easy to find out what patients think of services
- Q49 The MCN has an impact on clinical outcomes to patients

Some activities and issues (6) increase in prevalence initially, but are then expected to level off in the future, perhaps because what the MCN wanted (or realistically as much as it can expect to achieve) in relation to these items has been achieved. These include: establishing trust amongst MCN members; getting all MCN professionals involved in decision-making; securing adequate resources; achieving further advances on clinical protocol; and influencing local strategy.

- Q11 Overall network members trust each other
- Q21 All professional groups have an equal voice in MCN decision-making
- Q22 Adequate resources are secured for MCN premises
- Q36 We focus on longer-term gains
- Q38 Clinical protocols are in place
- Q44 The MCN is able to influence local strategy

None of the activities and issues that were seen to be gaining in prevalence from early days to the present were predicted to receive less attention into the future.

One item that rose steeply from set-up to the present time was the focus on long-term gains. Interviewees in both the scoping study and the main case studies noted the importance of securing 'early wins', so the increasing attention being paid to long-term gains reinforces the switch from 'short-term, easy' gains to longer-term and, by implication, harder to achieve gains. In this sense, there may be some support here for MCNs shifting focus as they mature.

MCN concerns receiving sustained attention

Two issues stayed the same between set-up and the present day but are expected to rise in future – perhaps denoting a lack of progress to date but optimism for gains to come. MCNs expected an increasing good relationship with their NHS Board and also more regular meetings with other MCNs - but this was a less common item, suggesting that it was not a priority for most MCNs. In addition, four items stayed the same across all time periods. This suggests that visiting new MCN members, selling a vision and taking action on issues are, always have been, and will continue to be important. The conviction that staff benefit from MCN activity is another constant item.

Again, none of the activities and issues that were seen to have received sustained attention from early days to the present were predicted to receive less attention into the future.

MCN concerns that were important but are less-so now

Just nine items (18%) were seen as less an issue in the present than in the early days, and two of these were seen as likely to be more of an issue in the future. Overall, only four of the items were predicted to apply less in the future than they do at present:

- Q9 Members have different opinions and aspirations for the network
- Q10 MCN activity creates more work for those delivering care
- Q17 One or two key people are vital to the success of the MCN
- Q18 Decisions on MCN activities are taken by one or two key members

5.4 Discussion***5.4.1 Accounting for a lack of coherence with life-cycle models***

The findings showed that there were patterns in the data – but not those predicted by the organisational life-cycle models. The survey data therefore do not lend easy support for either the SS organisational life-cycle model or the Goodwin et al summary. The data suggest that MCNs do *not* seem to develop in linear or discrete stages. Although the sample was small, which may be a limiting factor when considering what conclusions can be drawn, the results do provide coverage from 89% of all diabetes and CHD MCN members in Scotland and so can be thought to be representative.

The patterns that do emerge suggest that some activities are present from the MCN's set-up and remain steady through time, whereas others begin at set-up and increase in frequency as the MCN develops – rather than simply being associated with particular stages. It is difficult to draw firm conclusions about why this is so, but several explanations are possible.

One way of explaining the data is to say that despite MCNs believing they are past set-up they can be considered to be still cycling through set-up activities ('imagine and inspire' and 'found and frame'). This could be a valid explanation if MCNs have had insufficient time to get established. It could be the case that setting up and getting established will take much longer and be more complex than expected, as the narrative data suggest.

However, as later stage activities and issues are also present (and rising) – it is apparent that MCNs are also in the 'ground and grow' and 'produce and sustain' stages – all four stages simultaneously. There is also evidence that mature phase activities ('review and renew') also occur, even early on. This could suggest one of two things: it might be that some MCNs are still in set-up while others are more established, and the data reflect this by showing a blend of activities from many life-cycle stages; or it might be that the data provide a picture of MCN life that is iterative and complex. MCNs may show all the activities associated with setting up, producing and reviewing, except not as sequential, progressive stages but as concomitant undertakings. Activities theoretically associated with certain time periods in a life cycle may be undertaken 'early' if contextual conditions facing the MCN require this e.g. review may need to come after set-up in some cases and before producing.

These findings are replicated somewhat in earlier empirical studies. Goodwin et al. (2004; SDO, 2005) note that most commentators argue that such stages are unlikely neatly to follow one another in a linear sequence, but may be conducted simultaneously, or more iteratively, than such a strict sequential model suggests (Adizes, 1979; Amalya, 2001). Stages may even be omitted, or the sequence completed more than once (Goodwin et al., 2004). Longitudinal studies of network change have found that repeated re-selection is crucial for shaping networks (Goodwin et al., 2004). In the narrative data some of our respondents similarly conceptualised MCN management as an ongoing and evolutionary process, which involves flexibility and continual change rather than fixed goals.

To acknowledge the above conclusions is to remove the temporal causality from the way in which MCN development is understood. So, whereas the narrative accounts certainly give testament to respondents' beliefs that there were/are stages in MCN development – and this may be so – it cannot clearly be said that these are the same stages for all MCNs and it certainly cannot be said that any identified stages will occur in a particular order.

5.4.2 Making sense of the inductive analysis

Strong claims cannot be made for clear-cut and definitive network stages, but when examined across the broad time-periods, patterns do appear that can be themed.

MCNs introduce activities concerned with establishing network structures and governance, establishing integrated pathways and protocols, engaging GPs and other key clinicians, sharing clinical information, co-ordinating care

and enhancing the effectiveness, efficiency and consistency of care. These activities, once introduced, are reported to rise sharply to the present day and are expected to keep rising in the future. It can be concluded that these are the focus of MCN effort and activity.

However, no activity, once introduced, is discarded, although some issues do seem to recede (e.g. a reliance on one or two individuals; diversity of views as to the aspirations for the MCN). Arguably this illustrates that within the MCN, as it develops, inclusion, easier working and a converging vision are achieved. Some issues (both rising and falling) flatten off, suggesting that MCNs may believe that they have achieved all they can in these areas. These include: establishing trust amongst MCN members, getting all MCN professionals involved in decision-making; securing adequate resources; achieving further advances on clinical protocol and influencing local strategy. Some items were noted to fall away (as they are undertaken) but there is optimism that gains can be re-secured. These include: engagement based on trust, and maintaining momentum and enthusiasm. Some activities emerge as equally prevalent concerns across all time periods e.g. visiting new MCN members, selling a vision, and taking action on issues.

Interpreting and identifying themes in the data is not a straightforward process. Interpretation has to be made about what a rising, falling or flat line might mean. Rising lines (for example) indicate a greater proportion of (Scottish) MCNs reporting that attention was being given to these issues (i.e. *prevalence* of concern) rather than a greater degree of attention being paid to that particular concern within a given MCN (i.e. *intensity* of concern). Nonetheless, a clear pattern emerges of a growing portfolio of activities, concerns and issues for MCNs, with little sense that attention given to supposed 'early stage' activities leads to 'mission accomplished': most areas of concern remain just that, and are expected to require on-going attention. In this sense then, the challenges for MCNs are and remain 'wicked issues'.

6 Exploring the generalisability of the findings in Scotland (part 2) and England

This chapter presents data from two linked studies intended to explore the “extent to which local patterns seen in the case studies are replicated more widely” in Scotland, and to “‘reality test’ the findings against the English political and institutional context” (quotes from original project proposal). The first aim was achieved with the second National Survey of diabetes and cardiac MCNs in Scotland; the second through a modified Delphi exercise conducting with participants at a workshop held in Manchester in February 2009 (in conjunction with Professors Rod Sheaff and Jill Schofield, leading a related NIHR project “Understanding professional partnerships and non-hierarchical organisations” SDO/105/2005).

6.1 Methods

6.1.1 Instrument design

The second National Survey of Scottish MCN clinical leads and managers and the Delphi instrument were very closely related. Key themes relating to what makes an effective clinical network were identified from the findings of the qualitative scoping and case studies (chapters 2, 3 and 4). For some of these key themes, there was general consensus across the case study participants, and considerable consistency with the existing literature. For example, discussion of network management emphasised facilitation, influence and ‘soft’ governance, with creating trusting relationships to bridge organisational or professional boundaries emphasised. For others, there was less consensus, with some participants taking opposing positions, both within networks, and across networks. For example, although leadership was identified as important by virtually all participants, there was disagreement about whether MCNs were likely to be more effective if they had a single, charismatic (usually clinical) leader, or if leadership was more distributed across different individuals. Similarly, although there was agreement that the relationship between MCNs and Health Boards was important, there was less consistency in how these relationships were described, or in how MCNs should seek to influence Boards, or whether MCNs should prioritise engaging and influencing clinicians and operational managers, or prioritise seeking to influence strategic decisions.

It seemed to be the case that whereas networks may face similar issues (leadership, relationship with their NHS Board, engaging clinicians, etc.) – how these issues were resolved was heavily contextually influenced and locally played-out. In addition, ‘resolved’ may not be the correct term here, for it may be the case that such issues are never fully resolved (once-and-

for all), with networks making different choices at different times. Such irresolvable issues are often referred to as 'wicked-problems' (Kunz and Rittel 1970, Rittel and Webber 1973) eluding clear definition, defying easy solutions and perhaps only truly visible when opened-up (often inadvertently) by taking (sometimes unrelated) action. Here there are no easy solutions and no hope of keeping everyone happy, resolving one issue may cause pressure to rise in another area.

The second National Survey and the Delphi study were therefore designed to explore areas identified as important in the case studies, but where there was disagreement about either the nature of any problem or the likely best solution. The aim was to explore whether disagreement was created by local context or reflected more general uncertainty, and/or whether there was consensus on the 'right' priority across a larger sample of MCNs and/or across English network professionals and patients. Additionally, the survey explored perceptions of clinical networks in terms of whether they were simply rebranding of existing activity and/or a passing fad. The topics chosen to examine are shown in table 20.

Table 20. Topics examined in second national survey and Delphi study*

Topic
Which boundaries to focus on. Relative prioritisation of working with clinicians and operational managers vs seeking to influence senior management and strategy (Q1 in both; Q4 in NS, Q3 in Delphi)
Choosing priorities. The extent to which network priorities are driven by the interests and aims of their members ('bottom up') or by external agencies including their local NHS organisation, policy directives and national guidance (Q9 NS, Q8 Delphi). Whether networks prioritise more <i>effective</i> care or more <i>equitable</i> care (Q6 NS and Q5 Delphi). Whether MCNs simply reflect their members or seek to challenge and set members' agendas (Q12 NS and Q11 Delphi).
Leadership and engagement. Whether individual clinical leadership is more effective than shared leadership across clinicians and managers (Q7 NS, Q6 Delphi). Whether broad engagement of doctors is essential or can be worked around (Q5 NS, Q4 Delphi)
Clinical focus. Whether networks focus on one condition, or seek to work across conditions (Q2 in both).
Resources to support networking. How important are resources to support network activity (Q10 NS, Q9 Delphi)
No different from before and/or a passing fad. Whether 'new' clinical networks are distinct from existing groups of clinicians working together (Q11 NS and Q10 Delphi). Whether they are just a passing fad or likely to endure (Q13 NS and Q12 Delphi)

Impact on patient care. Whether MCNs are simply a *"talking shop"* or a mechanism for improving care (Q8 NS and Q7 Delphi); and whether patients have benefited specifically from MCN activity or simply because of other changes in treatment, organisation and resources (Q3 NS, not used in Delphi).

* NS = Scottish second national survey. The two instruments can be found in appendix 5.

The instruments developed therefore asked participants to rate the importance of each topic, to see if it had general relevance. Each topic was then examined using a modified behaviourally anchored rating scales (BARS), where participants were asked to identify the point on a scale between two competing statements that best matches their perceptions or beliefs. BARS are a form of Likert scale, which were first used in organisational psychology (Smith and Kendall 1963, Schwab and Heneman 1975) typically in instruments designed to standardise employee rating scales used in performance appraisal (i.e. what would an 'excellent' performance as opposed to a 'poor' or 'average' performance actually look like). As such they were said to help 'ground' the scale in actual (recognisable and meaningful) behavioural descriptors to add clarity, enhance validity and acceptability of the instrument (Campbell et al., 1973). The aim was to as far as possible use the terminology of the respondents and be meaningful to them in terms of the choices they face in their daily practice as network members. The modified BARS used only provided behavioural anchors at either end of the scale to anchor responses. Examples of a similar method being used in health care research can be found in Zedeck et al (1974), Grussing et al. (1994), Rushmer et al. (2006, 2007) and Kelly et al. (2007).

Instrument development only included issues identified as important in the case studies, with the choice and phrasing of the behavioural anchors drawing directly on empirical data. Instruments were piloted with a small number of health care practitioners and researchers for readability and ease of use. Figure X shows the example of the first item from the Scottish second national survey, as it was presented to participants.

Figure 2. Example item from Scottish second national survey

Importance A,B or C		Place an X						
	MCNs mainly improve service provision by influencing senior managers and commissioners of services							MCNs mainly improve service provision through the relationships they build with clinicians and frontline managers

The instruments used in the Scottish MCN National Survey and the English Delphi study covered the same topics and used very similar behavioural anchors. The main difference was that the national survey asked MCN clinical leads and managers them about their personal experience of working in networks. The aim was therefore to examine what Scottish MCNs *are like*.

In contrast, the Delphi participants included a wider range of clinicians, managers, policymakers and patients or patient representatives. The aim was to examine what participants thought clinical networks *should be like*, in terms of what makes for an *effective* network. As a result, the question from the Scottish national survey relating to patient benefit resulting from the participant's network was dropped.

6.1.2 Sampling and data collection

National Survey B of Scottish Diabetes and CHD MCNs

Diabetes and CHD MCN clinical leads and managers in all 14 Health Boards were invited to complete the data collection instrument in appendix 5. 18 clinical leads and 11 network managers responded (table 21), with at least one participant from every Health Board, and at least one respondent from 26/28 (93%) MCNs.

For each theme, participants were asked to say whether they thought it a "Crucial issue", "Important (but less so than crucial)", or a "Peripheral issue". Participants were then asked to mark where on a seven point scale between the two behavioural anchors where "*the closer your X is to the statement at one end of the scale then the more you think that this statement reflects your network experiences and the less the statement at the other end describes*" this (quote from instrument instructions).

Modified Delphi study of English MCN clinicians, managers, policymakers and patients

A workshop was held in Manchester in February 2009, publicised via the English National Diabetes Support Team newsletter, English cardiac networks co-ordinators, and Social Dimensions of Health Institute's mailing lists. As well as having a dissemination purpose, the main aim of the workshop was to discuss findings from both projects with English network clinicians, managers, regional/PCT policymakers, and patients/patient representatives in England interested in clinical networks, in order to explore their relevance to, and consistency with, their own clinical networks and local context. This group of people with an interest in clinical networks, and often experience of working in or running one, were invited to participate in a modified Delphi study. 74 people either registered for the workshop or asked to be sent information, of whom 42 attended the workshop, and 49 completed both rounds of the Delphi process. In the first round, participants were sent the instrument in appendix 5. In the second

round, they were asked to re-rate the items having seen how other participants had rated them, and considered the findings from the study.

For each theme, Delphi participants were also asked to say whether they thought it a "*Crucial issue*", "*Important (but less so than crucial)*", or a "*Peripheral issue*". Participants were then asked to identify features that they thought were "*essential to an effective network*", marking the place on the same seven point scale between the two behavioural anchors that "*on balance, represents how you feel about both statements. ... The closer your X is to the statement at one end of the scale then the more you agree that this is an essential characteristic of an effective network – and – the less you think that the opposite statement characterises an effective network*" (quote from instrument instructions).

Table 21. Participants in second National Survey and both rounds of the Delphi study

Participant role	Scottish MCN second National Survey N=29	English Delphi study N=49
Network clinical lead	18	4
Network manager	11	18
Network member (clinician or manager)	-	7
General management or public health	-	12
Patient or patient group representative	-	3
Other (eg evaluation, R&D)	-	4
Not recorded	-	1

6.2 Findings

Descriptive analyses from both studies are presented below, followed by some comparison between the two. The latter should be interpreted cautiously because the questions asked in both studies are not identical (although very similar) and the Delphi results are from the second round, which is likely to lead to greater consensus than in a single round survey of the type that the Scottish second National Survey is.

6.2.1 Scottish second National Survey

Results for the importance of each topic are in table 22, and ratings on the BARS scale in table 23.

Importance

In general, all items were rated as important by a clear majority of respondents with the exception of whether or not MCNs have a clear identity as a new form of organisation (question 11) where 44% considered it peripheral. 17% of respondents rated three items as peripheral – the clinical focus of the MCN (question 2), whether MCNs function best independently or aligned to their Board (question 4), and the importance of signing up all key doctors or working round them (question 5). There was no multi-item topic in which all items were considered peripheral.

The two items rated most crucial (by 61% of respondents in each case) related to whether MCNs mainly improve services by working with senior managers or with clinicians and frontline managers (question 1) and whether patients have benefited from MCN activity or from wider developments in treatment (question 3).

Ratings on behaviourally anchored rating scale

There was little clear consensus on any item. Ratings spanned all seven points on the scale for seven items, and six points for the remaining six items, although for most items there was some degree of convergence towards particular points on the scale.

For five out of 13 items, the median score was exactly mid-way between the two anchors, and for a further five items only one cell from the midpoint. The three items where the median was near a particular anchor were whether or not MCNs improve care by working with senior management or through relationships with clinicians and frontline managers (question 1, most respondents leaned to the latter); whether MCNs function best operating relatively independently or working closely with their Health Board (question 4, most respondents leaning towards the latter); and whether MCNs will remain important in the future or are unlikely to endure (question 13, most respondents leaning towards the former).

Table 22. Importance of topic areas in National Survey B of Scottish MCN clinical leads and managers (n=29 respondents)

	Behavioural anchors		% of respondents saying topic (n=29):	
Q1	MCNs mainly improve service provision by influencing senior managers and commissioners of services	MCNs mainly improve service provision through the relationships they build with clinicians & frontline managers	Crucial	61%
			Important	35%
			Peripheral	4%
Q4	MCNs function best when they work relatively independently of their NHS Board	MCNs function best when they work closely with their NHS Board	Crucial	35%
			Important	48%
			Peripheral	17%
Q9	MCN activity is largely driven by locally shared clinical aims	MCN activity is largely driven by policy directives, national guidelines and external standards	Crucial	26%
			Important	65%
			Peripheral	9%
Q6	MCNs are effective because they <i>standardise services</i> to provide an equitable service to all	MCNs are effective because they <i>streamline services</i> to reduce duplication & increase co-ordination for all	Crucial	48%
			Important	48%
			Peripheral	4%
Q12	An effective MCN works to implement the existing priorities of its clinical and frontline management members	An effective MCN challenges existing assumptions to set new priorities for its clinical and frontline management members	Crucial	48%
			Important	52%
			Peripheral	0%
Q7	MCNs should be led by one clinical person	Leadership in MCNs should be shared across several clinicians and managers	Crucial	13%
			Important	78%
			Peripheral	9%
Q5	For successful MCN operation all key doctors must be signed-up	MCNs can operate successfully by working round key doctors who are difficult to sign-up	Crucial	26%
			Important	56%
			Peripheral	17%
Q2	An effective MCN is one that has a clear focus on one clinical condition	An effective MCN is one that engages other networks to ensure broader co-ordination of patient care	Crucial	39%
			Important	43%
			Peripheral	17%
Q10	Clinical network success depends upon securing sufficient resources	Resources are useful but the clinical network is not reliant upon them for success	Crucial	30%
			Important	61%
			Peripheral	9%
Q11	Clinical networks have a clear identity as a new form of NHS organisation	A clinical network is just the name given to clinicians who agree to work co-operatively	Crucial	9%
			Important	48%
			Peripheral	44%
Q13	MCNs will remain important in the future	MCNs are unlikely to endure	Crucial	44%
			Important	48%
			Peripheral	9%
Q8	MCNs provide a forum to discuss services	MCNs are a mechanism for getting things done	Crucial	35%
			Important	52%
			Peripheral	13%
Q3	Patients have benefited from MCN activity	Patients have benefited from wider developments in treatments for their condition	Crucial	61%
			Important	35%
			Peripheral	4%

Table 23. Results of National Survey B of Scottish MCN clinical leads and managers (n=29 respondents)

MCNs mainly improve service provision by influencing senior managers and commissioners of services	0	2	2	8	2	12	3	MCNs mainly improve service provision through the relationships they build with clinicians and frontline managers
						X		
MCNs function best when they work relatively independently of their NHS Board	0	2	0	2	2	11	12	MCNs function best when they work closely with their NHS Board
						X		
MCN activity is largely driven by locally shared clinical aims	0	7	4	9	3	5	1	MCN activity is largely driven by policy directives, national guidelines and external standards
			X					
MCNs are effective because they <i>standardise services</i> to provide an equitable service to all	1	7	2	13	3	2	1	MCNs are effective because they streamline services to reduce duplication and increase co-ordination for all
			X					
An effective MCN works to implement the existing priorities of its clinical and frontline management members	0	5	3	8	4	8	1	An effective MCN challenges existing assumptions to set new priorities for its clinical and frontline management members
			X					
MCNs should be led by one clinical person	5	3	5	4	7	4	1	Leadership in MCNs should be shared across several clinicians and managers
			X					
For successful MCN operation all key doctors must be signed-up	4	8	3	3	6	4	1	MCNs can operate successfully by working round key doctors who are difficult to sign-up
		X						
An effective MCN is one that has a clear focus on one clinical condition	2	5	3	3	6	5	5	An effective MCN is one that engages other networks to ensure broader co-ordination of patient care
				X				
Clinical network success depends upon securing sufficient resources	2	9	1	5	6	3	3	Resources are useful but the clinical network is not reliant upon them for success
			X					
Clinical networks have a clear identity as a new form of NHS organisation	3	10	7	3	3	3	0	A clinical network is just the name given to clinicians who agree to work co-operatively
		X						
MCNs will remain important in the future	7	9	7	2	2	2	0	MCNs are unlikely to endure
	X							
MCNs provide a forum to discuss services	4	10	1	8	3	2	1	MCNs are a mechanism for getting things done
		X						
Patients have benefited from MCN activity	3	10	5	8	0	1	2	Patients have benefited from wider developments in treatments for their condition
		X						

Numbers are the number of participants choosing a particular cell between the two behavioural anchors. X shows the median.

6.2.2 English Delphi study

Results for the importance of each topic are in table 24, and ratings on the BARS scale in table 25.

Importance

In general, all items were rated as important by a clear majority of respondents with the exception of whether or not networks have a clear identity as a new form of organisation (question 11) where 27% considered it peripheral. The linked item as to whether networks will endure was considered peripheral by 14%. No other item was rated as peripheral by more than 6% of participants.

Three items were rated as crucial by more than half of participants, namely whether effective networks mainly improve services by working with senior managers or with clinicians and frontline managers (question 1, 86% crucial); whether effective networks prioritise effectiveness or equity (question 5, 53%); and whether effective networks should work to implement clinical and frontline manager members' existing priorities or challenge existing assumptions to set new priorities (question 11, 52%). Three other items were rated crucial by more than 40% of participants.

Ratings on behaviourally anchored rating scale

As with the Scottish national survey, there was little clear consensus on any item. Ratings spanned all seven points on the scale for four items, and six points for the remaining eight items, although for most items there was some degree of convergence towards particular points on the scale.

For four out of 12 items, the median score was exactly mid-way between the two anchors, and for a further four items only one cell from the midpoint. The four items where the median was near a particular anchor were whether networks function best operating relatively independently or working closely with their local NHS organisations (question 4, most respondents leaning towards the latter); whether effective networks have a clear identity as a new form of NHS organisation or are simply groups of clinicians who have agreed to work together (question 10, respondents leaning towards the former); whether effective networks should work to implement clinical and frontline manager members' existing priorities or challenge existing assumptions to set new priorities (question 11, respondents leaning towards the latter); and whether MCNs will remain important in the future or are unlikely to endure (question 13, respondents leaning towards the former).

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Table 24. Importance of topic areas in round 2 of the Delphi study

	Behavioural anchors		% of respondents saying topic (n=49):	
Q1	Effective clinical networks mainly improve service provision by influencing senior managers and commissioners of services	Effective clinical networks mainly improve service provision through the relationships they build with clinicians and frontline managers	Crucial	86%
			Important	12%
			Peripheral	0%
Q3	An effective clinical network sets its priorities relatively independently of the NHS organisations it works with	An effective clinical network aligns its priorities to those of the NHS organisations it works with	Crucial	43%
			Important	55%
			Peripheral	0%
Q8	Effective clinical network activity is largely driven by locally shared clinical aims	Effective clinical network activity is largely driven by policy directives, national guidelines and external standards	Crucial	23%
			Important	71%
			Peripheral	4%
Q5	Clinical networks are effective because they <i>standardise services</i> to provide an equitable service to all	Clinical networks are effective because they <i>streamline services</i> to reduce duplication and increase co-ordination for all	Crucial	53%
			Important	41%
			Peripheral	4%
Q11	An effective clinical network works to implement the existing priorities of its clinical and frontline management members	An effective clinical network challenges existing assumptions to set new priorities for its clinical & frontline management members	Crucial	52%
			Important	44%
			Peripheral	2%
Q6	An effective clinical network is led by one clinical person	An effective clinical network shares leadership across several clinicians and managers	Crucial	35%
			Important	56%
			Peripheral	6%
Q4	An effective clinical network requires key doctors to be signed-up	An effective clinical network can operate successfully by working round key doctors who are difficult to sign-up	Crucial	35%
			Important	61%
			Peripheral	2%
Q2	An effective clinical network is one that has a clear focus on one clinical condition	An effective clinical network is one that engages other networks to ensure broader co-ordination of patient care	Crucial	19%
			Important	75%
			Peripheral	6%
Q9	Clinical network success depends upon securing sufficient resources	Resources are useful but the clinical network is not reliant upon them for success	Crucial	23%
			Important	71%
			Peripheral	4%
Q10	Effective clinical networks have a clear identity as a new form of NHS organisation	Effective clinical networks are simply groups of clinicians who have agreed to work co-operatively	Crucial	15%
			Important	56%
			Peripheral	27%
Q12	Clinical networks will remain important in the future	Clinical networks are unlikely to endure and will be replaced by other forms of organisation in the future	Crucial	47%
			Important	37%
			Peripheral	14%
Q7	Effective clinical networks provide a forum to discuss services	Effective clinical networks are a mechanism for getting things done to directly improve services	Crucial	46%
			Important	48%
			Peripheral	4%

Table 25. Results of round 2 of the Delphi consensus study of English clinical network clinicians, managers, patients and policymakers

Effective clinical networks mainly improve service provision by influencing senior managers and commissioners of services	0	1	1	23	7	13	4	Effective clinical networks mainly improve service provision through the relationships they build with clinicians and frontline managers
				X				
An effective clinical network sets its priorities relatively independently of the NHS organisations it works with	0	2	3	4	5	17	18	An effective clinical network aligns its priorities to those of the NHS organisations it works with
						X		
Effective clinical network activity is largely driven by locally shared clinical aims	0	6	9	24	4	2	3	Effective clinical network activity is largely driven by policy directives, national guidelines and external standards
				X				
Clinical networks are effective because they <i>standardise services</i> to provide an equitable service to all	1	1	6	29	5	5	2	Clinical networks are effective because they <i>streamline services</i> to reduce duplication and increase co-ordination for all
				X				
An effective clinical network works to implement the existing priorities of its clinical and frontline management members	1	0	1	4	18	20	4	An effective clinical network challenges existing assumptions to set new priorities for its clinical and frontline management members
						X		
An effective clinical network is led by one clinical person	3	3	6	6	10	9	11	An effective clinical network shares leadership across several clinicians and managers
					X			
An effective clinical network requires key doctors to be signed-up	6	15	8	12	4	4	0	An effective clinical network can operate successfully by working round key doctors who are difficult to sign-up
			X					
An effective clinical network is one that has a clear focus on one clinical condition	4	1	12	5	8	15	3	An effective clinical network is one that engages other networks to ensure broader co-ordination of patient care
					X			
Clinical network success depends upon securing sufficient resources	0	6	5	9	10	12	6	Resources are useful but the clinical network is not reliant upon them for success
					X			
Effective clinical networks have a clear identity as a new form of NHS organisation	5	21	13	4	2	3	0	Effective clinical networks are simply groups of clinicians who have agreed to work co-operatively
		X						
Clinical networks will remain important in the future	13	18	8	6	4	0	0	Clinical networks are unlikely to endure and will be replaced by other forms of organisation in the future
		X						
Effective clinical networks provide a forum to discuss services	0	1	4	21	8	11	3	Effective clinical networks are a mechanism for getting things done to directly improve services
				X				

Numbers are the number of participants choosing a particular cell between the two behavioural anchors. X shows the median.

6.2.3 Comparing the Scottish national survey and the English Delphi results

The Scottish national survey and the English Delphi study were similar in design, although the underlying purpose was not identical (what participants' MCNs *are like* in Scotland vs what a network *should be like* to be effective in England), and the items differed in wording to reflect this. Additionally, the data from Scotland comes from a survey, whereas the English data is from the second round of a consensus process during which participants saw how others had rated items and were given some information about the findings of the scoping and case studies. However, cautious comparison is useful (appendix 6 shows the data in comparative form).

First, there was a consistent lack of consensus in both studies. Variation in rating was somewhat greater in Scotland, although the differences are not particularly large, and this at least partly will reflect that the two round Delphi process is designed to encourage consensus.

Second, median scores for six of twelve similar items were the same, and only differed by one point out of seven for four items. For two items, median scores differed by two points out of seven: whether network improvement does or should occur mainly through working with senior management or through relationships with clinicians and frontline managers (Scottish participants leaning more towards the latter); and whether networks do or should implement or challenge members priorities (Scottish participants leaning more towards 'implement'). However, the distinction in purpose between what Scottish MCNs *are like* vs English beliefs about what they *should be like* means that this cannot be interpreted as a clear difference in the nature of networks in each country.

Third, for most items the broad shape of the distribution of ratings was similar. Exceptions included whether networks do or should implement or challenge members priorities; and whether networks do or should provide a forum to discuss services or a mechanism to get things done; whether

Overall therefore, the striking finding is the similarity between the two datasets.

6.3 Discussion

Both studies were designed to examine issues identified in the case studies as important, but where there was disagreement about either the nature of any problem or the likely best solution. One way of conceiving these is that they are likely to represent 'wicked problems' which cannot be solved

definitively because different stakeholders have different perspectives on what the 'problem' is and therefore what the 'solution' is; and where 'solving' any one problem typically creates or reveals another equally difficult one (Kunz and Rittel, 1970, Rittel and Webber 1973). This is likely to reflect that the 'problems' to which clinical networks are an intended 'solution' are themselves wicked ones, since issues such as integration and quality improvement have not proved amenable to simple solutions in the past. Both studies used modified behaviourally anchored rating scales to force a choice between two anchors, using the qualitative case studies to define what these anchors were, although reducing the topics examined to a set of dichotomies is itself somewhat over reductionist. A further limitation is that topics about which there was little disagreement, or which were not discussed by participants in terms of choices or prioritisation were not amenable to examination in this way.

Both the survey of Scottish MCNs (asking what MCNs *are like*) and the Delphi study (asking what an effective network *should be like*) found that participants perceived all of the issues examined to be important or crucial (the one partial exception being whether or not 'new' clinical networks had a clear identity as compared to simply rebranding all clinical collaborations). This supports the case studies findings being broadly generalisable to other cardiac and diabetes MCNs in both Scotland and England, in the sense of the themes having wider relevance.

The finding that participant median ratings were typically midway between the behavioural anchors, and that ratings were widely distributed supports the idea that the issues examined are indeed 'wicked' ones, with little agreement on definition or solution. One implication is that although research will be able to provide potentially helpful insights or clarify alternative ways of framing the problem, it will no more be able to identify clear solutions or guidance than clinicians, managers and policymakers themselves. A second is that for the issues examined, policymakers and senior management can recognise that these issues are important and represent problems that networks commonly face and attempt to address, but that prescriptive guidance that there are 'correct' ways of addressing them is unlikely to be helpful. Rather, although guidance can help networks identify a range of possible strategies, 'solutions' are likely to be partial, local and changing, and arguably collaborative networks themselves are more able to address such issues than either contracts or hierarchical management. This is consistent with the findings of the SDO scoping study that drew on literature across both public and private sector networks, and concluded that:

'This review strongly suggests that the appropriate managerial approach to the development and sustainability of networks as a new modus operandi will require the continuous evolution and reworking of the balance between the positive and negative tendencies of each network type. This approach has been called 'cycling' and suggests that managers and policy makers should not rely on any one particular network type. Instead, one may accept that there is a need to craft

health care networks and services flexibly in order to meet user and patient needs effectively. Goodwin et al. (2004, p386)

However, it is also important to recognise that other issues identified in the scoping and case studies were different in nature, in that there was broad agreement across the qualitative data (for example, in terms of what constituted effective network management), and consistency with other literature (chapters 1, 2 and 3). For these other issues, research is more likely to be able to help identify effective ways of working that have general relevance.

7 Drawing conclusions

This final section provides a summary and overview of the project, linking the conclusions drawn from the various pieces of empirical work to the overall aims and objectives of the study.

Discussion of the contribution of each empirical component (and its linking to the extant literature) is retained in the relevant chapters: this concluding section seeks some integration and overview of the project as a whole.

7.1 Project structure and methods

The research project had a multi-method, multi-stage design, drawing on substantial qualitative and quantitative data from comparative intensive case studies. Essential components of the case studies were an organisational analysis, as well as analyses of routinely collected patient data and bespoke new data collection on patient experience. The analyses was contextualised and made generalisable by additional national level data collection in Scotland and 'road testing' of emergent findings in England

To review, four key components of work provided extensive data:

- *Component 1:* Preparatory scoping work with key policy makers and network 'designers' -- used to surface core ideas (theories in use) on 'what makes an effective network'.

A total of 19 depth interviews with a purposive sample of policy makers, Health Board senior managers, MCN clinical leaders and other key stakeholders were carried out for this phase of the study. These data are presented and discussed in Chapter 2.

- *Component 2:* Comparative intensive case studies using documentary, interview, patient experience data and routine longitudinal data -- used to test theories in use emerging from the scoping work and to explore the origins, processes, organisational dynamics and impacts of four purposively selected MCNs.

This component of the work itself involved multiple stands: depth interviews (with a total of 69 interviews with 63 respondents across the four MCNs); analysis of available documentation to provide context and background; bespoke data gathering from patients seen as part of the MCN work, both quantitative (n=365) and qualitative (40 depth interviews); and an analysis of routine data from across Scotland in the period 1997-2008.

Chapter 3 covers the qualitative data on MCNs' origins and processes developing a detailed organisational analysis; Chapter 4 examines professional and patient perspectives on impacts, and uses analyses

of the routine data to examine the potential impacts of MCNs on patient admissions.

- *Component 3:* National surveys of all the diabetes and cardiac MCNs in Scotland (n=28) at two time-points -- used to clarify the extent to which local patterns seen in the case studies are replicated more widely.

The first national survey achieved responses from 25 of the 28 MCNs targeted (89%), and the second covered 26/28 (93%). Chapter 5 covers the first (Scottish) national survey which explores ideas of organisational life-cycles as applied to MCNs; Chapter 6 covers the second national survey which sought broader verification of the case-driven findings.

- *Component 4:* A workshop and consultation with experts on English policy and network implementation -- used to help ensure the relevance of emergent findings. Chapter 6 also presents data from the modified Delphi process carried out as part of engagement with the English context for clinical networks (n=49; two rounds before and after workshop discussions).

7.2 Research challenges during implementation

As would be expected with a project of this scale, scope, complexity and duration, some significant challenges were encountered during project implementation. These are outlined briefly to contribute to future project planning and learning.

7.2.1 Access and response issues

A major issue for this project – affecting almost all stages and types of data gathering – were significant issues in recruiting study participants and accessing data.

Recruiting the four case study sites

One of the four identified case study sites (despite the clinical lead being a named co-applicant on the original research bid) subsequently declined participation in the first year of the study citing 'research overload'. They asked not to be contacted for the first year of the project – to allow them to re-focus their efforts on tasks associated with their MCN work and to give their members some 'rest' from research involvement. After that time, they agreed to review the request to participate – and did indeed subsequently participate. Nonetheless, because of the staged nature of the project, significant delays to subsequent project stages were introduced.

Recruiting patients

The patient experience element of the study aimed to gather patients' opinions of the care they received (organised via the MCN) and how this was changing through time. However, it soon became clear that there would

be challenges in contacting and seeking to recruit patients to take part in the questionnaire (and other aspects of data collection – e.g. patient-led data collection). Two factors were significant: firstly, ongoing sensitivities around research governance and ethical considerations of (potentially vulnerable) patients with long-term conditions. These were difficult to circumnavigate, despite best assurances of professional research practice. Secondly, on a more mundane level, the practical and logistical complexity in the way data was held made it difficult to find a common process that worked.

Patient information was held and accessed in different ways in the two regions (and on different software systems) and reconciling what data the research team could (ethically and practically) gain access to, consistent with the stated aims of the project, was very challenging. Prolonged discussions with the network managers, clinical leads, ethics committee members, database administrators and other local research network members resulted in a somewhat indirect and lengthy way in which to recruit patients for the patient experience questionnaire and the in-depth interviews. This agreed plan was submitted for, and gained, research ethics committee approval. The research team were ready to begin contacting patients, in a way that was both feasible and acceptable to all stakeholders involved, only to have permission withdrawn again – this late-stage withdrawal occurred on two separate occasions, and each time the proposed access mechanisms had to be re-worked and permissions regained.

Accessing routinely held data

Heightened sensitivities around the storage of health information also created challenges in accessing routinely collected data held by ISD. It proved difficult to gain access to key databases to identify, interrogate and extraction information to address the research questions in a direct way, and when data were received they had been significantly delayed.

7.2.2 Staff recruitment, retention and illness

Over the period of the project several life events occurred within the research team itself to add additional challenges: chronic ill-health of a key researcher (leading to a 12-month sickness absence); bereavement issues for several team members causing additional disruption; secondment and change in project leads; delayed recruitment of researchers with the necessary skills due to local skills shortages; and the subsequent untimely departure of key researchers. Delays here were mitigated by reallocating duties across the project team and by securing additional researcher assistance through drawing on the internal resources of the host Institute. Nonetheless, the logistical and coordination problems provoked by the number and confluence of human resource challenges were significant.

In sum, operationalising the project was far from easy for a mixture of interlocking and sometimes synergistic reasons: research overload and poor

cooperation from one of the four case study sites; multiple ethics committee applications to committees that seemed ill-equipped to consider organisational and qualitative research; changing requirements imposed by stakeholder groups within a context of heightened sensitivity around the storage of personal information; changes within the research team; and multiple human resource issues as daily life intruded into work. As many of the early elements (e.g. case study findings) were designed to feed into the later data collection processes (e.g. patient data gathering; national surveys; the Delphi process) knock-on effects were considerable. Whereas some of these challenges might have been foreseen – and planned for – others were less amenable to foresight in a changing environment. These observations suggest a need for greater risk assessment and risk amelioration strategies in projects of this scale and complexity.

7.3 Addressing the project aims

The work documented in this project report set out to address a wide range of detailed research questions as laid out in the SDO Research Brief NR89 under the three broad headings of network origins, processes and impacts. Specifically, the work explored the following key areas listed in the proposal:

- How do 'voluntary' and 'mandated' networks differ in structure, processes and impacts, and in relation to, for example, the functions undertaken, the role of managers and/or other boundary spanners, and governance?
- What is the role of local organisational contexts and professional culture(s) in how networks are created, function, deliver benefits or fail, including variations in who takes leadership and boundary spanner roles, and how these roles are shared (or not) between doctors, nurses, allied health professionals, managers and patients?
- How do networks interact with the host organisations and the institutions that they cut across, including commissioning agencies, and how are tensions here mediated?
- To what degree are networks able to alter professional and organisational roles (and underpinning assumptions), rather than simply making marginal service improvements without major change in role composition or boundaries?
- How are the increasingly important relationships between different networks managed, both between local and national networks for the same disease (vertical), and between local networks for different diseases but with overlap in patients served or professionals engaged (horizontal)?
- How have patients been involved (or not) in network activities (design, implementation and development), and what is their place, role and impacts within both hierarchies and professional enclaves?

- How can managed clinical networks continue to evolve and innovate as the limits of collegiality are reached? How can their directions, drive and change capacity be supplied beyond the local professional enclaves?
- How are succession issues handled in enclave networks? For example, what happens when early enthusiasts move on or wane? How can networks be robust to changes in key personnel or key inter-professional relationships?

Additionally, drawing on the SDO brief, the work sought to examine the impact of MCNs, in terms of:

- Have MCNs led to better integration between professionals and institutions, and have new models of care provision developed as a result of these networks?
- Is there evidence to suggest that patients/users receive better or timelier care?
- What has been the experience of users? Do users report improved experiences, standards of care and quality of life as a result of the MCN?

What follows are brief conclusions drawn from across the various study components that address each of these research issues. More detailed discussions and links to the extant literature are contained in each of the relevant chapters.

7.3.1 Differentiating 'voluntary' and 'mandated' networks

The terms "voluntary" and "mandated" were found to be less dichotomous than initial impressions suggested. Rather, they emerged as points along a spectrum. All four MCNs exhibited elements of informal networking - characteristic of "voluntary" origins - at some stage in their histories prior to becoming MCNs, and all subsequently were required to develop more formal governance processes to meet the terms of the policy mandate after 2002/03. Thus, in order to differentiate the influence of MCN origins on network processes and subsequent impacts, attention must be paid to the MCNs' purposes (i.e. "what MCNs are for") as perceived at specific periods in their genesis.

Initially, voluntary origins appeared to confer advantages as clinicians positively engaged in MCN processes, the purposes of which were largely internally set amongst MCN participants, concerning their clinical topics of mutual interest. These MCNs built upon previous informal networking and were organised upon the foundations laid during the informal period. In contrast, participants in mandated MCNs found it more difficult to engage participants as their initial purposes were, understandably, on the creation of the MCNs themselves. This entailed an external-facing period where priorities often seemed to be externally driven.

These initial advantages and disadvantages became less well defined as MCNs matured. Over time the purposes to which their efforts were directed altered, as did related processes. Voluntary MCNs' emphases tilted towards external governance and organisational tasks as they moved away from their previous informal status, whilst mandated MCNs' efforts tilted away from their own creation towards internal dynamics and strengthening their clinical enclaves around their areas of clinical interest. Additionally, the positive influence of voluntary origins waned in relation to clinicians who became involved as the MCN emphasis shifted over time. This suggests the influence of origins on inter-organisational networks is related to network development and maturity.

This had implications for processes and modes of governance in operation over time, regardless of origins. Two clear findings emerged in this regard. First, mutually legitimate purposes, around which participants of different professional backgrounds in different organisations could engage, were required to sustain MCNs. Second, distributed forms of leadership seemed to enable such engagement, supported by coordination of MCN efforts through facilitation and negotiation.

7.3.2 The mediating role of local context

Local context touched upon all aspects of MCNs. Local geography, culture and existing organisational arrangements presented challenges for the provision of, and access to, equitable services, some of which are mentioned here. However, they had implications for all project research issues.

Wide geographical spread generated in-built tension for MCNs, in that the provision of services required flexibility to accommodate ways of organising services to suit local needs, expectations and culture (of both patients and professionals). Sometimes, this meant developing services and professional arrangements which seemed at odds with what might be regarded as "best practice" in order to make services work for local patients. These challenges seemed more obvious for two of the MCNs studied (voluntary CHD and mandated diabetes) due to their more rural areas, but they were also present in the other two MCNs, although they were manifested in different ways and in relation to different issues. Consequently, there were different implications for the different MCNs studied, mainly related to their clinical areas of interest.

For the CHD MCN in the predominantly rural Health Board area, enabling patients to access a full range of services involved some provided outwith the area. Whilst this reduced the complexity of internal MCN relationships to some extent, it introduced a challenging cross-Health Board dimension to the coordinating work of the MCN, with the extra attendant professional and organisational boundaries to bridge. For the diabetes MCN in a smaller Health Board area, although the relationships involved were within the area, their nature differed to those present in the larger Health Board diabetes

MCN, partially related to cultural norms and expectations, and established patterns of practice.

In contrast, particular tensions arose in those MCNs with more complex existing organisational arrangements in their host Health Board areas. These concerned a range of inter- and intra-professional and cross-organisational boundaries and relationships. Previous competing organisations within their host Health Board areas meant that these MCNs had additional boundaries to bridge, particularly the CHD example, although they seemed less involved in cross-Health Board area issues than the smaller host Health Board areas.

The complexities and challenges involved in achieving MCN aims influenced, and were influenced by, local context. MCNs needed flexible processes to balance the tension between policy aims of standardising services throughout local areas and the need to accommodate local cultural, organisational and professional circumstances.

7.3.3 MCNs and their relations with local Boards

The relations between MCNs and their host Health Boards were influenced by MCN origins and maturity, local contextual issues, and changing health policy over time.

Initially, Health Boards appeared resistant to the presence of voluntary MCNs, partially due to their introduction through policy. Since there were a range of existing organisations, there was some confusion about “what MCNs were for” amongst Health Board and other existing services’ managers. This confusion about MCN and existing organisations’ respective roles seemed to intensify after the policy mandate. This was evident across a range of MCN activities, whether seeking to involve clinicians across professional and organisational boundaries in discussions about service provision, or seeking to influence Health Boards’ service planning and delivery decision-making. This duality of MCN roles highlighted a number of inherent tensions which formed the central purpose of MCNs.

These tensions were mediated by different parties in different ways throughout MCNs’ histories. Whilst ultimate authority over MCN activities always rested with Health Boards, initially they sought to exercise control and authority over MCNs through the involvement of senior, Health Board level executives on voluntary MCNs’ overseeing bodies. Voluntary MCNs, meanwhile, did not seek to engage with host Health Boards to any great extent, preferring to concentrate in internal MCN development and discussion, and seeking external funding for activities.

The introduction of the policy mandate enabled Health Boards to develop clearer arrangements for MCN governance, which became more formalised over time and involved monitoring service quality and delivery against established standards. These new governance roles for MCNs meant MCNs of voluntary origins changed their orientation, at least in part to fulfil these new obligations.

Although laid down with greater of lesser degrees of formality across Health Boards, these new governance frameworks changed the nature of the MCNs' relationships with the Health Boards. Whilst Health Boards may have felt more in control of matters, new problems emerged: clinicians and managers of existing organisations grew resistant to MCN "core team" interventions in what they understood to be their responsibilities in service delivery. This presented a potential danger in undermining the purpose of MCNs to cross a range of boundaries to support more integrated healthcare services.

7.3.4 Professional and organisational roles

MCNs have influenced professionals and organisations, although it is difficult to attribute changes in those respective roles unambiguously to MCN activities. MCNs were introduced to promote integration across these and other boundaries, but as indicated, they do not have direct authority over any of the professionals or organisations which participate in their activities. When MCNs have become too closely involved in seeking to influence professional or organisational roles directly (for example, MCN activity in the role definition and recruitment of diabetes specialist nurses), this has generated tensions which have generally led to a withdrawal of professional or organisational participants. However, through their negotiated, facilitative, coordinating roles across multiple boundaries, MCNs have had some influence on professionals and organisations.

MCNs have also influenced the way even those less than enthusiastic professionals have considered service provision. It appeared that most participants had changed their thinking about services to encompass a wider range of participants and areas. This meant that clinicians took a broader view of the implications of their roles in service delivery, in relation to the way those services were currently organised. However, it was less clear whether or not MCNs had exerted any real change in the clinical roles of those professionals.

Meanwhile, the accounts of participation in MCNs of existing service managers across organisations suggested some measure of enhanced understanding of the roles of other professionals/organisations in service delivery, together with a better appreciation of the challenges they faced in service delivery. This contributed to more wide-ranging consideration of implications of proposed changes, whether internally or externally generated. This was particularly evident at the intermediate level within organisations and in cross-organisational groupings such as CHPs, where local contextual issues were more readily accommodated. However, it was less clear whether or not this was reflected at Health Board level, in terms of MCN influence on Health Board thinking about local issues and concerns related to service planning and delivery.

7.3.5 Managing across networks

Relationships across MCNs appeared less relevant to participants in this study, than those within MCNs across the relevant range of boundaries. However, a few key points did emerge, usually in relation to local contextual issues connected to the clinical areas of interest, and to internal MCN governance arrangements.

In particular, the clinical focus on CHD generated discussion of and issues connected to cross- or vertical MCN relationships. CHD MCNs, whether of voluntary or mandated origins, were characterised by situations of overlap relating to the range of professionals and associated organisations within their scope, and overlaps with stroke MCNs in particular. These MCNs seemed to feature sub-networks within their own membership (for example, different areas of cardiology, primary and/or secondary prevention and rehab services) which had implications for the range of professionals, health sectors and organisations involved. Local context influenced the overlaps with regional MCNs, as one CHD MCN had a much more direct interest in influencing regional planning of cardiology services than the other. However, there was evidence that CHD and stroke MCNs shared some areas of interest.

Although the nature of diabetes implied a range of horizontal relationships across MCNs might feature as part of the MCNs' activities, again this was not a key issue for participants in either of the diabetes MCNs studied. Perhaps surprisingly, the focus was more strongly on diabetes as a singular topic (encompassing the different types within), with little overlap evident with other MCNs.

The issue of cross-MCN management or governance emerged as the most (albeit limited) discussed issue, across all MCNs. The case studies surfaced resistance amongst those involved in clinical leadership within MCNs to the introduction of generic MCN management, despite the enthusiasm of policy makers to promote such an arrangement evident in the scoping study. The range and complexity of boundaries with which MCN core teams and participants had to engage, suggested a limit to the scale and scope of such work in order for focus to be retained. This perhaps reflected the disease/condition-focus of MCNs, in contrast to a patient- or person-centred more holistic approach which might have supported such a complex inter-organisational network approach.

7.3.6 Patient involvement

Patient involvement was a key area for MCN activity, according to national-level participants in the scoping study. Findings from the various elements of the subsequent case studies suggested mixed results in relation to this aim. This may have reflected the lack of clarity about the type of involvement envisaged, and whether this should be at an individual patient, group/category, or public level.

MCNs did involve patients in their activities but usually in particular ways which seemed to involve similar roles. All MCNs had patient representatives on their overall "boards", and their associated working groups, from the outset. Mandated MCNs in particular provided training for such participants in NHS structures and committee habits, and how to make their voices heard to counter the perceived power of clinicians. This perhaps reflected the organisational orientation of such MCNs towards Health Boards and governance issues.

There was debate about how representative such patient participants were and - if they were representative - about whom they represented, for example, the broader patient population for the relevant condition, or all patients in the Health Board area with the condition. Sometimes, representatives from the voluntary sector, working for national patient bodies relating to specific conditions, were members of MCN overall "boards" (for example, Diabetes UK). This demonstrated a range of representation where those involved had different areas of interest and different reasons for participating.

Notwithstanding this, a limited number of patients were involved in a variety of ways in MCN activities. Aside from participation in various MCN working groups/boards, such involvement frequently related to educational initiatives. These focused on the relevant clinical condition to enable enhanced self-care, and/or considering the ways in which services might be delivered, sometimes in relation to new clinical developments within the area.

Regardless of the level of involvement, it is difficult to say what the impact of patients in such roles was, particularly since the aims of such involvement were unclear.

7.3.7 MCN evolution

In the scoping and case studies, participants frequently talked about MCNs as developing and maturing. Initial MCN activity was perceived to largely focus on creating engagement, cohesion, shared goals and collaboration. These changes were facilitated by demonstrating tangible 'early wins', and were seen as necessary to deliver larger scale service change. In that sense, early work primarily focused on creating a professional enclave, through engaging clinicians and operational managers by a process of persuasion and negotiation. In three out of four of the MCNs studied, this work appeared to have been successful. However, a feature of maturity in all four MCNs (including the one where the professional enclave was not well established) was increasing efforts to engage with and influence Health Boards and other statutory NHS organisations, for example by co-opting the commissioning and strategic managerial authority that only these organisations had. As discussed below this dual focus was a source of considerable tension in all four MCNs.

Despite these perceptions from the interviewees of MCNs developing and maturing, when life-cycle models of network development were tested more

systematically across Scotland staged regularity and development was not well supported. The data here suggest that MCNs do *not* seem to develop in linear or discrete stages. Instead some activities are present from the MCN's set-up and remain steady through time, whereas others begin at set-up and increase in frequency as the MCN develops – rather than simply being associated with particular stages. Thus although MCN participants may report that their networks are maturing they nonetheless can be considered to be still cycling through set-up activities. This provides a picture of MCN life that is iterative and complex. MCNs may show all the activities associated with setting up, producing and reviewing, except not as sequential, progressive stages but as concomitant undertakings.

7.3.8 Handling succession issues

Succession issues relating to mainly lead clinician roles in all of the MCNs studied were problematic, regardless of whether they were enclave or individualistic (usually voluntary), or hierarchical (usually mandated), MCNs. The policy insistence on one clearly identifiable clinical lead, usually a doctor, proved incompatible with MCNs' experiences over time and their practices changed in this regard. Three out of four of the MCNs studied adopted distributed leadership arrangements, and leadership became part of overall MCN processes, rather than a structural issue involving a singular or even collective role.

It became clear that this way of working ensured more widespread legitimacy, required by the complexity of the multiple boundaries across which MCNs sought to promote collaboration and integration. Such arrangements arose at least in part following the crises MCNs, of both voluntary and mandated origins, experienced during the earlier stages of their development. Distributed leadership arrangements made such occurrences easier to navigate and helped ensure MCN sustainability as clinicians felt less singularly exposed, and more supported. This became particularly important as governance arrangements for MCNs became more formalised and demanding of lead clinicians' time.

It became clear over time that such succession crises were one aspect of a more generalised "remaking" of MCNs, as MCNs revisited what they were there to do, and to identify whether new boundaries had emerged and/or older ones had faded from view. Such reconsideration of MCN priorities and activities seemed a normal part of MCN working, the realisation of which represented a more developed way of thinking about MCNs and appropriate leadership arrangements to help to sustain them. This constant reworking of MCN aims, roles, priorities and activities was strongly reflected in the wider data gathering across all CHD and diabetes MCNs in Scotland.

7.3.9 Impact

Potential MCN impact was examined from four distinct perspectives:

- Qualitative analysis of interviews with professionals in the scoping study and the four case studies

- Qualitative analysis of interviews with patients in the four case study MCNs.
- Analysis of survey data from patients in the four case study MCNs.
- Difference-in-differences analysis of routine hospital admissions data to examine the impact of voluntary MCN implementation on emergency admissions for ambulatory care sensitive admissions.

Professional perceptions of impact. Professionals described both intangible and tangible impacts, where intangible impacts primarily related to inter-professional and inter-organisational activity to create a collaborative professional enclave. Professionals strongly attributed these impacts to the MCN. Tangible impacts related to changing professional practice and service improvements. These were less strongly attributed since other policy and statutory NHS organisations were often important, although MCNs were said to facilitate implementation even if the main drive for change was external. There was therefore a range of situations described from the MCN being solely responsible for new services (such as new forms of patient education or IT), to working in partnership with statutory organisations but playing a critical role (for example, in facilitating the creation of a new diabetes specialist nurse service managed by the Board but paid for from resources that would normally flow direct to GPs), to being a better delivery mechanism for national policy (as for example, when MCNs took responsibility for local adaptation and implementation of national guidelines).

Patient perceptions of impact. Patient accounts provided some support for professional claims of improved co-ordination, but patients differed from professionals in the way they talked about information, and in the priority they gave to interpersonal care in clinical consultations. Professionals identified improved patient information as a tangible impact of MCNs, but information was described largely in terms of leaflets or structured education, with information flow as one way from clinician/service to a relatively passive patient recipient. Although patients valued such structured information, they preferred information to be personalised to their particular condition and circumstances, and additionally said that the information they provided professionals to inform such personalisation was critical. Professional accounts defined impacts solely in terms of disease, effectively bracketing out interpersonal care in consultations which was a key determinant of patient experience of care. There was therefore a partial mismatch between professional perceptions of MCN impact focused on a particular disease and standardisation of care and information, and patient perceptions of their own care (although it is important to recognise that patients largely took good technical care for granted, and MCNs are by definition disease focused).

Patient experience survey. Although the patient experience survey was limited by a low response rate due to the design imposed by the multiple stakeholders with governance/gatekeeping responsibility, there was no evidence of differences in patient satisfaction between the four MCNs

studied, nor that perceptions of alignment of care with the Chronic Care Model differed in terms of the PACIC score. Satisfaction was generally high, and PACIC scores in all four MCNs were comparable with US organisations usually considered as beacons of excellence in chronic disease care. However, interpretation should be cautious because of the low response rate.

Differences-in-differences analysis of hospital admissions data.

Overall, admissions for three of the ambulatory care sensitive conditions examined steadily fell between 1998 and 2007 (long-term complications of diabetes; angina; and heart failure) and rose for two (chest pain without a diagnosis of angina; and short-term complications of diabetes). Relative to the rest of Scotland, admissions for angina in the Board with the voluntary CHD MCN showed a large and statistically significant fall immediately after MCN implementation, that was sustained over the whole period of follow-up. There was no change in heart failure admissions associated with voluntary CHD MCN implementation.

Admissions for long-term complications of diabetes showed a large, but not quite statistically significant, fall in the Board with the voluntary diabetes MCN immediately after MCN implementation, with the gap narrowing after mandated diabetes MCN implementation due to improvements in other Health Boards. There was a large, and statistically significant relative increase in admissions with short term complications of diabetes (predominately hypo- and hyper-glycaemia) in the Health Board with the voluntary diabetes MCN, occurring in the period 2004-2007. Interpretation of the latter is complex, since admissions with hyper-glycaemia are likely to be ambulatory care sensitive, but guideline compliant intensification of treatment to improve glycaemic control is inevitably associated with an increase in serious hypo-glycaemia. Routine data does not allow further examination of this issue.

Overall, there was some (weak) support for the professional belief that voluntary MCN implementation had improved the quality of patient care.

7.4 Integrative theme: governance and boundaries

Governance across a range of boundaries is expected of MCNs in policy documents. In this study, governance *within* MCNs was predominately 'soft' in nature, relying on influence, persuasion, facilitation and negotiation, mediated via personal relationships and clinical leadership, and facilitated by members having the opportunity to actively participate in MCN committees which helped set MCN policy. In the MCNs studied, this soft governance was particularly exercised across inter-professional boundaries and the primary-secondary care boundary, although the exact nature of the numerous boundaries spanned varied with disease and local context. Although soft governance required considerable and sustained effort to implement, it was perceived as effective in creating a professional enclave form of network in three of the four MCNs studied.

As they matured, MCNs additionally sought to influence and steer Health Boards, but this was a more problematic relationship. In principle, this attempt to influence implies that Health Boards (and other statutory NHS organisations to a lesser extent) should also be considered as being *within* the MCN. However, the relationship with the Board was perceived by the MCN core team as more problematic than relationships within the professional enclave. This appeared to be because Boards both funded and had clinical governance responsibility for MCNs. Although MCNs described themselves as having considerable autonomy in setting their own priorities, this was constrained both by the expectations of Boards and other NHS organisations that MCNs would deliver national and local policy relevant to their diseases, and by MCNs only being able to exert strategic managerial and commissioning authority by co-opting the Board. Health Boards therefore occupied a more ambiguous place in relation to MCNs, since in some senses they were 'in' the MCN (because MCN effectiveness at least partly required the MCN to govern Boards - in the sense of persuade, influence and steer) and in other senses were 'outside' the MCN (since they managed MCNs using harder forms of governance than were available to MCNs trying to influence them).

A useful framework is that elaborated in Provan et al (2007), where network governance is defined in terms of three ideal types – shared governance, lead organisation governance, and Network Administrative Organisation (NAO) governance. From this perspective, MCN mandation in policy creates NAOs in the form of the MCN 'core teams' that were found in all four case study networks. Within the professional enclave consisting of clinicians and operational managers, shared governance dominated, with the core team providing leadership but MCN members also having a reciprocal role in shaping MCN policy and practice. However, in their relationships with Health Boards, the form of governance was more mixed and varied with circumstance. MCN core teams attempted to influence Boards with a mixture of 'soft governance' and claims to be the natural lead organisation for development of their particular service. However, under some circumstances, Boards took a clear lead-organisational role and exerted harder governance over MCNs through strategic managerial authority or control over resources.

Overall, MCNs therefore found it easier to construct a professional (clinical and managerial) enclave which created a clear space for effective collaboration, than to reliably influence statutory NHS organisations. For the voluntary MCNs, early activity was focused within the professional enclave, with relationships with Boards becoming increasingly important as they matured. For the mandated MCNs, relationships with Boards were important from the start, although they too rapidly focused on developing an enclave, and sought to shift from being managed by Boards to a more influential relationship. This dual facing role was identified as a source of considerable tension in the scoping study and in all four of the MCNs studied, with considerable uncertainty as to which should be prioritised, and concern that focusing on delivering national and Board priorities would weaken MCNs influence over members.

Taken together, the wide range of findings suggest that there are no instrumentalist prescriptions for network success, nor are there specific origins and trajectories that are necessarily more or less conducive to sustained MCN engagement and improvements in patient care. Moreover, it is unrealistic to expect MCNs to go through regular stages in an orderly life-cycle. Instead there are a succession of tensions and challenges that need continuous and sustained engagement, revisiting and rethinking, with an emphasis on shared governance alongside influence and persuasion rather than contract and control, and all viewed through a detailed understanding of local contextual contingencies. Operating in these ways – messy and unpredictable as they are – MCNs are capable of rendering visible and addressable some of the ‘wicked problems’ of care integration and coordination that have hitherto been rather intractable within local health care organisational arrangements.

7.5 Exploring wider relevance in Scotland and England

The wider relevance of the findings was explored through national surveys of Scottish diabetes and CHD MCNs, a workshop held in Manchester for English clinical network managers and clinicians, and a Delphi study of workshop participants. Discussion at the workshop showed that the findings strongly resonated with English clinical network professionals, and this was more formally examined in the Scottish national survey and the Delphi. These were designed to examine issues where there was little or no consensus in the qualitative data, including issues of which boundaries to focus on and choosing priorities as discussed in the previous section. The instrument used behaviourally anchored rating scales where the two anchors reflected key tensions identified in the case studies.

Consistent with the case study findings, all but one of the issues examined in the national survey and the Delphi were rated as crucial or important by more than four-fifths of respondents, and there was little consensus on which of the anchors to prioritise. One way of understanding this is to view the issues identified as ‘wicked problems’ to which there is little agreement on definition or ‘solution’. This at least partly reflects that the ‘problems’ to which MCNs are proposed by policymakers as a solution (integration, collaboration, governance) are themselves wicked, with network ‘solutions’ creating a different set of intractable problems. An example is that MCNs did seem to be able to span boundaries within their enclaves in ways that were not possible before their creation, but MCN implementation itself created new and problematic boundaries and governance relationships with Health Boards. A key conclusion is that although there are research findings that might be expected to be generally applicable (such as effective network management involving facilitation, persuasion and negotiation), guidance for wicked issues should aim to help networks clarify that these issues apply to them, identify a range of possible strategies, but recognise that ‘solutions’ are likely to be partial, local and changing.

Consensus in the Delphi that almost all of the issues examined were at least important – if not crucial – is not diminished by the lack of consensus as to how these issues should be addressed or prioritised. The very diversity of responses to the behavioural anchors used reflects the inevitably changing and contextual dynamics within which MCNs have to operate. Tensions and paradox are to be expected, and any settled accommodation at one time (or context) is unlikely to be sustained for long: remaking of MCN aims, roles, priorities and activities is an inevitable consequence of the new 'wicked problems' revealed by their formation and activities.

The national survey and the Delphi differed in purpose, with the former asking Scottish respondents what their MCNs *were like*, and the latter asking English respondents what clinical networks *should be like*. However, both provide evidence that the findings described above broadly apply in Scottish MCNs for diabetes and CHD, and also have wider relevance to English clinical networks, despite the increasingly different NHS context in which the latter operate.

7.6 Key messages for policy and practice

Some key messages emerge from this work relating to both the creation and early stages of networks, and the subsequent challenges of managing within networks.

Creating and initiating networks

1. There is no one-size-fits-all model for clinical network creators to follow, because local context, including the nature of the condition on which the network focuses, will influence what is best.
2. The distinction between voluntary and mandated clinical networks is less clear cut than often suggested, and mandating of clinical networks created a space within which new forms of collaboration flourished.
3. Clinical networks need credible and influential leaders, but relying on charismatic individuals created succession problems when they left. More distributed forms of leadership involving several clinicians and managers in a core team was more effective in engaging multiple stakeholders across organisational and professional boundaries and more stable in the face of changing personnel.
4. Network co-ordination requires adequate, and continued resourcing.

Management within clinical networks

5. Core work for network leaders was the creation of a relatively egalitarian clinical 'enclave' through a management style based on negotiation, and the creation of trust and co-operation through facilitation, consultation, communication and the development of personal relationships.

6. Clinical networks have to be inclusive of many different stakeholders. Creating consensus and collaboration needs a clear vision, which was achieved through clinicians and service managers working together on specific projects. Identifying a suitable focus of work soon after network creation was important, and aiming for early success to demonstrate network worth and encourage further collaboration (although what that focus should be will depend on local context).
7. While maintaining the clinical enclave, more mature networks increasingly focused on relationships with their host NHS organisations, seeking to engage Health Boards and co-opt Boards' managerial, commissioning and contractual authority to support network goals. This dual-facing position was a source of significant tension within networks, for example in how networks balanced their clinician and service manager members' priorities with external directives and guidance.
8. Clinical networks are always a work in progress, because they are a response to problems of co-ordination across complex organisational and professional boundaries. Such problems cannot be definitively solved, but clinical networks are a means to flexibly address and improve them.

7.7 Publication and communication

7.7.1 Engagement with findings

Throughout the project, the research team have been actively engaged in sharing and discussing emerging findings with knowledgeable people both north and south of the border. Discussions with the expert advisory group (which included network leads for diabetes and cardiovascular disease for England, as well as Scottish policy expertise) was very formative in the early and middle stages of the project, allowing refinement of both aims and methods. A second useful engagement – again, mid-project – was a one-day meeting funded by NCCSDO and arranged by the London team of Ferlie et al. that brought together all the SDO-funded projects on clinical networks to share ideas and early findings.

As data were analysed and findings emerged, each of the four sentinel case-study MCNs received bespoke feedback (presentation to the local team in seminar format) which received much enthusiastic discussion and allowed refinement of some of the arguments presented in this report. As a consequence, and in addition, the research team have been invited to share their findings with other disease networks (e.g. stroke), as well as at the (Scottish) national forum for diabetes MCNs, and with Scottish Government.

The Manchester seminar (see Chapter 6) was targeted specifically at an audience from south of the border and integrated the findings from this project with that of another SDO-funded project on related issues (Sheaff et al.). The full-day seminar attracted over 40 participants and provided very useful discussions, a sensitisation to the English policy/operational context, and the opportunity to collect additional data through two rounds of the

modified Delphi study. Over 70 other people (predominately MCN managers and clinicians, with some patients, policymakers and researchers) requested written information and copies of the presentations.

7.7.2 Publication plans

The large and varied data sets generated through this project lend themselves to a series of linked publications which are planned. Five key papers have been identified:

1. Drawing on the policy background and scoping data, a paper exploring the thinking behind managed networks of leading stakeholders, including espoused theories and theories in use, is being targeted at the *Journal of Health Services Research & Policy*.
2. The organisational case studies exploring the origins and processes of MCNs provide material for a fresh look at networks, management and governance aimed at *Organization Studies* or *The British Journal of Management*.
3. The lack of empirical support for life-cycle models of MCN development is being targeted for publication in *The British Journal of Management* or the *Journal of Health Organisations Management*.
4. The wealth of data on MCN impacts is being parcelled into two distinct pieces: the first of these (targeted at *BMJ* or *Journal of Health Services Research & Policy*) will present the quantitative data on tangible shifts in admissions; the second (targeted at *Public Administration* or *Social Science & Medicine*) will explore the intangible gains from MCNs and MCN participants' narratives around causal ascription.

As these publications are completed the research team will seek further opportunities for active discussions on the issues raised at academic and policy-oriented conferences, symposia and other fora.

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Appendix 1: Managed Clinical Networks core principles (Scottish Executive 1999)

1. Each Network must have clarity about Network management arrangements, including the appointment of a person who is recognised as having overall responsibility for the operation of the Network, whether a lead clinician, a clinical manager or otherwise. Each Network should produce a written annual report to the appropriate Health Board or Trust, which would also be available to the public;
2. Each Network must have a defined structure which sets out the points at which the service is to be delivered, and the connections between them;
3. Each Network must have a clear statement of the specific clinical and service improvements which patients could expect as a result of the establishment of the Network;
4. Each Network must use a documented evidence base, such as SIGN guidelines where these are available, and must be committed to expansion of the evidence base through appropriate R & D;
5. Each Network must be truly multi-disciplinary/multi-professional and should include representation from patients' organisations in its management arrangements;
6. Each Network must have a clear policy on the dissemination of information to patients, and the nature of that information, bearing in mind the role of primary care in helping to lead the patient through the system;
7. All the health professionals who would make up the Network must indicate their willingness to practice in accordance with the evidence base and with the general principles governing Networks;
8. An integral part of each Network must be a quality assurance programme acceptable to the Clinical Standards Board for Scotland, which also has a role in ensuring consistency of standards and quality of treatment across all Managed Clinical Networks;
9. The educational and training potential for Networks should be used to the full, through exchanges between those working in the community and primary care and those working in hospitals/specialist centres. Networks' potential to contribute to the development of the intermediate specialist concept should also be kept in mind, and Networks should develop appropriate affiliations to universities, the Colleges and SCPMDE;
10. All health professionals in the Network must produce audit data to required standards and participate in open review of results;

11. All Networks must include arrangements to circulate staff in ways which improve patient access, and enable professional skills to be maintained. Each Network should have an appropriate programme of continuous professional development in place for every member of the Network, as well as a mechanism for ensuring the programme is being followed;
12. There must be evidence that the potential for Networks to generate better value for money has been explored.

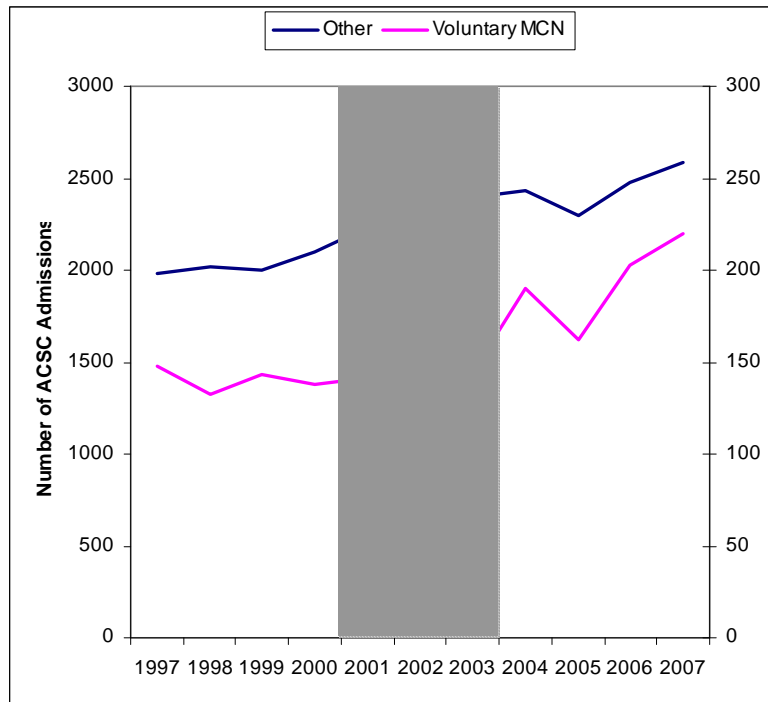
Appendix 2: Changes in number of admissions in voluntary MCNs and comparison Health Boards

In all graphs for numbers of admissions, the right hand y-axis shows numbers of admissions in the control group, and the left hand axis shows numbers of admissions in the voluntary MCN

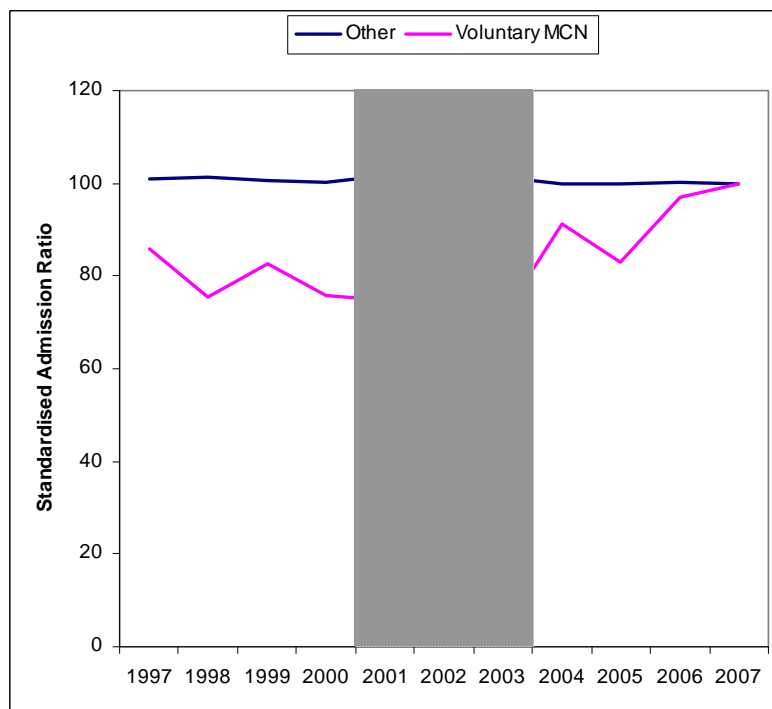
For heart failure admissions, part of the reason for the decline in the number of admissions in the control group between 2005/6 and 2006/7 is the dissolution of Argyll & Clyde Health Board. The Clyde part of the dissolved Health Board was joined to Greater Glasgow, which is a teaching Health Board and so this area is excluded from the control group from 2006/7 onwards. This is taken into account in the calculation of the Standardised Admission Ratios and should not affect the trend in that series.

All diabetes complications

Numbers of ACSC emergency admissions for all diabetes complications (left hand scale = rest of Scotland/other MCNs; right hand scale = voluntary MCN)

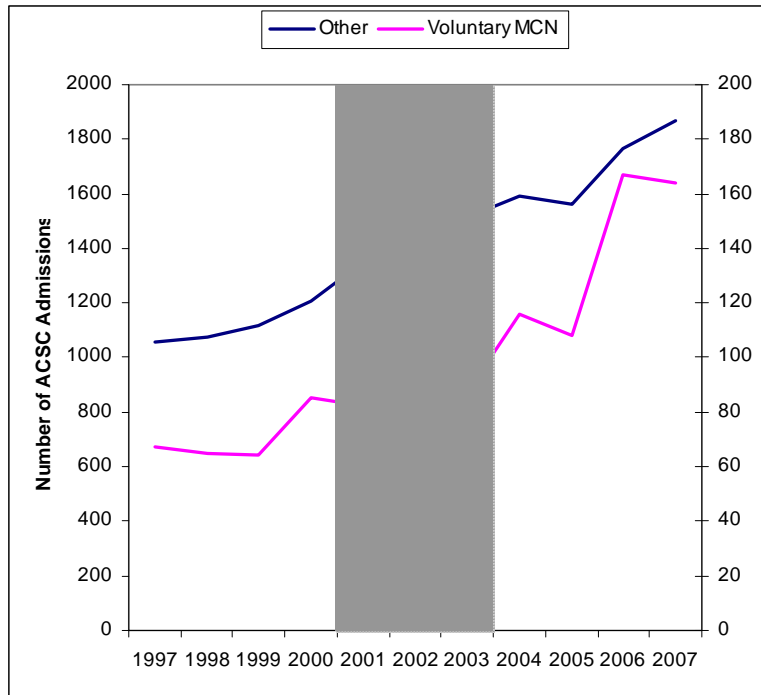


Standardised admissions ratios for ACSC emergency admissions for all diabetes complications

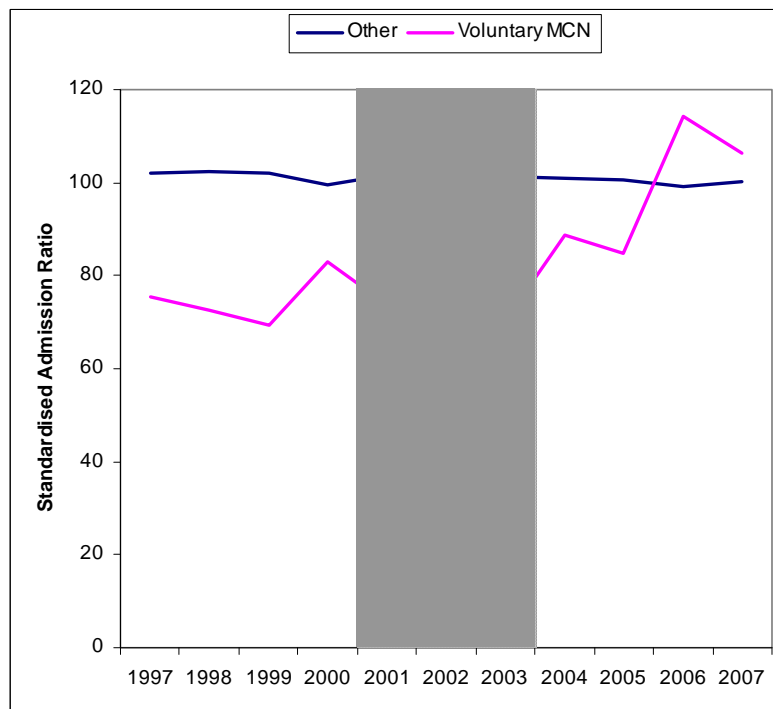


Short term diabetes complications

Numbers of ACSC emergency admissions for short term complications of diabetes (left hand scale = rest of Scotland/other MCNs; right hand scale = voluntary MCN)

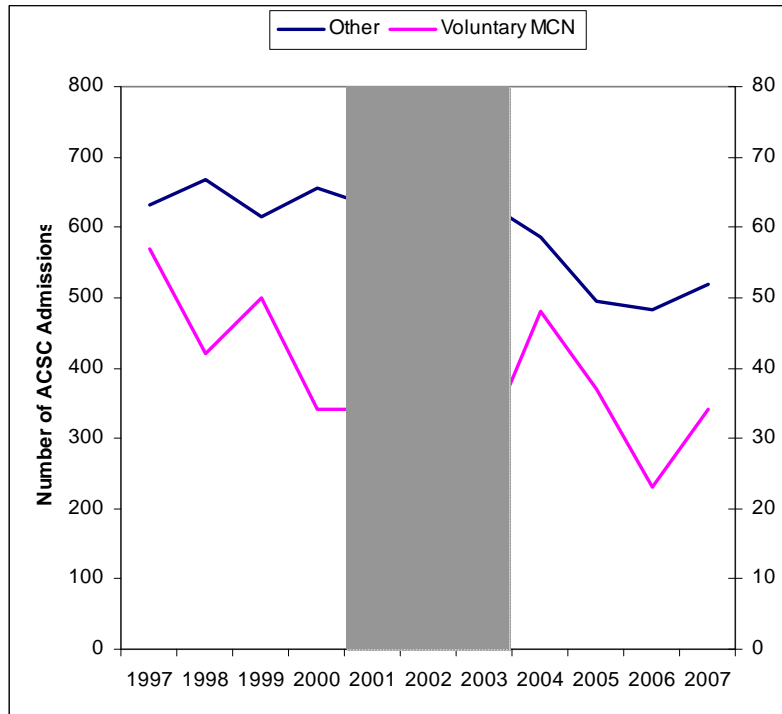


Standardised admissions ratios for ACSC emergency admissions for short term complications of diabetes

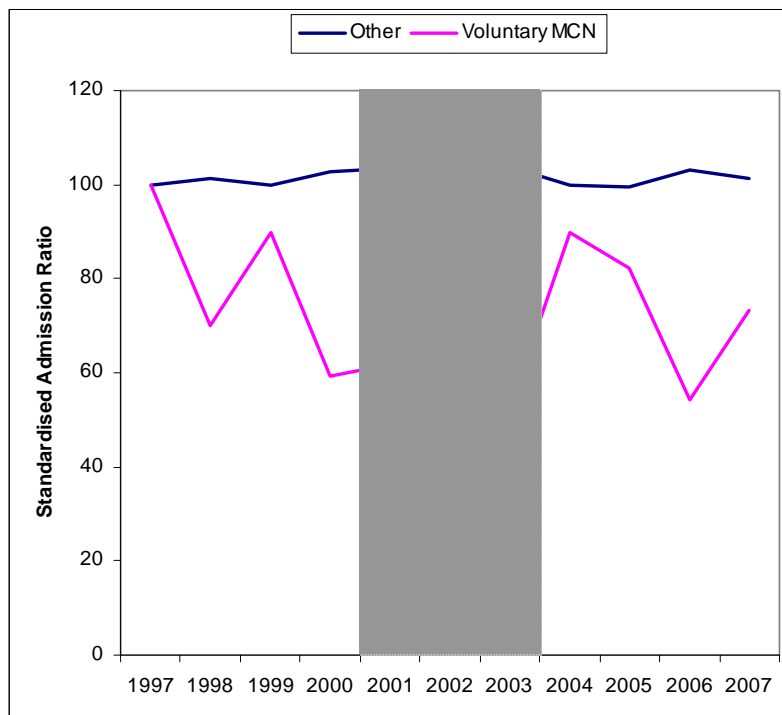


Long term diabetes complications

Numbers of ACSC emergency admissions for long term complications of diabetes (left hand scale = rest of Scotland/other MCNs; right hand scale = voluntary MCN)

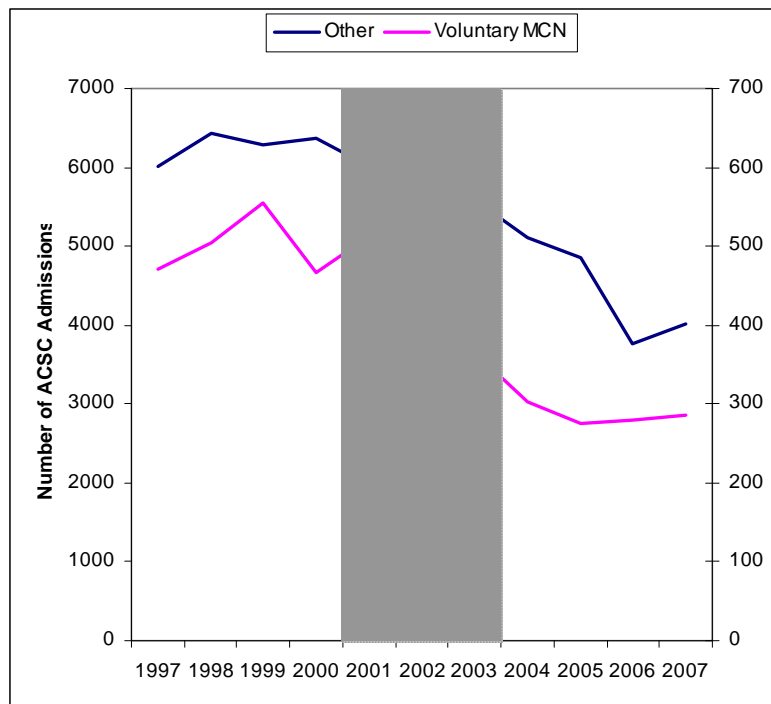


Standardised admissions ratios for ACSC emergency admissions for long term complications of diabetes

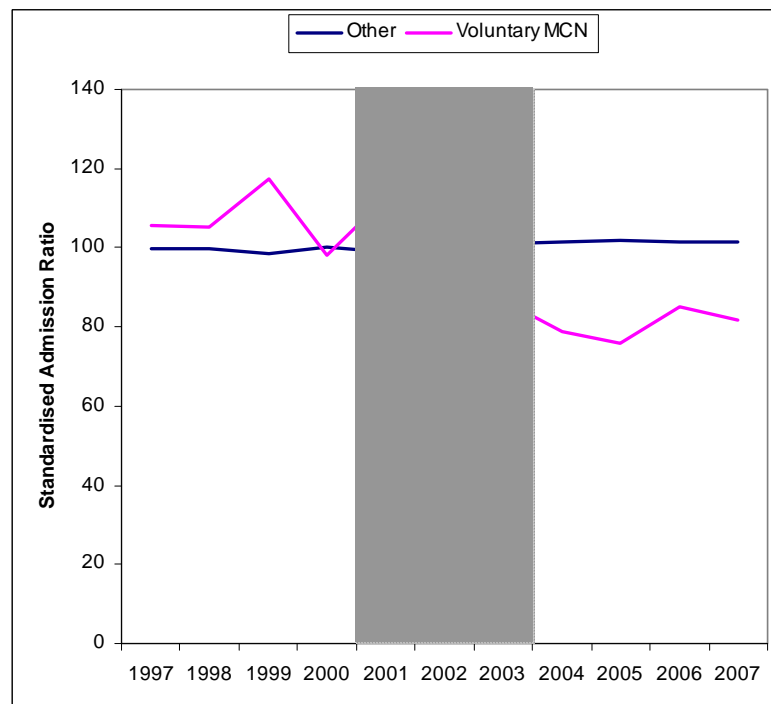


Angina

Numbers of ACSC emergency admissions for angina (left hand scale = rest of Scotland/other MCNs; right hand scale = voluntary MCN)

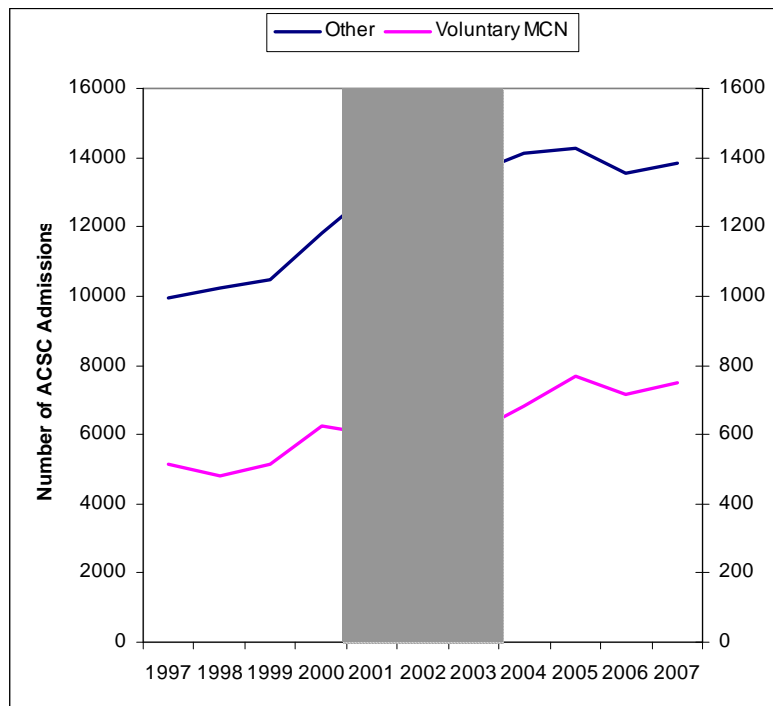


Standardised admissions ratios for ACSC emergency admissions for angina

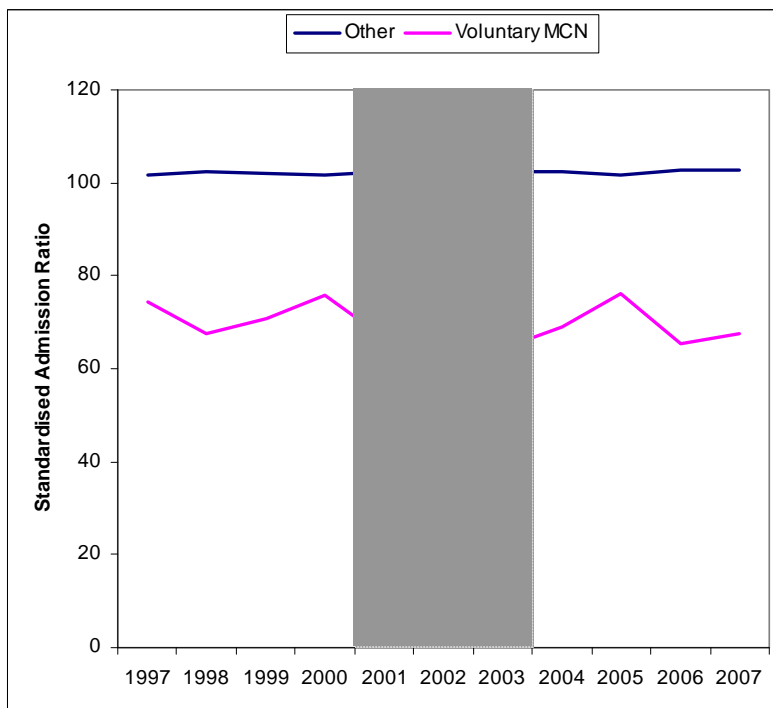


Chest pain

Numbers of ACSC emergency admissions for chest pain (left hand scale = rest of Scotland/other MCNs; right hand scale = voluntary MCN)

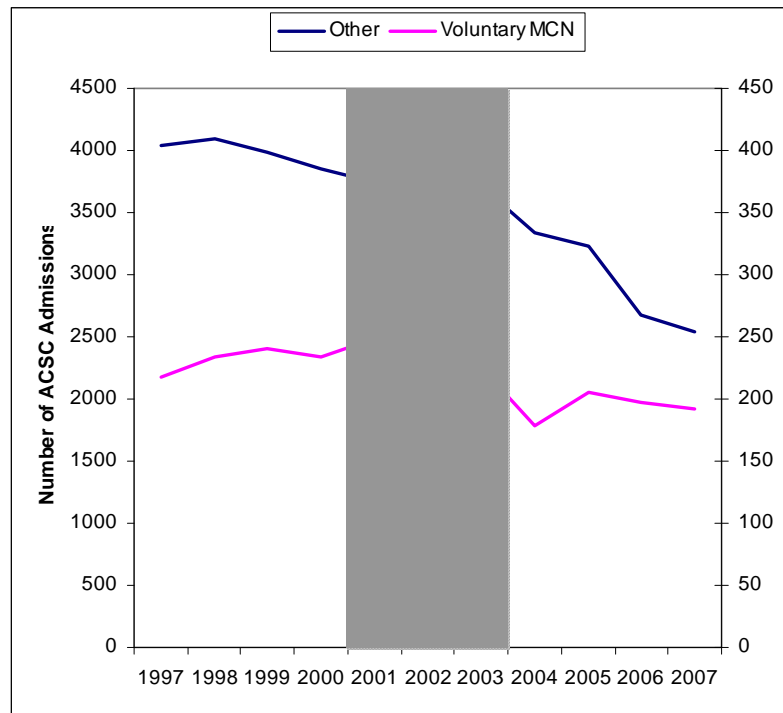


Standardised admissions ratios for ACSC emergency admissions for chest pain

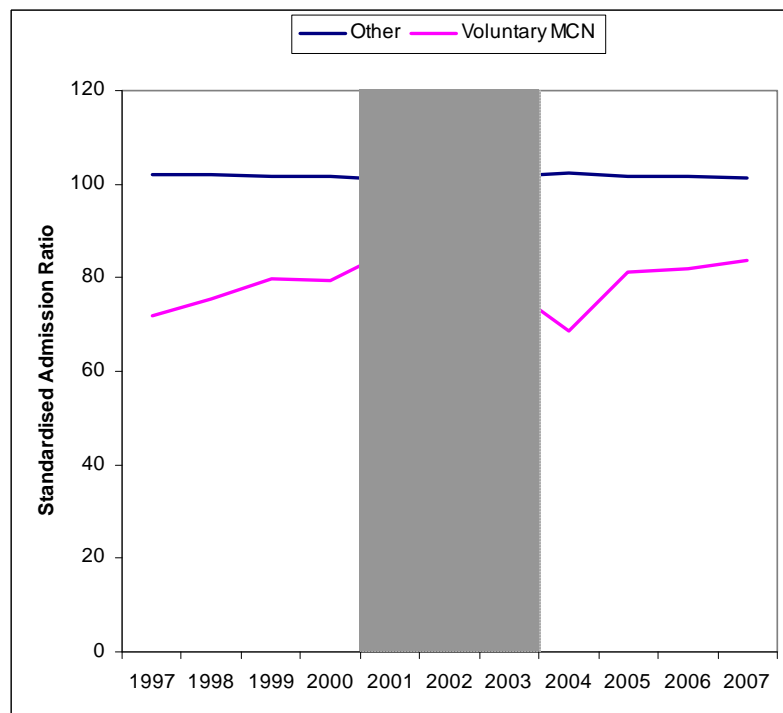


Heart Failure

Numbers of ACSC emergency admissions for heart failure (left hand scale = rest of Scotland/other MCNs; right hand scale = voluntary MCN)



Standardised admissions ratios for ACSC emergency admissions for heart failure



Appendix 3: Patient experience survey PACIC items and scoring for PACIC and 5As

Staying healthy can be difficult when you have a chronic illness like diabetes/heart problems. We would like to learn about the type of help with your diabetes/heart problems that you get from your health care team. Your healthcare team might include your GP or practice nurse, and/or a hospital doctor or nurse - whoever treats your diabetes/heart problems. Your answers will be kept confidential and will not be shared with anyone else.

Please think about the health care you've received for your diabetes/heart problems over the past 6 months. If it's been more than 6 months since you've seen your doctor or nurse, then please think about your most recent appointment. Please tick one box in each row.

[All items scored on a five point scale]

1	2	3	4	5
Almost never	Generally not	Sometimes	Most of the time	Almost always

Over the past 6 months, when receiving medical care for my diabetes/heart problems, I was:

1. Asked for my ideas when we made a treatment plan.
2. Given choices about treatment to think about.
3. Asked to talk about any problems with my medicines or their effects.
4. Given a written list of things I should do to improve my health.
5. Satisfied that my care was well organised.
6. Shown how what I did to take care of my illness influenced my condition.
7. Asked to talk about my goals in caring for my illness.
8. Helped to set specific goals to improve my eating or exercise.
9. Given a copy of my treatment plan.
10. Encouraged to go to a specific group or class to help me cope with my chronic illness.
11. Asked questions, either directly or on a survey, about my health habits e.g. smoking, exercise, alcohol intake etc.)

12. Sure that my doctor or nurse thought about my values and my traditions when they recommended treatments to me.
13. Helped to make a treatment plan that I could do in my daily life.
14. Helped to plan ahead so I could take care of my illness even in hard times.
15. Asked how my chronic illness affects my life.
16. Contacted after an appointment to see how things were going.
17. Encouraged to attend programmes in the community that could help me.
18. Referred to a dietician, health educator or counsellor.
19. Told how my appointments with other types of doctors, like the eye doctor or surgeon, helped my treatment.
20. Asked how my appointments with other doctors were going.
21. Asked what I would like to discuss about my illness at my most recent appointment.
22. Asked how my work, family, or social situation related to taking care of my illness.
23. Helped to make plans for how to get support from my friends, family or community.
24. Told how important the things I do to take care of my illness (e.g., exercise) were for my health.
25. Set a goal together with my doctor or nurse for what I could do to manage my condition.
26. Given a book or monitoring log in which to record the progress I am making.

Scoring for PACIC (Glasgow, 2005b)

PACIC total score =	Average of 1 st 20 items
Patient activation =	Average of items 1-3
Delivery system/practice design =	Average of items 4-6
Goal setting/tailoring =	Average of items 7-11
Problem solving/contextual =	Average of items 12-15
Follow-up/co-ordination =	Average of items 16-20

Scoring for 5As (Glasgow, 2005b)

5As summary score =	Average of items 1-4 and 6-16
Assess =	Average of items 1, 11, 15, 20, 21
Advise =	Average of items 4, 6, 9, 19, 24
Agree =	Average of items 2, 3, 7, 8, 25
Assist =	Average of items 10, 12, 13, 14, 26
Arrange =	Average of items 16, 17, 18, 22, 23

Appendix 4: Patient experience survey CSQ18 items and scoring

In this section we would like to hear your opinion about your experience of services related to your *diabetes/heart problem*. Please answer all of the questions by circling the answer which most closely matches your opinion.

1. How satisfied are you with the amount of support you receive for your diabetes/heart problem?

1	2	3	4
Quite dissatisfied	Indifferent or mildly dissatisfied	Mostly satisfied	Very satisfied

2. Considering your particular needs, how appropriate are the services you receive?

4	3	2	1
Highly appropriate	Generally appropriate	Generally inappropriate	Highly inappropriate

3. Did/does the service help you to manage your diabetes/heart problem better/effectively?

4	3	2	1
Yes, has helped a great deal	Yes, has helped somewhat	No, it really didn't help	No, it seemed to make things worse

4. When you talk to the person you dealt with most closely, how closely does he/she listen to you?

1	2	3	4
Not at all closely	Not too closely	Fairly closely	Very closely

5. Do you get the kind of service you want?

1	2	3	4
No, definitely not	No, not really	Yes, generally	Yes, definitely

6. Are there other services you feel you need for your diabetes/heart problem but have not received?

1	2	3	4
Yes, there definitely were	Yes, there were	No, I don't think there were	No, there definitely were not

7. How clearly does the person you deal with most closely understand your diabetes/heart problem and how you feel about it?

4	3	2	1
Very clearly	Clearly	Somewhat unclearly	Very unclearly

8. How competent and knowledgeable was the person you dealt with most closely?

1	2	3	4
Poor abilities At best	Only of average ability	Competent and knowledgeable	Highly competent and knowledgeable

9. How do you rate the quality of the service you receive?

4	3	2	1
Excellent	Good	Fair	Poor

10. In an overall, general sense, how satisfied are you with the service you receive?

4	3	2	1
Very satisfied	Mostly satisfied	Indifferent or mildly dissatisfied	Quite dissatisfied

11. If a friend found out they had diabetes/a heart problem, would you recommend the service to him or her?

1	2	3	4
No, definitely not	No, I don't think so	Yes, I think so	Yes, definitely

12. Have the people in the service generally understood the kind of help you wanted?

1	2	3	4
No, they misunderstood almost completely	No, they seemed to misunderstand	Yes, they seemed to generally understand	Yes, they understood almost perfectly

13. To what extent has the service met your needs?

4	3	2	1
Almost all of my needs have been met	Most of my needs have been met	Only a few of my needs have been met	None of my needs have been met

14. Have you been respected as an individual by those providing the service?

1	2	3	4
No, almost never respected	No, sometimes not respected	Yes, generally respected	Yes, almost always respected

15. If you were to seek help again, would you come back to our service?

1	2	3	4
No, definitely not	No, I don't think so	Yes, I think so	Yes, definitely

CSQ18 scoring

All items are summed and an average taken (note reverse scoring of some items)

Appendix 5: National Survey B and Delphi data collection instruments

Instrument used in the Scottish MCN National Survey B

MANAGED CLINICAL NETWORKS: LESSONS FROM THE NORTH²

Second National Survey of Managers and Clinical Leads for Managed Clinical Networks (MCNs) in Diabetes and CHD in Scotland

Rationale:

Data from our four network case studies show that clinical networks often face similar issues but that they tend to tackle them in different ways. We have constructed the following questions to reflect the various differences.

We would like to know how the other Scottish Diabetes and CHD clinical networks deal with these issues, by asking people closely involved in network activity. This will help us to understand how some of our findings may play-out across the rest of Scotland.

HOW TO COMPLETE THE QUESTIONNAIRE

Questions 1 – 13

There are two statements on each line – please place an **X** in one of the boxes along the line which, on balance, represents how you feel about both statements.

The closer your **X** is to the statement at one end of the scale then the more you think that this statement reflects your network experiences and the less the statement at the other end describes things.

There are no right or wrong answers – we are only interested in what you think.

If you think both statements apply, you should put your **X** near the middle.

In the RANK column

Please put an A, B or C depending on how important the issue is for your MCN.

A – CRUCIAL issue

B – IMPORTANT (but less so than A)

C – PERIPHERAL issue

↑
Increasing importance

1

² Information on our research project can be found on the accompanying information sheet.

Importance A,B or C		Place an X						
	MCNs mainly improve service provision by influencing senior managers and commissioners of services							MCNs mainly improve service provision through the relationships they build with clinicians and frontline managers

2

Importance A,B or C		Place an X						
	An effective MCN is one that has a clear focus on one clinical condition							An effective MCN is one that engages other networks to ensure broader co-ordination of patient care

3

Importance A,B or C		Place an X						
	Patients have benefitted from MCN activity							Patients have benefitted from wider developments in treatments for their condition

4

Importance A,B or C		Place an X						
	MCNs function best when they work relatively independently of their NHS Board							MCNs function best when they work closely with their NHS Board

5

Importance A,B or C		Place an X							
	For successful MCN operation all key doctors must be signed-up								MCNs can operate successfully by working round key doctors who are difficult to sign-up

6

Importance A,B or C		Place an X							
	MCNs are effective because they <i>standardise services</i> to provide an equitable service to all								MCNs are effective because they <i>streamline services</i> to reduce duplication and increase co-ordination for all

7

Importance A,B or C		Place an X							
	MCNs should be led by one clinical person								Leadership in MCNs should be shared across several clinicians and managers

8

Importance A,B or C		Place an X							
	MCNs provide a forum to discuss services								MCNs are a mechanism for getting things

9

Importance A,B or C		Place an X							
	MCN activity is largely driven by locally shared clinical aims								MCN activity is largely driven by policy directives, national guidelines and external standards

10

Importance A,B or C		Place an X							
	Clinical network success depends upon securing sufficient resources								Resources are useful but the clinical network is not reliant upon them for success

11

Importance A,B or C		Place an X							
	Clinical networks have a clear identity as a new form of NHS organisation								A clinical network is just the name given to clinicians who agree to work co-operatively

12

Importance A,B or C		Place an X							
	An effective MCN works to implement the existing priorities of its clinical and frontline management members								An effective MCN challenges existing assumptions to set new priorities for its clinical and frontline management members

13

Importance A,B or C		Place an X							
	MCNs will remain important in the future								MCNs are unlikely to endure

Additional comments (eg important areas not covered)

My Role is:
☐
☐

Clinical leadMCN manager

My Network is: (tick one)

Health Board	MCN for Diabetes	MCN for CHD
Ayrshire and Arran		
Borders		
Dumfries and Galloway		
Fife		
Forth Valley		
Grampian		
Greater Glasgow and Clyde		
Highland and Argyll		
Lanarkshire		
Lothian		
Orkney		
Shetland		
Tayside		
Western Isles		

Instrument used in the English Delphi consensus study

MANAGED CLINICAL NETWORKS: LESSONS FROM THE NORTH³

Characteristics of Effective Clinical Networks – Delphi round 1

Rationale:

Data from our research show that clinical networks take on different characteristics when faced with competing demands – but that not all of these choices may be equally effective.

We have constructed the following questions to reflect some of these differences – so that you can indicate the features you think are ESSENTIAL to an effective network.

Round 1 and Round 2

We will collate answers from round 1, feed these back to you and ask you to complete the questionnaire again, perhaps to modify your answers in light of the views of others

HOW TO COMPLETE THE QUESTIONNAIRE

The 12 questions

There are two statements on each line – please place an **X** in one of the boxes along the line which, on balance, represents how you feel about both statements.

The closer your **X** is to the statement at one end of the scale then the more you agree that this is an essential characteristic of an effective network – and – the less you think that the opposite statement characterises an effective network

If you agree with both statements, you should put your **X** near the middle.

In the IMPORTANCE column

Please put an A, B or C depending on how important you think each characteristic is for network effectiveness

A – CRUCIAL issue

B – IMPORTANT (but less so than A)

C – PERIPHERAL issue

↑
Increasing importance

³ Information on our research project can be found on the accompanying information sheet.

1

Importance A,B or C		Place an X							
	Effective clinical networks mainly improve service provision by influencing senior managers and commissioners of services								Effective clinical networks mainly improve service provision through the relationships they build with clinicians and frontline managers

2

Importance A,B or C		Place an X							
	An effective clinical network is one that has a clear focus on one clinical condition								An effective clinical network is one that engages other networks to ensure broader co-ordination of patient care

3

Importance A,B or C		Place an X							
	An effective clinical network sets its priorities relatively independently of the NHS organisations it works with								An effective clinical network aligns its priorities to those of the NHS organisations it works with

4

Importance A,B or C		Place an X							
	An effective clinical network requires key doctors to be signed-up								An effective clinical network can operate successfully by working round key doctors who are difficult to sign-up

5

Importance A,B or C		Place an X						
	Clinical networks are effective because they <i>standardise services</i> to provide an equitable service to all							Clinical networks are effective because they <i>streamline services</i> to reduce duplication and increase co-ordination for all

6

Importance A,B or C		Place an X						
	An effective clinical network is led by one clinical person							An effective clinical network shares leadership across several clinicians and managers

7

Importance A,B or C		Place an X						
	Effective clinical networks provide a forum to discuss services							Effective clinical networks are a mechanism for getting things done to directly improve services

8

Importance A,B or C		Place an X						
	Effective clinical network activity is largely driven by locally shared clinical aims							Effective clinical network activity is largely driven by policy directives, national guidelines and external standards

9

Importance A,B or C		Place an X							
	Clinical network success depends upon securing sufficient resources								Resources are useful but the clinical network is not reliant upon them for success

10

Importance A,B or C		Place an X							
	Effective clinical networks have a clear identity as a new form of NHS organisation								Effective clinical networks are simply groups of clinicians who have agreed to work co-operatively

11

Importance A,B or C		Place an X							
	An effective clinical network works to implement the existing priorities of its clinical and frontline management members								An effective clinical network challenges existing assumptions to set new priorities for its clinical and frontline management members

12


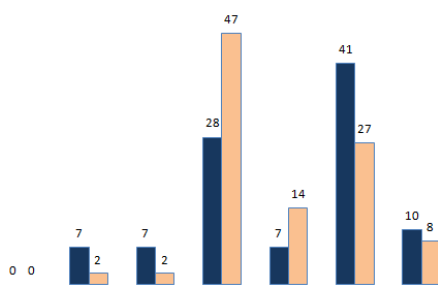


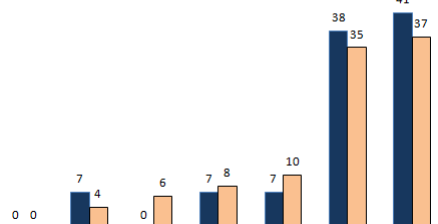

Importance A,B or C		Place an X							
	Clinical networks will remain important in the future								Clinical networks are unlikely to endure and will be replaced by other forms of organisation in the future


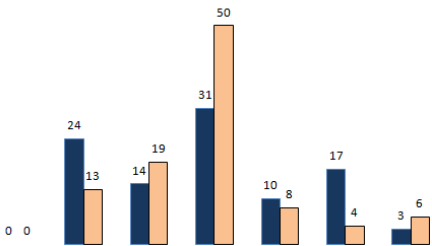


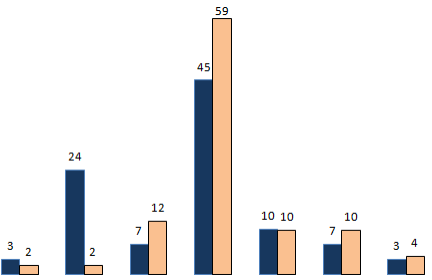

Additional comments (eg important areas missed)


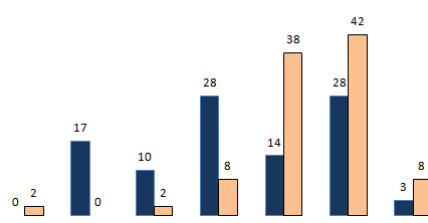

My main job is:



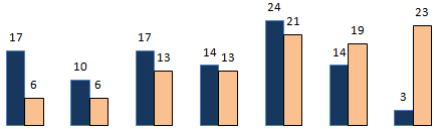


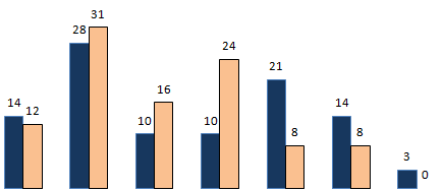
Appendix 6: Comparison of responses Scottish MCN National Survey B and English network Delphi study

Table 1. Appendix 6: Comparison of Scottish MCN National Survey B and English Delphi results


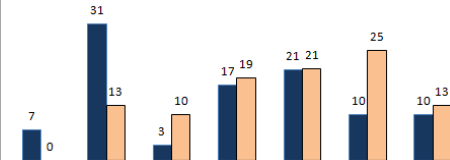

Which boundaries to focus on	% of participants										
<p>Scottish National Survey B (n=29 )</p> <p><i>MCNs mainly improve service provision by influencing senior managers and commissioners of services</i></p>	 <table><tr><th>Boundary</th><th>Scottish National Survey B (%)</th><th>English Delphi (%)</th></tr><tr><td>Senior managers and commissioners of services</td><td>28</td><td>47</td></tr><tr><td>Clinicians and frontline managers</td><td>41</td><td>27</td></tr></table>	Boundary	Scottish National Survey B (%)	English Delphi (%)	Senior managers and commissioners of services	28	47	Clinicians and frontline managers	41	27	<p>Scottish National Survey B</p> <p><i>MCNs mainly improve service provision through the relationships they build with clinicians and frontline managers</i></p>
Boundary		Scottish National Survey B (%)	English Delphi (%)								
Senior managers and commissioners of services	28	47									
Clinicians and frontline managers	41	27									
<p>English Delphi (n=49 )</p> <p><i>Effective clinical networks mainly improve service provision by influencing senior managers and commissioners of services</i></p>	<p>English Delphi</p> <p><i>Effective clinical networks mainly improve service provision through the relationships they build with clinicians and frontline managers</i></p>										
Which boundaries to focus on	% of participants										
<p>Scottish National Survey B (n=29 )</p> <p><i>MCNs function best when they work relatively independently of their NHS Board</i></p>	 <table><tr><th>Boundary</th><th>Scottish National Survey B (%)</th><th>English Delphi (%)</th></tr><tr><td>Relatively independently of their NHS Board</td><td>38</td><td>35</td></tr><tr><td>Aligns its priorities to those of the NHS organisations it works with</td><td>41</td><td>37</td></tr></table>	Boundary	Scottish National Survey B (%)	English Delphi (%)	Relatively independently of their NHS Board	38	35	Aligns its priorities to those of the NHS organisations it works with	41	37	<p>Scottish National Survey B</p> <p><i>MCNs function best when they work closely with their NHS Board</i></p>
Boundary		Scottish National Survey B (%)	English Delphi (%)								
Relatively independently of their NHS Board	38	35									
Aligns its priorities to those of the NHS organisations it works with	41	37									
<p>English Delphi (n=49 )</p> <p><i>An effective clinical network sets its priorities relatively independently of the NHS organisations it works with</i></p>	<p>English Delphi</p> <p><i>An effective clinical network aligns its priorities to those of the NHS organisations it works with</i></p>										



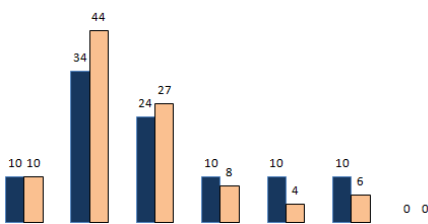


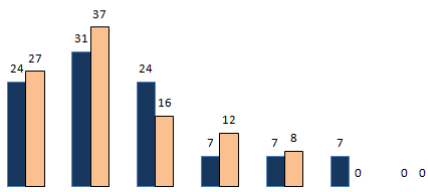
Choosing priorities	% of participants	
<p>Scottish National Survey B (n=29 )</p> <p><i>MCN activity is largely driven by locally shared clinical aims</i></p>		<p>Scottish National Survey B</p> <p><i>MCN activity is largely driven by policy directives, national guidelines and external standards</i></p>
<p>English Delphi (n=49 )</p> <p><i>Effective clinical network activity is largely driven by locally shared clinical aims</i></p>		<p>English Delphi</p> <p><i>Effective clinical network activity is largely driven by policy directives, national guidelines and external standards</i></p>
Choosing priorities	% of participants	
<p>Scottish National Survey B (n=29 )</p> <p>MCNs are effective because they standardise services to provide an equitable service to all</p>		<p>Scottish National Survey B</p> <p>MCNs are effective because they streamline services to reduce duplication and increase co-ordination for all</p>
<p>English Delphi (n=49 )</p> <p>Clinical networks are effective because they standardise services to provide an equitable service to all</p>		<p>English Delphi</p> <p>Clinical networks are effective because they streamline services to reduce duplication and increase co-ordination for all</p>


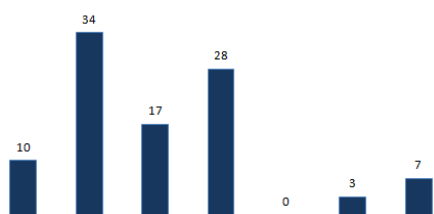


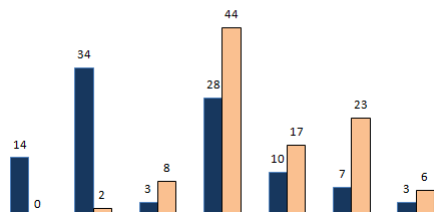
Choosing priorities	% of participants																			
<div>Scottish National Survey B (n=29 )</div> <div><i>An effective MCN works to implement the existing priorities of its clinical and frontline management members</i></div>	 <table><caption>Bar Chart Data: % of participants</caption><thead><tr><th>Category</th><th>Dark Blue Bar (%)</th><th>Orange Bar (%)</th></tr></thead><tbody><tr><td>1</td><td>17</td><td>0</td></tr><tr><td>2</td><td>10</td><td>2</td></tr><tr><td>3</td><td>28</td><td>8</td></tr><tr><td>4</td><td>14</td><td>38</td></tr><tr><td>5</td><td>28</td><td>42</td></tr></tbody></table>	Category	Dark Blue Bar (%)	Orange Bar (%)	1	17	0	2	10	2	3	28	8	4	14	38	5	28	42	<div>Scottish National Survey B</div> <div><i>An effective MCN challenges existing assumptions to set new priorities for its clinical and frontline management members</i></div>
Category		Dark Blue Bar (%)	Orange Bar (%)																	
1	17	0																		
2	10	2																		
3	28	8																		
4	14	38																		
5	28	42																		
<div>English Delphi (n=49 )</div> <div><i>An effective clinical network works to implement the existing priorities of its clinical and frontline management members</i></div>	<div>English Delphi</div> <div><i>An effective clinical network challenges existing assumptions to set new priorities for its clinical and frontline management members</i></div>																			

Leadership and engagement	% of participants																						
<p>Scottish National Survey B (n=29 )</p> <p><i>MCNs should be led by one clinical person</i></p>		<p>Scottish National Survey B</p> <p><i>Leadership in MCNs should be shared across several clinicians and managers</i></p>																					
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<p>Scottish National Survey B (n=29 )</p> <p>For successful MCN operation all key doctors must be signed-up</p>		<p>Scottish National Survey B</p> <p>MCNs can operate successfully by working round key doctors who are difficult to sign-up</p>																					
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Addendum:

This document is an output from a research project that was commissioned by the Service Delivery and Organisation (SDO) programme whilst it was managed by the National Coordinating Centre for the Service Delivery and Organisation (NCCSDO) at the London School of Hygiene & Tropical Medicine. The NIHR SDO programme is now managed by the National Institute for Health Research Evaluations, Trials and Studies Coordinating Centre (NETSCC) based at the University of Southampton.

Although NETSCC, SDO has managed the project and conducted the editorial review of this document, we had no involvement in the commissioning, and therefore may not be able to comment on the background of this document. Should you have any queries please contact sdo@southampton.ac.uk.