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Organising case management for people with complex long-term conditions: learn from the experiences of Case Managers and Community Matrons

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Abstract

Case Management (CM) requires a structured and systematic approach in order to be an effective tool for managing a growing population with complex long-term conditions (LTCs). This study aims to characterise, describe and explain the complex organising work of CM in relation to the roles of community matron (CMN) and case manager (CMR), and their training and service arrangement in UK localities through Translational Mobilisation theory (TMT). A qualitative descriptive research approach was used including semi-structured interviews and framework analysis. From interviews with 32 CMNs and CMRs, the study discovered that these roles enable the realising of political aims with regards to the reduction of service usages and improved quality of life for people living with complex LTCs. Their proactive, holistic and individualised care approach in these roles was perceived to be distinctive compared to other health care professionals, but these were not well understood and supported. This was a barrier to effective CM. Secondly, CMNs found that their education programmes on advanced clinical skills improved their knowledge of general illnesses but provided insufficient clinical practice and mentorship for treating common LTCs. In comparison, CMR's self-directed their learning of common LTCs based on inconsistent organisational funding and course availability. Thirdly, the participants working in different service arrangements in rural and urban areas contributed different benefits and barriers in delivering their role. From the findings, this study proposed a standardised CMN and CMR training based on their common learning needs. Their role requires detailed practice guidelines and a practice-based CM approach with detailed plans to organise CM. Thus, a more standardised and systematic approach to CM is indicated by this study. Therefore, this approach needs extensive research.

Organising case management for people with complex long-term conditions: learn from the experiences of Case Managers and Community Matrons

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Contents

Figures and Tables

List of Abbreviations

A&E	**Accident and Emergency**
AP	**Advanced Practitioner**
APN	**Advanced primary (practitioner) nurse**
CM	**Case Management**
CMR	**Case Manager**
CMN	**Community Matron**
COPD	**Chronic Obstructive Pulmonary Disease**
DP	**Degree Pathways**
DH	**Department of Health**
FA	**Framework Analysis**
GP	**General Practitioner**
LTC	**Long-term condition**
NHS	**National Health Service**
PCT	**Primary Care Trust**
PARR	**Patients at Risk of Readmission to hospital**

Declaration

I declare that this thesis is my own work and has not been submitted for a degree in this or any other institution.

Copyright Statement

The copyright of this thesis rests with the author. No quotation from it should be published without the author's prior written consent and information derived from it should be acknowledged.

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Dedication

I would like to

dedicate this thesis

to my wonderful father-in-law

Hwa-young Lee

1 Background and political context of the study

1.1 Introduction

This doctoral study examines complex phenomena have been taken place during the organisation of case management (CM) by case managers (CMRs) and community matrons (CMNs). This first chapter presents the background and political context of CM in order to situate this study in a wider context. It begins with the generic description about CM and changing disease patterns, public perspectives and policies on management of complex LTCs that introduced CM into health and social care since the 1990s.

1.2 Definition of case management

CM is difficult to describe in a single definition as the definition has varied in the literature. From the literature, CM is commonly referred to as a programme, approach or strategy for providing organised care to individuals with complex needs through core activities (or tasks) in a timely and appropriate manner (Challis et al., 1990, Rose, 1992). The core activities are then broadly described with five elements; case finding, assessment, care planning and implementation, monitoring and review, and case closure (Challis et al., 1990, Goodman et al., 2010, Ross et al., 2011). CM consists of these core activities normally providing care on a long-term basis shown in the Figure 1.1.
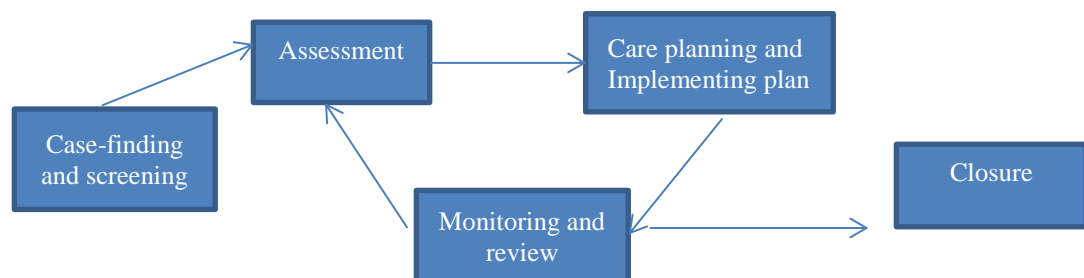
Figure 1.1 The process of case management (Challis et al., 1990, Goodman et al., 2010)

Once an eligible client is identified, his/her needs and adequate interventions will be continuously assessed, monitored and reviewed (Goodman et al., 2010, Ross et al., 2011). A key person called a case manager (CMR) is responsible for carrying out all the core tasks, and co-ordinating all the required services to be delivered to the person's home (Department of Health, 2005d).

From the generic concept, CM can be applied to different client groups in health and social care. In health care systems, CM has gained popularity within the UK and internationally over recent decades because of a growing population with long-term conditions (LTCs) and their care costs (Halpin et al., 2010, Nugent, 2008). In the UK, CM was initially adopted in the social care system to manage vulnerable people including elderly people, younger disabled people and children with mental disability in 1989. Later, CM was reintroduced into the health care system to manage people with complex LTCs in 2004. Before discussing the political context of CM, the following sections examines why the management of growing LTCs became an important aspect of today's and future health and social care.

1.3   Changing disease pattern: the cause and burden of LTCs

LTCs (chronic diseases) are 'those conditions that cannot, at present, be cured, but can be controlled by medication and other therapies' (Department of Health, 2010b). Until the middle of the 20th century, LTCs were not the common contributors of ill health and death in England (Scambler, 2008); these tended to be infectious diseases (e.g. tuberculosis, cholera, dysentery and plague), poor maternal and childbirth conditions, and malnutrition (Baggott, 2004). The pattern of disease and death rates are greatly influenced by economic and social conditions. As hygiene, nutrition and poverty were improved secondary to changes occurring in the modern era due to rapid industrialisation, the death rates caused by infectious diseases seemed to be decreasing, but this was replaced by non-infectious LTCs in England (Scambler, 2008).

The population with LTCs has been reported to be 15.4 million and that population is expected to be increased year by year (Department of Health, 2005e, Department of Health Long Term Conditions, 2012). A similar disease pattern has also occurred in other countries especially in more developed countries (Baggott, 2004, World Health Organisation, 2013). Presently, the burden of non-infectious LTCs has increased in most of countries in regardless of GDP which the disease burden among the population aged 60 and over reaching more than 87% in low, middle and high-income countries (World Health Organisation, 2011, World Health Organization, 2020). The death rate caused by those non-infectious LTCs has increased by 70 % worldwide (World Health Organization, 2020).

LTCs have a major impact on levels of physical disability, low quality of life and premature mortality for the ill individuals, as well as high health care costs (World Health Organisation, 2005). Compared to acute diseases, LTCs are not curable conditions but they are expected to progress throughout a person's lifetime (The Scottish Government, 2013). Estimates suggest that people with one LTC will have a stable condition for up to 10 years and then increasingly develop other medical conditions or a mixture of medical and psychological conditions (Department of Health Long Term Conditions, 2012, Chapman et al., 2009). Patients with a disability caused by LTCs often experience anxiety, depression and behavioural problems (Davis and O'Connor, 1999). The psychological conditions exert negative impact on patients' self-care, treatment adherence and healthy behaviour (Coventry et al., 2011). In addition, LTCs can affect the individual's social role in work and family and further their ability to carry out daily activities (Buhse, 2008, Payne and Ellis-Hill, 2001, Thorpe, 2009). A Canadian study revealed that around 95% of 980 adult patients who were aged over 45 seemed to have two or more medical conditions (Fortin et al., 2005).

In 2018 data, the population of multimorbidity in England reported to be between 15% and 30% depending on the national and local sources (Aiden, 2018). The care of the growing LTC population has consumed approximately 70% of the entire health and social care budget since 2005. The health care expenditure on its own covered approximately 50% of GP appointments, 64% of outpatient appointments and 70% of all inpatient bed days. Most significantly, only 5% of patients with complex LTCs occupied 49% of all inpatient hospital bed days, GP appointments and outpatient clinics (Department of Health, 2005e, Department of Health Long Term Conditions, 2012). Given the growing burden of LTCs and changing landscape/needs of healthcare provision, new approaches to LTC management have been developing over the last 100 years or so, CM being one of them.

1.4   Changing perspectives towards LTC management

1.4.1   Case management for vulnerable people in social care: 1990-2004

Sociologists started to give attention to the challenges experienced by people living with chronic disabling conditions and the issues related to their care since the early 1970s. The psychological impact and the gaps in service provision have been recognised suggesting that the vulnerable people can live relatively independently in their own homes, where they receive adequate support rather than relying on institutionalised care. This perception urged the political action to support the vulnerable people with not only medical care but also psychosocial care (Scambler, 2008). Saying that, much depends on the individual's level of specific care needs and available resources (local authority budget) in community as there is evidence that the intensive home care could cost more than institutionalisation (Wanless, 2006). Worldwide, the ever-increasing aging population with LTCs and their complex care needs have triggered political attention around integrated, coordinated and joint health and social care for decades (Exworthy et al., 2017).

In the 1990s, the UK government began to tackle the problems in the health and social care systems in regards to accessible services, cost-effective care, care quality, community care improvement, partnership working, systematic care approach, patient-centred care and supporting self-management for the aging people with LTCs. This generated community care reform that shifted the emphasis from institutional care to domiciliary and other community-based services, providing alternatives to hospital, nursing home and residential care which stated in the white paper 'caring people' (HMSO, 1989). In addition, the government introduced internal market based on the consumerism (Client-centred care) aiming to reduce the burden of state funding and to promote the provision of health care in 1990 (Baggott, 2004, Henderson and Knapp, 2003). The internal market is based on the concept of neoliberalism and decentralisation. Neo-liberalism introduces austerity measures aiming to minimise state expenditure and reduce the role of the state in the provision of health care while it allows free competitive markets to regulate costs in the public sector. Thus, a free market has opened for any providers from private and voluntary sectors and they could compete alongside the state services. This is expected to improve quality of care and create more service options for those in need within the community (Pownall, 2013). Decentralisation is mainly about shifting the power and authority of national or higher government to sub-national or lower level of governing body or even front-line staff in decision making, public care planning and management (Sumah et al., 2016).

At the sub-national level, the government divided the roles of purchaser (District Health Authorities, GP fund holders or districts) and provider (e.g. NHS Trusts, private hospitals or voluntary services) in order to mobilise the state and non-state resources at the local level (Baggott, 2004, Ham, 2009). The purchasers spent health and social care budgets for the needs of their population and they were free to buy hospital and community services from any of the

providers. The providers could negotiate funding and incentives through contracts with the purchasers, with the aim of minimizing care costs and improving care quality (Scambler, 2008). One of the lower levels of this decentralisation action can be seen with the introduction **case management (CM)** into social care as 'care management'. Local authorities would appoint social workers as care managers (CMRs) to work closely with other agencies for assessment and coordination of care for vulnerable people in a cost-effective way (HMSO, 1993, HMSO, 1991). However, evidence showed inconsistent outcomes and difficulties in providing integrated care to the vulnerable people (mainly frail older people and older people with dementia). Only few studies demonstrated its effectiveness in reducing permanent care utilisations, hospital stay days and mortality rates (Challis et al., 1991, Challis et al., 2002, Elkan et al., 2001), but it did not make any significant changes in their physical status, secondary care usage or overall cost saving (Brown et al., 2003, Challis et al., 2004, Challis et al., 2002, Elkan et al., 2001).

Evidence pointed out several critical barriers to the effective CM; 1) the limited social funding and its unstable system to purchase varied community services (Hardy et al., 1999, Manthorpe et al., 2009), 2) poor infrastructure and interdisciplinary working to provide integrated health and social care (Challis et al., 1997), 3) professional autonomy and skills of CMRs to perform the brokerage role of negotiating the right services from varied providers, and to carry out comprehensive assessment by their own or with other professionals (Chevannes, 2002, Manthorpe et al., 2009), 4) CMRs' contribution to core-tasks were seen to vary greatly due to their diverse professional backgrounds and organisational interpretations in using their skills. Studies increasingly suggested the necessity of involving CMRs to deal with both the physical (clinical) and psychosocial aspects of care (Chevannes, 2002, Weinberg et al., 2003, Weiner et al., 2003, Weiner et al., 2002) while also computerising the system to reduce the administrative work (Challis et al., 2006). The individualised/client-centred care of CM sounds

much giving if it was delivered without practice guidelines according to their level of care needs and its costs. Individual with complex LTCs can require multiple health and psychosocial care to meet their needs such as daily activities (dressing up, feeding, toileting, washing, cleaning), housing, medical treatment and equipment, regular monitoring, finance, family issues. Also, the intensity of individuals' needs, their required care and its potential costs can be difficult to outline against the available budget and resources. This indicated a need for a ranged level of support in order to deliver efficient and equitable care to people in different degrees of needs.

In response, the NHS initiated a number of structural and systematic reforms -after the election of labour government in 1997- in order to improve care quality and outcome rather than focusing on the number of services being available (Scambler, 2008). Firstly, a series of National Service Frameworks (NSF) have been produced for local health authorities to assess the performance of providers (Department of Health, 1998) and to provide standard clinical care for mental health (Department of Health, 1999a), diabetes (Department of Health, 2001c), coronary heart disease (CHD) (Department of Health, 2000) and older people (Departmenet of Health, 2001) together with the 'National Institute for Health and Clinical Excellence (NICE)' for managing varied LTCs (Department of Health, 2003). Secondly, primary care groups (PCGs)/primary care trusts (PCTs) were established to implement the NSFs and control 75% of the NHS budget to improve the quality of health care for their community (Department of Health, 1999b, Ham, 2004).

Thirdly, an incentive scheme, pay for performance (P4P) and a computerised Quality and Outcomes Framework (QOF) system were introduced for GPs to improve clinical outcomes of LTC patients and made their service competitive (Ashworth and Jones, 2008, Department of Health, 2003, Shekelle, 2003, Sigfrid et al., 2006). Fourthly, intermediate care was initiated

in 2000 to provide non means-tested and time-limited support to vulnerable people, in order to preserve their independence and prevent from unnecessarily prolonged hospital stays or long-term residential care. Different types of intermediate care has been developed such as reablement, home-based, bed-based and crisis response intermediate care (Age UK, 2019, Department of Health, 2001b) Lastly, the self-care skill of patients with LTCs was to be improved for their independence through the education of health care professionals and an Expert Patient Programme (EPP). It was believed that people with informed knowledge about their illness and treatment will actively take responsibility in their care which will reduce the unnecessary health and social care costs and improve the quality of life while living with LTCs (Department of Health, 1999b, Department of Health, 2001a). Building on from the past experiences and new strategies of strengthening community care, CM was re-introduced into the health care system for managing people with complex LTCs.

1.4.2   Re-introduction of CM for complex LTCs: 2004 – 2012

In 2004, the government started to highlight the growing population of LTCs (15.4 million people in England), and the global burden of the LTCs. A series of DH documents emphasised more evidence-based and systematic management of LTCs as health and social services needed much integration and partnership working from various providers. For this, the Wagner model and Kaiser Model from the United States were used for establishing a UK model of LTC management (Department of Health, 2004b, Department of Health, 2005d, Wagner et al., 1996). In the Table 1.1, the Wagner model provides synthetized chronic disease interventions within six components including community resources, health care organisation, self-care support, delivery system design, decision support and clinical information system from the relevant literature (Bodenheimer et al., 2002, Royal College of Physicians of London, 2004).

Community resources and policies	To improve chronic care, provider organisations need links with community-based resources such as exercise programmes and self-help groups
Healthcare organisation	The structure, goals and values of provider organisations and their relationships with each other and with purchasers of services form the foundation on which remaining components of the chronic care model rest. If organisations do not view chronic care as a priority, change and innovation will not take place
Self-management support	For chronic conditions, patients themselves become the principal care-givers. Patients and their carers can be helped to acquire the skills and confidence to manage their chronic illnesses, if the necessary tools to do this, such as equipment or information, are provided
Delivery system design	Redesign of the structure of medical practice may be required to create a more efficient and effective division of labour between healthcare staff
Decision support	Evidence-based national and local guidelines and protocols provide standards for optimal care. These should be available to patient and healthcare staff alike
Clinical Information Systems	Data, usually held in electronic form, will facilitate the more efficient and effective management of care; for example, patient Registries and reminder systems

Table 1.1 Wagner chronic care model (Royal College of Physicians of London, 2004)

For the effective and efficient delivery of care, the population with LTCs was divided into three levels based on their risk and complexity so as their management by using the Kaiser Model in the Figure 1.2.
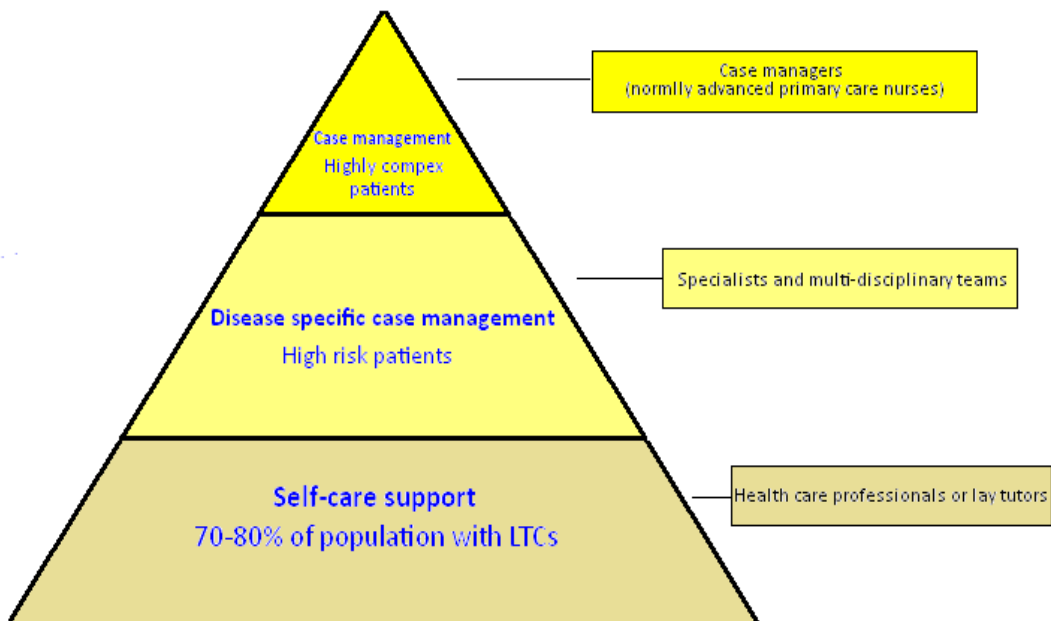
Figure 1.2 Schematic of Kaiser Model (Department of Health, 2005d)

The first level (70-80% of the population with LTCs) includes the most patients with LTCs and the self-care support approach for the patient group. The self-care support would empower patients to manage their conditions from the onset of the LTC. This can be achieved by providing adequate information and advice to control their condition and medication. Moreover, clinical devices can also help people with diagnosis, treatment and monitoring of their LTC at home or closer to home (Department of Health, 2004b, Department of Health, 2005d). The second level (High risk patients) indicates high risk patients with a complex single condition or multiple conditions, and a disease specific case management for this group. These patients indicate a high risk of service usages, as do the third level, but responsive multidisciplinary team care through disease-specific protocols and pathways can prevent their condition from growing more complex (Department of Health, 2004b). Local health organisations were suggested establishing a multidisciplinary team, involving specialist nurses to deliver effective care to the population (Department of Health, 2005d). The third level is then categorised as highly complex patients, because of their multiple LTCs and intensive service usage in secondary care (Department of Health, 2004a, Department of Health, 2005d, Lewis, 2004). CM should be applied to this patient group in order to prevent unnecessary hospital admissions, reduce the length of hospital stays, and meet the needs of patients (Department of Health, 2006b). This is a proactive care approach delivered by a case manager or advanced primary care nurse (Department of Health, 2005e).

The concepts of LTC management in the Wagner and Kaiser Model were embedded in The NHS and Social Care Model (Figure 1.3) in 2005. The government took a more systematic and structured approach to LTC management through this model by setting organisational infrastructure, delivery system and care goals (Department of Health, 2005d). The PCTs and local authorities needed to design an effective LTC management service for their community including community resources, decision support tools and clinical information systems and

integrated health and social care systems (Department of Health, 2005b, Department of Health, 2005d).

INFRASTRUCTURE		DELIVERY SYSTEM		BETTER OUTCOMES
COMMUNITY RESOURCES *Voluntary Community Patient organizations*	**S U P P O R T I N G**	CASE MANAGEMENT *Identify the most vulnerable people co-ordinate health and social care*	**C R E A T I N G**	EMPOWERED AND INFORMED PATIENTS
DECISION SUPPORT TOOLS & CLINICAL INFORMATION SYSTEM (**NPfIT**) *Quality and Outcomes Framework NICE*		DISEASE MANAGEMENT *Provide responsive, specialist services using the tools and systems*		
		SUPPORTED SELF-CARE *Collaboratively help individuals and their carers*		PREPARED AND PRO-ACTIVE HEALTH AND SOCIAL CARE TEAMS
HEALTH & SOCIAL CARE SYSTEM ENVIRONMENT *Pooled budgets Community matrons authority GMS*		PROMOTING BETTER HEALTH		

Figure 1.3 NHS and Social Care Long-term Conditions Model (Department of Health, 2005d)

GPs are increasingly involved in planning and commissioning services due to new incentive systems, namely practice based commissioning (PBC) and payment by results (PBR). The PBC system allowed each practice to track the service usages of their LTC patients and pool an indicative budget to develop services or resources for the management of LTC patients (Department of Health, 2006b). The PBR system then provided additional incentives to the practices according to the improvement of LTC management. This was measured by the costs of preventable illnesses, avoidable emergency admissions, adequate prescription and preventative investment (Department of Health, 2007). With this framework, CM was to be designed to provide organised health and social care for people with highly complex LTCs, in

order to reduce the unnecessary usage of secondary services and improve quality of the patients (Department of Health, 2005d, Department of Health, 2005c)

1.4.2.1 Implementation of CM for complex LTCs

A generic guideline was given for speedy implementation of CM; 1) Agreement between health, social care and other partners on plans, goals and commitments; 2) Establishment of target criteria, a list of the target patients and the appropriate number of workforces (CMNs or CMRs); 3) Agreement with other health and social care services on the CM delivery process, key person, collaboration and communication process; 4) Development of service for sharing information across other PCTs and wider health communities (Department of Health, 2005e).

Agreement

It is very important for local authorities to bring all stakeholders together in order to clearly explain service aims and ensure their commitment to the new service. Then, the stakeholders should disseminate the upcoming services to their staff (Eile et al., 2011). The link between various community services including secondary care, ambulance trusts, social care, voluntary and patient organisations should be then organised for meeting the needs of people with LTCs (Department of Health, 2005b, Department of Health, 2005d).

Target population for CM

The target population of CM in health care focused on highly complex patients who have multiple LTCs and intensive secondary care usage as it mentioned with the Kaiser model (Department of Health, 2004b, Department of Health, 2005d). Health and social care partners were firstly encouraged to create agreed criteria to identify the patients with complex LTCs and their risk of hospital admissions or institutionalisation. The criteria might take account of the individuals' frequency of hospital admission and their length of stay, their number of

medical and other problems (co-morbidities), the number of medicines and adherence to the medicines, the number of GP consultations about their condition, and other social circumstances such as the death of a carer. Then, the target patients could be extracted from the available data sources including GP records, district nursing records, hospital discharge records as well as social service records. Thus, there would be no hidden populations of vulnerable patients (Department of Health, 2005e). Since 2003, the information support tools and clinical information systems (NPfIT) including patient registry, QOF, NSFs and NICE have been progressing to support clinicians in identifying people with LTCs, making clinical decisions, monitoring service usages and improving care provision as well as evidence to pool indicative budgets for each GP practice and other care agencies (Goodwin et al., 2010). With these tools, GP practices should proactively identify patients at risk of LTCs and provide integrated care with specialist services and self-care support programmes. Otherwise, more systematic tools and processes for extracting data and more skilled professionals are needed to manage the data within the PCTs (Department of Health, 2005b, Department of Health, 2009).

Developing workforce for CM

The DH recommended adopting the generic role of case manager (CMR) while introducing the new profession 'community matron (CMN)' for delivering the CM. It has been mentioned that both the CMN and the CMR are case managers, though differing in their respective levels of clinical skills (Department of Health, 2005e). From the DH document, CMRs should have either advanced nursing qualifications or get training for advanced clinical skills of diagnosing problems, ordering tests and prescribing (Department of Health, 2005e). Subsequently, the case management competency framework attempted distinguish between the two professions as explained below;

Case manager (CMR):

'A case manager is most likely to be a qualified nurse, a social worker or allied health professional who will work with individuals who have a dominant complex single condition but still have intensive needs, hence their care requires co-ordination. The case manager will work as part of an integrated team and in partnership with individuals and their carers to develop a personalised plan of care. They will be responsible for planning, proactively monitoring and anticipating the changing needs of these individuals, co-ordinating their care across all parts of the health and social care system'.(NHS Modernisation Agency and Skills for Health, 2005)

Community matron (CMN):

'A community matron is a nurse who provides advanced clinical nursing care in addition to case management (as defined above) to an identified group of very high intensity users through case finding. Both the community matron and the case manager can provide the same intensive level of service; it is the individual's clinical nursing care needs that are different.'(NHS Modernisation Agency and Skills for Health, 2005)

The CMR role in health care is not much different from the former care manager in terms of organising the care of people who are in complex care needs except their professional backgrounds being mainly nurses and the absence of budgetary responsibilities. The significant change in health care model of CM is the emphasis of clinical intervention of the patients to reduce unnecessary hospital usage. The DH proposed the recruitment and advanced clinical skills training of 3,000 CMNs in order to manage 250,000 patients with complex needs and reduce 5% of unplanned hospital admissions by 2008 (Department of Health, 2005d, Wilson, 2005). The new CMN role involved two aspects; 1) clinical intervention (physical examination, history taking, diagnosis, treatment planning, prescribing and medicines management) and 2) case management (assessment, care planning, care coordination, monitoring and reviewing). They were to hold caseloads of around 50-80 patients with the most complex needs and who require clinical intervention.

Their clinical intervention involved assessing medical and nursing needs of the patients, physical examination, diagnosing, ordering tests or prescribing, updating patients' medical

records and reviewing medicines, and monitoring their condition regularly (via visits and telephone contact). These clinical aspects of work were combined with the usual case manager's role of assessing clients' physical and psychosocial needs and collaborating with other care professionals, patients and their carers to organise care (Department of Health, 2004b, Department of Health, 2005d). Although the CMRs and CMNs can carry out the same level of CM, their level of clinical skills was different and that appears to differentiate their target patient groups. According to the role description of CMR and CMN above, the target patients for CMRs seem to indicate the second level in the population-centred model and require disease specific management whilst CMNs manage the population at the third level in the Kaiser Model, but it is not clear.

Education and competency of CMNs and CMRs

The education and competency frameworks of a CMN and CMR described the distinctive competency required by a CMN and CMR in regards to the level of clinical skills and patient level (Department of Health, 2006a, Department of Health, 2005a). As shown in the Table 1.2, the competency of CMN and CMR were divided into two types such as domains and principles. CMNs required competency in nine domains including; advanced clinical nursing practice, leading complex coordination, proactively managing complex LTCs, managing cognitive impairment and mental well-being, supporting self-care and enabling independence, professional practice and leadership, identifying high risk patients, promoting health and preventing ill health, managing care at the end of life, and interagency and partnership working. In comparison, CMRs required the same skills and knowledge as CMNs except the advanced nursing practice for physical examination, diagnosing, treatment planning and prescribing (Department of Health, 2006a). The different clinical skills should consider that CMNs can provide more immediate responses for medical interventions (Department of Health, 2005d)

while case managers (CMRs) need the support of GPs for the clinical interventions (Department of Health, 2006a, Reilly et al., 2010).

Required competency	CMN post	CMR post
	Advanced clinical nursing practice required	No advanced clinical nursing practice required
	Leading complex care co-ordination Proactively manage complex LTCs Managing cognitive impairment and mental well being Support self-care, self-management and enabling independence Professional practice and leadership Identifying high risk patients, promoting health and preventing ill health Managing care at the end of life Interagency and partnership working	
Principles: Additional learning to enhance their current knowledge and skills.	Additional competences relevant to post Acquired through work based learning Accommodate varied levels of practice Leadership across health and social care	

Table 1.2 Competency between CMN and CMR

Both CMNs and CMRs required a close working relationship with general practice, hospital wards and local social services teams, whether they work for these organisations or not. They should be competent in managing multiple LTCs including cognitive impairment, self-care support, end of life care, interagency and partnership working in the community and patient homes (Department of Health, 2005d). The education and competency framework provides a guide to set education/training programmes for CMNs and CMRs. This would either create a new career pathways or extend the role of health care professionals, but it can be depending on the effectiveness of their care outcomes. The NSFs and NICE can be a source of learning material for several LTCs such as osteoarthritis, rheumatoid arthritis, dementia, Alzheimer's disease, COPD and multiple LTCs (https://www.nice.org.uk/). Their guidelines emphasized the early diagnose of LTCs, treatment, proactive identification of patient at risk of hospital

admissions, relevant community services and their integrated working and staff training for managing the specific LTCs (Department of Health, 2005b, Department of Health, 2009). It is interesting to explore any education programmes for CMNs and CMRs, its level and adequacy, and how it supports them in carrying out their new roles in CM.

The DH continuously aimed for advancing the UK LTC services to be good quality, innovative, productive and preventative (Department of Health, 2010b). The level of efficiency and effectiveness of the UK NHS was internationally rated at the top compared to other developed countries such as Australia, Canada, France, Germany, Italy, Japan and the USA (Davis et al., 2014, Department of Health, 2010a). In contrast, internal views were quite critical as the DH reported no comparative reduction in the mortality rates of some respiratory diseases, acute complications of diabetes, or avoidable asthma admissions. The NHS service was also perceived as 'relatively poorly' by patients and criticised for 'inconsistency of excellence'(Department of Health, 2010a). Ham argued that although the NHS planed the health care at a high level, the leadership and front-line staff was not ready to deliver and understand the political aims. There has been emphasis on the collaboration of services in prioritizing prevention, caring of LTCs and providing closer to home services, but it seemed to be the matter of who takes the responsibility (Ham, 2010b, Ham, 2010a). There were also critics that the central policy increasingly emphasised the reduction and containment of public expenditure. This stressed local PCTs to focus on the financial control and measuring any cost effective care activities which undermined the quality or safety of the care (Ferlie, 2010). The incentive schemes for improving prevention of some of LTCs were also viewed as not necessary since they can be easily improved by regular assessment and treatment (Gérvas et al., 2007). Hence, people suggested more sensible strategies to manage LTCs by using existing resources effectively rather than creating additional services and models (Challiner, 2009,

Ham, 2010b). In fact, the LTC care model of CM seems to have lost the interest of policy makers as it has rarely mentioned in policy documents in recent years.

1.4.2.2 Current health and social care for managing LTCs: 2012 onwards

The key strategies to manage aging people with LTCs continues to focus on the prevention, population needs, quality care, patient and carer involvement, self-care support, evidence-based, collaborative care systems and payment reform (Department of Health, 2014, NHS, 2014, Department of Health and Social Care, 2018a). Additional changes have been only made through 1) the reform of structure and commissioning health and social care; and 2) the new professionalism and new care models for integration

Structure and Commissioning: Neoliberalism

In the UK, governance of health and social care is divided: most NHS care has historically been overseen by the Department of Health (DH) and services are funded by central government while social care is overseen by local community department and local government bodies (mainly local councils). Social care focuses on the wider context of individual needs including practical assistance, financial help, information provision, advice and psychological support. Charges for the provision of these services are means-tested and subject to a financial assessment within geographical and council boundaries (Exworthy et al., 2017, Humphries, 2015). The focus of health and social policy has largely been given to fair and affordable commissioning for decades. However, continuous criticisms arose towards social care in comparison to the advancing NHS because many people neither could afford the social services nor receive the social benefits unless they were very poor (Thane, 2009). In 2011, a commission report pointed out that the system of adult social care funding has been confusing, unfair, unsustainable for people to plan ahead of their care for the future. The assessment of the care needs was complex and the eligibility of the social funding was varied

between local authorities leaving people in the situation of paying high care costs (The Commission on Funding of Care and Support, 2011).

A significant milestone in health and social care reform is the Health and social care act of 2012 during the Conservative–Liberal Democrat coalition government led by David Cameron and Nick Clegg (2010-2015). The government questioned the statutory obligations in providing free and better quality of health care (Speed and Gabe, 2013); thus its primary concern was given to the reduction of the financial burden of state funding in providing health care services (Pownall, 2013). An increase of aging population, treatable diseases and new technologies continually raise the financial costs of the NHS. With the Act, the government replaced PCTs with clinical commissioning groups (CCGs). The role of CCGs is similar to PCTs but they are GP-led organisations responsible for commissioning local health services, developing workforces, issuing governance and regulation (Exworthy et al., 2017). The previous commissioning bodies were critical of the distance between patients and decision-making (Pownall, 2013). Now, GPs are responsible for 65% of the NHS budget covering routine and emergency care for their community. This is a standalone organisation separated from hospital foundation trust (Checkland et al., 2013). CCGs can offer contracts to 'any qualified provider' whether they are private, public or third sector organisation. This shift NHS staff into an explicit market context which means they will work for both private and public sectors depending on the contracts with CCGs. The internal market scheme seems to be revived in health care hoping that the GPs would design their local services to be more efficient and effective in meeting the needs of the public since they are the gate keepers for patients (Department of Health, 2011, Speed and Gabe, 2013). In addition, new funding bodies and systems have been introduced for the CCGs and local councils, namely Better Care Fund (BCF), Integrated Care Pioneer (ICP), Vanguard, Personal Budgets (PBS)/ Personal Health Budgets (PHBs) and Health and Well Being Boards (HWBs). The new funding system was

designed to maintain tighter rules and centralised, top down management of the fund while it allows innovative care approach by professionals, so called bottom-up innovation (Exworthy et al., 2017, Humphries, 2015). This seemingly aim to bridge the gap between policy and practice. Personally, all these sound very complicated in regards to the funding of the staff who are scattered into different organisations or services. This thesis is based on the empirical research carried out in 2009 so it is unsure how this CCGs and new funding system affect the work of CMNs and CMRs. However, there is evidence that although the health and social care act 2012 aimed to improve integrated care and strengthen the leadership of clinicians, the budget was widely dispersed among the health and social care systems with ranged providers. This again appeared to be confusing and fragmenting to their accountabilities which is a critical barrier to integrated care (Exworthy et al., 2017, Humphries, 2015).

Again, the financial thresholds to access social care are 12% lower (in real terms) in 2018/19 than they were in 2010/11, meaning fewer people are now eligible for publicly funded social care. High staff turnover rate has occurred for the adult social care sector especially for care workers in 2016/17 and their work continues to be replaced by informal carers. The financial cuts in social care resulted in increase of A&E usages by older people because many older people could not afford private service. The care of older people was generally provided by independent organisations based on self-funders. Only 3% of care homes in England are owned by local authorities or the NHS (Thorlby et al., 2018). This requires urgent need for developing a robust health and social care model to combine and organise the various services within a system. The many actors involved has led to fragmented service and unsatisfactory outcome from the users.

Presently, we are in the midst of an economic crisis caused by the Covid-19 pandemic and heading into further economic turmoil caused by Brexit which would negatively impact public

spending on health and social care in regards to staffing, funding, treatment and clinical research (Baird and McKenna, 2019). Several white and green papers attempted to bring reforms in social care funding systems but never reached a sustainable solution. Moreover, Dilnot's proposal to cap cost was not implemented as the cap cost required large amounts of savings to meet the standards (Thorlby et al., 2018, National Audit Office, 2018). Neither the constant change of government and its new strategies further its implementation (Wenzel et al., 2018) The NHS set out seven objectives in 2018 that emphasis the cost efficient commissioning with improved care quality and productiveness of NHS services. The funding for the NHS would be increased by at least £10 billion more per year above inflation by 2020-21 than in 2014-15, but this requires greater responsibility and transparency about the quality and outcomes of service provision (Department of Health and Social Care, 2018a). Such integrated care to meet the various needs of vulnerable people in community sounds great but this needs more realistic plan, guidelines, definitions and care packages for any LTC care model to sustain. There needs research that explore the complex organisational work in LTC management in regards to what kind and what depth the health and social services are to be used, how they are delivered and what are the limitations.

New professionalism and new care models for integrated care

The stress of state funding on both health and social care generated a new professionalism and care models together with the reduction and reorganisation of the workforce (Pownall, 2013). The 2012 Act encouraged 'Any Qualified Provider'/'non-physician clinicians' (e.g. nurse-led primary care) to undertake the work of some of the role of physicians within a team (Speed and Gabe, 2013). The former training-and-licence based model of accountability has shifted to a competency/performance based model. Health care professionals used to gain their embodied trust through the reputation, competency and empathy (self-regulation) but that trust is now based on enforcement and evidence (external forces). The NICE, QOF and NHS

Frameworks are the examples of enforcing the standard of professional competency and performance. Such austerity thought to be shaped out of 'distrust of doctors' values' in their management and clinical performance. It shifts provider driven service towards buyer driven service (Ferlie, 2010, Speed and Gabe, 2013). According to the statistics, over 40,000 jobs have been lost in the NHS for the organisational restructuring and market scheme. The creation of CCGs seems to give GPs more flexibility to buy services from any providers with a separate budget rather than relying on universal provision (Speed and Gabe, 2013). On the other hand, this has potential to cause imbalance in the health care provision between localities depending on the service availability and GPs' ability to handle the budget sensibly.

Since the 1990s market schemes, the decentralised health care system left fewer centralised hospitals and many small local hospitals have closed or emerged into one. Writers have questioned whether 'the one size fits all' hospital system and varied primary services are efficient for responding the medical needs of people with vulnerable conditions. In return, GPs increasingly gain the power in commissioning without increasing their numbers. Fewer GPs are allocated per general practice, this affects the quality of patient consultation and workload of the individual GPs. Although GPs spend more time on prevention of LTCs through the incentive schemes and OQF, their short clinical consultation time have left other psychosocial conditions and considerations neglected. There is also a lack of continuity of care between the GPs and their patients because part-time GPs cover their absence (Deeny et al., 2017). It is not only the shortage of GPs, but also the shortage of specialists who are mainly based on hospitals. At the early stage of 2012, Ham predicted that some services in district general hospitals would need to move to specialist centres in order to improve access and care outcomes of patients thus causing conflict as decisions must be made concerning which services to keep and where they should be located (Ham et al., 2012). This has long been suggested by West who believed that the NHS needed to develop a number of models of care outside hospital, such as large

comprehensive outpatient centres where GPs combine general and some specialist practice, minor accident and emergency facilities and a range of diagnostic facilities (West, 1998).

The NHS five years view introduced new care model so called Primary and Acute Care Systems (PACS) for integrated care between lead providers and joint ventures. An example, about 20 GPs and 150 staff provide many of the tests, investigations, minor injuries and minor surgery from three modern sites in Kent (NHS, 2014). General practices with such scale can absorb many patients requiring intermediate/secondary medical care so the patients do not need to travel to large hospital that is remote from their homes. Some reports mentioned that GP with special interests (GPwSIs) could contribute to the reduction of waiting times and help secondary services to concentrate on more complex problems by carrying out a wider range of tasks (Nocon and Leese, 2004). Moreover, a later study claimed that medical students should be taught about the management of complex LTCs. Then, GPs should have smaller caseloads and longer consultation times in order to deal with various medical and psychosocial problems in deprived areas instead of sending the patients to several disease-specific clinics (Salisbury, 2012). However, GPs are expensive and short in numbers so devices and technology have been considered for future health care such as online booking system, video GP consultation, GP-led telephone triage and information sharing. This can reduce the workload of staff in the GP practices and improve patient access to GPs' consultation (Baker and Jeffers, 2016). The effectiveness of contactless medical consultation is uncertain. It is expected that more home care approaches will be encouraged to deal with aging and LTC population in the future with many assessment tools and treatment options at home. Patients can access information and advice about their symptoms through mobile apps or websites for a self-diagnosis and to seek for the right help (Deeny et al., 2017, Ham et al., 2012).

With all resources, patient still need help to make choices on their care pathways. Evidence shows that patients want to be assessed and have their care organised by one cohesive key role rather than be referred to different care professionals (Jacobs et al., 2006). To do this, a global assessment and unified target criteria involving not only diseases, but also social, cognitive, and functional problems should be developed and key professionals be taught how to use them (Onder et al., 2015). CM was introduced to provide organised care by trained professionals of CMNs and CMRs. Although it is not much mentioned in policy papers to this day, the political beliefs in holistic care approach to aging population with LTCs remains the same. For this, the role of CMNs and CMRs is worth investigating for sustainable LTC managers who can fill the service gap caused by the shortage of doctors and specialists. The government should thoroughly investigate the existing care model for complex LTCs as routine rather than introducing new models. The ever changing health and social care policy and unsustainable funding system certainly does not help to sustain any service. What the future health and social care need is to have a clear indication to assess the various health and social care needs and adequate service options while it flexibly adopts policy changes in a systematic way and make it routine. Without a robust system, organisation of complex care will be a real challenge for any professionals who take such a role (Department of Health and Social Care, 2018b).

1.5   Summary

This chapter explained CM in regards to definition, impact of LTCs and policy contexts. CM is an approach that provides organised care to individuals with complex needs through core activities of case finding, assessment, care planning and implementing care plan, monitoring and review, and case closure. This approach was adopted into social care firstly for vulnerable people (elderly people and people with mental health problems) through the community care reform of 1989 which aimed to improve quality of community care and effectively provide an alternative to long-term institutionalised care. Vulnerable people were believed to live quite

independently in their homes with organised health and social care support. In this context, the internal market was introduced in 1990 in order to increase various service options in community through the competition among state, voluntary and private sectors. However, services were neither well integrated nor delivered at a good standard especially in the area of clinical practice. The health and social policy increasingly present emphasis both the growing aging population and population with LTCs, thereby requiring a more systematic and cohesive health and social care approach in community.

CM was then reintroduced into health care system to manage people with highly complex LTCs in 2004. A CMR is the key professional to deliver CM to vulnerable people with a brokerage role in social care while the CMR in health care model delivered CM to people with complex LTCs without the brokerage role. Additionally, a new profession CMN with advanced clinical skills was introduced to deliver the CM for people with complex LTCs in health care. The CM and the role of CMRs and CMNs has much potential to improve the quality of care for the vulnerable population and reduce the burden on national health and social care, but the lack of a sustainable social funding system and the fragmented nature of community services appeared to be a barrier to this day. The research exploring the CM design, professional education, effectiveness, integrated system is to be reviewed for its successful implementation.

1.6   Background to conducting this study and thesis structure

The purpose of this study is to enhance our understanding of complex phenomena around the implementation of case management (CM) for managing people with complex LTCs in UK communities in which, this study specifically focused on the organisation of CM in different local communities by CMNs and CMRs. I decided to conduct this study based on my previous experience in caring for people with LTCs and elderly people as a qualified general nurse and

Master's student. I realised the difference between community care and institutionalised care as I had working experience in both settings. None of the patients wanted to be institutionalised, and their priority was remaining at home as healthy/independent as possible. This was evidenced amongst people with Parkinson's disease in my Master's study as well (Kang and Ellis-Hill, 2015). From my previous work experience and the study of the CM literature, I agree with the potential benefit of CM for patients with LTCs, but I also realise how difficult it is for CMNs and CMRs to deliver the CM, and bring about the changes in care costs and quality of patients' lives. For this reason, I wondered how CM works out in the wider UK community.

This first Chapter outlined the background to CM in policy context. The next chapter provides a review of existing empirical evidence of both health and social care model of CM implemented in UK communities to gain the knowledge around the research topic. Chapter 3 and 4 presents the theoretical framework of this study and a review of methodological literature on the chosen methods. This informs the ontological and philosophical stances for this study. From there, justification was made for chosen qualitative methods including semi-structured interviews and Framework analysis. Then, chapter 5 describes the detailed process of conducting the study. Chapters 6, 7 and 8 present the key findings of the study related to the research objectives and questions. Chapter 9 discusses the key messages of the findings and their contributions to existing knowledge. The last chapter then discusses the findings further in relation to implications for practice and policy, study limitations and future research.

2 Literature review

2.1 Introduction

CM in health care focused on improving care of people with complex LTCs and reducing the secondary care costs. Local health and social care authorities were responsible for developing and commissioning the CM services in their localities. From the policy, this Chapter reviews previous research on: 1) Various CM models and their outcomes and 2) the process of CM implementation and development, in order to inform the existing knowledge, research gaps and methodological approaches for this study (Bryman, 2012).

2.2 Search strategy

The relevant articles on CM for complex LTCs were searched with the key words of 'case management', 'complex long-term conditions', 'long-term conditions', 'chronic diseases', 'community matron' and 'case manager'. The first and second literature searches were carried out online through Google scholar, Science direct and Scopus. The online sites showed the availability of full text, and the abstract of the study which helped to determine the relevance of the articles. They also had linkages, from a viewed article, to relevant articles to look at. There I found more key words relevant to my study areas such as 'co-morbidity', 'multi-morbid', 'integrated care', 'Evercare', 'virtual ward' and 'unique care'. A hand search on the reference lists of the selected articles was also helpful to find more articles relevant to CM. These additional articles did not come up in the first online search because their title did not match with the key words. The additional articles related to CM were then searched through online once more, with full titles identified from the reference lists of the reviewed literature. The search was updated for writing up the thesis. In the review process, I focused on the health care model of CM which included coordinated care for people with multiple LTCs/LTCs, used of CMRs and CMRs, policy contexts and research aims. I prioritised peer-reviewed journals as this indicates the quality of the research, but I included few non peer-reviewed articles that

I considered important, such as organisational reports or original research reports. Thus, the reviewed articles had already gone through a quality appraisal process (Bryman, 2012). In total, 39 empirical research studies and other review papers were examined to understand CM and find research gaps for this study. The review findings presented here into three concepts; 1) Evaluation of different CM models, 2) Explore the progress of CM implementation and 3) Organisation of complex care

2.3 Different CM approaches and their outcomes

CM has been adopted differently in regards to the names, arrangement of staff, target patient, workload and location according to the previous research as summarised in the Table 2.1. Five different CM approaches were identified according to their characteristics namely, Unique care (joint health and social care team), Evercare (CMN service), Virtual ward (multidisciplinary team), skill mix nurse-led CM team (consisting of different types of nurses as CMNs and CMRs) and Emergency Department-based CM. However, the implemented CM showed inconsistent outcomes, even among the same model. The success of CM was generally measured quantitatively in terms of the reduction in hospital usage (admission, length of stay, emergency visits), GP contacts, permanent care utilisation and overall cost saving. These statistical outcomes were supported with fewer qualitative accounts of improvement in care quality, quality of life and service satisfaction by users.

Studies	UK CM Models and key features	Outcome measures						
First author	√: impact X: little or no impact * include qualitative interviews or small scale of quality of life scores. No statistical comparison was performed.	Hospital usage	GP visits	permanent care	cost saving	Quality of care	quality of life	Satisfaction
Adam (2006)	**Unique care/Joint care team** Location: a practice-based management Staff: a team of one district nurse and one social worker	√					√	
Dix (2004)		√						
Fletcher (2009)		X	X					
Gravelle (2007)	**Evercare model/CMN service** Staff: advanced primary nurse (APN)/CMN Workload: attached to 3-4 GP practices or a nursing home Target: patients over 65 years of age, with over 2 admissions to hospital in the past 13 months, either live in their own homes or in nursing homes Location: not in GP practice	X						
Leighton (2008)								√
Huws (2008)		√						
Sheaff (2009)		√*				√*		
Wright (2007)						√	√	
Lewis (2011)	**Virtual Ward model/ Multidisciplinary team CM** Team members: ward leader, ward clerk, other memebrs are vary (CMNs, district nurses, health visitors, pharmacists, social workers, physiotherapists, GPs, mental health professionals, occupational therapists and voluntary representatives)	X			X			
Sonola (2013)		√		√				
Stokes (2016)		X						
Goodman (2010)	**Skill mix nurse-led CM team** Team members: CMNs, nurse specialists, district nurses and other type of CMRs						√*	
Skinner (2009)	Emergency Department-based CM	√						
Gaffney (2009)		X	X					

Table 2.1 Different UK CM models and outcomes (Adam, 2006, Dix, 2004, Fletcher and Mant, 2009, Gaffney, 2009, Goodman et al., 2010, Gravelle et al., 2007, Huws et al., 2008, Leighton et al., 2008, Lewis et al., 2011, Sheaff et al., 2009, Skinner et al., 2009, Sonola et al., 2013, Stokes et al., 2016, Wright et al., 2007)

CM is also implemented in different forms in managing LTCs among the international studies (Table 2.2). The different CM approaches were divided into three groups as disease-specific CM, nursing home-based CM and CM with complex LTCs. The outcomes of the services were measured by the level of reduction in hospital usage and GP visits, quality of care/life and symptom control (Table 2.2). The difference of the international models can be their emphasis on clinical intervention of specific diseases and older people with multimorbidity. As noticed, the international CM also showed uneven outcomes around the reduction in service usages.

First Author	Study	Outcome measures							
	Disease-specific CM **Nursing home-based CM** **CM with complex LTCs** √: impact X: little or no impact	Hospital usage	GP visits	permanent care	Symptom control	cost saving	Quality of care	quality of life	Satisfaction
Poole (2001) USA	COPD-specific CM	√				√			
Neff (2003) USA	COPD-specific CM	√			√				
Jones (2015) Canada	Diabetes CM by Certified Diabetes Educator Nurse				√				
Watts (2016) USA	Diabetes nurse CM: Improving glucose control				√				
Yuan (2016) China	CM on glycemic control and behavioral change in people with type 2 diabetes				√				
Kane (2002) USA	Nursing Home-based Evercare model	√							√
Kane (2003) USA	Evaluation of a nursing home-based Evercare	√							
Newcomer (2004) USA	CM for geriatric patients	X	X	X	X	X			
Duke (2005) Australia	Community-based geriatric CM for frail, old people with LTCs	√						√	
Boult (2008) USA	''Guided Care'' for older persons with multimorbidity							√	√
Bouman (2008) Netherlands	Home Visiting Program for Older People with Poor Health				X			X	
Brokel (2012) USA	Symptom control and quality of life through CM				√			√	

Table 2.2 Effectiveness of CM in other countries (Boult et al., 2008, Bouman et al., 2008, Brokel et al., 2012, Duke, 2005, Jones, 2015, Kane et al., 2002a, Kane et al., 2003, Neff et al., 2003, Newcomer et al., 2004, Pooler and Campbell, 2006, Watts and Sood, 2016, Yuan et al., 2016)

Perhaps, the previous research in both the UK and other countries revealed different strengths and weakness of the models contributing to its outcomes. For example; Unique care model consisting of district nurse and social care worker had advantage of peer support, integrated health and social care assessment which made care process quicker (Lyon et al., 2006, NHS Modernisation Agency, 2005). Similar outcomes were shown in social care model of CM in the UK where district nurse and social worker provided joint care to older people (Brown et al., 2003), and the Australian CM delivered by a team of an advanced nurse practitioner, an experienced community nurse and a social worker for older people with complex LTCs (Duke, 2005). Alternative Evercare model consisting of advanced practice nurse (APN), non-advanced nurses and non-nurse CMRs also reported improved access and communication with

other service (Leighton et al., 2008). To improve the service outcome, key elements of CM and the professional work needs to be understood (Fletcher and Mant, 2009).

The clinical skills of different types of nurses have been also regarded for rapid access to clinical care and symptom control (Goodman et al., 2010, Kane et al., 2002a, Kane et al., 2003, Sheaff et al., 2009). However, the depth of clinical knowledge and skills among the ranged nurses are unclear as some CM team consisted of both CMNs, specialist nurses and nurse CMRs (Goodman et al., 2010) while some others only used CMNs (Wright et al., 2007) or nurse with specialty in a single LTC (Neff et al., 2003, World Health Organization (WHO), 2016, Jones, 2015, Watts and Sood, 2016). Stokes claimed that it is difficult to achieve the clinical significance from CM alone (Stokes et al., 2016). CMNs and CMRs deal with not only various LTCs but also psychosocial aspects of patient care. Thus, this doctoral study considered their qualification and clinical and non-clinical skills in relation to their capacity of work. A study found that heavy workload of CMNs caused by over burdening caseload size and the combination of work and training affected their role performance (Sheaff et al., 2009). In addition, the patient identification process and clinical decision tools required further investigation (Boaden et al., 2006, Gravelle et al., 2007, Sheaff et al., 2009). Few studies with well organised delivery system with detailed guideline and formal agreement showed positive outcomes (Huws et al., 2008, Poole et al., 2001). Beyond the agreement and systems, the factors improving networking and communication between professionals need to be understood (Sonola et al., 2013, Stokes et al., 2016).

From these perspectives, many other CM-related studies in the UK attempted to explore the progress of CM implementation and development.

2.4 The process of CM implementation and development

2.4.1 **Implementing and embedding of the CMN and CMR roles**

As noted from the previous sections, the roles of CMNs and CMRs involved various co-responsibilities including assessment, care planning, care co-ordination, review and monitoring (Department of Health, 2005d). CMNs' responsibility was different from CMRs in advanced clinical care and patient level (Department of Health, 2006a). The majority of qualitative studies focused on exploring the new CMN role which embeds various aspects of CM and core tasks (See Table 2.1).

2.4.1.1 **Poor recognition of the CMN role**

Initially, studies were carried out to see how the role of CMN was understood and accepted after the implementation of CM. For example, Leeds North West PCT was required to have seven community matrons from 2005 to 2007 in response to the government's strategy of recruiting 3000 CMNs by 2007. Bee and Clegg (2006) described the process of the introduction of the first wave of CMN service. The PCT reviewed the Evercare, Castlefields models and national debates about the role and background of CMNs and CMRs in order to determine the CMN role. CMN role was considered a high level of clinical skills including advanced assessment skills and extended prescribing, but some GPs disputed the CMNs actual skill set. For this reason, the study suggested the agreement should be made with hosting GP practices about the type of staff between CMNs and CMRs prior to the service implementation. Also, the understanding of both roles within the local care system was important for collaborative working between CM and other services, and meeting the various needs of the patients (Bee and Clegg, 2006). Similar responses were informed by other studies that GPs and other care professionals viewed CMN role as a clinical manager who support patient needs with other professionals. This did not mean that other professionals understood the specific roles and responsibilities of CMNs. CMNs experienced that GPs did not understand the level

of their knowledge, skills and accountability so that GPs felt the role of CMN overlaps with some of the DN's role (Chapman et al., 2009, Cook, 2005, Iliffe et al., 2011, Sargent and Boaden, 2006). Such poor understanding of CMN role was perceived to be caused by insufficient introduction prior to service implementation (Chapman et al., 2009). The role of CMNs required much collaboration with other care professionals but there have been chronic obstacles highlighted by the previous studies. Even after 10 years of its implementation, a qualitative study by Randall revealed the lack of understanding around the CMN role and its goals by other health care professionals. Although patients and their carers appreciated the work of CMN, other care professionals did not recognise their roles or show appreciation of what they were doing. The invisibility of the CMN role was an issue in taking the lead of organising care with other services (Randall et al., 2014). Therefore, the previous studies commonly emphasised greater clarify of CMN role and a more systematic approach to support the role.

2.4.1.2 Unclear role description as barrier

There have been common criticisms that the new CMN role was re-interpreted to fit with local patterns of service delivery and as such this new nursing role required more understanding and clarification before introduction (Drennan et al., 2011, Goodman et al., 2010). A more fundamental cause of the poor understanding of CMN role was regarded as the unclear job descriptions and practice boundaries. For example, CMNs criticised that there was no definitive job description provided by their organisations prior to the post. This influenced their work with other existing care professionals (Chapman et al., 2009). CMNs felt they were expected to be a 'quick fix', a 'miracle service', a 'problem-solver' or 'the golden bullet' with insufficient resources and staff in the post (Randall et al., 2015, Russell et al., 2009). The role of CMNs was viewed as a problem-solver over complex issues of patients with LTCs. Other care professionals seemed to regard them as either extra support for them or a manager over

district nurses because of their advanced nursing qualification (Russell et al., 2009). The similar response was found in Randal's study where CMNs began their work without much understanding of their role. Particularly, the psychosocial aspects of work were not well defined in their professional work-boundaries despite CMNs spending much time in them (Randall et al., 2015).

Cubby and Bowler (2010) particularly explored the role of CMN through the interviews with 9 CMNs from different PCTs. The CMNs described varied role definitions, and they also experienced the misunderstanding of their role, professional rivalry, lack of support from GPs and secondary care services. This was regarded as the greatest difficulties in their role implementation. They valued nursing backgrounds and advanced clinical skills for CMN role, but their role needed further support with on-going learning and induction. Again, Dossa (2010) examined the perception of CMN role through two focus group discussions among 12 CMNs from a range of PCTs. The CMNs in this study also claimed that their role was unclear which could lead to conflict and poor service outcome. They encountered confusion concerning the nature of their role within the system, perceptions alternating between something more general and something more specialised. There was also a lack of clarity concerning their professional competency and practice boundaries to manage complex LTCs compared to other health care professionals. The outcomes from the small sample size need further study in order to define adequate training for CMNs, and differentiate between specialist and generalist in the training and role. CMNs are supposed to be a new type of specialists for the management of people with multiple LTCs while specialist nurses manage or support people with particular conditions.

2.4.1.3 **Care activities of CMN**

In response to the confusion, studies emerged to define the role and care activities of the CMN. Offredy et al (2010) synthesized that a CMN managed a typical caseload of approximately 50 very high intensity patients. The CMN provided clinical and nursing care in the home for patients with chronic LTCs such as dehydration, urinary tract infections and respiratory exacerbations. Wooden (2006) discussed the role of CMN in more general term as to manage a maximum of 50 patients with LTCs, provide active care on a regular basis at least at monthly intervals and prevent hospital admissions by providing intensive home care support. Because of the nursing qualification and clinical care-focused role, the CMN role was also perceived as a combination of medical and nursing roles (Sargent and Boaden, 2006), and a combination of advanced clinical care and case management for 5% patients with high service usage, multiple LTCs and unstable conditions by CMNs (Cook, 2005). In other studies, CMNs perceived their role as the provision of support and advice, improvement of quality of life and reduction of unplanned hospital admissions (Armour, 2007); while CMNs from another study described their role as one with responsibilities of physical assessment, prescribing and educational priorities for LTCs (Pooler and Campbell, 2006).

In contrast, the role of CMRs was not much discussed in the previous studies apart from care co-ordination (Department of Health, 2006a, Reilly et al., 2010). A national survey reviewed the core activities of CMRs (indicated all professionals involved in CM). In this survey, CMRs' most frequent activities were arranging and allocating services, medication reviews, patient advocacy, emotional support and hands-on care. It was realized that there was the lack of role clarity for CMRs, especially for their responsibilities between CM and clinical interventions in LTC services (Challis et al., 2010b). Few diary studies reports the activities and time spent of CMRs (mainly specialist social workers) in social care model of CM. The first study revealed that about 64% of CMRs' working week was spent on direct and indirect user and

carer related activities, and next to this, 32% of time was spent on administrative tasks and 27 % on assessment. Small portion of time were given to the activities of monitoring (7%), reviewing (5%), counselling and support (5%) and liaising with health staff (4%) (Weinberg et al., 2003). Another diary study explored how the available workforces can be efficiently used through intensive CM for old people with mental problems. 27 community-based social workers and 15 community mental health nurses (CMHS) spent about two-third of their working week in client-related activities (direct and indirect) of which a substantial proportion was taken up by assessment and CM-related tasks respectively. However, their activities of care were fundamentally lacking compared to the principle of CMR role in regards to arranging adequate assessment with other practitioners and agencies, and monitoring elderly people closely. Thus, a formal arrangement of training was suggested for the health and social care staff who takes the role of CMR role (Tucker et al., 2008). One more diary-based study examined the distinctive activities and time use between core workers and extended workers among the professionals in two community mental health teams for the elderly (Berntsen et al., 2015). The two teams consisted of different health and social care professionals including specialist social workers as CMRs, community psychiatric nurses (CPNs), social workers (SWs), occupational therapists (OTs), clinical psychologists, consultant psychiatrists, a psychiatric registrar, and psychiatric clinical assistant. These professionals involved in different activities so as their committed times to of CM. Despite CMRs supposed to be a key professional in CM others also take the role of key work in organising care at a certain level. This implies duplication and conflict during the operational process of CM (Berntsen et al., 2015). Such information is also lacking in the work of CMRs in managing complex LTCs.

2.4.2 Qualifications and training of CMNs and CMRs

Research exploring the progress of CM implementation looked at the professional backgrounds of CMNs and CMRs, their skills and training support. The role of CMN and

CMR has been delivered through varied health and social care professionals such as district nurses, social workers, occupational therapists and community psychiatry nurses (Drennan and Goodman, 2004, Offredy et al., 2010, Weiner et al., 2003). The variety in health and social care professionals were reviewed from the early CM in social and mental health care services (Goodman et al., 2010). For the last 10 years of CM, nurses from different disciplines were the main CM professionals including specialist nurses, district nurses and advanced practice nurses (APNs) (Reilly et al., 2010). Such district nurses and specialist nurses were considered the most suitable professions for the CM post because of their experience in community care (Snow, 2006). A few studies showed the influence of the previous background of the CMRs in CM. For example, CMRs with occupational therapy and physiotherapy backgrounds tended to focus on rehabilitation, whereas CMRs with nursing backgrounds were more focused on the patients' physical symptoms and hospitalisations (Goodman et al., 2010). For CMNs, health care backgrounds were widely agreed to be beneficial for their role but district nursing was the most preferred background for the CMN role (Armour, 2007). However, the previous studies provided insufficient information around how the previous professional backgrounds of the CMRs and CMNs impact on their current role in CM. To understand this more research was required to hear from the CM staff with different professional backgrounds.

Nevertheless, Ross et al (2011) were less sensitive about professional backgrounds. They claimed that individuals with different professional backgrounds can be equipped through adequate training to support their learning needs. They regarded interpersonal and communication skills, problem-solving skills and negotiation and brokerage skills were the key skills as required by both CMNs and CMRs (Ross et al., 2011). The interpersonal and communication skills were essential because the CM staff had to build a good relationship with GPs and other care professionals as well as their patients (Lillyman et al., 2009b, Ross et al., 2011). Problem-solving skills were applied for assessing the various physical and

psychosocial problems of patients and organising adequate care based on their knowledge of local health and social services (Department of Health, 2006a, Naylor et al., 2011, Ross et al., 2011). CMNs obviously required advanced clinical skills in line with those key skills and their competency and the clinical skills was important to prevent inadequate hospital admissions (Department of Health, 2006a).

From the review of previous studies, CMRs' training was not much discussed except for professional backgrounds in health and social care. Few studies suggested a certain level of training and clinical supervision for CMRs in order to perform effective CM (Dossa, 2010, Drennan and Goodman, 2004, Ross et al., 2011). For CMNs, few studies have provided evaluation on CMNs' education programmes based on the NHS competency framework. For example, an education programme was developed through postgraduate programmes in the Sheffield Hallam University. This education programme consisted of two 30-credit Master's degree modules including 'Developing Self Awareness in the Context of LTCs', 'Using a unique Self-Assessment Tool (SAT), 'Clinical Case Management in LTCs', 'the Community Matron Competency Framework', and later on 'Mentoring Clinical Managers' for field practice. Approximately 25 students believed that the programme had met their expectations and had helped to achieve the functions of the CMN's role. However, 17 students expressed weakness in the facilitation of work-based learning. As a result, CMNs were confident in supporting patient self-care but on-going development was needed for physical examination, diagnosing and prescribing skills (Banning, 2006).

A later study then evaluated education programmes comprised of Master's degree modules and field practice in the context of LTCs, which would result in a postgraduate certificate. From this education programme, CMNs gained confidence in self-care support but there was insufficient support for physical examination, diagnosing and prescribing skills (Girot and

Rickaby, 2008). This was generally associated with busy workloads and insufficient mentorship (Action Shapiro Limited, 2008). This negative feedback was also referred to in Cubby and Bowler's study (2010) in which CMNs felt they needed on-going training and support for clinical skills through regular supervision, mentorship and team meetings in order to fulfil their role. For this reason, Girot and Rickaby suggested the development of good infrastructure and practice based-learning systems in order to support CM roles. Other studies did not examined the details of the education programme of the CMNs or CMRs but they sought perception about the training support from CMNs through qualitative studies. For example, CMN training was being undertaken through university courses and CMNs found some elements of training were duplicated from their previous learning and experiences prior to the post. In addition, it was difficult to identify and access mentors for their training as well as identify development needs (Russell et al., 2009). The education of CMNs seemed to begin with their post according to Bee and Clegg who revealed that CMNs were put into education and induction programmes at the post, but the details of these programmes were not presented (Bee and Clegg, 2006). One study examined practice-based learning for CMNs in training and there emphasized practice-based learning as an efficient way to skill-up CMNs (Banning, 2009). While CMNs in another study suggested the usefulness of solution-focused (psychological) approaches in supporting patients in their self-care (Simm et al., 2011).

There is insufficient evidence around the level of CMN and CMR training and its efficiency for complex LTCs. CMNs' training appeared varied depending on the background of nurses (Ross et al., 2011). Thus, there should be clear boundaries of clinical practice for the CMNs that fill the gaps of medical professions and specialists operating in the community. Same for CMRs whether they work with CMNs or on their own (Salford Primary Care Trust, 2006b, Sheaff et al., 2009).

2.4.3 The professional identity and boundary-work of CMNs and CMRs

2.4.3.1 Consistent job title for the chosen professional

It was found that the job titles of CMN and CMR from the DH documents were often used interchangeably as well as introduced using various names. The CMN and CMR titles were introduced as active case manager, nurse case manager and assertive case manager within the local CM services (Challis et al., 2006, Lillyman et al., 2009a, Salford Primary Care Trust, 2006b). Furthermore, professional qualifications were also used such as the titles of advanced primary nurses, district nurses or simply trained nurses (Ross et al., 2011). Such inconsistent job titles could lead to a decrease in job competency or service recognition by other care professionals (Forbes et al., 2003, Lillyman et al., 2009a). The DH described CMR as a general term that indicated all professionals who carried out CM, while the CMN title was introduced as a new type of a CMR (Department of Health, 2005b) or a specialist (Murphy, 2004). The job titles of CMN and CMRs should represent their roles and qualifications and be consistent in order to sustain the professional identity in CM well (Lillyman et al., 2009a, Pateman, 2005). However, evidence to suggest suitable job titles and descriptions was limited since the role and training of CMNs and CMRs has been both unclear and inconsistent.

2.4.3.2 Determinants of professional work boundaries

There have been expansions and extensions of practice, both big and small, among the health care professionals from their traditional practices that now often cause overlapping work-boundaries. The changes were also derived by policy such as neo-liberal management that put a greater emphasis on consumer preferences than professional-led services (Nancarrow and Borthwick, 2005). Nurses have always provided a certain level of LTC management in regards to health promotion, patient education and nursing care (Goodman et al., 2010). Then, the usual nursing practice and role has been extended to a wider range and created varied nurse specialists. Such nurse specialists are experts in a specific area of care such as rheumatoid

arthritis, asthma, diabetes, and chronic obstructive pulmonary disease (COPD). There have been many nurse-led practices and clinics including nurse-run epilepsy clinics (Ridsdale et al., 1997), rheumatology nurse practitioner (RNP) services (Temmink et al., 2000). These specialist services were perceieved as improving patient satisfaction, quality of life, information provision, continuous care and self-management (De Bore et al., 2001, Temmink et al., 2000). Then, hospital outpatient clinics and emergency departments started to employ advanced nurse practitioners for managing minor illnesses or injuries (Goodman et al., 2010). The importance of flexible workforce increasingly gain the political attention worldwide in seeking boundary renegotiation. However, most nursing and allied health disciplines have informal specialisms while the title of the medical specialist is generally more clearly stated and understood by the public in their role (Nancarrow and Borthwick, 2005).

What is more, CMNs are advanced nurse practitioners or 'non-physician clinicians'. For decades, nursing together with other health and social care occupations (physiotherapy, radiotherapy and medical social work) has sought to follow the doctors' professional authority and autonomy in health care (Scambler, 2008). Particularly, advanced nursing practice is the example which emerged over 25 years ago and is believed to have emerged in response to the insufficient number of doctors (or junior doctors). However, this medical model of nursing has not gained the same significant autonomy or authority as doctors. There has been consistent criticism about the clinical skills and professional identity of advanced nurse practitioners. Their clinical knowledge and skills were recognised as being intermediate and practice-based (Gray, 2016, Scambler, 2008).

Since 2000, the education of advanced nurse practitioners has looked for holistic care in response to the increasing population with complex health needs. Again, the education was criticised for being too theoretical without sufficient field practice for newly qualified nurses

(Gray, 2016, Scambler, 2008). The role of CMN and CMR is not simply administering the relevant services to patients but it requires a certain level of knowledge and skills to manage clinical and non-clinical issues for patients that will require extending their scope of practices beyond their traditional occupational practices as a nurse, physiotherapist, occupational therapist or social worker. Although, their clinical experiences and the additional training, especially for CMNs can be similar to the duration of GP education, their depth of medical knowledge and skills are different from GPs. Even GPs are not proficient in specific LTCs or social side of care, so they too need to liaise with specialists (Gask, 2005, Gérvas et al., 2007, Gray, 2016, Scambler, 2008). Without such knowledge and understanding, they may only delay the care process or increase service usage for the small portion of vulnerable people as it happened to the social model of CM. Murphy pointed out that the work of CM is very difficult and complex to do well and this should not be underestimated. CMNs could take longer to make significant contributions if they were to be retrained for the tough job (Murphy, 2004). In practice, CMNs inevitably engaged with work (social aspects of work) that are beyond their anticipated role because they can't just walk away problems that affect patients' well-being, but these are not well recognised (Randall et al., 2015). Such flexibility of work could make it difficult to define the work-boundaries of CM staff and come to agreement with other care professionals.

Nursing has become complex and invisible because the work of nurses is shaped by what they do at work throughout time and place (Allen, 2004). Registered nurses now spend more time on indirect nursing activities like coordination and documentation while direct nursing such as patients' activity of living has been entrusted to health care assistants (Lavander et al., 2016). Moreover, nursing is required to provide more holistic care that involve not only emotional support of patients but also a highly skilled intermediary role in real-life practice. However, theses work may not be visible to the public or users without routines and standard operating

procedures. Therefore, the work of nursing needed to be more systematically formalised for the efficient delivery of its modern role and maintaining the profession (Allen, 2004, Allen, 2015b, Allen et al., 2004b). We have to consider how to develop and use the advanced nursing practitioners for the needs of the public rather than simply replace expensive doctors with nurses. For this reason, researchers argue that advanced nursing requires a different direction (Gray, 2016, Rolfe, 2014, Por, 2008). Moreover, the extension of existing professionals' roles seems to create more professional hierarchy in the health care system. The effectiveness of the professionals in the extended roles needs more debates.

Woodend (2006) believed that the CMN role could be a distinctive nursing role in a new area of health care. Such a role was called to meet the needs of the public despite existing medical professionals. The successful development of the CMN and CMR roles in CM will bring a positive impact on the development of nursing profession as a result. However, it is not all down to the professions; it is more about how they were supported with their training, service arrangement and introduced to existing services by their host organisations (Challis et al., 1991, Challis et al., 2002). Recent report from King's Fund informs that there is the lack of preparation for both health and social care professionals with training enabling them to support the holistic and integrated care and work across their boundaries (Gilburt, 2016).

2.4.3.3 **Gaining the good recognition of new role**

In general, implementation of a new service always requires clear service aims and roles so both allocated staff and existing care professionals understand the service. This could generate good role performance and integrated care in order to sustain the service (Eile et al., 2011, McGrath et al., 2008). The previous research related to the introduction and development of CMN role frequently pointed out the unclear role definition or job description despite of its existing definition in the DH report (Department of Health, 2005d). As noted, the CMN and

CMR roles were described differently involving political aims, concept of CM, professional qualification and skills, target patients and contributions. Perhaps, those varied descriptions need more clarity in regards to the meaning of 'role'. The term 'role' could indicate a person's function, distinctive job, post or tasks/responsibilities to fulfil the function. It is expected that the description of CMN and CMR roles needs to have those functions as why the CMN and CMR roles exist in the management of complex LTCs, and what the purpose and outcome of their services are; the distinctive job presents the professional identity and general description of CMNs and CMRs' work. Following this, the detailed responsibilities and care activities can be presented as fulfilling the function of their roles. Although much research discusses the importance of role clarity by presenting varied definitions and their negative responses, there was insufficient information on why the CMN role had to be described differently in locality and how to effectively gain the understanding of other care professionals on the new role. More studies seeking the patterns of distinctiveness in CMN and CMR roles among the local CM services for complex LTCs are needed.

Many factors influence the adaptation of new services in order to make them routine in the existing system. On an organisational level, the service requires visible effectiveness and easy application into the existing system while individuals adopt new service based on the mixture of feeling and actions. Hence, an active support is needed to diffuse and disseminate the service through formal and informal introduction and system antecedents. Such organisational system readiness to implement the new service was then very important for the success of reutilisation (Greenhalgh et al., 2004). On an individual level, Normalisation Process Theory highlights the importance of understanding the integration of practices among the individuals and groups when implementing a new intervention. The ways of people work, interact and operationalise the intervention within different health care systems can determine the success or failure of its implementation (May et al., 2018). There has been a lack of studies examining the level of

organisational support and readiness to the CM service and the new role of CMN. Therefore, fewer empirical studies and review studies examined the systems and guidelines to patient identification, assessment and networking.

2.4.4   Service arrangement

2.4.4.1   Targeting and eligibility

The decision on the right target patient group and their eligibility is crucial for the case-finding process. In the health care model of CM, the target patients are those people at high risk of unexpected hospital admissions in the future (Roland et al., 2005) Health and social care partners were responsible for creating the most appropriate criteria to identify the target population of CM (Department of Health, 2004b, Department of Health, 2005d). The target patients could be overlapping with social care model for older people with vulnerable conditions (Murphy, 2004). Among the CM models, Evercare model targeted patients were over 65 years of age, with over 2 admissions to hospital in the past 13 months. Then, Virtual ward model used a risk model that stratified the highest 0.5 % and 5 % of patients at risk of an emergency admission in the next 12 months, but the results were similar as the majority of patients were over 65 years old, living alone with at least one LTC.

Although evidence suggested that CM was more likely to be successful when it focused on a highly specific target patient group (Challis et al., 2002), CM in complex LTC management seemed to have varied definition of target patients starting from older people, people with mental health problems, people with comorbidity and disability. The survey study by Challis et al (2010) found that local CM services targeted both patients with a specific disease (CHD, COPD, diabetes) and patients with multiple conditions. The target patients were then mainly concerned with physical illness that caused frequent hospital admissions and that the long-term mental health problems and dementia were not the main focus of the CM. Other

researchers claim the differences between managing older people and managing people with complex LTCs without the detailed information. They thought the differences have to be understood by professionals who took the role of CMR in CM for complex LTCs (Jacobs and Challis, 2007, Tullett and Neno, 2008). Some CM services excluded patients with acute mental health problems; patients who refuse the service; patients with alcohol related problems; and those with needs already adequately met by other professionals. Such inconsistent target patient criteria across the PCTs was criticised for establishing accurate tools and pathways to identify patients and keep their records up to date (Russell et al., 2009).

Evidence has reported two main case-finding methods, namely predictive risk models and referrals. The predictive risk model used systematic tools for extracting target patients which could be different due to available patient records in individual services and organisations (Georghiou et al., 2011). Patient at risk of readmission (PARR) was one of the predictive risk models and Georgiou argued that the PARR could include inadequate patients or miss out patients depending on the development of the data tools in the local organisations (Georghiou et al., 2013, Georghiou et al., 2011). Other care professionals could use the referral to help identify target patients (Ross et al., 2011) but the referrals were based on their clinical knowledge, instinct and experience rather than the specific patient criteria. It was doubted that other care professionals may be able to pre-identify patients (Curry et al, 2005). For this reason, most CM services tended to combine the predictive risk model and clinical judgement while few CM services purely relied upon referrals to identify the high-risk patients (Reilly et al., 2011, Ross et al., 2011). The accuracy of identification methods was still developing among local organisations and it needs more clarity and consistency in target criteria and systems of identification according to the criteria.

Through a series of studies, Billings focused on the development of PARR by using multivariate statistical analysis on hospital data. His early study found key factors to predict the risk patients and developed an algorithm to identify patient at risk by score (from 0 to 100) and alarm system. The key factors included age, sex, ethnicity, number of previous admissions, and clinical condition. With this factors, PARR predicts patients who have risk of readmission in the next 12 months except patients with no previous admission to hospital. The PARR was then made available to all PCTs via website (Billings et al., 2006). The early study outcome however, did not suggest how the PARR could support preventing the risk of readmissions. Later study advanced the PARR models at the individual level which can predict patients with risk of unplanned hospital readmission within 30 days after the discharge, but the sensitivity was not greater than previous one so it needed additional sources to improve the adequacy of target (Billings et al., 2012). Thus, a following study compared the impact of using alternative data sources including hospital inpatient, A&E, outpatient and GP's medical record. However, no remarkable improvements were found from the use of the additional sources for identifying risk patients who had no previous hospital admissions for 2 years. In fact, GP registers turnout to be better source for case finding but then it was entirely up to CM design and choice of the data sources (Billings et al., 2013). Before this, another study examined CMNs' strategies to case-finding. They realised that the PARR produced data too late and did not predict risk patient of readmission. Moreover, CMNs embedded varied ways of case selection even in the same locality. The case finding was largely depending on the influence of CMNs' interpersonal relationship with others, available IT system, personal experience and expertise. This variability made it difficult to come up with generic recommendation for case selection. Thus, better case finding tools and pathways were essential for service to function (Hall et al., 2011)

In theory, the adequate case finding with the PARR depended on the use of the key risk factors from the existing data sources. These included the frequency of hospital admissions, the duration of hospital stays (Billings et al., 2012, Jencks et al., 2009), the number of medical problems (co-morbidity), the number of medicines and visits to general practitioners (GPs) for consultations (Boaden et al., 2006, Clarkson et al., 2009, Starfield et al., 2003). Moreover, the multiple medical problems and medications were a good indicator for predicting patients' high service usage in the future (Billings et al., 2006, Clarkson et al., 2009). Therefore, the characteristics of the target patients would require a trained CM staff who can assess the diversity of their needs and organise appropriate care on an ongoing basis with links with ranged specialists (Murphy, 2004).

2.4.4.2 Single point of access and single assessment

CM should be a single point of access following the patient identification and the patients' various physical and psychosocial needs should be carried out in a single assessment format as well. In this way, a CM service could provide more responsive care and minimise the need for further referrals (Ross et al., 2011). Thus, there should be links between CM and co-professionals for the single point of access, together with a unified assessment tool for CMNs and CMRs. Previously, the social care model of CM anticipated multidisciplinary assessment in which more than one care professional should be involved in patient assessment based on the type of patient needs (Challis et al., 1990). However, it is not clear in the previous studies how the single point of access and single assessment could be facilitated in a different locality and its care systems as a whole.

A particular study by Randall actually explored the work of CMNs on the comprehensive assessment they carried out in patients' homes. CMNs' profound role was described as advocates because they deal with social issues that are beyond their healthcare boundary. For

this reason, the study emphasised the need of using a social determinants model of health that would provide broader views with social, economic, environmental and material factors influencing people' lives. This will help CMNs to build problem-solving strategies. In addition, good relationship with patients and other health care professionals and agencies were again advised as the key factors for effective role play (Randall et al., 2016). Though not necessarily new information, as it is suggested in the DH guidelines and other studies, the study does feature new ways to promote comprehensive assessment from the single point of access. Further study may be useful to design the actual social determinants model of health in order to support and develop the role of CMNs and CMRs.

2.4.4.3   Integrated network between CM and other services

The DH document stated that local NHS organisations should establish links within the LTC services to provide integrated care (Department of Health, 2005d). Many empirical studies and review papers did emphasise the integrated network as means of establishing close links and communication routes between CM and other services for effective care coordination. CM staff should engage with various health and social care professionals cross the organizational boundaries in order to pool necessary resources and services to support patients at home (Goodman et al., 2010, Ross et al., 2011, Sheaff et al., 2009). Through the links and communication route, CM staff can advocate the patients' situation and ensure other professionals' prompt, timely responses to the referrals (Cowie et al., 2009, Goodman et al., 2010). Furthermore, patients could be discharged safely and early from hospital by communicating with hospital staff and community services to support patient care in their homes (Ham et al., 2003, Ross et al., 2011). Other care professionals also supported the role of CMRs and CMNs in the monitoring of patient conditions, if they had regular contact with patients for their service (Boaden et al., 2006, Huws et al., 2008, Sargent et al., 2008).

There were a number of factors that influenced the close link and communication:

- Relationship with key care professionals: the relationship between CMRs and GPs was important to change care plan and medication regimes easily (Reilly et al., 2010, Ross et al., 2011). The relationship with hospital staff was important to boost patients' discharge (Sheaff et al., 2009).

- Location of CMN and CMR: a close location or co-location with key services was considered to improve care co-ordination (McEvoy et al., 2011). Co-location with a social worker made the CM process quicker (Lyon et al., 2006, NHS Modernisation Agency, 2005). This was demonstrated in the discussion on the 'Unique care' and 'Virtual ward' model earlier.

- Formal agreement: previous studies identified different levels of linkage between CM and other care services (Abell et al., 2010, Challis et al., 2011). The variance was not fully explained but there were much in need of formal agreements around contracts, structured delivery systems, protocols and care pathways to follow (McEvoy et al., 2011, Russell et al., 2009).

- CM staff's influence over care providers and their budget: the coordination process of CM could be better supported by other health and social care providers. Integrated working can occur when the goal of CM is facilitated by the providers' financial incentives and payment system (Ross et al., 2011). In addition, the CMR or CMN's control over resources was important for meeting patients' needs (Challis et al., 1990).

- On-going organisational support: close links between CM and other health and social services in primary and acute care sectors need continuous support from organisations (Abell et al., 2010, Challis et al., 2011). Local health authorities should bring all the relevant services or organisations together, and share the characteristics of intensive CM and its aims with them, because networks are based on beliefs of exchange and trust between the services (Abell et al., 2010, McEvoy et al., 2011).

Although evidence produced positive factors to the integrated network, it tended to focus on the institutional integration (arrangement and process) rather than the integration among the frontline staff (Exworthy et al., 2017). It is doubted that the frontline staff would have the knowledge and understanding of the formal linkages and relevant funding for specific services in detail (Challiner, 2009, Eile et al., 2011, McGrath et al., 2008). Otherwise, CMNs and CMRs may spend the majority of their time on administrative work as it was seen among CMRs in social model (Jacobs et al., 2006). Hence, the knowledge and understanding of CMNs and CMRs on their professional links with other staffs in various services, and its influence on their work needed to be explored more. Consideration of their positive experiences of working with other care professionals would be also beneficial to establishing networks at organisational and individual level.

An American study used Normalisation Process Theory (NPT) to understand how a complex intervention like CM could become routine in practice by focusing its structural components. Data was collected by semi-structured and observation data in five physician organisations and the study found two key structural organization among the different CM approaches such as practice-based CM (CM located in practice) and centralised CM (CM located outside of practice). The process of normalization was different across practices but practice-based CM seemed to have better normalisation compared to centralized CM. The NPT help to explain

the common elements that contributed to the normalisation from collective action. It was learned that CM would be implemented successfully when CMRs had required knowledge, skills, and personal characteristics (skill set workability), had multiple and flexible opportunities for communication (interactional workability), a trusting professional relationship with co-professionals (relational integration), and had organizational support and resources (contextual integration). Positive implementation has to take account of all these elements (Holtrop et al., 2016).

As organising holistic care for people with multiple LTCs is complex, a Spanish research team developed an integrated care system called Linkcare. The concept of model consisted of five stages including case identification (patient entry), case evaluation (assessment to determine illegibility to care), work plan definition (set of both timed and non-timed tasks), follow-up and event handling (corresponds to the execution of the working plan and discharge (terminated from the service). The model aims to provide a set of well-standardised tasks to be carried out to individual patients according to their health and social conditions. Four ICS were implemented with the target of patients with chronic patients with obstructive pulmonary disease (COPD), cardiac failure and/or type II diabetes mellitus. CMRs acted as the programme editors. Four ICS provided a framework for evaluating the system: Wellness and Rehabilitation (W&R) (number of patients enrolled in the study (n = 173); Enhanced Care in frail chronic patients to prevent hospital admissions, (n = 848); Home Hospitalization and Early Discharge (n = 2314); and, Support to remote diagnosis (n = 7793). This study outcome showed effectiveness of the computerised CM system to integrate health and social care by providing easy record keeping, reduction in hospital admission days and readmission rate. (Cano et al., 2015). The paper did not fully show the contents of the protocols how the system supports the decision about the needs and support available. However, this study showed greater potential for a cost effective and systematic approach to CM. Such a research approach

has not been carried out for examining the integration of CM services during the implementation process in the UK. Further research on the organisation of CM can be useful for continuing LTC management since CM has been implemented in various forms and has not made routine in all practices.

2.4.4.4 **Management of caseload**

Management of caseload is about balance between patient numbers and professional capacity. The caseload built up from the initial identification of patients in which each CMN or CMR was assigned to hold 50 patients in their caseload (Department of Health, 2005d). Evidence suggested that over-sized caseloads could affect the capacity of the service to provide proactive care and discharge support (Goodwin et al., 2010, Ham et al., 2010). However, relevant literature revealed different caseload sizes ranging from 22 – 500 patients (Grange, 2011, Reilly et al., 2010). In regards to their capacity, the varied caseload sizes can cause difficulty when attempting to determine whether the caseload of 50 patients was the adequate size for individual CMNs and CMRs. It was noticed that the level of patient conditions and the duration of their care may be associated with the varied caseload sizes. According to Grange (2011), if a CMR (or CMN) holds 20 patients who need intensive interventions, it is almost equivalent to 40 patients with less severe conditions. The US Evercare model demonstrated that CMNs only deal with small caseload of complex patients who required urgent clinical interventions (Kane et al., 2002a, Kane et al., 2002b). Also, there was a difference identified in the duration of patient care, such as on-going and time-limited care. On-going care meant that patients remained in the caseload long-term, whereas the time-limited care provided a certain period of care input and then discharged patients (Reilly et al., 2010, Ross et al., 2011). Thus, there seemed to be different assumptions for managing the caseload of patients among the CM services, which indicates a need for more debate in terms of adequate caseload size.

2.4.4.5 **Continuity of care**

As it was mentioned earlier, CM generally provides on-going care through the cyclical care process. Although, various care professionals are involved in patient care, a CMR/CMN is responsible for ensuring patients' continuity of care and that could lead to a good CM (Challis et al., 2010b). To maintain the continuity of care, CMRs required a good relationship with patients (Sargent et al., 2007), communication skills, accessibility, self-care support skills so that the patients would contact them in times of needs (Ross et al., 2011). Also, service availability was essential during out-of-hours periods because many emergency admissions occur during that time (Ross et al., 2011). However, Goodman et al (2010) found that most CM services covered only conventional working hours and there was difficulty in arranging out-of-hours cover. This could cause inadequate hospital admission and disconnection between patients and their CMN/CMRs. Another factor to the continuity of care was professional consistency because when the CMN/CMR leaves their post, there is a danger that patient information is lost unless the information is transferred and handed over to the next person.

2.5 **Current research related to CM**

There has been a notable decrease in new research interest in the field of CM since 2016 in both the UK and abroad. In the UK, this decline in research interest may be a consequence of changes in government policy and funding available to the management of LTCs. While the government is increasingly emphasising efficient and effective management and commissioning in health and social care, evidence of the effectiveness of CM in reducing secondary care usages remains inconsistent and insufficient. Many studies have in fact highlighted a number of barriers and difficulties to delivering effective CM. Moreover, insufficient statistical significance of positive outcomes may discourage providers and commissioners from further investigating CM, which in turn may deter future researchers. .

Drennan supports the idea that the CMN service needs ongoing training and education by their hosting organisation or commissioners (GP practices, CCGs or private service) through the NHS commissioning mechanisms or Higher Education Institutes. Although commissioners are willing to recruit CMNs, the confidence and competence of CMNs in dealing with case-mix patients is unclear as is sufficient evidence around their activities (Drennan, 2014). Around 2016, fewer studies began to unpack the detailed activities of care activities of CM and develop effective assessment tools and networking systems (Hosseini Shkouh et al., 2017, Lavander et al., 2016, Randall et al., 2016). Researchers also attempted to organise the various care activities of CM staff followed by the complex needs of LTC patients in order to establish a cohesive system for LTC management (Cano et al., 2015). However, this requires more evidence which will be the next step of CM research if there is any interest. The most recent international review papers argued that there should be more studies to create sustainable health care systems to deliver complex CM by considering patient identification, culture, infrastructure, and strong leadership within health care systems (Smith 2020), and to focus more on subjective and objective outcomes of common chronic diseases as previous studies mainly focused on dementia, diabetes and hypertension (Reynold. 2018, Boscart 2019). While CMNs continue to be recruited from the NHS job site and the service remains available, it is unclear how widely the service is provided and developed at the present time. Therefore, this thesis will add value to the body of current research by breaking the recent silence in CM research and hopefully drawing political attention to it once more.

2.6   Summary

This chapter has presented the review of previous research on the different UK CM models and their outcomes along with its implementation and development process against the government policies and guidelines. Despite all the enthusiastic and ambitious political plans around CM for managing aging population with complex LTCs, successful CM appeared to

be extremely challenging. The success of varied UK CM models was generally determined by reduction in service usage through quantitative evaluation, and subsequently by the qualitative account of patients' satisfaction, quality of life. Then, international studies additionally focus on the effectiveness of clinical intervention of CM staff. The quantitative outcomes on effectiveness of CM were quite inconsistent and that informed of many factors could influence the outcome of CM, but they could not be explained within the statistical scale. Thus, much qualitative research then examined the perception of CMN and CMR roles and activities. The role of CMNs was recognised to be unclear and described variously by commissioners (PCTs) which was barrier to perform their role while CMR role and their work has not been much explored apart from previous CMR role in social care. Particularly, integration between CM and other services was frequently researched for efficient delivery of CM. Health care model of CM increasingly required systematic tools and pathways for patient identification and organisation of patient care following the assessment. For this the current research trend focus on developing an a social determinants model and integrated care system in order to make the CM service routine in health care system for managing old people with complex LTCs. This thesis considers that there is a research gap in exploring the patterns of organising work of CM carried out by CMNs and CMRs in which the clear CMN and CMR roles, their competency and collaborative networking system are regarded to be essential. This will be explained in more detail whilst developing the theoretical framework for this study in the following chapter.

3 Theoretical Framework

3.1 Introduction

Informed by literature review, this thesis is an attempt to bridge the knowledge gap between positive organisational patterns in CM for aging people with multiple LTCs, especially the establishing of a professional identity for CM staff, and systematic pathways and networks to deliver CM. Three research questions arose: 1) How are the distinctive roles of CMNs and CMRs shaped and understood throughout time and space? 2) How does CMN and CMR training support them in gaining professional competency? 3) How do the different CM models or approaches affect the work of CMNs and CMRs? Before embarking on this study I could not imagine just how complex the delivery of CM can be in considering not only the material aspects (tools, guidelines, structures) but also cognitive aspects (feelings, perceptions, learning and understanding) of work. The relationship between these elements should be understood and applied when designing CM service. With this perspective, I utilised 'Translational Mobilisation Theory (TMT)'(Allen, 2018c) as a theoretical framework for my study. This chapter outlines the TMT and justifies its use for this thesis. This leads to the development of research aims and objectives and the adoption of the most appropriate research methodology for this thesis.

3.2 Translational Mobilisation Theory (Allen, 2018c)

Davina Allen is a medical sociologist and nurse academic with methodological expertise in ethnographic methods and an international profile in health care workforce, work organisation and service improvement research. TMT is one of several middle-range theories providing a framework for empirical research in particular areas that have not been generalised at all and quite remote from grand theories. Middle-range theories have more concrete and specific concepts to explore particular class of social behaviour, organisation and changes in detail (Merton, 1968). In general, they have a limited set of interrelated propositions and assumptions

to generate certain hypotheses (Morrow and Muchinsky, 1980) and are more empirical or practice-based which means they are developed through periodical research for consolidation and greater theoretical manifestation (Fawcett et al., 2001). Allen's TMT is originated in her longstanding work related to the social organization of healthcare work and built upon a number of theories.

For example, Allen's early ethnographical studies sought how nurses accomplish their occupational boundary-work in hospital settings by analysing the nurses' atrocity stories. Observations and semi-focused interviews were carried out with ward nurses (n=29), doctors (n=8), auxiliaries (n=5), health care assistants (n=3) in a general hospital. She claimed that the structure of work place talk contributes to the social constitution of occupations. Although sociologists well acknowledged that the process of social interaction has fundamental influence on the division of labour, not many interactionists have given attention to it (Allen, 2001). From this empirical evidence, Allen has continued her work to answer how invisible nursing, nursing practice which differs from public perception, can become more visible and normalised for professional development for the future. Allen argued that holistic patient-centred nursing involved much emotional labour but this should not be accepted as a nursing jurisdictional claim as such without making it a more realistic term in order to sustain the nursing profession for the future (Dingwall and Allen, 2001). The early study of Allen was similar to my attempt to define the professional identity and work-boundaries of CMRs and CMRs. To that extent, I aim to tackle more fundamental issues related to the professional identity of CMNs and CMRs in the division of health care labour. Previous evidence provided insufficient information about how the two roles are different from each other in every day practice and which professional disciplinary they could fit into. Are they specialist or generalist? Are they a type of nurse, allied professionals or a new professional within the health

care workforce? Despite the DH guidelines, the implementation of the new role appears to be complex and differs with social context (working place, rules, norms, perspectives of people).

From the findings of previous ethnographical studies, Allen searched for the essence of actual nursing work in practice. Allen examined existing empirical studies between 1993 and 2003 with a question of 'what do nurses do when they go to work?' From her reading of literature, the modern nursing work appeared to be constructed with eight inter-related bundles of activities: 1) Managing multiple agenda, 2) Circulating patients, 3) Bringing the individual into the organisation, 4) Managing the work of others, 5) Mediating occupational boundaries, 6) Obtaining, fabricating, interpreting and communicating information, 7) Maintaining a record and 8) Prioritising care and rationing resources. The evidence she uncovered revealed that the reality of nursing work was very much at odds with the current image of nursing work. Although substantively, nursing is a highly skilled intermediary role in practice, the current perception of nursing work in delivering holistic care is largely reliant on nurses' emotional intimacy with patients (images of angels); it is this mismatch that may be contributing to nurses' job dissatisfaction (Allen, 2004, Ten Hoeve et al., 2014).

Allen claims that the ideal contemporary nursing role is being providers of individualised holistic patient care, although the emotional labour entailed is often difficult, but it is the routines and standard operating procedures that make nursing work more efficient. Allen claimed that a healthcare mediator function should be emphasised as nursing role to promote the current image of nursing work (Allen, 2004). This required research confirming a new formulation of nursing mandate through robust theoretical and empirical evidence. Similar questions and hypotheses were raised within me after I reviewed the CM literature, I also found that the holistic care approach of CM was too broadly described and had the potential to harm the recognition of CMN and CMR roles and their sustainability. Previous CM studies had pointed out the unclear or varied job titles and descriptions of CMNs' and CMRs in regards to

their functional roles and responsibilities which could cause undesirable service outcomes and role conflict (Cook, 2005, Russell et al., 2009, Sargent and Boaden, 2006), but they provided insufficient information as to why this has happened and how to enhance the recognition of their role by other care professionals in a wider view. From the evidence, the only consistent characteristic of CMN and CMR role is that of being a coordinator who organises health and social care for people with complex LTCs. However, the process of organising that care is complex and cannot be delivered by individual CMN/CMRs and their referrals to multiple agencies.

In 2004, Allen attempted to show the complex trajectories in health and social care by conducting eight in-depth case studies in a stroke unite in hospital between 1998 and 1999 (Allen et al., 2004b). People with stroke often relied on health and social care so the study employed the Strauss's illness trajectory concept (Strauss et al., 1997) and Elias's game model (Elias, 1978). The study analysed an in-depth ethnographic case study of a patient from the stroke care unite, in order to examine the details of the service delivery and find positive factors facilitating integrated care as it was an important political issue at that time (Allen et al., 2004b). The study acknowledged the gaps between the policy and practice over integrated working. Patient care trajectories were shaped through the interaction between multiple actors, and there were many unintended consequences influencing integrated service provision. The study demonstrated the importance of the relationships between players; how individuals' differences in culture, goals, training and ethos affect the inter-professional working. This should not be taken lightly when designing the integrated service for policy makers and service planners. Services are interdependent so we should regard all system components rather than simply selecting elements of the health/social care system.

From the same study, Allen and her team explored the process of allocating routine resource in health and social care (Allen et al., 2004a) since access to public health and social care are increasingly limited in one way or another (Daniels and Sabin, 2002). The introduction of marketing services had put more pressure on allocating right resources to individual patients' needs at all levels macro (politicians to decide level of welfare funding for localities), meso (intermediate bodies to allocate resources to different services) and micro level (health and social care providers to make decision on the service provision for the clients) (Coulter and Ham, 2000). The study focused on the service provision in the category of bed utilisation; the decision over patients' length of hospital stay and the discharge provision. The study highlighted the knowledge of coordinators around the funding system and available resources between health and social services in both public, voluntary and private sectors. The quality and accessibility of services was found to be more promising for those patients who can afford private services, but there are still resources/equipment that patients can easily pay for to speed up the care process. The key is a clear funding system and understanding of services according to the needs of patients and their families. Thus, flow of care is dependant on front-line staff accurately categorising patient needs and the provision of adequate services by street level bureaucrats (Griffiths, 2001).

These are the most undiscovered areas of CM requiring further work in structuring. Public support and resources are limited and this has been a chronic political problem, and we can almost picture the pressure of staff in organising resources for patients. I would argue that there must be an agreed and acceptable level of service provision that CMNs and CMRs can coordinate and manage patients through practice-based research. Dingwall and Allen (2001) questioned 'who decided what counts as 'complete physical, mental and social well-being?' Holistic care can be very much subjective otherwise the public has to decide through debate. Hence, the goal of health care should focus on a sufficient level of well-being and aim to satisfy the majority of citizens rather than aiming for a utopia (Dingwall and Allen, 2001). A

detailed practice guidelines, routines and standard operating procedures for organising physical and psychosocial care would be necessary to maintain the concept of holistic care. I aim to find a certain level of physical and psychosocial care patterns to see the potential of routinizing CM work.

In 2009, Allen published the social organisation of pathway construction from the result of a single case study consisting of audio-recordings meetings, interviews with key stakeholders and pathway users, and the review of all relevant documents and observations in between 2006–2008 (Allen, 2009). The study adopted theoretical inspiration from studies of technology-in-practice rooted in social constructionism (Timmermans and Berg, 2003) in which formal tools such as care pathways were regarded as having power to transform workplaces in different ways (Berg, 1997). Care pathways are records of activities and systems of work flow. They have gained popularity for their coordinated healthcare trajectory and clinical governance of professionals' confidence in the new systems and rules. The study acknowledged that care pathways emerged through complex processes and originators had to negotiate how to settle the new pathways into the existing care system where the study necessitated a boundary object to link clinical, management and service users worlds. Also, the development of specified care standards in documents was aspired as it would prompt staff to practice more therapeutically as well as use as discussion materials with clients.

From the knowledge gained from the previous studies, Allen's study on nurses' organising work continued at micro level in 2015 by examining the work of 40 front line nurses in bed management in hospital (Allen, 2015a). The study adopted practice theory and Actor network theory in order to explain how human agency create social phenomena by dynamic interaction with material (different types of beds in different hospital units) and social world (working with patients and people across organisations). Her study observed closely how nurses balance

the beds by matching patients with adequate beds. Through time and space, the nurses typify patients according to their conditions and create rules/norms to match the patients with beds. The study examined different professionals (e.g. patient access nurses, discharge liaison nurse, coordinator) who worked with the ward nurses in creating capacity and access of beds. However, in hospital, nurses' involvement and their skills and knowledge in bed management was overshadowed and often excluded in decision making. Nurses' match-making is a translational process and it is not simply about moving patient bed to bed, there required actors' skills and knowledge and dynamic action through communication and norms. This mediated type of work needs to be understood to improve service. This study furthered my interest in elucidating the delivery process of interrelated core activities of CM (case-finding, assessments, coordination, review and monitoring) as they are complex, uncertain and emergent.

This potted history of Allen's work and theoretical momentum is necessary to understand the empirical and theoretical context from which TMT emerged. TMT is referred as a grounded theory because it started with empirical studies. The series of Allen's empirical studies generated concrete propositions together with a set of theoretical assumptions underpinned TMT (Allen and May, 2017). The domain assumptions of TMT firstly include Practice Theory which focuses on concrete and material activities for accomplishing social and organisational life. It means the activities of actors are governed and constituted by norms, rules and meaningful performances rather than merely physical, biological or psychological processes or causally determined events (Nicolini, 2012, Rouse, 2007). The challenge in analysis is to grasp the characteristics of the rules without interpreting them. Secondly, TMT embeds an ecological approach which focuses on the context of dynamic inter-relationships in collective action (Hughes, 1936). From an ecological perspective, problems derive from the complex interaction between people in different environmental and human conditions such as

psychological, social, economic, political and physical forces (Moher et al., 2009, Pardeck, 1988).

Thirdly, a process view of formal organisation is found in TMT with which research takes a closer look of the structural components of the network and service arrangement dynamically produced and reproduced until it became stable within an environment (Strauss et al., 1997). It conceptualises the structures or institutions (professional roles and organisational routines) accomplished while actors use them in action on an on-going basis (Strauss et al., 1964). It involves "Negotiated Order Perspective" which values the process of negotiation as it gives social order to cause interaction processes (Strauss et al., 1964). Fourthly, Cultural Historical Activity Theory (Engeström, 2000) is found in TMT which provides an analytical framework to explore the distinction between actions, activities, operation and labour in a conceptualisation of their objectivity, their goals and purposes. With its analytical lens, it draws attention to the influence of an individual practitioner's position and his or her experience of living and working in a particular context of sociocultural and historical traditions (Gretschel et al., 2015). It assumes that there is no such a thing as objectless activity in a system for individuals so individuals' practice is based on the object. Objects can be either material artefacts (tools, technologies, and instruments) or cognitive artefacts (categories, ideas, heuristics and methods) (Henly et al., 2011). With the artefacts, the individuals never interact directly with the social world (Engeström, 2000). This led to the last assumption, derived from Actor Network Theory (Latour, 2005). This theory is used to conceptualise how networks of both non-human and human actors come into existence; how they are enrolled, progressed and stabilised, and have social effect and power by gaining detailed insights from actors (Cresswell et al., 2010).

In summary, the key precepts of TMT are to characterise and explain the mechanisms of the mobilisation of projects through the collective, goal-oriented action of participants. The participants are people who enrolled into the emergent projects and they create their own institutional identities and practices whilst integrated working with others through time and space. Within the theoretical framework, TMT consisted of three core components: the 'project', the 'strategic action field' and the 'mechanisms' (Allen, 2018c, Allen, 2018b). Translational Mobilisation Theory can be used for research and for improving organisational processes.

3.2.1   Core components of TMT

3.2.1.1   The project

A project is a goal-oriented, institutionally sanctioned enterprise constructed by division of labour tools, technologies, practices, norms, rules and conventions. The project is the primary unit of analysis that focuses on the actions (what is done) within the sanctioned community. In Allen's nursing study, the projects were the health care trajectories and it particularly focused on the mobilisation of patient trajectory distributed by nurses in hospital setting. The actions were concerned with nurses' organising work, organisational interfaces, or on-going management of long-term care arrangements (Allen, 2018c, Allen, 2015b). Other unpublished study used it to explore the impact of Alcohol Intoxication Management Service through referral pathways and participants' working lives and professionals identities in the night-time environment (https://www.translationalmobilisationtheory.org/using-tmt). TMT was to inform the data generation strategy that ensures a consistent focus across all case studies in analysing the processes, practices, materials and organisational logics of different actors in managing individuals from different work contexts (Goodacre et al., 2019).

Core component	Concepts	Definition/Operationalization
	Primary project	Definition: the focus of collective action What is the primary project? (e.g. patient pathway, clinical procedure, organizational process). What is its overarching goal?
	Sub-projects	A discrete component of collective action within a primary project What are the sub-projects? What are sub-project goals? What are the relationships between sub-projects in the primary project?
	Project actor	What is the focal actor (person, technology, tool, policy) with which you are concerned? What is the function of the project actor within the collective activity? How and in what ways is this linked into the wider network relationships within the project? What are the preconditions for its effectiveness
	Intersecting projects	Which intersecting projects affect or are affected by the primary project and should be taken into account?
	Lines of work	Which lines of work (department, caseload) should be taken into account? Where are the invisible queues or potential bottlenecks that have implications for project mobilization?

Table 3.1 Operationalizing TMT for quality improvement: Project (Allen, 2018a)

Allen demonstrated the implication of TMT in analysing health care coordination within the purpose of health care quality improvement as Table 3.1. A project can be considered either in the round or divided into sub-projects depending on the purpose. For example, a project of rescue trajectory focused on the collective action involved in detecting and responding action upon deteriorated patients in hospital where coordination took a place across the professional and departmental boundaries that were emergent and uncertain for success. The sub-projects could focus on key trajectory components (monitoring and recording, interpretation of information, review and initiation of action, intervention) and their inter-relationships. There are often instances of overlap between projects to be considered and how they could effect each other by planned changes (Allen, 2018a).

3.2.1.2 The Strategic Action Field

Strategic Action Field (where it is done) are meso-level social orders (e.g. organizations, departments, teams, professions) produced on a situational basis when actors interact with one another with their common knowledge and understanding of purposes, relationships and rules

in the institutional context. This means, Strategic Action Fields generate actions that form projects. Strategic Action Fields are divided into four elements; structure, organising logics, materials and interpretative repertoires. First, structure stratifies the social relations gathered around the projects such as social roles, divisions of labour, professions, hierarchies, departments, units or teams. It also examines the linkage between actors and the system of communication in the area. Table 3.2 shows the operationalization of the structure. Second, strategic action fields are concerned with organising logics that drive actions in the projects.

Core component	Concepts	Operationalization
	Structures	What organizations, departments, teams, professions are involved? How is project work distributed? Who/what are the primary actors? Where is power located? How is the project distributed across time and space? What are the project timescales? Where do project activities take place? Which are critical junctures and dependency relationships between actors and actions? What are the key interfaces between collaborators? What are the modes/mechanisms of communication? (e.g. meetings, events, technologies)
	Organising logics	What are the organizing logics that drive action in the project? (e.g. triage/ prioritization, diagnosis, safety, end of life care, organizational efficiency, rehabilitation). How are these organized in time and space? In what ways are organizing logics congruent or conflicting? How are accommodations achieved between logics?
	Materials and technologies	What technologies and materials are involved in the project? How do these condition the possibilities for action? How are these organized in time and space? When are they required? Where are they located? What is involved in maintenance? What information and knowledge sources are involved in the project? How reliable, accessible and comprehensive are the information sources? Who is responsible for generating the information sources?

	Interpretative repertoires	What artefacts and sensemaking resources are involved in the project? (e.g. policies, guidelines, pathways, diagnostic categories). How do these impacts on practice? What is their relationship with the organizing logics involved in the primary or sub-projects and related lines of work?

Table 3.2 Operationalizing TMT for quality improvement: Strategic action field (Allen, 2018a)

Multiple logics exits in each working places such as triage/ prioritization, diagnosis, safety, end of life care, organizational efficiency or rehabilitation. These logics give a set of normative conventions that will define the scope and purpose to a project such as recovery, rescue, efficiency, rehabilitation or palliation. Thus, actors from different departments could have similar or conflict logics that emerge when actors interface. This has to be reconciled to mobilise the project (Allen, 2018a).

Third, materials are the agents and artefacts (tools, technologies, bodies of knowledge) that support actors in their practice in order for them to mobilise the projects. Allen applied this concept in the project of rescue trajectories where the materials could be electronic patient monitoring equipment and technologies for intervening in care and treatment, and methods for accumulating and displaying vital signs information. Another study by Allen presented a whole host of connected social-material arrangement as the success of patient discharge and transfer depended on adequate beds, expertise, space and technology (Allen, 2015a). Again, different institutions have different arrangement of socio-materials that influence actors in making decisions about their actions so improving materials and technologies has significant impact on health care trajectories (Allen, 2018a). Research is needed to examine how these socio-materials are organised in time and space; when they are used; and how they condition the possibilities of action.

Fourth, the interpretative repertoires are the agents such as cognitive and relational resources for making sense of projects in order (Allen, 2018c). The agents can be patient records, assessment tools, referral letters, the understanding of patients and their families about illness, professional knowledge and recognition of intervention patterns. With all these cognitive and relational resources, actors mobilise the trajectory of health care. For an example of rescue trajectories, Track and trigger tools were used to obtain physiological, clinical and observational data of patients in which the tool could make the symptom of patients less serious on its record chart whereas professionals and expert patients may view it as a deteriorating symptom requiring actions (Allen, 2018a). Hence, recent research attempts to harness the "tacit knowledge" of actors with clinical decision tools is much considered (Roland et al., 2014). The key of interpretative repertoires in TMT is to see *what is their relationship with the organizing logics involved in the primary or sub-projects and related lines of work?*

3.2.1.3 Mechanisms

Finally, mechanisms consider all the elements of a Strategic Action Field and try to explain how the projects of collective action are mobilised. Mechanisms link organisation and practice while they describe and explain social action in its organisational contexts and individual context in practice. There are five specific mechanisms in TMT which are 'Object Formation', 'Reflective Monitoring', Articulation', 'Translation' and 'Sensemaking' (Allen, 2018c). Table 3.3 shows its operationalized concept. 1) Object Formation in practices create the objects of knowledge and practice, and these are enrolled into a project. It is concerned with how actors use the available interpretative resources, all the physical and cognitive artefacts, purposes and objectives of their practices and inter-relationships. For example, objective formulation can begin with a patient's admission to hospital with deteriorating signs that require the checking of vital signs, and nurses to both recognise the risk of deterioration and form objects for

medical intervention. Depending on the local strategic action field, the objective formation can be varied and complex, especially when it comes to patients with multiple LTCs.

Core component	Operationalization	Operationalization
	Object formation	What are the moments of object formation? Who are the agents involved? What is the purpose of their practice? What artefacts are involved? What are the objects of practice that emerge from these processes? What are their inter-relationships? How are objects of practice distributed in time and space?
	Articulation	What kinds of articulation are required by the project (temporal spatial, material, integrative)? What are the organizing logics that drive articulation work? How is articulation work distributed? Who does the work? When does it take place? Is this formal or informal? Where are the points of disarticulation? What are the materials, technologies and interpretative repertoires that support articulation work?
	Translation	What are the perspective taking and perspective making processes that need to take place in order to collective action to proceed? When are the stabilization moments? Who is responsible? How is this achieved? Where are the critical interfaces between structures and actors in collective action? Where do transfers of care occur? What needs to happen in order for this to be achieved?
	Reflexive monitoring	What are the formal and informal mechanisms of reflexive monitoring? What materials, technologies, and interpretative resources are involved? How intense are reflexive monitoring processes? How is reflexive monitoring work distributed?
	Sensemaking	What are the sensemaking mechanisms involved in project work? When does sensemaking occur? What are the interpretative resources that are drawn upon? Who does this work? What are the roles and responsibilities involved in this work?

Table 3.3 Operationalizing TMT for quality improvement: Mechanisms (Allen, 2018a)

2) From the objective formation, articulation occurs. Articulation focuses on the practices of actors that assemble and align the different elements such as the people, knowledge, materials, technologies and bodies, in order to mobilise the object trajectory within projects (*What are the materials, technologies and interpretative repertoires that support articulation work?*). For example, nurses will consider the types of patient needs and available resources to meet the needs of patients (*What are the organizing logics that drive articulation work? How is articulation work distributed? Who does the work?*). It is the process of making the work, work. For patients, the need is prioritising work in that particular time and space. When nurses deal with patients with deteriorating physical conditions, medical interventions by doctors is the most important work. Then the nurses may arrange different services according to the medical care plan. A lack of functioning resources and equipment can harm patient safety. So, the articulation is also examined whether the process of service arrangement is carried in a formal or informal way as this can affect the mobilisation of care action. In the rescue trajectories, the mobilisation of collective action also depends on the staff awareness of patients at risk and contingency planning (Allen, 2018c, Allen, 2018a). This led to the next mechanism of TMT: 'Translation'.

3) Translation is about sharing the practice objects and further accommodating the different viewpoints, local contingencies, and multiple interests for concerted action. The entire host of organisational artefacts (e.g. preoperative check-list, a risk assessment proforma, cognitive functioning assessment) are designed and used for translation, and that nurses play the key role in this aspect from the nurses' view. The nurses translate the collected information from the strategic action field and translate the information to appropriate languages that are commonly used by different professionals and services or departments (*What needs to happen in order for this to be achieved?*) so that the patient care trajectory will be taken into consideration by other care professionals and collective actions take place during the process

of coordination *(What are the perspective taking and perspective making processes that need to take place in order to collective action to proceed?)* (Allen, 2018c, Allen, 2018a). This was derived from the Actor network theory (Latour, 2005). Since the translation process can be challenging due to the professional boundaries/ hierarchies, different languages and cultures, a use of structured communication tools was considered to be effective (Andrews and Waterman, 2005).

4) The concept of Reflective Monitoring is derived from Normalisation Process Theory (May and Finch, 2009) which refers to the evaluating of individual or collective actions made by actors through the process of reviewing and appraising. Through this process the nurses become aware of their achievement in care trajectory according to the patient needs and organisational context including goals, available resources, workflows and demand patterns (Allen, 2018c). Various trajectories emerge while professionals make efforts to control unpredictable illnesses and exigencies so the pattern of contingency planning between interplay efforts is useful to make practice routine (Straws, 1997, Brady et al., 2013). In the case of rescue trajectories, the awareness of the situation is important and yet difficult to achieve unless there are formal mechanisms. For nursing, reflexive monitoring usually take place in the form of nursing and medical handovers, the ward round, safety briefings. Reflective Monitoring can be conditioned by various informal and formal forms (Allen, 2018a).

5) Sensemaking is the last mechanism in TMT that creates orders in complex conditions by running through the previous mechanisms ('Object Formation', 'Reflective Monitoring', 'Articulation', 'Translation') where one can identify how material and social processes become performative and that produce and reproduce institutions (customs or systems) (Allen, 2018c). Thus, the order of projects continuously emerges through the dynamic relationship

between stability and fluidity in organizations. In a project of improving quality of care, sensemaking is important for intervention adaptability, normalization processes, sustainability and organizational learning. However, the mechanisms of TMT are suggested to be complex and characterised by flux and becoming, so the framework based on TMT should not be considered for stability and rationality (Allen, 2018a). Thus, research exploring the healthcare trajectory in LTC management can be very challenging requiring close observation (observing, hearing, interviewing) and unpacking the complex organisational work but such research will prevent researchers from being limited by the perspective of the health workers themselves (Strauss., et al, 1997). The use of TMT as a research framework was considered to be useful to explore the complex organisational work involved in CM as it provides methodological strategy to collect data and analyse the complex care trajectories in CM without being limited by existing perceptions.

3.3   Other theoretical perspectives

Before deciding Allen's TMT, Normalisation Process Theory (May and Finch, 2009, May et al., 2009) and Diffusion of innovations theory (Greenhalgh et al., 2004) were considered for potential frameworks for my study. Firstly, NPT appeared to be useful for explaining the implementation and embedding of CMN and CMR roles and their complex work in CM. NPT focuses on the process of implementation (social organization of the Work), embedding (of making practices routine elements of everyday life), and integration (sustaining embedded practices in their social contexts) (May and Finch, 2009). The theory is suitable for studies seeking to explain factors that promote or contribute to the routine embedding of a new treatment, new practice or organising work within the complex health care interventions in service settings by collective actions (Finch and May 2009, May et al., 2018). Like TMT, it also used for characterising and explaining the mechanisms of motivating and shaping implementation processes, such as, service organisation and delivery; diagnostic and

therapeutic interventions; and E-Health and telemedicine (May and Finch, 2009). However, the theory tended to focus on the evaluation of success and failure of an intervention/service/tool which was not my intention in conducting this study. It seemed to be more helpful for describing a linear process in time which was suitable for a process that has a starting point and end point, and their operational mechanisms follow sequentially from each other (May et al., 2018).

Secondly, Greenhalgh et al.'s (2004) Diffusion of Innovations Theory was considered useful in exploring the factors that influence the recognition of CMNs and CMRs. I wanted to examine how CMN and CMR roles were recognised by others and how organisation supported them with introduction and collaborative networks with other professionals. The theory could examine the different rate and stages of innovation process at macro (policy, government and local authorities), meso (organisations, management and professional bodies) and micro (individuals of staff, users and adopters) level in adopting and routinizing the CM service into local context (Greenhalgh et al., 2004). For example, I could examine the organisational or individual readiness to adopt, implement and routinize the services with systems, structures and managerial support and so on; How CM and the role of CMN and CMRs service was adopted by others through formal and informal methods and networks; Why the role of CMN and CMR is not clear to them and others causing confusion and conflict. Saying that, previous research has already identified some of the barriers and suggestions to successful CM. Overall, the theory generally focus on the diffusion of innovation although it may overlaps with some of my research area such as exploring communication route, network, process of service introduction and perceived role recognition (Dearing, 2009). These are only part of my research aim and that has limitations to answer my two research questions 2) how CMN and CMR training supported them in gaining professional competency? 3) How the different CM models or approaches affect the work of CMNs and CMRs? Since CM is complex care

approach and was introduced in various form, I needed a robust framework that allows me to examine how the training of CMNs were organised and perceived to be suitable for CM and the delivery work of CM on a daily basis would require more than dissemination. In comparison, TMT provides a general framework to fit any practice involves trajectories, and organise data structurally and systematically through its core components while it enables researchers to explain the dynamic interaction in collective action. Thus, TMT was chosen for building a framework for my study as follows.

3.4   Thesis focus and analytical strategy through TMT

The background to this thesis has been given with the research gaps and three key questions; *1) How are the distinctive roles of CMNs and CMRs shaped and understood throughout the time and space? 2) How CMN and CMR training supported them in gaining professional competency? 3) How the different CM models or approaches affect the work of CMNs and CMRs?* There has been a lack of studies attempting to visualise and formalise the complex organisational work involved in CM through a theoretical lens. After examining possible sociological theories, Allen's work and her TMT was adapted into this thesis to answer those research questions. This section addresses research aim and objectives that were generated by the research questions, and discuss how TMT provided framework for my study.

Research aim:

- To explore the organisation of CM in different local communities by CMNs and CMRs.

Research objectives:

- To discover what kind of professional backgrounds and training support CMNs and CMRs have for their role competency and the perceptions of its adequacy.

- To examine the process of diffusion and dissemination of the new roles and factors improve the role recognition from CMNs and CMRs' experiences.

- To identify how the distinctive roles and responsibilities (work-boundaries) of CMNs and CMRs have emerged from their everyday use of it whilst interacting with other care professionals.

- To explore how local CM services were organised in regards to the staffing, division of labour, network and system for coordination and communication.

- To consider what types of practices can be routinized to support CMNs and CMRs at macro and micro level.

The aim and objectives were considered for more standardised, structured and systematic approaches to CM implementation. Although existing evidence and policy documents have provided much empirical evidence and general guidelines of CM implementation, it is necessary to explore the detailed process of CM delivery by examining its ecological relationships and mechanisms between collective actions and their positive influences. I felt a clearer understanding was needed of work-boundaries (the division of labour), adequate training for CMNs and CMRs, and how their roles and skills are utilised and supported within their work places and organisations. Somehow, holistic and person-centred care required a practical description rather than the ways in which an individual CMN or CMR is expected to provide a 'miracle service' to people with complex LTCs (Russell et al., 2009). The findings of this study may help central government and local commissioning authorities to establish more unified definitions and practice boundaries for the CMN and CMR roles. Moreover, higher education institutions may create suitable education programmes for the professional development of CMN and CMR roles. Lastly, with the additional information, networks can be considered and established for effective communication and delivery pathways between

services at micro level. This has to be examined closely to explain the complex trajectory of CM. With the aim and objectives, an analytical strategy was planned with TMT (Figure 3.1).
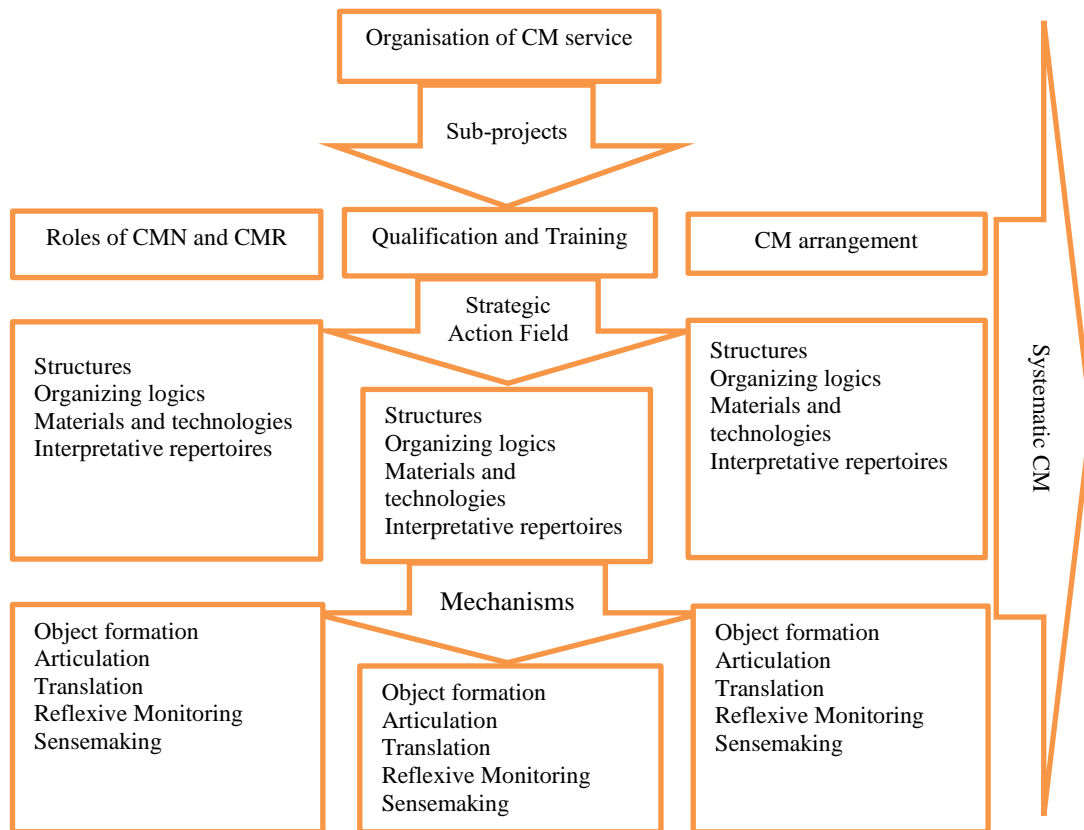
Figure 3.1 Operationalisation of TMT for this thesis

Before empirical research taking place, the project was set to be 'organisation of a CM service'. Those research objectives were condensed into three sub-projects - 'the roles of CMN and CMR', 'qualification and training' and 'CM arrangement' - which affects the primary project. Individual sub-projects will be analysed separately and then combined in order to suggest a positive model of CM. Existing literature provides possible, social orders, structural and material elements in CM. The local CM services can be institutionally sanctioned by GP practices, hospitals or NHS trusts and is a goal-oriented enterprise (with political and organisational goals in managing LTCs, roles) constructed by division of labour (CM staff, multidisciplinary team), tools (patient identification tools, assessment tools), technologies

(computerised system, devices), practices (types of work, responsibilities), norms (daily routines, patterns of patients, managing caseloads), rules (pathways, communication route, patient criteria, caseload sizes) and conventions (organisational culture). Thus, the project provides a frame for understanding ecological relationships in collective actions.

Strategic action field could include; 1) structure: stratify social relations such as service location and arrangement of staff, role delegation, and network 2) Organising logics, I will be looking at a set of normative conventions for identifying and managing patients, patient assessment, making care plan, coordinating care, monitoring and reviewing patient conditions. 3) Materials: the study may examine the types of assessment tools, computerised case-finding tools and communication system. Also how these function and condition the action of the CMNs and CMRs. In addition, the knowledge of CMNs and CMRs, and the liaison with other care professionals to mobilise the CM to meet the needs of patients. 4) Interpretative repertoires: The way of making decision of care coordination and the detailed description of care process can be examined to make sense of the trajectories of each project.

To understand the mechanisms of CM organisation work, the collective actions of CMNs and CMRs based on the condition of Strategic Action Field will be described and explained; 1) the object formation is about how CMN and CMRs establish the social network and relationships with other health care professionals within the action field; How other care professionals support CMNs and CMRs through the existing networks and pathways. 2) The mechanism of reflective monitoring is about the perceptions of CMNs and CMRs on their service design and arrangement; to what extent the service design and work setting are advantageous or disadvantageous for mobilising patient care and fulfiling their organisational goals and demands in CM by using available resources. 3) Articulation takes account of the individual elements of the strategic action field and explains how they were assembled and aligned in

terms of network and collaboration with others. 4) Translation then focused on the perceptions of CMNs and CMRs on how their organisational approaches to CM are to be improved within the strategic action field and shared with others for concerted action in the future. 5) Lastly, those four mechanisms will be repetitively examined in order to make sense in social order and action. This will enables the thesis to create new ideas for designing structured and systematic CM services. The participation of the theory is presented throughout the chapters of methodology, methods, result and discussion chapters. The details of operationalisation and description of strategic action field and mechanisms will be explained throughout the methods, result and discussion chapters.

3.5   Chapter summary

This chapter has justified the use of Davina Allen' TMT as a theoretical framework for my study. As a result of this, the chapter concluded with the thesis focus and analytical strategies. The next chapter will overview methodological approaches and chosen methods determined by the TMT.

4 Methodology

4.1 Introduction

Chapter 1 highlighted the importance of the management of people with LTCs and CM as one of its key tools as formulated in policy. CM was to provide organised health and social care to aging people with complex/multiple LTCs at home through key personnel, CMN/CMR. The review of existing CM research showed inconsistent service outcomes and limitations in practical guidelines for the CMN/CMR roles, staff training and collaborative networks. Further research was needed to understand the dynamic interactions during the organising work of CM between materials and social actors. For this, the previous chapter provided TMT as a theoretical framework to design a suitable methodological approach for this thesis. In this chapter, the methodological approach is outlined following the review of methodological literature.

4.2 Research design

Many factors may be taken into account in research design including the original research question, required background information, the philosophical stance of the researchers or funders, samples or situations within the studies and the method of data analysis, interpretation and presentation (Ritchie and Lewis, 2003). This doctoral study attempts to contribute to the development of CM for managing LTCs by answering three key questions in regards to the roles of CMNs and CMR, their training and service arrangement. Previous studies mainly used qualitative research for exploring the implementation of CM and its different approaches and developments, because the methods of qualitative research are significantly useful for health and social studies that involve exploration of service 'implementability', as well as exploration of the different perspectives, experiences and interpretations of people around a phenomenon from real-life contexts (Hancock et al., 2007, Holloway and Wheeler, 2010, Marks and Yardley, 2004). While these studies focus on the outcomes and progress of implementation at

the early stage, this study seeks to find some patterns among the implemented CM services in order to suggest more structured and systematic approaches to CM and the professional development of CMNs and CMRs in LTC management.

The quality of study outcome depends on the philosophical and theoretical stances of chosen methods (Ritchie and Lewis, 2003). In general, the philosophical and theoretical stances indicate the researcher's epistemological, ontological and theoretical perspectives. Simply put, the ontological perspective is about the researcher's belief in the nature of the world and its required knowledge. Epistemological perspectives determine the methodological approach to understanding the world, asking how we know about the world. Lastly, the theoretical perspective embeds philosophical positions to select the right methods (Bryman, 2012, Ritchie and Lewis, 2003). Depending on the theoretical perspective, the methods of data collection and interpretation of data are determined. Theory can be described in different ways. Theory has been described as the research concept and its relationship with the research outcome. In which case, the outcome of the study is concerned with the aim of testing, generating, enhancing or thinking of the concept within a particular discipline (Ritchie and Lewis, 2003). In other cases, theory has been synonymous with a research tradition or paradigm established in social research, with particular philosophical and methodological stances such as ethnography, phenomenology and grounded theory (Endacott, 2008, Patton, 2002).

Research paradigms are broadly classified based on the philosophical and theoretical perspectives as summarised in the Table 4.1 below.

Philosophical and theoretical stances	Qualitative methodology	Quantitative methodology
Principal orientation to the role of theory in relation to research	Inductive: generating of theory. Social research and its findings create a new theory or concept. Observation/findings → Theory	Deductive: testing of theory representing the commonest view of the nature of the relationship between theory (what is known) and social research (confirm the theory).

		Theory → observation/findings
Epistemological orientation *(How do we know the world?)*	Interpretivism: reflects the distinctiveness of humans as against the natural order. There are interactive relationship between the researcher and social phenomena.	Natural Science model, in particular positivism: the social world (social reality and beyond) can be studied according to the same principle, procedures and ethos. The social phenomena are unaffected by the researcher.
Ontological orientation *(What is the nature of reality?)*	Constructivism (or Idealism): social phenomena and their meanings are continually being accomplished by social actors, not by commands or common understandings.	Objectivism (or Realism): social phenomena are beyond our influence. Their meaning is separated from the actors and exists independently, such as the rules and regulations of an organisation or cultures of widely shared values.

Table 4.1 Different paradigms between qualitative and quantitative research (Bryman, 2012, Ritchie and Lewis, 2003)

Qualitative research is generally based on ontological constructivism, epistemological interpretivism and inductive theory. It focuses on words that describe the individual's experience, and constructed meanings within a context-specific setting (Bryman, 2012, Patton, 2002). It is believed that there is a distinction between the way the world is and the meaning and interpretation of that world by individuals. To understand the real-world of the individuals, qualitative research often adopts data collection methods involving close contact between the researcher and participants, such as observation, in-depth individual interview, focus groups and biographical methods (Ritchie and Lewis, 2003). The data are generated through the interaction between the researcher and participants during the data collection, so the researcher is the primary instrument. The collected data are analysed inductively by focusing on emergent categories and theories from each participant. The meanings of the identified themes and categories are then interpreted and explained by the researcher in detail. Thus, the results of the study can produce a new theory or concept in the researched area. In comparison, quantitative research is based on ontological objectivism, epistemological positivism and deductive theory, focusing on the quantifiable data and testing of hypotheses. Quantitative researchers believe that the social world can be studied using the consistent procedures or

ethos for particular groups of people or a phenomenon, because of the commonest views around them. These are considered value-free, so the purpose of quantitative research is to test a hypothesis or theory that is widely shared (Ritchie and Lewis, 2003).

In previous CM studies, the underpinning philosophical and theoretical stances to research methods were not mentioned much. They carried out either mixed methods research or qualitative research. Large evaluation studies involved case studies and interviews (Challis et al., 2011, Challis et al., 2010b, Goodman et al., 2010, Rosser and Rickaby, 2007, Sheaff et al., 2009) in order to combine with quantitative survey outcomes, which suggested more complete research outcomes (Creswell, 2003, Endacott, 2008). Goodman's study was based on ontological realism in which researchers consider the nature of the world as an external reality (organisational rules or widely shared values) which exists independently of our beliefs and understanding (Ritchie and Lewis, 2003). This ontological belief is traditionally associated with quantitative research, using the same measurement method, such as a survey, for large study samples. The outcomes are quantified and interpreted according to the organisational guidelines and commonly shared knowledge. However, in this case, it is difficult to know the reasons why local CM services were developed in different forms and showed different cost-effectiveness from the quantified data (Gravelle et al., 2007, Huws et al., 2008). Therefore, the mixed methods evaluation studies attempted to overcome this limitation by combining both quantitative and qualitative techniques. They began by synthesizing existing evidence and organisational documents on CM. From these findings, they designed surveys to examine the implementing process of CM in regards to CM professionals, their professional backgrounds, links and staff location. From the survey, the research sites and different groups of participants were selected for case studies. Again, the questionnaire about the CMN education programme (Girot and Rickaby, 2008, Rosser and Rickaby, 2007) was also designed based on the reviewed documents. This survey finding, on the pilot education programme for CMNs, provided

demographic information, learner satisfaction, available mentors and organisational support. Thus, a qualitative study design was selected, to gain some insight into the pilot programmes in regards to the context, benefit for the CMN role, mentorship, and organisational support. The results of the study suggested better infrastructure and protected learning time in the future, seeking to contribute to practice and policy making.

The mixed methods approach was considered very useful to adopt in my study to ascertain patterns among the research areas through qualitative interviews and then confirm the qualitative outcomes with a survey which may produce more convincing outcomes. However, the mixed methods study needs a lot of time and additional researchers in terms of recruiting ranged participants such as commissioners, leaders, CM staff, patients and even other health care professionals. Designing both qualitative and quantitative methods could potentially have taken too long to complete within the three years of doctoral study. The majority of existing CM related studies were carried out by a research organisation (Abell et al., 2010, Challis et al., 2011, Goodman et al., 2010), an academic research team (Chapman et al., 2009, Girot and Rickaby, 2008, Rosser and Rickaby, 2007, Williams et al., 2011) or a joint research team (Boaden et al., 2006, Gravelle et al., 2007, Sargent et al., 2007, Sheaff et al., 2009). It was suggested that researchers should think about their time and budget when designing a study (Parahoo, 2014).

In comparison, other studies used only qualitative methods of data collection and analysis based on the analytical approach of grounded theory and inductive theory (Chapman et al., 2009, Sargent et al., 2007, Williams et al., 2011). These theories share the same epistemological interpretivism that the nature of knowledge can be gained through the interaction between researcher and the social actors (Ritchie and Lewis, 2003). Hence, the data collection methods involved observations, focus groups and interviews. The analysis of

inductive and grounded theories focused on generating interesting ideas, patterns, categories and association between the categories from the collected data. The study results informed emergent theories or new concepts around the phenomena (Patton, 2002, Ritchie and Lewis, 2003).

For example, Williams et al (2010) attempted to find the difference between CMN and other primary health care staff in LTC care, from the patients' point of view. This was quite an unknown area, so the study findings based on the interviews generated distinctive recognition of the CMN role by patients, compared to their views of other health care staff. These new concepts were suggested for evaluating the CMN service, rather than solely adopting statistical evidence on service effectiveness. Sargent et al (2007) took grounded theory for data collection and analysis to describe CMR's caseload sizes and the perception of manageable caseload sizes. Compared to other studies, this study found various reasons beyond the different caseload sizes among the CMNs. Chapman et al (2009)'s study also used a grounded theory analytical approach to the patterns of the CMN role and its process. Their sample involved not only CMNs, but also other care professionals in focus group discussions. The study found that the lack of role definition was a barrier in role development. Other qualitative studies did not mention the theoretical backgrounds to their research approach, but they all added knowledge to CM, around CMN training (Banning, 2009), role (Cubby and Bowler, 2010, Dossa, 2010), and CM development (Russell et al., 2009). Thus, the previous studies demonstrated the usefulness of qualitative research methods in describing the nature of CMN role, and examining the factors influencing the outcomes of CM (Ritchie and Lewis, 2003).

The reviewed studies made me consider my philosophical and theoretical approaches to the study as well as its possible contribution, before designing my research. I believed that many studies had already carried out descriptions of the context of CM including definition, core

activities, policy, different approaches and possible benefits and barriers. Therefore, my study needed to build on the existing knowledge that emphasized the importance of role clarity, adequate training support, infrastructure and networks, to deliver CM effectively. This provoked me to explore the dynamic work of CMNs and CMRs in organising CM, and to examine the influence and association between the role, training and service arrangements. The outcomes are primarily intended to have practice and policy implications rather than to contribute to theory development. However, the research is rooted strongly in the TMT theoretical framework (see Chapter 3) which is reflected throughout the thesis. Since there has been a lack of consistency in CM between practice and policy, the findings of this study may contribute to the development of CM in more structured ways by providing rich information around the research topics.

4.3   The underpinning philosophical and theoretical stances of this study

My methodological approach based on the TMT can be made by association with the ontological perspective of subtle idealism and relativism which are a part of constructivism. These two ontological perspectives agree that the reality is only knowable through socially constructed meanings. However, relativism considers that there is no single shared reality but a series of alternative social constructions, while subtle idealism believes that there are shared meanings and a collective or objective mind (Ritchie and Lewis, 2003). To understand the world, epistemological interpretivism was adapted which values the interactive relationship between the research and the phenomena being researched. I adopted TMT to describe, characterised and explain the complex organising work of CMNs and CMR to deliver the effective CM to patients with complex LTCs. The existing literature informed various factors influencing the outcomes of CM and that cannot be easily explained. Although the DH provided political aims and guidelines to implement CM, the way to introduce the roles of

CMNs and CMRs, and use of their professional backgrounds and existing education programmes and arranging services were varied without suggesting positive approaches.

I believe that there will be socially constructed perceptions and meanings to work out one service effectively through the study of the collective action of actors who are involved in that particular phenomena. The Table 4.2 shows my conceptual framework for exploring the complex organisation of CM in TMT. As mentioned in the theoretical framework chapter, this thesis particularly focused on the organising work of CM (main project) through three key areas (sub-projects) including the roles of CMNs and CMRs, their qualification and training, and their work in different service arrangement. Although CM is about providing organised health and social care to people with complex LTCs, the effective delivery of the service and care outcome requires clearly defined professional roles, their competency in the roles and having efficient service arrangement for collaboration. Previous research has carried out the much more grounded work around these areas but they did not necessarily examine the relationships and interactions between people, their knowledge, materials, technologies and social environments during the process of CM delivery. From this philosophical and theoretical stances, an adequate methodological approach to my study was considered.

Primary project		Organisation of CM service		
Sub-projects		Roles of CMN and CMR	Qualification and Training	CM arrangement
S t r a t e g i c a c t i o n f i e l d	Organising logic	Clear role is the key to organisation of CM What is the key and distinctive roles of CMNs and CMRs? How the roles are different from existing care professionals? How the roles are achieved? How the roles are introduced? Any conflict during the performance of the roles?	Adequate skills and knowledge is the key to the delivery of effective CM How dose the professional background and working experience was considered for the roles of CMN and CMR? How the training of CMNs and CMRs are organised? How adequate the raining support it is for the roles of CMNs and CMRs?	Service should be arranged in regards to the efficient delivery of CM How local CM services were organised in regards to staffing, role delegation, capacity, division of labour, network and system for coordination and communication with other services?
	Structure	Who are the hosting organisation of CM? Who are the key actors to deliver the CM role? Who involved in the introduction of CMN and CMR roles?	What are the professional background of CMNs and CMRs? How and by whom the training and its contents are organised? What kind of educational qualification are to be obtained from the training? Where and when the learning take place?	Where is the service located? Who are the CM staff members? How they were allocated to the number of GP practices? How are the duration of care and caseload sizes set?
	Materials and technologies	Are there any materials and technologies that contribute to the adaptation of CMN and CMR roles?	What are the types of CMN and CMR training programmes? What are the contents and durations of the courses?	What are the tools, pathways and systems for patient identification, assessment and coordination?
	Interpretative repertoires	How the roles of CMNs and CMRs recognised? How the recognition of the role impacted the work? How do they achieve the roles? How the role of CMNs and CMRs adopted and embedded by other? How organisation support in implementing the roles?	Has the training embedded policy guidelines? How the previous professional qualification helped to adopt the new role? How their learning is utilised everyday practice? Are there any limitations in the training? What kind of practices they are allowed to perform after the training?	What are the care process for patients who enrolled into CM? How target patients are identified? Are the case-finding tools or systems are effective and accurate? What kind of protocols or forms are used to assess patients' complex physical and psychosocial needs? How do CMNs and CMRs manage caseload of patients? How CMNs and CMRs build collaborative network within their locality? Are there any guidelines?

M e c h a n i s m s	Objective formation	What is the purpose of introducing the roles of CMNs and CMRs? What do these roles involves? (The detailed activities and responsibilities) How CMNs and CMRs organise care for patients with others?	What are the overall goals of the learning? Dose the training represent their roles and differentiate their professions from others? Who support their learning in practice? What makes them confident in their knowledge and skills to carry out CM?	What is the logic and purpose of the specific service arrangement? Who are the agents involved in the network? What are the interrelationship with the agents? How the network and systems of CM delivery develop throughout time and space?
	Reflextive monitoring	What factors influence the performance of CMN and CMR roles? How can this be improved?	What are the positive or negative aspects of the training? How can training be improved?	What are the key factors in designing efficient CM service? How can the current service be improved?
	Articulation	What are all the materials, technologies and interpretative repertoires that support articulation work? What are the common shared knowledge about the distinctive roles of CMNs and CMRs?	What are all the materials, technologies and interpretative repertoires that support articulation work? What are the common learning needs from the collective actions?	What are the common perception of ideal service design/arrangement?
	Translation	How the findings around the CMN and CMR roles can be applied to the practice? How can CMNs and CMRs work in harmony with others for the benefit of patients and for the organisation? How actors define their work-boundaries as a new profession in LTC management?	How the findings of the role can be applied to the practice? How the knowledge and skills of CMNs and CMRs be developed and utilized? How this can be agreed with other health care disciplinary and policy makers?	How the findings of the service arrangement can be applied to the practice? How complex care of patients with LTCs will be delivered efficiently through the network, systems and knowledge among the different agents?
	Sensemaking	How can the professional identity and roles of CMNs and CMRs be improved? What are the mechanims of the implementation and embedding of the CMN and CMR roles? How the roles of CMN and CMR become routine practice in health care system for managing complex LTCs?	What is the mechanism of organising the CMN and CMR training? How the training of CMN and CMR can be standardised and improved for the quality of care and professional identity?	What is the mechanisms of CM delivery as a whole? How can a CM service be arranged for the efficient care delivery and positive care outcomes?

Table 4.2 Operationalising TMT for understanding the complex organisation of CM

4.4   Methodological approach to this study

4.4.1   **Qualitative descriptive approach**

My theoretical framework in TMT provided me with a structural guideline for the type of information I needed to obtain and how to organise and analysed the collected data according to the components of projects, strategic action field and mechanisms (Table 4.2). As my research was building on from existing knowledge, qualitative descriptive (QD) approach was considered to be suitable to investigate the proposed research areas. QD takes naturalistic approach to research but it does not necessarily commit to a specific theory or framework as other traditional qualitative research designs. The data presentation also contains many descriptive parts (Kim et al., 2017). QD has been used and recommended for health and nursing related studies that aimed or aim to gain much insight into a poorly understood phenomenon. It recognises the subjective nature of the problems and the different experiences of the subjects from the beginning and the findings will be similar to the terminology used in the initial research question (Doyle et al., 2020). Thus, QD is not for developing a new theory from the generated data, but rather creating an understanding of the phenomenon (Lambert and Lambert, 2012). It is also suitable for studies that seek straightforward information around the research area such as who, what, and where of the events, and then describes the experiences and perceptions of the subjects (Kim et al., 2017). It is for that reason that my choice of themes and headings match the research questions and objectives set out in the beginning. The findings of QD studies are normally presented in rich straightforward descriptions of participants' perceptions, experiences and events their own language.They often begin with a summary of the straightforward findings and then later provide interpretative explanations (Kim et al., 2017). However, the methodological approach of QD is rarely discussed in methodological textbooks and papers that suggest how to create, communicate and develop knowledge. For this, QD is perceived to be less sophisticated in epistemological perspectives in comparison to traditional qualitative research (Bradshaw et al.,

2017). According to the review studies QD approach recognises many socially constructed interpretations that are parsed and understood as such not only by participants but also researchers. These subjective interpretations are strengthened and supported by reference to direct quotations from participants (Bradshaw et al., 2017).

The methodological approach of QD is often seen as pragmatic because it seeks for the best methods to answer the research questions (Doyle et al., 2020). This has also led to some criticism about the rigour of QD within the research process (Bradshaw et al., 2017, Doyle et al., 2020). The rigour of qualitative research is generally measured by credibility, dependability, confirmability and transferability. The same measurement will be applied to QD studies which Bradshaw demonstrated in the Table 4.3.

Criteria	Means to Support
Credibility	• Established rapport prior to commencing interviews. • Developing a trusting relationship (willingness to exchange information). • Express compassion and empathy during interviews. • Prolonged engagement. • Participants to verify the accuracy of the interview transcript (member checking).
Confirmability	• Notes recorded in a reflective journal. • An audit trail used to capture data collection and analysis process. • Description of demographics of participants. • Utilizing member-checking processes to verify data accuracy. • Findings represent the data gathered and not biased by the researcher, evidenced by inclusion of direct quotations from participants.
Dependability	• Establishment of an audit trail describing the study's procedures and processes. • Account for any changes that occur within the study.
Transferability	• Purposeful sampling. • Maintaining a reflexive journal. • Providing sufficient study details so recreation could occur. • Rich description.

Table 4.3 Demonstrating Rigor in QD research (Bradshaw et al., 2017)

To increase the rigor, the researchers should be reflexive or clear about their role, the context, theoretical framework and all decision making process during the study (Dolye). With this in mind, I carefully selected methods and applied them to the study described throughout the thesis with references.

4.4.2 **Chosen methods**

From the philosophical and theoretical beliefs, qualitative methods were selected consisting of purposive sampling, semi-structured interview and Framework analysis, in order to achieve my research aims and objectives.

Purposive sampling is commonly facilitated with its maximum variables in QD, in order to gain much insight and information around the research questions/objectives. Samples with ranged characteristics will be recruited by adapting different purposive sampling methods (Kim et al., 2017, Lambert and Lambert, 2012). The strategy of purposive sampling involved non-probability (non-random) sampling, convenience sampling and snowball sampling. These strategies were applied in the selection of the study population and samples. In non-probability sampling, the study population is chosen based on the required features or characteristics informed by the previous CM literature and study objectives (Ritchie and Lewis, 2003). Then, samples are selected in regards to their representativeness of the characteristics within the current study population (Bryman, 2012, Patton, 2002). The common perception of positive organisational work in CM was to be explored by collective actions of CMNs and CMRs as they are the key professionals in that particular situation (Bradshaw et al., 2017). Thus, their professional qualifications, training programmes, work settings and service design were considered when designing a purposive sampling.

Semi-structured interview is commonly used in QD studies as help to investigate the detailed perspectives of individuals who are particularly situated in complex systems or experiences (Ritchie and Lewis, 2003). As shown in the Table 4.2, the information around research areas within the components of strategic action field and mechanisms for each sub-project. These were considered when designing interview questions and creating probing questions during the interviews. The information required by this study is rich involving many different aspects of work. There are mixture of questions for both straightforward information and perceptions of participants on their roles, training and service arrangement. The data is produced by the interaction between the participants and the researcher. Therefore, semi-structured interview allows a researcher to set an interview guide containing several key questions which helps both the researcher and participants define the areas to be explored. Moreover, there is still

flexibility for altering the interview process such as question order, and probing in order to pursue an idea or response in more detail (Gill et al., 2008). This was very advantageous for this particular study.

Framework Analysis (FA) was considered to be the most suitable analysis method as this study dealt with a large volume of interview data that need to be sorted, categorised and interpreted according the TMT Framework. It is convenient for bringing the pre-existing ideas into analysis compared to traditional qualitative analysis. FA has five steps of analysis including familiarisation, identifying a thematic framework, indexing, charting, mapping and interpretation (Pope et al., 2000). The codes and themes accompany short texts as the indexes to participants' original interviews, in which the results can remain true to the participants' responses (Pope et al., 2000). While FA shares the principle of qualitative analysis involving transcribing, coding, categorising and interpreting (Smith and Firth, 2011), its strength is in providing more systematic and transparent analysis of qualitative data with a series of interconnected stages and data presentations. During the analysis process, the researcher can move back and forth across the data by using tables and indexes. This makes it easy to compare the relationship between categories (Ritchie and Lewis, 2003, Ward et al., 2013, Swallow, 2008). These kinds of analytical approaches are very suitable for nursing studies investigating holistic care studies using QD (Bradshaw et al., 2017, Kim et al., 2017, Swallow, 2008)

Furthermore, another advantage of FA is seen in the flexibility to adopt different techniques in managing and organising data. Papers, post-it notes, Microsoft Word, Microsoft Excel, or NVIVO can be used for handling the quantity of data. Thus, FA was initially developed for addressing specific questions that lie especially in applied research from a pragmatic perspective (Ward et al., 2013), but it is flexible to fit any philosophical and theoretical traditions. More importantly, the merits of FA is the transparent and systematic process which

is helpful to overcome the weakness of QD in rigorous and consistent analytical process (Ward et al., 2013).

4.5   Summary

This chapter explained my interests and beliefs in conducting this study under the aim and objectives generated by previous research gaps. From the background to the study, a qualitative descriptive (QD) research was determined followed by a review of methodological literature to confirm. My philosophical beliefs lie on ontological subtle idealism and relativism, and epistemological interpretivism. I believed that there are either multiple realities or commonly shared understandings around roles, training and service arrangement, to suggest effective CM, but that is only knowable through the people within those phenomena. The reality therefore cannot be understood by a single measurement, but by interaction between the researcher and the people in the real-life context. The review of the methodological approach to the research area helped to select adequate research methods including purposive sampling, semi-structured interview and framework analysis. Therefore, the key to rigorous QD research is based on the researchers' clarity throughout the research process with detailed description.

5 Methods

5.1 Introduction

The previous chapter illustrated philosophical and theoretical underpinnings of the chosen methodology and its rationale. In addition, the application of the chosen method were presented within the QD research design. This chapter provides detailed information about the research processes and procedures during the sampling, data collection and data analysis. Before doing so, the aim and objectives of the study are reiterated and clarified.

5.2 Aim and objectives of this study

The ideology of CM for an aging population with LTCs was to reduce the burden of health and social care costs and to maintain patients' quality of life in living with such condition. Previous studies focused on either quantitative outcomes on cost-effectiveness or qualitative accounts on the role development and process of implementation. Although they informed a certain level of CM development in policy and practice at macro and micro levels, the problems associated to the introduction of CMN and CMR roles, educational preparation and service design remains unclear and inconsistent. The implementation and embedding of CM service not only required the materials (policies, tools, systems, training programmes) but also ethos (experience, perception, and understanding) between people. By using TMT theory and qualitative descriptive research, the detailed organising process of CM could be examined for its ecological relationships and mechanisms. This led to the aims and objectives;

Research aim:

- To explore the organisation of CM in different local communities by CMNs and CMRs.

Research objectives:

- To discover what kind of professional backgrounds and training support CMNs and CMRs have for their role competency and the perceptions of its adequacy.

- To examine the process of diffusion and dissemination of the new roles and factors that improve the role recognition from CMNs and CMRs' experiences.

- To identify the distinctive roles and responsibilities (work-boundaries) of CMNs and CMRs emerged from their everyday use of it whilst interacting with other care professionals.

- To explore how local CM services were organised in regards to the staffing, division of labour, network and system for coordination and communication.

- To consider what types of practices can be routinized to support CMNs and CMRs at macro and micro level.

The outcomes of this study can be useful for policy makers, managers, practitioners and academic researchers to improve local CM services or design a new CM service.

5.3   Study population

Sampling is the process of selecting representative units of population for a study and its techniques should be reflective of the research design and questions (Bradshaw et al., 2017, LoBiondo-Wood and Haber, 2014). In response to the aim and objectives, this study acquired purposive samples of CMNs and CMRs who had different professional backgrounds, training, work experiences in different service settings as shown in the Table 5.1.

Samples	Professional backgrounds	Training	Local CM arrangement
Up to 15 CMRs	Different professional backgrounds, duration of CM post ranged from one year	Different training and qualification	Geographical settings: rural, urban Different service types: team-based, practice-based, other types
Up to 15 CMNs	Different professional backgrounds, duration of CM post ranged from one year	Different training and qualification	Geographical settings: rural, urban Different service types: team-based, practice-based, other types

Table 5.1 Purposive sampling

The maximum variable sampling is quite common among the QD studies in order to gain detailed information around the particular research questions (Kim et al., 2017). Firstly, I needed to see whether previous professional backgrounds and working experiences had influenced in the process of taking on the roles of CMN and CMR. Goodman's study (2010) also sought CMRs with different nursing backgrounds so they could see the different type of nurses in the CMR post and their different perspectives on the role. Secondly, the duration of CM delivery for participants also needed to be ranged, in order to see any changes in the perceptions of their roles. However, it should not be less than one year, because CMN training could take more than a year and the CMN and CMR roles might take a long time to develop, so the participants with the working duration were able to describe their role clearly as well as their training needs. Previous studies supported the idea that the duration of working experience in CM had a close association with the progress of role development, networks and training for CMNs and CMRs (Challis et al., 2010b, Sargent et al., 2007).

Hence, it would be interesting to explore the different perspectives on the roles of CMNs and CMRs over time. It was thought that the participants of CMNs and CMRs having less than one year's experience might not have constructed their own understanding of the role, the patients in their caseloads, learning needs, and achieving multidisciplinary networking, since

understanding these can take a long time. Lastly, local CM arrangement was broadly considered in two respects: geography (rural and urban) and service structure (team-based and practice-based or other types). Previous scholarship showed the possible influence of geographical location and structural arrangement of CM services (McEvoy et al., 2011), but the benefits and limitations of the models in delivering the CMN and CMR roles had not been fully explored.

Sampling size and data saturation

In qualitative research, the sample size is not concerned with statistical representativeness or generalisability, but rather the priorities of characteristics and the richness of in-depth information (Ritchie and Lewis, 2003). The sample size of QD studies, using individual interviews and focus groups, ranged from 8 to 50 and its principle is no different from qualitative research. A small sample size of around 8 to 20 is suggested to produce rich information in qualitative research (Castro et al., 2010). However, the adequacy of sample size has no specific rules but considers samples that sufficiently answer the research question and reached the goal of obtaining rich information (LoBiondo-Wood and Haber, 2014). The wide spread methodological principle of selecting sample size depends on the saturation in qualitative research. In general, the large volumes of qualitative data from small samples is analysed for meaningful ideas or new evidence to answer the research questions. Unlike quantitative research, the new ideas are included in the analytical map once it appear from a participant, and the same/similar responses from other participants categorised into the analytical map consisting of themes and codes. Data saturation occurs when there are no more new ideas seen among the small samples of participants so the larger sample sizes do not mean there is more new evidence (Ritchie and Lewis, 2003). Saying that, the term saturation is difficult to conceptualised as it depends on the study design, sampling procedures and the

relative frequency of the phenomena under the investigation (LoBiondo-Wood and Haber, 2014)

For example, if a study largely relies on deductive approach to analysis, the saturation can be reached when the collected qualitative data adequately represent its pre-identified codes, themes or other analytical categories. In comparison, inductive analysis of traditional qualitative research like grounded theory relies on the emergence of new codes and themes which did not exist before the data collection. Previous studies involved a small number of purposive samples from 5 to 15 in order to evaluate CMNs' practice-based learning (Banning, 2006) and explore patients' views on the CMN role (Williams et al., 2011). Although large studies recruited a higher number of samples from different study sites, the samples consisted of various people such as PCT managers, service users (patients, carers and voluntary agencies), GPs, CMRs and advanced primary nurses. These participants were too divided into small groups by the characteristics and participated in multiple case studies as the study sought different perspectives on CM (Challis et al., 2010b, Goodman et al., 2010, Sheaff et al., 2009). Thus, these large studies with bigger sample size appeared to focus on the representativeness of the data in the pre-determined categories such as backgrounds, mentorship, case-finding and core tasks. As the information required is varied the sample size seems to be larger with maximum variable. Ritchie and Lewis (2003) also suggested a larger sample size if a study involves many variables. Therefore, it is difficult to predict the right number of samples which can lead to data saturation so the sample size has to be estimated until data reached saturation during the process of data collection and analysis (Doyle et al., 2020).

My study mainly relies on gathering rich information to answer the research questions and many of the analytical categories were predetermined before collecting data except the detailed codes. The sample size was estimated as large as 30 after considering the study design, sample

variables, analysis, time and cost of the study (Bryman, 2012). Although the sampling criteria were designed to cover all subject matters required to answer the research questions, it was not clear whether there would be balanced numbers of CMNs and CMRs during the recruitment, especially in terms of professional backgrounds, training, different service structures and locations. The sample size was planned for at least 15 participants for each CMN and CMR post and five CMNs and CMRs to each characteristic (e.g. five nurses, five allied health care professionals, five team-based and five practice-based) this number would be enough to produce rich data to the pre-determined categories and the samples would be more representative to the data (Ritchie and Lewis, 2003).

5.3.1 Identification of potential participants

Participant recruitment was carried out through six primary care trusts (PCTs) and Hospital Trusts in the Manchester and Yorkshire areas. These areas were chosen due to available CM services and geographical characteristics involving urban and rural areas. It was also convenient for me as I lived in Manchester at that time. At the beginning, central Manchester, Greater Manchester and North Yorkshire were selected to compare the different services in urban and rural areas according to the classification of National Statistics (National Statistics, 2009). Later on, the research sites were expanded to West and East Yorkshire areas due to insufficient recruitment to the sample. Available CM services were searched through the website of the six PCTs and Hospital Trusts. The service information was brief on the websites so the researcher contacted the organisations for detailed information such as the number of CMRs and CMNs and a linking person to access the potential participants. After that, governance approval was sought from individual Trusts to access the potential participants (Appendix 6). During the sampling process, convenience sampling and snowball sampling were used to select the purposive samples of the study (please see the Table 5.1 in the previous section).

After initial contact with the organisations, a linking person (CM team manager or community adult care manger) invited me to CMNs' and CMRs' regular meetings, or the CM team site. If CMNs or both CMNs and CMRs worked together as a team, I visited the team to introduce them to the study. For individual CMNs and CMRs working alone in a GP practice, I introduced the study at their regular meeting. Information packs were handed out to all CMRs and CMNs at the meeting following the introduction. Each information pack contained an invitation letter, a participant information sheet, an interview guide, a reply slip and a pre-paid envelope (Appendix 1, 2, 3 and 4). It was explained that this study sought CMNs and CMRs who had worked in their current post for one year or more. They were told to read the information pack and return the reply slip by post if they wished to take part in this study. Many participants instantly completed the reply slip and returned to me at the meeting while some others sent the reply slips by post. This was more likely to be convenience sampling from the technical side.

Snowballing was necessary for recruiting CMNs and CMRs who worked in a large rural site because they worked in different places and had no regular meeting to see them all at one time. It was not ideal to ask individuals' permissions to visit and introduce the study one by one. Their dispersed location could also be time consuming and costly for travel. For this reason, I contacted an adult service manager to forward information about the research to possible participants and my contact details were provided. Afterwards, the manager provided an email address and telephone number for one CMN who might be interested in this study. I contacted the CMN to ask for her interest in taking part of this study, and for any potential participants she was aware of.

	CMRs and CMNs
Inclusion Criteria	▪ Who had CM experience for one year or more
	▪ Who were employed in the areas under study.
	▪ Who were able and willing to take part in this study.
	▪ Who consented to participate.
Exclusion Criteria	▪ Who did not fulfil the inclusion criteria.
Withdrawal Criteria	▪ Who changed their mind, or were unable to attend an interview.

Table 5.2 Inclusion and exclusion criteria

With her positive response, I visited the CMN and asked to pass the study information on other CMNs and CMRs in the area. The CMN then informed me about other participants and their preferred interview time. As the research sites and their potential participants were determined according to the priority of the sample criteria, all CMNs and CMRs who were willing to take part of this study and met the inclusion and exclusion criteria were recruited for the study as shown in the Table 5.2.

5.3.2   **Study samples**

A total sample of 32 CMNs and CMRs were recruited between August and November 2011. Their wide range of personal characteristics and numbers fulfilled the sampling criteria and size as shown in the Table 5.3; except that participants' professional backgrounds were unbalanced between allied health care and nursing. No social workers were found among the samples. Most nurses had working experiences in both acute and community settings except for three who had been acute nurses in the past; but the table only shows their last career prior to the CM role.

Samples (*n*)	Professional backgrounds (*n*)	Duration at the post (years)	Qualification of training (*n*)	Service setting (geography and structure) (*n*)		
CMN (*n*=15)	Physiotherapist (*n*=1) District and community nurse (*n*=11) Nurse consultant (*n*=1) Acute nurse (*n*=2)	Ranged from 2~7 years	Masters in advanced practice (*n*=8) Postgraduate level in advanced practice (*n*=14)	Urban Team (*n*=7)	Urban Individual (*n*=4)	Rural Virtual ward (*n*=4)
CMR (*n*=17)	Occupational – therapist (*n*=1) Podiatrist (*n*=1) Acute nurse (*n*=2) District and community nurse (*n*=12) Academic (*n*=1)	Ranged from 1~ 10 years	Self-directed learning through formal and informal courses	Urban Team (*n*=6)	Urban Individual (*n*=7)	Rural Virtual ward (*n*=4)

Table 5.3 Characteristics of the participants

Before describing the data collection, the next section briefly states how this study handled ethical issues around accessing participants, managing data and taking responsibilities over the research.

5.4   Ethical Considerations

5.4.1   Accessing Participants

Permission to access participants was granted by the relevant trusts through governance approval and NHS ethics approval, as shown in Appendix 6. The researcher provided information packs to the participants so that they were able to understand the research aims and objectives (Appendix 1, 2, 3 and 4). It was explained in the information sheet that there was no direct benefit from participating in the study. Equally, the information sheet made clear that the study was interested in all the experiences of participants in CM, and they would not be judged based on what they might say. Participating in the study was voluntary, and individuals were also given the right to decide whether or not to withdraw from the research project.

5.4.2 Informed Consent

Before the interviews, the researcher made sure that the participants had read the information sheet. The participants were then required to sign an informed consent form. The consent form included a request that the participants give consent to the recording of the interview, explained how data would be stored, and outlined the participants' rights to withdraw from the study at any time without giving a reason (Appendix 5).

5.4.3 Data Handling and Confidentiality

Data was handled in a manner compliant with the Data Protection Act. All participant information was kept in a secure locked drawer in the researcher's office. Electronic data was secured by a password-protected ZIP file. The interviewee names were coded as numbers in transcripts and audio-records. The audio-records were saved electronically during the study and to be deleted at the end of the study. Pseudonyms were used in writing and in any presentations of the data. The data was only accessible to the researcher and their supervisors. The personal information of the participants was retained for three months after the end of the study, and then the information was destroyed. During the study, the participants' names, addresses and postcodes were only used for correspondence because the participants wished to receive the summary of the study.

5.4.4 Risk or Discomfort Assessment

The potential risks were assessed according to the Durham University health and safety manual. No direct risks occurred in the study. With respect to interviews, the researcher ascertained whether participants would still like to take part by telephoning before the interview. All interviews were held at the participants' workplace, where it was a safe place to meet with the staff involved. The researcher was a qualified general nurse who had the experience of working in the community as well as carrying out research. The researcher used

public transport including trains, buses and taxis to visit each participant for the interview and had reliable telephone support in place with a contact person available.

5.4.5   Insurance and Research Governance

The study was sponsored and insured by Durham University, which took ultimate legal responsibility for this study, and was legally liable in the case of any harm. The ethics of this study were approved by the National Research Ethics Service, and obtained a favourable ethical opinion on 23rd May 2011 from the NRES Committee East Midlands - Nottingham 2 (REC reference: 11/EM/0182). Also, research governance approval was sought from each PCT and Hospital Trust as shown in Appendix 6.

5.5   Semi-structured interviews with CMNs and CMRs

Semi-structured interviews were conducted with the 32 participant CMNs and CMRs. As mentioned earlier, semi-structured interviews were useful to illuminate participants' thoughts related to the research areas by using pre-set interview questions and additional probes during the interviews. Seven broad questions in the interview guide were initially set in regards to the required information to answer the research questions using the theoretical framework and qualitative descriptive approach (Appendix 3). The questions sought for information around personal information, understanding of the key roles, daily activities and care processes, patients in caseloads, training, service setting and their overall experience in CM. The appropriateness of the interview questions was confirmed by my two supervisors, and then the interview process practiced with a PhD colleague (Prescott and Soeken., 1999). Afterwards, the questions and data collection procedure were adapted in line with their feedback.

5.5.1 Role of the researcher

My role as an interviewer was crucial to illuminate the participants' experiences, thoughts and feelings in relation to research areas. Qualitative interviewing has strengths in enabling individuals to have a voice, and contribute interpretation of their own lives (Roberts, 2002). I needed to accept and understand the naturally occurring participants' accounts (Ritchie and Lewis, 2003). However, there are arguments about the objectivity of the researcher as questioner. For example, the researcher was to have an objective mind to ask questions, because there is the possibility of inconsistent memories, misleading information or biased questions during the interaction with participants (Roberts, 2002). On the other hand, recent social studies have recognised the collaborative and reflective role of researcher, created by the researcher's relationship to the study area, and personal biography such as gender, race, professional background and expertise. This can influence the interview and interpretation of the data (Roberts, 2002). From the interpretivist perspective, the interaction between the researcher and participant is essential to produce required information around research topics and the relative importance of each topic shared (Green and Thorogood, 2014, Parahoo, 2014). The interaction helps the respondents to reflect and structure their lived experiences. There the researcher draws on his/her collected experience in order to pursue an open discussion (Roberts, 2002). The degree of the researcher's biographical input is difficult to measure, but the process of sharing stories, and the depth of the stories shared in research questions have to be reasonably described for the readers. It is important for researcher to obtain detailed information to answer the research questions from them.

For this reason, building a mutual relationship (rapport) with participants is essential, in order to open their mind to discussing research topics freely (Green and Thorogood, 2014). At the introduction of the study, I introduced myself as a PhD student researcher who has an interest in the development of LTC management and there I briefly shared my nursing experience of

LTC management in Korea. With their reply slip, I contacted each participant to explain the study in detail and then arranged the interview place, date and time. This process was followed up by a telephone call before the interview. At the visit, I began the interview with a friendly opening comment that was linked to the participant's interests (Stephens and Crawley, 1994) and reminded them my name and the aim of the interview once more. The participants were allowed to stop the interview at any time and ask questions during the interview. They were also encouraged to answer freely in their own way during the interview and assured that their responses would not be judged as right or wrong (Green and Thorogood, 2014, Parahoo, 2014). The kind of presence, personal empathy and friendly approach to participants on the part of researchers has been noted, for creating good rapport with the participants, and to open up good discussions during the interview (Green and Thorogood, 2014).

During the interview, I carefully listened to the participants and understood the participants' responses in order to ask accurate probes and lead the conversation to relevant topics. The logic and essence of what is being said needed to be clear to me, and to be memorised for further clarification and elaboration. My curiosity as a researcher was an important component in this respect (Ritchie and Lewis, 2003). I found that my nursing knowledge and Master's study gave me a good understanding around participants' languages, and the ability to ask the right questions to explore further each of the research topics further. At the same time, my curiosity enabled me to adopt new emergent information and generate further discussions, without judging them according to existing concepts of roles, training and service arrangements (Ritchie and Lewis, 2003). For instance, I was interested in finding out what the various CMN training programmes contain, and how they differed from my nursing experience and from previous literature. On the other hand, I had to be careful in discussing CMR training, because CMRs had different beliefs in receiving additional training for their role. The different beliefs had to be respected and explored at the same level. I also sensed that

participants were under pressure to sustain their professions within their organisations, so that they sought my approval for their importance in LTC care. For example, participant 6 mentioned that patients always like CM service and questioned how to prove the effectiveness with a small number of patients. Participant 5 shows the pressure on the role of CMN.

"Patients always like the service but it's difficult to audit that popularity, difficult to say making a big difference in terms of quality of life and cutting hospital admissions because how can you know those hospital admissions are going to occur? Because you're only comparing yourself with maybe 12 (patients)."(Participant 6: CMN)
"I think there is an appreciation of the outcomes of what we do which isn't say, I don't think the role is under, it might be under threat because we're now coming under the umbrella of hospital...well there maybe danger that the focus of acute services, kind of undervalue the service."(Participant 5: CMN)

I showed certain empathy but could not be overly involved with the views, because this might lead to biased information (Ritchie and Lewis, 2003). In contrast, it was imperative that my pre-existing concept of CM and nursing did not limit or force the participants' responses (Charmaz, 2006). Therefore, the interview guide and field notes helped me to lead participants through relevant topics, and minimised misleading conversations. The credibility of my interview questions is described in more detail in the next sections.

5.5.2   Semi-structured interview questions

The interview was not only carried out by following the number of key questions, but also in a series of probing questions in order to achieve breadth and depth in responses around the research areas. Ritchie and Lewis (2003) have introduced different types of interview questions such as content mapping and content mining. Content mapping questions are used

for opening up general thought about a subject in which a rich list of dimensions is generated for further exploration. Additionally, content mining questions are facilitated for deeper understanding and fuller description around the issues arising from the opening questions. Examples of the interview questions mostly came from first participant because I produced the most detailed questions to understand the terms and languages participants used.

Firstly, content mapping questions are seen in three ways; ground, dimension and widening mapping questions. Ground mapping questions are used to open up a subject and then dimension and widening mapping questions are introduced to develop the first thought or uncover other layers of meaning. These different types of probing questions were frequently used in this study as seen in the following examples. The interview with participant 1 is an example of the ground mapping question. It asks about any training or qualification for the CMN post (title was different).

Participant 1 (CMN, physiotherapy background)

R: Could you tell me if you had any training or qualification for the post of active case manager?
P: When I joined as an active case manager in B city, I did case management module in B University um which also included some clinical assessment skills as well, so that was a ... was it 12 month? 12 month in University. So it was like a day or day or half in University doing things like looking at the management of long term conditions, um and clinical skills, um I can't remember that...ha-ha. That's two years ago...ha-ha. And I have started my independent prescribing um but it's just personal circumstances that I put that on hold from the time being. It's going to be restart that again.

I wanted to find out the different type, duration, contents and educational qualification of CMN training but the participant's initial response did not cover the full story. The participant recalled the duration of the course, course attendance and course contents randomly. Hence, a few dimension mapping questions were introduced to explore more about the training such as training place, application, other course content and educational qualification.

R: Where was the course held?
P: B University. So there is a number of things, that quite a lot of courses, they are really linked to case management, and managing long term conditions… and then we're also going to do a lot of in-house training, so we do a lot of training with practice nurses, in regards to COPD, heart failure… So we do a lot of those things together really rather than be specific kind of courses. Yeah, they kind of have updates.

R: In relation to the training, could you tell me about the contents of the training in detail? What have you learned from the training?
P: I suppose at B University training, a lot of clinical skills that you… (For me, as a physio, I used to listen to the chest throughout that time…) Um so, we did chest examinations and cardiac examinations, and the things are supposed to do, it would have been better in contents, for those being able to put that into practice rather than just practice some of that on each other... Actually do some of that training in the community really or link with GPs.

A widening question is used to fully capture the perspective of the participant through dimensions and subtopics. When the participant finished describing her training programmes, I asked once more whether there is any other training to be explored. With this, the participant mentioned her informal training sessions that are currently taking place. In this way, the researcher made sure the participant's training is well captured.

R: Do you have any current training or sessions?
P: We have two mandatory training, but not related to case management, so we have things around health and safety and fire lectures and patients handling complaints, all the mandatory training, but not necessarily about how you would actually case manage.

Secondly, content mining questions were asked in different forms such as amplificatory, clarificatory and explanatory probes. Amplificatory probes encourage participants to elaborate further on the previous issues because participants rarely open up the details of the phenomena and their underpinning thoughts or attitudes without researchers' probes. Detailed probes can be made until the researcher satisfies the depth of information required, as seen in the example of participant 1;

Participant 1(CMN)

R: You organise services for various patients' needs, what kind of links do you have with local health and social agencies?
P: Um we are really lucky; the fact that doctors are here, their patients are here, social workers are upstairs as well. So, we've got good links with them. Other links is secondary care, particularly with specialist nurses; heart failure specialist nurses with our team.
R: Do you think the recognition of case management is well known by other health and social care professionals?
P: It's getting there, it's getting there, but it is completely different, it's a brand new role, and I suppose it takes long time to get into their... because people always fear that you gonna be taking over something that they are already doing. Um so, I think there is a lot of animosity.
R: I know it's still progressing, how long do you think it will take?
P: I thought it will be alright after 12 months, but there is, we still got, I think we still got another 12 months to develop, before we actually probably look at what our outcomes are properly, and actually measure it with some real outcome measures that shows what we are doing. And it's really difficult for us to prove that we stopped the hospital admissions, and it isn't some other services.

Clarificatory questioning was used in order to explore language, clarify details and challenge inconsistency (Ritchie and Lewis, 2003). The participant 1 described her training programme with modules but the educational qualification was not clear so additional probes were made as to whether the CMN programme was Master's level, degree level or post graduate level.

Participant 1(CMN)

R: You mentioned about case management modules, was it Master's level?
P: No. It was degree level. Yeah, it's just degree level, not Master's level.
R: You had physio degree; does it mean you have another degree in case management?
P: No. It's just some modules that are degree level. So, I've never thought about adding them up or up doing something else yet. Um they are just kind of modules made up a part of another degree. So, yes I have Bsc in physiotherapy. The other things are HE level six, isn't it? Yes I think so, just doing that.

Explanatory probes were used to understand the reasons for the participant's view, behaviour or event. Participant 2 mentioned that her team had advanced practitioner nurses but their clinical skills were not well facilitated in the CM so this needed to be explored more to understand the particular service design and system.

Participant 2 (CMR)

R: It seems like each staff pick the training courses that help to improve their skills, isn't it?
P: Yeah. We're trying to have little bit of skill mix, because it's pointless everybody doing the same things, because we can bounce off each other. If I have worry, come back in. I know other girls are advanced practitioners, so they are really useful. Even though they are not working as an advanced practitioner in this role, they've got the clinical skills. But, they are not using these skills, because they are not paid to do which is shame, because if they would, they will be really good because they've got all the skills. They've done long term conditions module. They can do all the examinations, and they can prescribe, so it's crazy.
R: Why is it that they can't use their advanced clinical skills?
P: Because they are not working as an advanced practitioner, so like they were probably band 8, but they only be paid as bend 7. And the insurance wise, because the role doesn't, you know, you are not covered, because at the moment our role does not include that. That's what they are doing. I think it will change. We work towards it. Maybe active case managers need to be advanced practitioners but I think, as role develops, we gonna learn things like this. So, we are still learning I think.

Informed by the literature review, it was necessary to gather information about different CM approaches (design) and their systems in regards to staffing, assigning roles and responsibilities. Hence, I introduced content mapping questions to describe the members of participant 1's team in detail (*Could you tell me about your team members?*) and their different roles in the team (*Are there any differences in roles between the team members?*). From this information, the advantages and disadvantages of the specific form of CM service were explored (*what are the advantages and disadvantages working in a CM (team/practice-based CM) like yours?*) from the view of participant 1.

From the first two interviews with participants 1 and 2, I realised that each question entailed many additional probes in order to gain a deeper understanding of the roles, core responsibilities, and training and different service designs among the participants. Especially, different questions needed to illuminate the different meaning of roles in regards to the function (What do you think about the importance of the CMN/CMR role?; What are the key contributions of your role in CM for complex LTCs?), and distinctive job and responsibilities ('How is your role in CM different from other care professionals?', 'Could you tell me about

your daily routines?). The way of describing the role was different depending on the participants, some participants responded all at once while others need additional questions to obtain the required information. I realised that CMN education programmes were different in names and course durations, and these needed much exploration in terms of the contents, duration, educational qualification and relevance to the role. Moreover, the networking with other care professionals and the different responsibilities between staff members were emerging as important factors for comparing the different CM approaches. The varied individual accounts needed to be described and explored in balance among the participants, so their responses could be compared and categorised with common themes in the data analysis.

To ensure the quality and balance of the interview, a field note was made to record any important issues or emergence of new themes during the interview, and capture the participant's attitude, key points and any problems in the interview process for modification and probing (Green and Thorogood, 2014). I also listened to their interview recordings to examine the accuracy of questions and emergent themes related to the key questions following each participant. Appendix 7 shows the example of my field note and interview questions following the interviews. Although I covered all interview topics and illuminated rich-information around research topics, the order and types of questions needed to be modified for better communication. In addition, the depth and relevance of responses was examined against the research aims and objectives. For example, an opening question of *'How many patients do you have on your caseload?'* could be changed for '*Could you tell me about your caseload of patients?'* so I can obtain more dimensional responses. As one of my research objectives focused on the role of CMN and CMR, it was better to open up their perception of important roles in CM prior to asking about the daily tasks (third question in the interview guide). The language 'task' was also changed to 'routine' as the participants suggested that their work was not based on tasks. The Table 5.4 shows the modified interview questions. The altered key

questions were applied to the remainder of interviews but the diversity and order of probing questions was different with each participant. Thus, the flexibility of a semi-structured interview was well facilitated to gain rich information around the research topics.

The interview time for each participant was approximately 60 minutes (Ranged from 40minutes to 2 hours) and the data was digitally-recorded during the interview. Every first interviewee in each team-led CM took longer than other team members, because they mostly described the service structure (staff members, target patients, case-finding tools and service location) and different responsibilities between the team members. Less was required of other team members from the same CM service on this information so their interview time was shorter

Category	Key interview questions	Probing questions
Demographic data	Could you tell me about yourself?	Age, duration of CM, job title and grade, professional backgrounds and previous working experience.
Training	Could you tell me if you had any training or qualifications for the post?	If it's possible, could you tell me about the course contents? What kind of learning was involved? What is the qualification of the training course? What is the duration of the course? How did you benefit from the training? In your opinion, what are the most important learning needs and qualification to carry out the CMN/CMR role? Overall, how do you feel about the training? Do you have any suggestions to improve the training?
Role	What do you think the importance of CMN/CMR role? What would be the major contribution of CM for managing people with complex LTCs? Could you describe your daily routines? Could you tell me about your caseload of patients? Number of patients, their LTCs, perceptions of the caseload size	Do other health care professionals recognise your role well? Has your organisation helped you with service introduction? How do you identify patients? What is your target patient group? Do you have any patient criteria? Where are the majority of referrals made? How do you identify patients from the case-finding tool? (if any) Could you tell me about the care process after identifying a patient? How do you assess patients' needs? How many patient visits and calls per day and what are common reasons? How do you organise patient care with other care professionals? What kind of links do you have with health care professionals? How are patients allocated between the team members? What kind of long term conditions do your patients have? What is the range of patient ages? How many patients are in your caseload? How do you feel about your caseload size? Do you have any criteria to discharge patients from your service? What would be the manageable (suitable) caseload size? What happen to the discharged patients?

Service arrangement	Could you tell me about your working environment?	Who do you work with? Could you tell me about your team members?(for team-based CM) Are there any differences in roles between the team members? (for team-based CM) How many GP practices do you cover? What kind of links do you have with other local health and social agencies? What do you think about the service provision in your region? What types of services have you referred your patients to? How well have other services responded to your referrals? What are the advantages and disadvantages of working in a CM service (team/practice-based) like yours?
Overall experience	In your experience, what has been the most helpful in implementing your role as a CMN/CMR? If possible, please say if you have faced any difficulties or barriers whilst performing CM duties?	

Table 5.4 Modified interview questions

5.6   Data analysis

As mentioned in previous chapter, FA has five stages including familiarization, identifying a thematic framework, indexing, charting, mapping and interpretation (Pope et al., 2000). The next section describes how this study facilitated the five stages of FA by following the theoretical framework. Again, the analysis process mostly demonstrated with the first participant's data to show the transparency of the process.

5.6.1   **Framework analysis stage one: Familiarisation**

The first stage of FA is similar to other qualitative interview analysis that aims for familiarisation with the collected interview data. Familiarisation already begins during the data collection, but the participant recording needs to be transcribed for data interpretation and analysis (Pope et al., 2000). Transcribing interview recordings is a long process because it requires repeated listening to recordings against transcripts (Braun and Clarke, 2006). Each interview here produced between 20 and 30 pages of transcript in a Word file because all subjective accounts needed to be transcribed verbatim in order to capture participants' rich experiences of CM and their perspectives on the roles and training and service setting from the ontological (relativism, subtle idealism) and epistemological (interpretivism) stances of the study. However, some of straightforward information like personal information (age, title and duration of CM), training types and staff members were directly coded from the recordings to save time as it did not require any interpretation. Through this process, the researcher builds a coding framework for identifying patterns, differences and similarities in the participant responses (Patton, 2002). Such interview transcripts reflect the interaction between the participants and the researchers, generating relevant information to the research topics (Seers, 2012). The interview transcribing was carried out on my own, which helped me to become familiar with the various views and patterns of participant responses (Patton, 2002).

5.6.2   Framework analysis stage two: Identifying thematic framework

The key aspect of the second stage is creating codes and their initial themes, to sort out the large volume of written transcripts. During the coding process, the researcher pulled all the key issues, meaningful ideas, concepts or themes against research objectives that are framed in three sub-projects in TMT together with the issues raised by the participants (Endacott, 2008, Pope et al., 2000). The goal of this stage is to make a detailed index of the data, provide a coding framework by labelling the raw data into manageable amounts for the ensuing retrieval and exploration (Pope et al., 2000). Most importantly, each code needs to make sense of the data and in depth analysis. It is not ideal to create too many labels line after line without any concept related to the purpose of the study. In FA, individual codes are in the form of a word, text or phrase, but many codes emerge with a short note as an index to the original transcript. In this study, the codes were a mixture of my interpretations on the participant responses and the original words of the participants. A participants' response to an interview question could contain different meanings, which required my understanding and interpretation against the research questions. The codes were created based on my interpretation related to the existing theoretical concepts and new emergent concepts in CM. Also, my nursing background helped me to understand the language of participants and distinguish the different concepts (Miles and Huberman, 1994). At the same time, I remained true to the participants' accounts by clearly presenting both participants' perspectives and my interpretations of them (Noble and Smith, 2015).

For example, participant 1 was asked about her perception of the importance of the CMR role, but her answer linked to required skills and knowledge for her CMR role. I used the term CMR for her during the interview as the short version of active case manager. The members of her service were titled as active case manager, regardless of qualifications and training; but this person had gone through advanced practice training. For this reason, I coded 'important role

of CMN' as the main theme (pre-determined theme), with a short note to describe the perception of the role. She mentioned that the important role was identifying patient's deteriorating condition and dealing with it in time. With my nursing background, I understood what this means as an important role, and why the clinical skills and knowledge of LTCs were required. Thus, I interpreted the later response as 'required skills and knowledge for the CMN role', which could be compared and discussed with their current training. The term 'required skills and knowledge' had been also mentioned in the previous study (Ross et al., 2011). I highlighted the key concept and its codes in bold to show examples of the coding process;

Transcript : Participant 1	Initial indexes and codes (Researcher's interpretation)
R; What do you think the most important roles of case manager?	**Important role of CMN (concept)**
P: Most important role? I say it's being able to identify when patients are deteriorating and not going down ill. So I think it's important that you've got the skills and knowledge to identify all the problems associated with long term conditions. I think you've got to have experience of patients and communicating with patients. That's big...because you're communicating with everybody the doctor; you know other professionals as well as family. You know I think you need good communication skills. If you've not got them, you are going to really struggle. And obviously have the knowledge and ability to identify problems and deal with them.	Identify deteriorating condition and deal with it on time (code). **Required skills and knowledge for the role of CMN (concept):** ability to identify deterioration and problems in LTCs (code). Communication skills (code): because communicate with patients and other care professionals (short note).

Then, the participants' demographic information (age, gender, job title, job band and working experience), training types, staff members, service location and case-finding tools were coded from the participants' own words as they are obviously easier to understand in their own terms;

Transcript : Participant 1	(Participant's own words)
R: Relation to identifying patients, how are patients referred to your service?	**Identifying Patients** (concept)
P: Ok we have two kind of methods, one is referral in, so we just have, we take telephone calls or fax or letter um anything that secure in a sense of getting that information. I take them from anybody. So, I take them from all across health and social care and even patients self-referrals in as well. So we don't kind of there isn't anybody can't make referrals. The other way we do is we have access to what it's called clinical dashboard, so that collects information that we can see on daily basis um all we do is we have contract with GPs that we only view the patients for the GP practices that we cover and the information we can look at every morning, tell you list of patients, what urgent care services they've accessed, So what we do from then, we can filter it down, so it can shows who is the high intensity user of services. So, we look back over the past 14 days and we can have names, and next to the names is the number of times, how many times contact a service, so that could be the walk in centre, out-of-hours, A&E or hospital admissions, and then we would go to GPs to discuss with that patients, saying they are using services quite a lot, do you want us case manage that patients? We let GP decide whether it's appropriate or not because GP obviously has more information about the patients than we do. We just have patient name and NHS number; we don't know much about and date of birth, so we don't know anything about history to go out make decisions. So, yes we speak to GP about that.	Referrals(code): anybody, health and social care professionals (doctors, nurses, GPs yeah .and physios, occupational therapists, district nurses.) and patients self by fax, letter, telephone call. (short note) Clinical dashboard (code): computer generated data, show the number of service usage of patients, access under the contract with GPs from two assigned practices. (Short note) **Care process** (concept): Clinical dashboard (code): filter down the data and contact GP to discuss and get patient information. (Short note)

Uncommon in qualitative research, numbers were also involved in codes to compare the different caseload sizes and assigned practices between participants in rural and urban areas. However, these numbers were not simply captured to show the statistical differences but rather a description of the meaning: how the participants feel about their workloads and how they manage them. Thus, the analysis can make association between the structure, the materials and cognitive components from the strategic action field and describe/explain the mechanism of managing caseload. These were written in the short notes to capture the important issues behind the caseload sizes and assigned practices;

Transcript : Participant 1	Initial indexes and codes

Transcript : Participant 1

R: How many patients do you have in your caseload?

P: At the moment, I know it's probably different between the teams at the moment and different between B areas, because obviously we have areas of higher deprivation and lower deprivation really. So, I would say, on average, our case managers should be holding about 25 patients, but I know that some of them working higher than that. Some of them working lower than that… So it's really hard to get some equity between teams really, and that's literally because we've got some areas that we've got more poorer people, really social deprivation and in that case, I probably put more case managers in that area. So, I don't hold many, I hold about 12 people at the moment.

Transcript: participant 2

R: It must be difficult to balance between all your training and busy workload?

P: Very. I think that's another thing because only few of us covering whole of B city, I mean, there is only Mary and myself. My team is covering 12 GP practices and it is impossible to get to see all the patients. So in a way, I don't feel our service is equitable, because at the moment, we are working with GPs that are quite keen on the service, where some of GPs aren't involved with us.

Initial indexes and codes

Caseload size (concept)

12 (code): target is 25 Different between team members due to areas, GP practices. Difficult to balance the numbers between the team. Each team members decide their caseload between them related to severity and qualification (band). (short note)

No of GP practices allocated (concept): 12 per team of two CMRs (code). Too many, service is not equitable because only work with GPs who are positive about the service (short note)

The numerous raw codes needed to be categorised into similar concepts and themes within a thematic frame. I prioritised main themes and sub-themes according the existing concepts, research questions and additional new themes during the coding process (Ritchie and Lewis, 2003). Thus, there is a mixture of deductive (main themes) and inductive approach (detailed concepts and ideas in codes) to analysis. Initially, four main themes were set including demographic data, roles and routines, work setting and positive and negative factors, in a separate sheet of an Excel file. Each main theme has sub-themes to categorise all the raw codes with short notes from the initial coding.

Demographic data: age, gender, job title, position, duration of CM, professional background, job grade, qualification and training for CM, important training needs, utilisation of work experiences, benefit of training and uniqueness of CM.

Roles and routines: Important role, daily routine, caseload, case-finding, care process and type of LTCs.

Work setting: location, CM setting, no of GP practices allocated, advantages, disadvantages, suggestions, ideal CM settings and level of service provision.

Positive and negative factors: helpful factors, difficulties, main contributions and recognition.

A	B	C	D	E	F	G
P	Age	Sex	Current Job title	Position	Duration	Professional background
1	34	F	Active case manager	Team leader	2yrs (moved)	Physiotherapist Acute and community hospitals Falls team (CM role)-care only pts with falls but the falls related to mismanagement of other LTCs.
2	44	F	Active case manager		14mons	Rehabilitation unit Bank work Community nurse District Nursing DN+ CM role (difficult due to lack of staff who is able to carry out CM role)
3	51	F	Advanced practitioner (CMN)	Clinical governance lead for the service	7yrs	RGN Specialty in neuroloogy, medicine and surgery Midwife District nurse
4	46	F	Active case manager		7yrs	Paediatric involve...

Demographic data / roles and routines / work setting / Positive and negative factors / suitable training / Sheet1 / Sheet2

5.6.3 Framework analysis stage three: Indexing

In this stage, the long list of raw codes and their short notes are condensed into manageable indexes in each theme. The raw codes and their notes were condensed as simple texts as below;

p	Important role (theme) and raw codes (transcript page)	Indexes
16	Being Co-ordinator: It's been that hope and that person who got compete control over the whole multidisciplinary team, making sure that everything happen (20) I don't think there is another service is like that. They all do bits and back out of the patients (21) Stopping PT hospital admission and also keep PTs out of hospital (10)	care co-ordination Prevent inappropriate hospital admission Keeping PT home
17	preventing hospital admissions (4) Health promotion role, at the top end that are more poorly, so we have to monitor their symptoms (5) Help PTs to be self-managing (6)	Prevent inappropriate hospital admission Health promotion role Empowering PT self-care
18	Role manage the PTs better at home, -Keeping PT home try to educate them to better to their condition,-Empowering PT self-care treat them early to prevent hospital admission (11). Managing PTs with anxiety, liaising services for PTs needs (11). Closely monitor,-continuity in care managing end of life PTs (12)-Caring palliative way	Keeping PT home Empowering PT self-care Prevent inappropriate hospital admission care co-ordination Caring palliative way Managing PTs with anxiety
19	Prevent hospital admission PTs discharge in timely and appropriate manner from secondary or acute care .-Support discharge Have close link with acute hospital-Relationship building 70% of the role is nursing and 30% of the role is social role (9-10).	Prevent inappropriate hospital admission Support discharge Relationship building Ability to do both nursing and social role
20	Just support nursing homes, try to prevent hospital admissions and to accelerate PTs discharge from the hospital (7).	support nursing homes Prevent inappropriate hospital admission Support discharge

The researcher managed the themes and their relevant codes and indexes in numerous coding matrices. Multiple Excel sheets were used to separate subjects systematically in order to prevent confusion between them. Appendix 8 shows the other examples of this process.

5.6.4 Framework analysis stage four: Charting

When the indexing was completed, the themes were examined through the review of the whole data set (Ward et al., 2013). Appendix 8 shows all the indexes associated with 'important role', with the participant numbers and relevant transcript pages, so that it is easy to track their original responses. The relationship between other themes and their indexes were reviewed in the same manner, by copying and pasting individual accounts into the same themes in a separate table. Afterwards, the match between themes and indexes was repeatedly compared and refined until they made sense in relation to each other. It was important to examine the links between the categories and the different levels of generality, in the indexes in which a

hierarchy existed between the indexes, sub-themes and main themes (Pope et al., 2000, Ritchie and Lewis, 2003). During this process, many indexes in the same theme were combined or shifted to other categories. Sub-themes were created according to the different levels of generality in the indexes. For example, the initial indexes of 'important role' were divided into three sub-themes, such as 'prevent inappropriate hospital admission', 'empowering patient self-care' and 'care co-ordination'. This is the example of the first sub-theme and indexes within the 'important role' theme;

Important role or role	
Prevent inappropriate hospital admission: P2,3, 13, 16, 17, 18, 19, 20, 2**5**	support nursing home to improve service: 5, 20 Reduce hospital stay by discharge PT early: 2, 14, 30, 32 Reduce hospital admission and GP call out, Reduced GPs workload: 3, 19, 23, 29 Get PT early treatment when symptom occur: 1,2, 3 Sorting out medication (cost saving) and ready to use at home: 26, 29, 32 saving care cost: 6, 11 Reduce service usage: 11, 24, 28, 30 Medication review: 12 Support discharge: 19, 20

As noted, each chart consists of condensed summaries of views and experiences through the multiple abstraction and synthesis process (Pope et al., 2000). The refined themes and indexes in the individual charts were presented together in a single data chart for further review. In this stage, the use of the Excel file was convenient for examining the interconnected stages and presented data, by moving back and forth across the data tables and sheets (Ritchie and Lewis, 2003). The entire theme and its concepts required constant defining and refining until the data were coherent in relation to the research questions (Smith et al., 2011). This process is presented in the Appendix 9 where themes and contents were changed and combined so the final themes were quite different from the initial themes.

5.6.5   Framework analysis stage five: Mapping and Interpretation

In this stage, the final refined themes are checked for appropriateness against the original transcripts and field notes. Then the themes of the study were conceptualised for writing up by using mapping and interpretation. The researcher explained why the themes were chosen and what concept and theories underpin the themes. In addition, the typology and association between themes identified in the thematic chart needed to be explained (Smith and Firth, 2011, Ward et al., 2013). In this study, my intention in data analysis was based on the research questions and theoretical framework of TMT underpinning relativist, subtle idealism and interpretivism. I focused on the different responses of individuals and identified their common understanding and interpretations around studied phenomena, in regards to the organising work of CM in combination of developing professional roles, training, and an integrated network system. The mechanisms of mobilising CM service for patients with complex LTCs is described from the collective action from the group of CMNs and CMRs. In addition, the positive and negative factors influencing the organising work of CM would be considered from the experiences and perceptions of the subjects. In the final theme chart (Appendix 9), the multidimensional categories of data were merged and structured (from the stage 2 to 4) into three main themes and relevant sub-themes based on theoretical framework.

Firstly, the main theme 'the common understanding of CMN and CMR roles' was established according to the sub-project and its relevant questions within the strategic action field and mechanisms (Table 4.2 in chapter 4). The key questions around the role of CMNs and CMRs were to identify the common perception of the roles from the everyday practice, and how the roles were implemented and embedded into the existing health system. To answer the questions, I firstly reviewed the description of important roles between CMNs and CMRs through the indexes and transcripts in the category. It was interpreted that CMNs and CMRs' perception of their role appeared to be described into two different accounts, namely aim (or

function) of the service (by government) and care responsibilities to achieve the aim. The CMNs and CMRs function in LTC management was to assist reduction in service usages and improve the quality of life for people with complex LTCs. They were responsible for proactively finding patients at risk of high service usage, and assessing their various physical and psychosocial needs holistically, and organising relevant services to be delivered to patients' homes according to their needs. This required activities of continuous monitoring of patient conditions in a caseload, and supporting of the patients' self-care. From there, the perspectives of participants on the distinctiveness of their roles was examined, as to provide the proactive, holistic and individualised care approach to the patient with complex LTCs, compared to other care professionals. These were interesting findings as both CMNs and CMRs share the same functional roles. Only, their clinical responsibilities were different in the clinical intervention due to their different clinical skills. If this was the perceived roles of CMNs and CMRs, I draw attention to the data where participants described the process of their service introduction and gaining recognition of their roles by others. Then, explained how clear role recognition important for organising patient care. Many participant accounts were merged and synthesised into these themes after cross examining the relationship between care process, recognition of services, network, difficult and helpful factors in delivering the roles. As a result, I classified the role of CMNs and CMRs into three sub-themes with relevant accounts; 1) Reducing service usage as a main role 2) Improving quality of life as a main role and 3) Distinction made by different skills between CMNs and CMRs. The discretion and characteristics of the role were presented in the second result chapters and discussed my interpretation with existing policies and research evidence in chapter 9 for the contribution of knowledge and implication.

Secondly, the main theme 'Qualifications and training of CM' emerged to answer the research questions around the training support for CMNs and CMRs. Again, the data were analysed according to the concepts of TMT framework (Table 4.2). The logic, structure, materials and

interpretative repertoires were examined to describe the mechanisms of gaining competency for the CMN and CMR roles through various learning sources such as formal and informal educational programmes work-based and self-directed learning. It was found that there was a close relationship between the training and previous professional backgrounds, because participants often compared their learning experience to their previous career. There were significant training difference between the CMNs and CMRs, which was not surprising as the DH already classified the differences. It was more interesting that CMNs with the additional training considered themselves generalists rather than specialists despite dealing with LTCs. The CMN training offered insufficient field practice for treating common LTCs, which was relevant to the CMN role. In comparison, CMR training was self-directed and that their learning needs were more focused on the understanding of LTCs and other key services. The understanding of CM concept and multidisciplinary work was also important for delivering CM, but only few courses and induction programmes provided this. From these perspectives, the CMN and CMR training was analysed and discussed with limitations, learning needs and relevance to the CMN and CMR roles in Chapter 6 and 9.

Thirdly, the last main theme 'perception of different CM designs and their systems' then attempted to look at the influence of different service designs and their systems for delivering efficient CM, rather than defining new CM models or approaches. Followed by the TMT framework (Table 4.2), the different CM designs were classified according to the conduct of staff members, network, staff location, assigned GP practices and responsibilities. These different services designs were anticipated from the previous literature review, but the impact of the different service designs and systems were not explored. For this reason, the description of participants' service design were categorised into four types: 1) Skill mix team-led CM, 2) CMN-led CM team, 3) Practice-based CM and 4) Multidisciplinary team-led CM. The

different types of CM designs were described in writing, and presented the key figures in tables in Chapter 7, in order to visualize the differences (Smith and Firth, 2011).

Then, the participants' experiences of their service systems were analysed in terms of staffing, assigning responsibilities, identifying target patients, managing caseload (monitoring and care duration) and establishing links with others. From the participants' experiences, any positive or negative influence of service design and system were analysed and discussed, in order to fulfil the purpose of the study. I found that the different service designs and their systems required in depth understanding and critical thinking around how one service works out for CMN and CMR roles. For example, it was recognised that the level of participants' clinical skills were facilitated differently depending on the service design. Especially, team-based CM service required balance between the staff capacity and LTC population in the assigned practices. The balance of staffing took account of assigned practice numbers, required skills and caseload sizes. Furthermore, the service location and relationship between CM and other care professionals appeared to influence the responsibilities of case-finding, assessment and care co-ordination and monitoring. Thus, the dynamic relationship between the responsibilities and trained skills were examined to suggest better service setting. These are all explained with relevant quotations in the third result chapter (Smith and Firth, 2011).

Therefore, this study considered capturing and accurately describing participants' experiences, making use of transparent interpretations and interconnection between the themes and original data in order to increase the credibility and rigour of research findings (Sandelowski, 2000, Ward et al., 2013). The data analysis shows the consistency between the chosen methods and the underlying philosophical and theoretical stances (Sandelowski, 2000, Burns and Grove, 2011). Furthermore, the analytical process was also continuously discussed between the researcher and supervisors whose knowledge of social science expands the views on the data

analysis in order to improve credibility (Dierckx de Casterle et al., 2012). Such credibility (trustworthiness) and rigour were maintained to improve the quality of study outcomes (Houghton et al., 2012, Noble and Smith, 2015).

5.7 Summary

This chapter presented the empirical stage of the study according to the planned research design. The aim of this chapter was to demonstrate the scientific research that shows the credibility and rigour of the research process. The study aim and objectives were considered throughout the process of sampling, data collection and analysis. Purposive samples of 32 CMNs and CMRs were recruited from different CM services in urban and rural areas. The sample size and their ranged demographical characteristics fulfilled the purpose of the study. This study ensured consistency between the chosen methods and their underpinning philosophies and theories to increase the credibility of the data. The researcher's nursing experience and previous research experience helped to build the rapport with participants and understand the participants' languages in order to illuminate the participants' experiences and thoughts. A field note also helped to reflect the researcher's thoughts and emergent themes during the interview process. The types of interview questions and the degree of interaction with participants were described and justified with literature and relevant examples in this chapter. In the same respect, the credibility and rigour of the data analysis was preserved by strictly following the theoretical framework. The five stages of FA were presented step-by-step with examples, underpinning theories and the study purpose. The findings are discussed in the next three chapters.

6 Qualifications and training for CM

6.1 Introduction

Case Management (CM) was introduced to manage people with complex long term conditions (LTCs) in order to reduce secondary care costs as well as improve patients' experiences while ill (Department of Health, 2006a). It was adopted by local health and social care authorities in the UK through the implementation of various approaches within communities, but this resulted in inconsistent cost effectiveness (Lillyman et al., 2009b, McEvoy et al., 2011). Previous studies have pointed out several barriers to cost effectiveness such as unclear professional roles (Chapman et al., 2009), insufficient clinical competencies of staff (Snow, 2006), poor networking among health and social services (Abell et al., 2010) and inaccurate patient identification tools (Grange, 2011, Reilly et al., 2010). Informed by the existing literature, this study aimed to explore the complex organising work of CM within the five research objectives (Chapter 3). The principal findings emerged from the interviews with 32 CMNs and CMRs are now presented throughout chapters 6, 7 and 8. Using the qualitative descriptive approach, the results are mainly presented with summary and description of the phenomena with participants' quotations and data tables around straightforward information.

This first result chapter describes and explains the organisation of CMN and CMR training (sub-project) based on previous professional qualifications and their new roles in CM. The first research objective aims to discover the different types of professional backgrounds, the training support available to CMNs and CMRs, as well as the perceptions of its adequacy in order for them to gain competency in their role. Following my theoretical framework in TMT (See Chapter 4), I examined the CMN and CMR training according to the organisational logic that adequate skills and knowledge is the key to the delivery of effective CM. I focused on the contribution of professional backgrounds and working experiences to CM and required learning needs for the new roles; how the training of CMNs and CMRs were arranged and

perceived to be adequate for building competency in their roles. The structure, materials and technologies and interpretative repertoires are presented and discussed to understand the process and mechanisms of training.

6.2   Previous professional background and working experience

This section discusses the various qualifications of CMNs and CMRs and their previous professional backgrounds and working experience as the initial structural and material components of strategic action field in TMT. The previous professional backgrounds of 32 included 22 district nurses, 2 community nurses, 5 acute nurses, 1 physiotherapist (PT), 1 podiatrist and 1 occupational therapist (Table 6.1). Hence, participants were all experienced health care professionals, especially in nursing prior to their current post in CM. The participants worked in those professions for over 5 years prior to commencing CM. Most participants (*n*=25) had working experience in both community and acute care settings during their previous career. Their age range was 30 to 56 years old which means most participants joined CM at their age in 40s. They were all well experienced health care professionals (See appendix 11 for their CM duration).

Age range	Gender	Professional background and working experience (No)	
30 to 56 years old (Mean age 48)	Female (*n*=29) Male (*n* =3)	District nurse and community nurse (*n*=24) Acute nurse (*n*=5) Physiotherapist (*n*=1) Podiatrist (*n* =1) Occupational therapist (*n* =1)	Acute setting (*n* =7) Both acute and community sector (*n*=25).

Table 6.1 Demographical data

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Clinical backgrounds and work experiences were then examined for their impact on CM practice as the interpretative repertoire in TMT. Participants perceived that their clinical backgrounds and working experiences were helpful in adopting the new work in CM work easily. For example, a nursing background was beneficial for understanding LTCs and the care process of CM. Participant 3 thought that the principles of nursing were quite similar to CM, so her nursing experience helped her to carry out assessments more easily compared to a CMR with a podiatrist background in her team. From her observation, the CMR from the podiatrist background took a long time to develop her new role in CM.

"I still utilize my nursing skills, I think the advantages, I am a nurse, and I still use the principles of nursing attached to my job as a case manager - and I don't think I would probably be knowledgeable, I don't say I am good at the job- but I do feel I do a good job. If I didn't have that nursing background… we have somebody who is from a podiatry background, who actually takes years to develop as a case manager. I think because she has been podiatrist, it was a lot harder to do the assessment, it took a lot longer to formalize the assessment." (Participant 3: CMN).

The response of participant 3 implies the potential differences among the people with different backgrounds and working experience as their language and routine practices around patient assessment can be different. Since CMN and CMR roles required communication and autonomous working in the community, participant 2 mentioned that her previous district nursing experience in the community was useful for carrying out CM. Although CM was different from district nursing because of the holistic care approach, having district nursing experience was advantageous for engaging with patients and other services, and for organising their own work in the community.

"Obviously, you've got the community working, so you used to go out to patients at home, you used to go to different areas, different settings, different patient groups which is a big thing... You know you've got a team, you are working on your own a lot, I think lone working; you've got skills around that you are able to manage on your own, and your own safety things like that. I think communication skills and decision making are better because you are on your own." (Participant 2: CMR).

In comparison, participants from allied health care professions also found that their previous background and working experiences were helpful in understanding the nature of self-care support and chronic disease management. Participant 1 (physiotherapy) gained the skills of identifying problems and supporting self-care from her previous physiotherapist work.

"I feel a therapist has better skills to identify the things, and also skills to impact on how people manage themselves" (Participant 1: CMN, physiotherapist)

For participant 4, her podiatry background gave her good medical knowledge of common LTCs (diabetes, rheumatology, and peripheral vascular disease) and patient health. This response was different from participant 3 who thought a nursing background was more beneficial to understand LTCs and care processes than the CMR with a podiatry background. This supports that there are different advantages of professional backgrounds.

"Podiatrist involves minor surgery, long-term conditions, diabetes, rheumatology, and peripheral vascular disease... I think I had good medical knowledge of long-term conditions and good clinical knowledge of patient health." (Participant 4: CMR, podiatrist)

Another CMR (P31) from an allied health care background expressed that occupational therapist can easily shift their role into CM. For her, the role of CMR was seen as *'the extended role'* of an occupational therapist that simply required more time to work with patients in a more in-depth manner in order to make a difference to their condition. This response was interesting because the participant differentiated the role of CMR from the existing occupation. Thus, there was a close relationship between the sub-projects roles and professional qualifications. Again, more flexibility in the amount of time spent with patients and holistic care can be the distinctiveness of CMR role compared to an occupational therapist.

"Case Management is like extended previous work but it has more time to look beneath surface of patients and make the difference." (Participant 31: CMR, occupational therapist)

As noticed, the advantages of nursing and allied health backgrounds are slightly different depending on the professional discipline from the participants' accounts. Unfortunately, the different advantages are difficult to compare within the small number of allied health care professionals in this study. Only three allied health care professionals have taken the role of CMN and CMR. This may be related to organisational interpretations on them, but nurses are certainly the main professionals to take the role of CMN and CMR. In this context, CM offer nurses another career option by extending their roles.

Overall, there is no doubt that clinical backgrounds and working experiences in community settings are beneficial for delivering CM for complex LTCs. This was evidenced by participant 10 who suggested that CMNs with such qualifications would have some understanding of LTCs and multidisciplinary work in communities. It is assumed that the clinical background and experience can be a good base for becoming a CMN, because CMNs need to be trained for advanced clinical skills of physical examination and prescribing in CM. CMNs with these

skills can treat deteriorating patients in their homes in a timely manner, so that they can prevent inadequate service usage.

"The idea is having prescribing skills, clinical skills, and I think the main thing is to be a clinician and somebody who worked in community, who understands the way the community functions... the other thing is they need to have some understanding of chronic conditions." *(Participant 10: CMN)*

The clinical intervention of deteriorating patients in a home environment can be challenging for CMNs and CMRs who come from an acute care setting. Participant 18 (from an acute care background) felt that she needed to learn how to manage LTC patients in the community because managing LTCs in the community was different from hospital nursing. In hospital, the clinical decisions are obviously made by doctors, and communication among the doctors and patients is much easier and quicker. In comparison, CMNs are supposed to make clinical decisions alone without doctors around them. Thus, the different work setting necessitated that this participant learn more about chronic disease management and dealing with deteriorating health conditions in a home environment.

"I came from pretty much an acute nursing background, so for me, it was very much about learning community work and managing patients at home, and I felt I needed to learn about chronic disease management, the severe diseases." *(Participant 18: CMN)*

Similarly, a CMR (P15) from an acute care setting felt that the role of CMR was challenging, because it required autonomous working and personalised patient care. The care process was also very slow in regards to meeting the needs of patients in the community, whereas her hospital nursing and care process was much more task-oriented and fast. This response

demonstrates the process view of organisation underpinning TMT wherein an understanding of stable social structures is necessary to produce and reproduce dynamic care strategies according to an environment (Allen, 2018c). For example, CM takes proactive patient identification, in which CMRs had to approach at risk patients first rather than patients coming to the service with problems in hospital. In addition, the assessment of patient needs is not focused on clinical needs only but also psychosocial needs. The various patients' needs require co-ordination with other care professionals, who may not be in the same building so the process of making referrals can be different from hospital. For this reason, the participant still found it difficult to grasp the nature of community care. This implies that CM staff with acute care backgrounds needs training support when they shift their career into a community setting.

"Hospital work is very task-orientated and very busy. Well, in the community as a case manager, the work is very slow compared to what I used to do. It's about building your own caseload and identifying the needs of your patients, and trying to work with them to achieve the outcome and their interests. Compared to hospital, it's a completely slow pace. I'm still trying to get used to it."(Participant 15: CMR)

In summary, this study found that previous clinical backgrounds and community working experience are the most beneficial for learning the responsibilities of CM more easily (e.g. nursing assessment, self-care support and identifying symptoms). CMNs and CMRs with those qualifications and experiences have basic knowledge about LTC management and the multidisciplinary work of CM. These were important for clinical interventions for deteriorating patients in their homes, and for making autonomous decisions on patient care. Therefore, the benefit of previous qualifications was slightly different depending on the professional disciplines and work settings. Despite rich clinical experiences, CM was a challenging job for participants at the beginning because of the insufficient experience of

managing risk patients in a home environment and organising patients' care with other care professionals in a wide community. The information gathered on the professional backgrounds and work experiences of CMNs and CMRs was interpreted as an objective formation for organising CMN and CMR training as well as differentiating their roles from existing health care professionals. From this finding, the current training of CMN and CMR were examined in order to analyse whether the training filled the knowledge and skills gaps in the previous qualification, and better support the roles of CMNs and CMRs.

6.3 Training of CMN and CMR

From the same theoretical principle, this section firstly presents the characteristics of CMN and CMR training with structural and material components as the strategic action field in organising the training of CMNs and CMRs. These include education programmes, their level of qualifications and content, and how and by whom it was organized. It should be noticed that this information is based on the interviewees' memory, which has not been confirmed with the original training programmes in their universities. Hence, the data was only used to see any commonness and differences in their learning. The CMN training was broadly categorised into two types including a Master's in advanced practitioner (AP) and degree pathways (DP). In comparison, there was no standard training programme for CMRs resulting in varied self-directed training that consisted of formal and informal courses. Following this, the perception of CMNs and CMRs around the limitations of training is provided. participants' perceptions on the adequacy of their training were sought as well as their perceptions on how it is utilised in everyday practice and its limitations in aiding them to carry out their roles.

6.3.1 Training of CMN

CMNs were trained in either Master's in advanced practitioner (AP) or on degree pathways (DP) in advanced clinical skills as shown in the Table 6.2. The different level of training tended

to be determined by the previous educational qualification of CMNs at their post. If CMNs already held a degree qualification in nursing and allied health care, they could directly take a Master's course. For example, participant 7 explained that the training of CMN can depend on the level of previous education. Her colleague who previously had done a degree could undertake the Master's course directly while the participant could not take the full Master's in AP because she did not have a degree level qualification. Hence, CMNs without the degree qualification had to learn the relevant courses through the DP.

"If you want to do your prescribing and your clinical skill, you can take a Master's course, you can do it all in that way... It's just depending on you. You can imagine that people come into the job and they all have different levels of training. For instance, Mark probably has done his degree and went straight into a Master's degree whereas I came from hospital and did not have the degree, so I was doing degree pathway and then doing clinical skills. So, I think it really depends on where everybody is, when they come into the job, what pathways they take really but it all funded through Strategic Health Authority." (Participant 7: band 7 CMN)

From a total of 15 CMN participants, eight CMNs had completed AP. Most were band 8 professionals except participants 1 and 12. According to participant 5, CMNs started their post at band 7 and their banding then changed to 8 following the completion of AP. The CMN training was organised by their hosting organisations (local PCTs) and as such partially agrees with the DH's competency guidelines in regards to CMNs having advanced clinical skills (Department of Health, 2006a).

"I applied for it as band 7 in 2006. What the part of the post was that you did a Master's degree and at the end of the Master's degree you get band 8a, so that's kind of natural progression "
(Participant 5: band 8 CMN)

The grading system differed by locality. Participant 1 did not complete a full Master's in AP but she was given band 8, whereas participant 12 was band 7 despite her Master's qualification in AP. For the duration and content of AP, this Master's programme was generally completed within two years part-time and contained clinical assessment, research skills, prescribing (could be taken separately) and other co-modules, namely leadership, communication and policy (Table 6.2).

Band 8 CMN			Band 7 CMN		
	Courses and Contents	Duration		Courses and Contents	Duration
P1	Case management module, clinical assessment skills, Independent prescribing course	1 year 26 weeks part-time	P12	MSc in AP: Independent prescribing course, LTCs module	2 years part-time
P10	MSc in gerontology (before CM), clinical skills module	not known	P7	DP: Community matron course, Advanced clinical skill in diploma, prescribing (on progress), Mental health, GP's mentor.	Not known
P3	MSc in AP: physical examination skill, research module, history taking, advanced clinical skill and field practice with mentor GPs and hospital consultants, assignments, dissertation. Independent prescribing course	2 years part-time	P8	DP: Health assessment first contact. Community matron course -looking at competency (full assessment, case finding, physical assessment, field practice with mentor GP), Independent prescribing course	6 months or more
P5	MSc in AP: 5 domains; clinical input, leadership, service improvement, expert, practice research. Independent prescribing course.	2 years part-time	P17	DP: First contact course in diploma, Independent prescribing in diploma	6 months or more
P6	MSc in AP: physical examination skill and independent prescribing course.	2 years part-time	P18	DP: Independent prescribing (before CM), First contact in AP (before CM), Diploma in COPD and asthma management	Not known
P28	MSc in NP: covers general terms of disease, how to recognise symptoms and treatment.	not known	P20	DP: First contact course, Health assessment and field practice with mentor GP Prescribing	6 months or more
P9	MSc in AP: case finding, assessment, policy, tests, research proposal, GP mentoring for two years and prescribing	2 years part-time	P30	DP: Autonomous practitioner course, clinical examination and field practice with mentor GPs and hospital consultants	9 months
P11	MSc in AP: Advanec clinical skills V 300 prescribing course	2 years part-time			

Table 6.2 Types and levels of CMN training

It also included clinical practice sessions with GPs and hospital doctors. A dissertation was submitted at the end of the course. The relationship between CMNs' previous educational qualification and their current training is difficult to classify from the participants' accounts, but CMNs are clearly required to be trained at degree level or higher. Hence, CMNs without the degree qualification at the post had to learn the relevant courses through the DP and achieve degree qualification.

The other CMNs appeared to undertake DP for advanced clinical skills either during their current post or their previous posts as band 7s. Participant 18 explained that CMNs should be trained to at least degree level according to the education framework of her trust otherwise they are paid less. This means that their initial banding can be the same as band 6 CMRs, and then promoted to band 7 when they obtain the degree qualification through the DP. The local trust seemed to organise the CMN training according to the available courses because there were varied DPs such as case management, first contact, community matron, autonomous practitioner and prescribing courses. The detailed programmes were not discussed in this study, but these DP courses generally consisted of clinical assessment, prescribing and clinical practice sessions as summarised in the Table 6.2. The contents of DP were similar to AP but it did not include research, leadership skills and dissertation and the course duration was way too short (6~9 months).

"In our job description, we have co-elements we have to fulfil. So, things like first contact, prescribing, we've got to be educated to degree level (RGN)... If there is a new community matron coming into the post who hasn't got that qualification, she will be paid to a low grade until she gets those qualifications " (Participant 18: band 7 CMN)

The AP and DP courses commonly helped CMNs to gain medical knowledge and skills around general illnesses and treatments. After the AP course, participant 28 could explain better to patients about their medications and symptoms, which were seen to be important in reducing service usage and improving quality of life in previous role chapter.

"I think it (AP) helps to have a deeper and broader understanding of the diseases and how it affects people, not only that by doing the course, it makes you actually look into drugs that you are prescribing in more depth and have better understanding of how they work, and it also prepares you to explain better to the patients which are the really important aspects of our role." (Participant 28: band 8 CMN)

Particularly, participant 30 highlighted the usefulness of clinical mentorship by GPs and hospital consultants during the clinical sessions, because it increased her clinical examination skills. The clinical session seemed to support the CMN's responsibility in clinical intervention for people with poor health conditions and frequent deterioration.

"I also went on the autonomous practitioner course which is kind of specified in the competencies, I think the autonomous practitioner course; I spent time with GPs and hospital consultants to gain skills in clinical examination." (Participant 30: band 7 CMN)

Frankly, none of the CMNs mentioned the usefulness of research and leadership modules in AP. It was assumed that these courses can be beneficial for the few CMNs who are involved in managerial duties in a CM team. Managerial duty involves service development, audit trail and staff education (Appendix 10). This will be discussed in more detail with service setting in chapter 8. Participant 10 was a team leader, and she was involved in service evaluations in which the research skills can be facilitated. She also audited the performance of her team

members and training needs so the leadership course may be of help in her position. It was interesting that the participant felt not all CMNs needed to be trained to Master's degree level as long as they have the clinical skills of physical examination and prescribing. In other words, CMNs do not need the research skills and leadership for solely carrying out the CMN role.

"If I do send them to prescribing, then they will have to do more clinical skills training too because you can't have one without the other. You need to make diagnosis to write prescription, don't you? But it won't be Master's level. I'm not convinced you need a Master's level qualification." (Participant 10: band 8 CMN)

From this finding, the learning objectives and contents of CMN training should be considered for the function and responsibilities of CMNs. It can have a strong impact on the recognition of the profession of CMNs and the role in the future, because the different level of educational qualifications and acquired skills may cause conflict and confusion in the health care system. Overall, CMNs commonly expressed the usefulness of advanced clinical skills of physical examination and prescribing in AP and DP. However, there were considerable limitations to support CMN roles in these training programmes.

6.3.2   Limitations of the CMN training

This section considers the mechanisms of objective formation and reflexive monitoring in TMT that focus on the perceived limitation of current training programmes, common learning needs and goals that have been identified, and the question of what support is available for CMNs as they work towards gaining competency in clinical practice while fulfilling their professional responsibilities. Firstly, the current training of CMNs through the AP and DP have been criticised for intensiveness. The training covered a wide range of illnesses and clinical examinations which required personal study time and frequent field practice to be

confident. However, CMNs had to undertake both training and paid work at the same time, so the CMN training was recognised to be intensive. Particularly, CMNs undertaking the AP had to balance their workload and study for at least two years. For this reason, participant 6 had to take a 6-month break from the AP because of the difficulties of working and studying together, so the completion of the AP took longer (3 years) than other band 8 CMNs.

"That's 2 years course that I managed to spend over 3... I took a 6-month break from the programme, just trying to juggle it with work. It's a very difficult course, demanding in terms of the time... it was so difficult to manage with the full time job." (Participant 6: band 8 CMN)

In this study, most participants were employed at the same time of the service launch. Only one CMN (P8) had the qualification of prescribing and physical examination before coming into the CMN role because of her previous profession in the minor injury unit in Hospital. Hence, they were not prepared to provide clinical interventions on behalf of GPs initially. Without the AP or DP qualifications, their clinical skills would be no different from CMRs, which means they too need a lot of support from GPs and specialist nurses during the training period. Moreover, the combination of work and training can be tough in regards to their various care responsibilities and service introduction. Some CMNs in the manager position was even given extra duties. For example, participant 1 (former physiotherapist) was a team leader of CM service, so she had the dual roles as a CMN and as a team leader. This participant undertook clinical assessment skills and prescribing modules so far (Table 6.2). She found it very difficult to carry out both work and training.

"With me being a manager at the moment, it's quite difficult sometimes to have case and time actually to do the course because it's really intense. You know, you are in University a couple of days a week and you have to go out and spend time with GPs and write that stuff down,

supervise you actually doing the right thing. So, um you've got to be focused on ha-ha"
(Participant 1: band 8 CMN)

Furthermore, the AP and DP courses covered a wide range of clinical knowledge and skills so it felt almost unrealistic to digest all the learning within the course duration. Participant 11 expressed that AP covered clinical examination skills for the *'whole body system',* which needed more practice in order to familiarise the skills.

"I think the advanced practitioner course is good all-around really. The problem of the course is that it covers a huge range of the whole body. You need to use those skills frequently because if you don't use them, you lose the skills." (Participant 11: band 8 CMN)

Participant 20 also felt the 6-month clinical practice sessions of DP were not enough to gain confidence in assessing '*all the body systems'.* The participant suggested longer and better support for the clinical practice.

"I think 6 months to do your First contact in health assessment qualification is not long enough, you have to go through all the body systems, tough course, but I think perhaps it should be a bit longer and better supported." (Participant 20: band 7 CMN)

From the CMNs' responses, the physical assessment of AP and DP allowed them to identify general illness occurring from different parts of the body's systems. Though this breadth of medical knowledge and skills appears to be beneficial in the longer term, only the more routine assessments are frequently used in CM as stated by participant 11. This means CMNs need additional resources to refresh their understanding of more rarely encountered medical conditions they may face in the future.

"You use those skills so infrequently like the neuro observations, I haven't used them since I've qualified and I know the number of community matrons in the room, haven't used them for a while. If you don't use them, you lose them, don't you? So, I listen to a lot of chests and I listen to a lot of hearts and a lot of tummies and I look at a lot of skin. Those are the main things, but I don't think there is any harm in having that basic knowledge at the back of your mind and where to look for that information in the future." (Participant 11: band 8 CMN)

Secondly, CMN training was not prioritised for learning needs in CM for complex LTCs. As mentioned, AP and DP began with general illnesses and physical examinations in a wide range of body systems. This appeared to be missing out the actual learning needs of CMNs because CMNs highlighted the importance of knowledge and experience of managing LTCs in their role. From their previous clinical backgrounds, they needed to learn more about LTC management and clinical skills to treat patients in their homes. However, the 2 years of AP training did not equip CMNs to manage common LTCs such as diabetes and heart failure. Participant 11 mentioned that she would not manage diabetic patients because diabetic specialist nurses generally manage those patients. Then, the participant was not confident in prescribing medication for heart failure patients so she followed the advice of heart failure specialist nurses for prescribing. Although the participant spent 2 years studying, she could not treat the deteriorating symptoms of the common LTCs without support. This can be related to the programme design where a prescribing course took place separately after the clinical assessment. Although the participant knew how to examine the physical conditions, prescribing medication is critical without the accurate diagnosis and knowledge of the specific illness.

"I probably wouldn't touch diabetes because generally somebody got diabetes they are seen by diabetic specialist nurses. That's why... Probably heart failure ones because I'm not really

confident in prescribing for that yet, I always go through with heart failure nurses but I'm confident about looking for the signs and symptoms of heart failure and what test they needed to make to diagnose that." (Participant 11: CMN)

It appeared that CMNs' clinical knowledge and skills were not developed for specific LTCs even though they manage people with complex LTCs. Participant 11 expressed that CMNs were not a specialist for any LTCs, but they were expected to deal with medical problems of many LTCs. The medical knowledge and skills of the participant was not the same as specialist nurses so the participant relied on the specialists for making clinical decisions, especially during the early stage of CMN role. Saying that, the competency framework of CMNs did indicated that CMNs should be able to manage common LTCs (See chapter 1), but only few CMNs' training contained the LTC courses. In TMT, a project is mobilised by institutional context which indicates the division of labour, professions, their scope of possible actions and knowledge within the strategic action field. Thus, I would like to see whether the training of CMNs reflects their role, occupational identity and practice as an advanced primary nurse for LTCs based on the DH (Department of Health, 2005d). However, the results of this study revealed that the primary training provided only prepared CMNs for the role of advanced nurse practitioner. This is something that policy makers and local organisations need to clarify. Do they see CMNs as generalists or specialists? Without a clear professional identity, it is difficult to draw practice boundaries in clinical care and encourage higher educational institutions to invest in CMN education programmes.

"I found it difficult that we are still generalists but we cover a lot of medical issues. And we are quite seen as a specialist, but we are not a specialist for anything that is why we refer to specialists." (Participant 11: CMN)

Instead, CMNs were expected to learn the management of various LTCs on their own through on-going self-directed learning and as they gained more experience with patients over time. Participant 6 stated continuous professional development through relevant training courses and mentorship by doctors in order to fill the knowledge gaps and gain confidence in treating LTCs.

"One of the big difficulties is, I think, the advanced practitioner is continuing its professional development. We have to push it as the body... we are a small number of professionals who are in this kind of role within the Trust... It's not like other things where there is a set of training programmes to go on... We have to sort of identify, 'ok, I have deficiency in this area!!'... It's not done for us we have to push ourselves in terms of professional development and try to get mentorship from GPs and consultants." (Participant 6: CMN)

In addition, participant 7 believed that her clinical skills on LTCs could be improved while she deals with more patient conditions and becomes familiar with their interventions through disease specific-protocols. It means the CMNs can gain their clinical competency of treating the least common LTCs by on-going self-directed learning and field practice. Thus, the degree of CMNs' confidence in clinical intervention appears to depend on their duration of working experience in CM and additional formal and informal learning as the different duration of CM between participants 11 and 7 is shown in Appendix 11. However, it is difficult to know how long this would take for individual CMNs, so these should be considered in CMN training.

"When you are seeing patients on a daily basis, it's very very important that you know exactly what is new and what the change is, and we have a lot of guidelines, so that we can check upon things to make sure we are doing according to what protocol says as well." (Participant 7: CMN).

This finding suggests that the course contents should be organised for the immediate learning needs of CMNs at the beginning. The immediate learning needs can be associated with clinical examination and prescribing skills for common LTCs. CMNs should reduce service usage from preventable physical and psychosocial problems in order to reduce service usage and improve quality of life. The training of the AP course is focused on the physical examination of general health issues, but then CMNs are dealing with patients with multiple LTCs such as COPD, heart failure and diabetes. The duration of training and the course contents were not sufficient to compromise the knowledge gap between CMNs and specialists in specific LTCs, and the gaps between nurse and GPs in general illnesses. For this reason, participant 9 expressed that the 2 years of the AP course was just a quick fix for political endorsement. Although CMNs spent more than 1 year on training, their learning and practice in advanced clinical skills were not taking place on a daily basis in the AP and DP courses, whereas doctors spend 7 years on them. These learning gaps should be supported by GPs and specialist nurses until CMNs become confident in their clinical skills at the right level.

"I think it's (having CMNs with advanced clinical skills) better for the patients, but it's a bit scary though, hopefully I can do everything, because I think it must be lovely as a GP to train us, I am not saying I'm a GP because I am no way near anywhere they are, to have that time of 7 year training. I mean, it's a quick fix for the NHS, you know, 2 years part-time, give you a Masters. I don't profess to be anywhere near the GP. I think that's frightening" (Participant 9: band 8 CMN)

Depending on the organisation of practice sessions by their universities, GP practices or PCTs, the time and quality of field practice differed. For example, participant 1 claimed that even though she learned physical examination skills from the university, the learning was not continued in her work place because she was not given opportunities to perform the skills with

patients under the supervision of a GP. The classroom practice between students does not compare to experiences with ill patients in order to better judge the different conditions. Thus, she wished to have a mentor GP from her work place so that she could have more chance to practice the clinical skills during the course, but the positive work-based learning was related to the work locations of the CMNs and a link with mentor GPs.

"We did chest examinations and cardiac examinations, and the things we are supposed to do, it would have been better in context... being able to put that into practice rather than just practice on each other... Actually do some of that training in the community really or link with GPs... And I know that one of my colleagues she did some training while she was working in her GP surgery, so I think she had more opportunity to practice those skills she learned." (Participant 1: band 8 CMN)

Participant 9 already had the mentor GPs from her practice so that she could balance the learning and practice. This participant was assigned only one GP practice where her office was co-located, so the GPs from the practice support her clinical practice. Such close location between CMN and the mentor GPs can be beneficial.

"I was working full-time. I was here for three days as a community matron; luckily my GP mentors me here so I had a day with him and a day with university."(Participant 9: CMN)

Then, participant 12 received good support from GPs and consultants through a formal link during the AP. Yet, the part-time clinical sessions were not enough to gain the competency in clinical skills. The participant was not located in the same practice with the mentor GPs because she managed three different GP practices (See the Table 6.2. in Chapter 7). Without

the formal link with a mentor, she may not find a mentor from her practices. For this reason, the participant hoped that the formal mentorship remains after the course.

"I think good support from GPs and consultants, because we've done the advanced practitioner course. We spent 2 years with GPs as part of our training. We tend to keep that link going and we tended to use them as our mentor once we qualified." (Participant 12: CMN)

Otherwise, CMNs have to seek for their own learning sources to improve their clinical skills. For example, participant 8 covered 6 GP practices, and her clinical decisions were made through discussion with the patients' GPs if necessary. GPs from the 6 practices may not come out to supervise the participant in assessing difficult patients at that time of the visit. For this reason, she needed agreed mentors so that she could get advice from them in times of need. She proposed to her organisation that they helped to update her skills by engaging with a hospital unit, because there can be more patients with health problems and senior practitioners on hand to supervise her performance.

"I usually go back to the GPs because I cover 6 surgeries in H area so I always go back to the GPs for the support with that because it's over particular problems with patients, we would do the patients as a case study, chat it through. It has been discussed that we may go out into one of teams in hospital now and then to update our skills, because the clinical assessment unit- when patients go in prior to ever been entered into hospital- see if they are fit to go home or what appropriate ward they would go and so on..., So, we can spend some time with them to just update our skills." (Participant 8: band 8 CMN)

It appears that the quality of clinical practice sessions was different in AP and DP courses in regards to mentorship. The mentorship seemed to depend on the formal link and voluntary

action caused by good relationship, co-location or interest of the mentor. For this reason, participant 20 found it difficult to receive the necessary clinical mentorship from GPs. The participant was assigned 26 nursing homes, and she felt not many GPs were willing to provide the mentorship without an incentive. This can be a barrier to the professional development of CMNs, but it is understandable that GPs would not sacrifice their time to supervise CMNs. Perhaps, this mentorship should be negotiated with a formal link and the benefit of CMN role for the assigned GP practices.

"We had to do a lot of hours with GPs. They were our mentors, but there aren't many GPs willing to do it, they want to be paid." (Participant 20: band 7 CMN)

The insufficient clinical practice around LTCs from the AP and DP courses pushed CMNs towards self- directed learning. The Table 6.3 shows the range of self-directed learning related to common LTCs such as diabetes, cardiac related illness, COPD and mental health. They have to continuously improve their skills because of the varied patients' conditions in their caseloads.

Self-directed learning (Band 8 CMNs)	Self-directed learning (Band 7 CMNs)
Keep update their skills: Diabetes (4), cardiac related heart failure (5),Stroke (1), Parkinson's disease (1), mental health related (5) (dementia (3), depression (1)), managing disease (1), new medication (1), COPD (2), end of life course(1), Cardiorespiratory palliative module (1), Motivational Interviewing technique (1), non-prescribing forum (1), Liver symposium (1), Dermatology course (1), Diploma in coronary heart disease (1), asthma (1) **Sources :** university, forums, in-house training, symposium, Regular workshops, induction and mandatory training	**Keep update their skills** **Take** courses related to LTCs such as COPD, heart failure and regular update on those LTCs. Get advice from GP. Clinical supervision Nurse practitioner forum held monthly (paid self) **Sources:** University, forums, in-house training, symposium, Regular workshops, induction and mandatory training

Table 6.3 Types and levels of CMR training

Participant 8 demonstrated that patients in her caseload were poor from the health point of view, so it was important to know how their deteriorating symptoms were different from the usual conditions of normal people without LTCs. Moreover, the level of symptoms was

different among the patients in which the participant had to learn the differences between the patients. The ability to recognise deteriorating symptoms and provide adequate clinical intervention is the key to prevent hospital admissions.

"(Have you met all your learning needs?) I think your competencies still need to be, there is always room to improve your skills and learn new thing, different patients, different challenges. These patients are really poorly patients, so I'm learning on people who are not so average, you are going to an extreme, working with very poorly people. So, it is good to practice on a normal person first, so you can see the difference and then you turn into practice. Some of them are very hard to listen to their lungs because they are very congested. It's quite, you learn on your feet really... you have to be careful not to miss anything." (Participant 8: band 7 CMN)

For this reason, participant 8 talked about 'proactive seeking' for learning needs and relevant resources. The AP and DP were organised for gaining generic medical knowledge and skills to recognise minor health problems of people and did not provide sufficient field practice on the target patients group of CM. The actual learning of various LTCs had to be organised by individual CMNs and that depends on the organisation funding and course availability. Thus, CMN participants often mentioned discussed the lack of standardised educational pathways or programme to support their role.

"I think we did a lot of training ourselves, we're looking for where we needed to improve our skills, we are proactively seeking what we wanted, and we ask for the resources to do. There is nobody steering our pathway, and each develop their own strength that have previously built on it, so everybody is doing it in slightly different ways." (Participant 8: band 8 CMN)

In this study, most CMNs take their role without the advanced clinical skills so it takes a long time for them to be qualified and competent in these skills. It was thought that their clinical competency increased by well-organised clinical practice sessions for LTCs, continuous work-based mentorship and much experience in CM. Participant 7 with seven years of CM experience and DP qualification (see Appendix 11) believed that CMNs can be well-equipped for delivering their roles on behalf of GPs because of the previous clinical experience, CMN training, on-going self-directed learning and continuous mentorship by GPs. Moreover, her knowledge continued to increase around patient conditions in a specific LTC while she experiences the typical patterns of deteriorating symptoms and their treatments among her patients for many years. This can be almost equivalent to a GP or specialist nurse. For these reason, the participant appeared to be more confident than the previous participants 9 and 11 who had just completed the AP course. CMNs' service can be cheaper than GPs' in terms of training costs and duration, but they need similar amount of experiences as GPs to become autonomous practitioners in community care. The participant added that it is important for an individual CMN to understand their own limits in terms of clinical performance; what they can do, what they cannot do. This means, individual competency in managing and treating LTCs can differ based on the course contents, self-directed learning and organisational support. Thus, CMN training should consider the key learning needs, on-going mentorship, and practice boundaries of CMNs in relation to clinical performance.

"I mean pretty much by the time you've done all the qualifications, when you come out of it, you are doing the same things as the doctors which is strange, because obviously we've not trained as long as the doctors have done, but in many respects, obviously we worked on the wards, we've come from other areas where we've many years of experience with patients, I mean look at the sort of things we do, I've done community matron course, you do the mental health course... and also we have the GPs as a mentor... so there is always enough support

around here, I felt well equipped with our training. You make sure you go out and do what you can do safely. I think that's the key and if there is anything you're unsure about, you just never do it. It's all about knowing your limits." (Participant 7: CMN)

In summary, the AP and DP courses appeared to support CMN roles by increasing their medical knowledge and skills of general illnesses and treatments. However, the two formal programmes need to improve the acquisition of clinical skills critical to treating common LTCs through a continuous clinical mentorship, work-based learning and adequate course structure. These findings help to make sense of the mechanisms of current CMN training and suggest ways to develop a standardised CMN education which can redirect the community nursing for the future. The central government and local NHS organisations should reconsider the intensiveness of combining work and training, and the right level of educational qualification for the role of CMNs. CMN training tends to emphasise the advanced clinical skills of CMNs with no clear distinctions between the professional differences in CM from existing advanced nursing roles. The next section addresses the different CMRs' training and their views on it in relation to their roles.

6.3.3   Trainings of CMR

This section presents the structural and material components of CMR training. This includes the types of training courses, their level of qualifications and contents, and how they were organised based on TMT. This study informs the existence of CMR training and common learning needs among the CMRs. The individual participants of CMRs took different types of training according to their learning needs, available courses and organisational funding during their work (Table 6.4). The analysis focused on the patterns of training courses among the CMRs and their perception of key learning needs for the role. Although CMR training consisted of various courses, their priority learning needs were quite similar. From the

participants' accounts, there was no particular training programme or guideline for CMRs, but their learning needs and training courses tended to focus on common LTCs, which were similar to CMNs' self-directed learning following the AP and DP courses. The different types of CMR training (classified by the sources) consisted of university courses, in-house training, regular CMR meetings, study days and online tools.

Qualification and Trainings
Job grade: Band 6 **Job title: active case manager, nurse case manager, case manager** **Qualification and Trainings** Experienced nurses and allied health care professionals, no formal trainings but individuals take various courses that are relevant to their work: LTCs and medications, Heart failure, COPD, mentorship, diabetic, clinical skills (examining chest) and research module, case management modules, mental health course, social services, palliative care session, adaptation and change, diabetes, understanding blood results, Chronic kidney disease, motivational interviewing and cognitive behaviour therapy course, dementia course, Clinical assessment module, PGC in LTCs, advanced clinical skills, tele-health module, developing system one, counselling, continence services, resources , psychology module, mandatory training, **Sources**: an initial week training, monthly CMR meeting for clinical supervision, study days by Trust, on-going in-house training, university courses, online courses, Personal development review (PDR)

Table 6.4 Training courses of CMR

In this thesis, these varied types of training divided into two types, formal and informal training. Formal training only includes university courses and informal training was categorised by all training except university courses. Firstly, formal training generally consisted of modules or sessions related to common LTCs and clinical examination skills. About six CMRs out of 17 commonly had LTCs and clinical assessment modules from universities. These modules were part of AP or standalone modules, but CMR training excluded the wide range of physical examinations and prescribing modules compared to CMN training. As the university courses are costly, organisational funding was necessary. Some PCTs offer the CMRs a choice between full Masters in AP or below level (PGC). Participant 4 from one of the PCTs did not want the AP qualification so she decided to remain at the CMR post.

"Yeah advanced practice courses, yes it was actually the post that sponsored; everybody starting the job was doing Master's in advanced practice. Now, some people completed it like Ruth she got Master's in advanced practice, but some people just chose to be up to PGC." (Participant 4: CMR, former podiatrist)

With regards to the rational behind the organisation of CMR training, CMRs' learning needs and formal courses were sought for practical skills and knowledge to manage common LTCs in their role. Participant 13 was also offered the chance to take various courses that were relevant to her work such as diabetes and clinical examination from university. Such chest examination skills were continuously suggested to be useful for managing COPD patients with chest infection and for heart failure patients by CMRs. The relevance of the research module was not mentioned, so it is not hard to be sure whether all the modules were relevant to the participant's learning needs, especially the leadership course. Despite the training choice, CMRs' busy workload delayed taking the desired courses.

"I've done a lot of courses; mentorship, leadership, I've done diabetic course, clinical skills. I've got a lot of courses... I did clinical skills; examining chest something like that and research module. I think we are offered lots of different kind of courses. We can take them if we need them. If I want to do modules of Master's and I would be allowed to do that... I could do but I am busy right now." (Participant 13: CMR, former nurse)

Many interpretative repertoires were examined for making sense of classifying routine CMR training and practice boundaries. For example, CMNs and CMRs referred themselves as different CM professionals in terms of clinical skills. CMNs' training was highlighted for improving competency in physical examination and prescribing in order to manage deteriorating symptoms of patients with LTCs. In comparison, CMRs are supposed to fill the

gap in the advanced clinical skills with the support of GPs. Their clinical responsibility was to identify the deteriorating symptoms of patients, and seek out for clinical intervention from their GPs. GPs could provide prescriptions based on CMRs' observation and judgement on patients' conditions without seeing the patients. It is assumed that the additional training around common LTCs and clinical skills can improve both the competency of CMRs and trust with GPs on CMRs' clinical judgement, because they can describe patients' condition more precisely. Participant 27 states that the LTCs and clinical skill courses gave her a certain level of clinical knowledge and skills to judge patients' conditions. Her level of clinical knowledge and skills may not be the same as CMNs, but it was enough to give a basis for the CMR role. Thus, her formal training around common LTCs and few clinical examination skills was the right level for the CMR role.

"I've got my long-term conditions, and for that we did advanced clinical skills. So, I've got a certain level of clinical skills, whereas community matrons go into full nurse practitioner, but I didn't want do this, so I do have some clinical skill, I can fall back onto." (Participant 27: CMR)

The mechanisms of organising CMR training focused on how training supported everyday practice in CM, how CMRs perceived their self-directed learning and how the current system of CMR training can be improved and equalised among CMRs. Thus, their training classified their role differently from others. The learning needs of CMR participants were similar in common LTCs (the diabetes, COPD, heart failure) alongside some mental health courses (dementia, cognitive behaviour therapy) to manage patients with neurological conditions such as Alzheimer and Parkinson's disease. The same pattern of learning was seen among the CMN participants following the AP and DP courses. Mental health courses were said to be very

relevant to the CMR role as many patients with LTCs had psychological problems, namely depression and anxiety.

"Initially, it's just experience really. Since I've started case management, I've done like dementia course at B University, and I've done long term conditions in Master's at H University, and I did like clinical assessment module at B university as well." (Participant 24: CMR)

The participant found that those courses such as depression, dementia and COPD helped her to manage her patients better. This indicates that training can influence the quality and range of patient care because CMRs with more knowledge can support patients better in their physical and psychological problems. Their knowledge can be used for patient education in self-care and understanding the association between physical and mental health problems. This may not only improve CMRs' competency in their role but also patients' satisfaction in CM. CMRs are from nursing and allied health care backgrounds, their previous work may not involve the psychological issues of patients, so having the mental health-related courses can be very helpful for the holistic care of patients.

"I did like depression modules and mental health modules, which covered depression, some elements of dementia; I did COPD because that was around what most of the patients have in my caseload. I think that really gave me a lot more knowledge and ability to support my patients." (Participant 24: CMR)

Furthermore, few CMRs appreciated courses that provided the key concept of CM in LTC management including the understanding of common LTCs, multidisciplinary work and communication. These are demonstrated by participant 14;

"I've taken a Master's module in long-long term conditions case management. So, I do have a good insight into what to expect inside of the role. It was most helpful for me to understand multidisciplinary work and communication." (Participant 14: CMR)

From the participants' response, there are initial (or immediate) learning needs for both CMNs and CMRs when implementing their role in CM for complex LTCs. However, the current CMN and CMR training did not support the common learning needs through a standardised programme. According to participant 22, some universities specifically had a LTCs course in the Master's programme, which can be offered to both CMNs and CMRs. Then, their learning can be divided into different levels. The contents of the LTCs course seemed to fulfil the most initial learning needs at the start by providing knowledge around common LTCs, CM concept and the CMR role.

"Support adults with long-term conditions course, which is actually training that a lot of community matrons did from other areas... I did develop a lot of clinical skills and examination skills, and learnt a lot more about case management far more than I'd have done. I had a really good understanding of the role before I actually came into it" (Participant 22: CMR)

Although CMRs' learning needs are similar, their learning can be reactive and inconsistent without the guideline and course availability. Although some organisations committed to the professional development of CMRs, CMRs' learning was assigned to the individuals. They identify learning needs, and sought out relevant courses while they managed different patients. For example, participant 2 worked in a CM team where the team members identified learning needs by themselves, and checked available courses from universities. The following participant had worked as a CMR for one year in the current CM team, and her clinical

examination course was about to begin at that time. This means, CMR training also took a long time to meet the common learning needs on LTCs and clinical skills. Obviously, their busy workload could also contribute to the delay.

"Usually, B University, we apply through packs lane that's the training department (in the University). Obviously, we can identify with them what kind of training we are going to need, and then they look at what courses are available for us and you know hopefully there is a 'long-term conditions (course)'... I've got to start clinical examination skills next week, so that will be good. That's related to long term conditions" (Participant 2: CMR)

Moreover, not many universities had the range of courses and flexibility to meet the learning needs of the CMRs, or organisations to fund their formal training. For these reasons, informal training became a second learning source for CMRs. Informal training included in-house training, regular CMR meetings, study days and online tools as shown in the Table 6.4 above. The informal training was undertaken in order to update CMRs' knowledge around common LTCs. Some participants combined both formal and informal training while others only relied on informal training. For example, the participant 2 was going to take a formal course for clinical examination skills from next week (see previous page for the quotation). Meanwhile, she attended individual in-house sessions and practice nurse forums to learn more about LTCs including COPD, heart failure and diabetes. This participant had not had any formal training for these LTCs previously.

"They've got one heart failure, we've got another one tomorrow afternoon about COPD. Um they do quite a few really. The other thing we do is seeing the practice nurses, they have a forum and I think it's monthly. They have monthly meetings. It used to be in the evening, but

they changed to Wednesday afternoon. They cover a lot of topics that are relevant to us, like management of diabetes you know." (Participant 2: CMR)

As part of informal training, a GP-led session on specific LTCs (heart failure, COPD) was greatly valued by the following participant, because the GP taught practical skills and knowledge about LTC treatment and management from his daily experience.

"It's a team (Triple A Team) set up for the management of long term conditions, and they help to educate all the health care professionals in management of long term conditions, and Tom who is one of GPs at the Triple A Team. I mean obviously look at heart failure, COPD... he did a session on COPD. It's absolutely brilliant. Really good really useful for us, because the treatments and how to manage it was really good!!" (Participant 2: CMR)

More importantly, the learning was more standardised for all health care professionals to understand the LTC management, in which the quality of sessions can be similar to the formal LTC course.

"I think that way the training was probably the best because it's the GP who works with patients that they see day in day out and of course now try to standardize care around the treatments." (Participant 2: CMR)

In line with the in-house training, CMRs shared their knowledge and experience through their monthly meetings. As mentioned, CMRs came from different clinical backgrounds and settings, so they could learn from each other. During the meeting, CMRs could also identify their learning needs in order to improve their knowledge and patient care. This is supported by the participant 31 below;

"During my time doing this job, we've had in-house training about COPD, inhaler technique, how to manage certain exacerbations, what to advise patients, and we've managed ourselves because we have peer support meeting monthly. We decide what areas we might need to work on, what things we need to know more about." (Participant 31: CMR)

CMRs suggested that there are many relevant sessions taking place on a weekly or monthly basis. This means that the common learning needs of CMRs could be easily met when they were thoroughly organised with available formal and informal courses at the beginning as a form of training pathway.

6.3.4 Limitations of the CMR training

CMRs felt their training is very unstructured and inconsistent with regards to available organisational support, formal guidelines and educational programmes. Majority of CMR participants tried to develop their role through various courses which was not prepared for them in advance. It was clear that CMRs have common learning needs in dealing with LTCs and clinical skills at the certain level, in order to manage the risk patients well. However, the current CMR training was dependent on individual learning needs, available courses and organisational funding so there was no structured approach to CMR training. In other words, there is no guarantee that all the CMRs have the same level of education and understanding of LTCs. This was mentioned by participant 14 that CMRs were not given any '*structured*' training, so individual CMRs would self-direct their learning.

"It's pretty much leaving it to us to determine what we feel we need. There is no structured approach at all to case management." (Participant 14: CMR)

Again, the different levels of knowledge were mentioned by participant 31. The participant felt frustrated about not having a standardised training programme for CMRs, because individual CMRs had different skills and knowledge due to their professional backgrounds and working experiences. Some CMRs would have more skills and knowledge related to CM than the others, so the participant found out what others knew so they might learn from each other. For this reason, the participant wished to have a formal course so that all CMRs could learn at the same level and perform better.

"It's sometimes frustrating that we haven't all had a course, we can all go on, so we all have that broad skill and experience, because sometimes we have to find out what others know about this, and sort of we have to learn from each other more. Whereas it might have been better if we'd had a formal course we could have all gone on. It would have equipped us bit better... but it's difficult" (Participant 31: CMR)

Participant 2 highlighted that CM for complex LTCs is all about managing LTCs, so CMR training must be organised for developing the knowledge of LTCs and its management. In this study, the common learning needs of CMRs were identified through the periodic experiences of individual participants. There was no standardised training programme or pathways that were provided by CMRs' Primary Trusts. As a result, CMRs continuously looked out for available courses whenever they felt a deficiency in their knowledge. This seemed to take time and personal effort so participant 2 wished to have the formal LTCs course as standardised CMR training.

"I think what is all brought down; there isn't actual active case management. This is just management of long term conditions, you know, which is another module we all like to do, just getting through it all. So, in a way this role came about, we've gone into it with very little

training before we came into it, but it identifies what we need, what areas we need to focus on, and you know make sure we can get this training. This is all looking towards now." (Participant 2: CMR)

In the previous section, the clinical backgrounds and work experiences of CMRs and CMNs was helpful to understand some of the responsibilities in their roles. However, it was suggested that a formal training programme would be useful at the start of the CMR post. For example, participant 13 had 16 years of nursing experience before CM (Appendix 12), but she felt CMRs still need formal training.

"I think because I've got a lot of experience and I've got experience in community with old people. I think that's good background for me, and you could say that's been training itself really. I could have done that job for 16 years altogether so I do think you should have some kind of formal training when you start out." (Participant 13: CMR)

Participant 25 also recommended a formal training programme consisting of understanding common LTCs because CMRs deliver CM for people with complex LTCs. The function of formal training is to update CMRs' knowledge to a similar level, as their previous work did not only focus on the LTCs.

"I've recently completed PGC in long-term conditions course, that's been quite useful. You're looking at it from a case management approach. I think the COPD (course) was really useful. I've just graduated from that, just three of us got that, but all of us need to do certain amount of training because you need to have the broad knowledge, and update the knowledge regularly." (Participant 25: CMR)

However, organisational funding was inconsistent among the CMRs compared to CMNs. Participant 14 explained that funding was not enough for university courses, so the participant's learning was mainly based on in-house training.

"It's difficult at the moment with current climate to get on to any courses because of the financial implications, but you can obviously access universities and see what's on offer, but um the funding is become an real issue. So, in-house training is pretty much norm at the moment." (Participant 14: CMR)

Nevertheless, the benefit of formal and informal training needed to be considered. According to participant 2, formal training could provide evidence of the educational qualification of CMRs for managing complex LTCs through its rewarding of certificate and points. In comparison, informal training was useful to update CMRs' knowledge around the treatment trend for specific LTCs. This does not produce any recognisable certificate. To balance the different benefits, the following participant suggested combining the two types of training.

"Yeah the difference of University training is being recognised, you're actually getting the module, you're actually getting the points, aren't you? The other training is more like the awareness of training, just up the skills and our knowledge really. That's the difference really. So both are important I think. I feel you need to do both. The university one is definitely one because it's recognised and the other one is obviously updated some recent research, recent, current treatments." (Participant 2: CMR)

On the other hand, some CMRs felt no need of standardised training, since their job band was the same whether they undertook training or not. For example, participant 15 with one year of nursing experience and a Master's qualification in social work did not want to invest the time

and effort needed for take further learning unless it was to lead to a better position. She had just two weeks of induction in which she spent time with senior CMRs in her team and an intermediate care staff (Appendix 12). She joined her CM team one year ago with no additional training except a two week induction programme. This means, her knowledge of common LTCs and level of clinical skills may be different from other CMRs.

"I had a two week induction; spent time with case managers, liaised with services, and spent a day with intermediate care. I don't know what I will do next; I don't want study again unless there is better job." (Participant 15: CMR)

Participant 15 mentioned that her acute nursing background enabled her to identify health problems in patients, but she could not provide immediate clinical care. This often made her feel unskilled to support her patients at the visits. Perhaps, the knowledge gaps in physical examination and prescribing can be overcome by GPs in assigned practices or CMNs in her team. This finding suggested a skill-mixed staffing in a CM team which will be discussed more in chapter 8.

"A lot of time when I go to patients, I feel oh I don't have clinical skills to support them, yes I can identify problems if I see it but in terms of listening to their chest, doing examinations, I am not able to do them, so I've been feedback to someone else such as GPs in order for them to do something about it. So, in terms of what I think case managers need is clinical skills but that will be difficult because those are the skills that are supposed to come from community matrons." (Participant 15: CMR)

Participant 19 who worked alone in a GP practice also expressed the inconsistent training among the CMRs. He claimed that the training of CMRs was not compulsory so the individual

CMR's learning depended on the person and organisational support. This is objective formation that the knowledge and skills gained by training determines the professional identity and practice boundaries of CMRs in CM. In other words, professional development is based on the responsibilities and care activities of CM. These create the objects of knowledge and practices that enrolled CMRs into a project of delivering CM for complex LTCs. However, introducing and using the different types of CM staff requires consideration.

"It's optional you don't have to do it. Some of my colleagues do the long-term condition management course but I and quite few of my colleagues haven't done it. Which is why we remain in band 6 not 7."(Participant 19: CMR)

CMRs commonly recognised that the knowledge of common LTCs and the advanced clinical skills of physical examination and prescribing were useful because of the rapid clinical intervention. Otherwise, participant 16 believed that she liaised with GPs and other health care professionals well, so that she did not feel the need of those clinical skills. She had worked in the CM team about five years, so it is likely that she had built a good relationship with GPs (Appendix 12).

"My skills are sort of limited in a sense of I can't listen to chests, I can't do a lot of clinical assessment. So, I obviously would report what my findings are to the GP to take that to a third level if they needed to. I feel that if I do need things I would really enrol on a course or see what courses are available to keep up to date in that way, but I don't feel I've got problem with that because I do liaise closely with people." (Participant 16: CMR)

Again, participant 23 did not have much training around LTCs, but she gained the knowledge through the integrated working with different specialist nurses. For this, the close liaison with different specialist nurses was another learning source for common LTCs.

"I do link with a lot of specialist nurses whether that's heart failure, or the respiratory nurse specialist, I do gain a lot of knowledge from them." (Participant 23: CMR)

Therefore, such inconsistent CMR training made it difficult to judge the right level of training support. The effectiveness of the CMR training on common LTCs and clinical skills needs further research in order to determine the need for formal training programmes for the CMR role with a large number of samples.

In summary, this study characterised and explained that CMR training was unstructured and self-directed compared to CMN training, despite similar learning needs for common LTCs, namely COPD, heart failures, diabetes and psychological conditions (depression, anxiety and dementia). CMRs had to achieve their learning through formal and informal courses based on the course availability and organisational funding. This resulted in different perspective of CMR training in regards to the level of clinical knowledge and skills for managing LTCs. Many participants pointed out a need for standardised training programmes for CMRs while others filled the knowledge gaps by liaising with GPs and specialist nurses, which can require close relationships and formal links with them. Such inconsistent training and perceptions need further research to confirm. Nevertheless, this study informs policy and practice about the existence of CMR training and their willingness to improve competency in managing LTCs. Organisations may consider how to support the CMR role with training.

6.3.5 Induction programme

The induction programme seemed designed for service introduction, building networks/ relationships and learning each other's roles for integrated multidisciplinary working. In TMT, collective actions involve dynamic inter-relationships, and the multidisciplinary work is one of the key components for effective organisation of CM for CMNs and CMRs. Here, the induction programme was rather formally structured by organisations in order to support the rapid diffusion of the service. An understanding of each other's role by a formally structured programme appears to be useful for CMNs and CMRs in adapting their role. With this respect, the induction programme was seen as a source of informal learning sessions in this study. Only few participants were enrolled into the induction programme at the beginning of their post and they found it very helpful to adapt the nature of multidisciplinary work in the community. The period and conduct of the induction programmes were different depending on the commissioning organisations.

For example, participant 10 was a team leader and she had to identify what relevant services and professionals are to link with. Then, the organisation would inform those services and its staff to work with CMNs and CMRs together during the induction programme. For the participant, the induction was a formal arrangement to meet the different professionals in order to understand their work and establish networks with them. There was no set time frame and structure for the induction programme. She seemed to just introduce her service on an individual basis with little support from her Trust.

"So, I was building on all these networks completely from scratch because I didn't know anybody. I mean in some ways that may have been better, because I had a blank page and the people employed me said 'you know this is massive job, we will put you on very thorough induction. You tell us who you need to be introduced to and we will set it up for you. So, I get

to know district nurses, the specialist teams, social workers, the geriatrician in hospital, they have community hospital...that networking, and learning who the right people were took a long time. I think it took probably 6 months." (Participant 10: band 8 CMN)

On the other hand, participant 16 was a CMR working with participant 10 (team leader). Participant 16 started work about 6 month earlier than participant 10, and her experience was different. There was a month induction programme that provide chance to work with other care professionals and to learn from guest lecturers. In comparison, other colleagues who joined the service later did not have the same induction programme as the participant. The induction programme seemed to be provided for the first group of CM staff. It is assumed that the first group may teach new staff about the knowledge of multidisciplinary work within the same team. This is a good way to train a new CMR/CMN who joins the service later, as the induction programme is difficult to organise for single members of staff.

"When we first came into this post, there was a programme about a month, where we were going off doing different things. I don't think that happened as much with the second group that came along. It's more for the first group; you know they seemed to have quite a lot planned in that time...About 2 weeks, we were actually in, we've actually had lectures practically." (Participant 16: CMR)

Participant 4 showed another example of an induction programme. She was enrolled for six weeks on an induction programme. During the induction period, she could spend time in a wide range of services considered to be relevant. A hospital discharge team was helpful to build networks for the early discharge support, and understand their work. The time with social services could be very useful for understanding the social side of work and pulling the right resources, in order to support patients' social needs; which the participant might not be well

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aware of. Pharmacy and McMillan services can also improve the knowledge of participant in medication and palliative care for severe patients. For this reason, the participant found the six week induction programme was helpful to understand the role of other professionals.

"Our manager just put together within the induction programme with them. So, we spent together a day with each like hospital discharge team to see how discharge planning was organised and what services from hospital are putting in place and pharmacy, we have to do medication review, spent quite a bit of time with pharmacies, social services, McMillan services, just all the services that would encroach on our role. Our manager put a good programme together. I was fortunate to get 6 weeks because most people don't get 6 weeks." (Participant 4: CMR)

The findings suggested the helpfulness of the induction programme in learning multidisciplinary work and establishing networks with relevant services and their frontline staff. The induction programme can be combined with the CMN and CMR training at the beginning, so that they can prepare their roles better and in a timely fashion. The induction programme can be a set time for CMNs and CMRs to learn some of the urgent learning needs, identifying target patients from assigned GP practices and introducing their roles to other care professionals. This can be included in the practice sessions of future formalised CMN and CMR training programmes.

6.4   Chapter summary

This chapter examined the perception of CMNs and CMRs on their qualifications and training to support their roles in CM. CMNs and CMRs commonly suggested that their previous clinical backgrounds (nursing and allied health care) and community working experiences were beneficial to take their new roles in CM. However, further learning was required in order

to gain the deeper understanding of LTC management, clinical skills and multidisciplinary work to manage at risk patients in their home environment. CMNs' current training in AP and DP commonly consisted of modules of clinical assessment, prescribing and clinical practice sessions. These courses strengthened the medical knowledge and skills of CMNs for a wide range of illnesses, but they were limited in their ability to build competency in physical examination and prescribing for common LTCs. Thus, a continuous work-based mentorship from specialist nurses and GPs were demanded by the CMNs. The longer duration of AP in regards to research and leadership modules was also considered for its relevance to CMN roles. In comparison, CMRs did not have standardised training or guidelines for their training despite their common learning needs. Their learning was self-directed and focused on common LTCs through various formal and informal courses; however their training was limited due to organisational funding, course availability and individuals' feelings towards their needs. These could cause inconsistent learning and knowledge gaps between CMRs; hence a standardised education programme was considered for equalising their knowledge and improving overall competency in their roles. Moreover, the common learning needs were similar to CMNs' immediate learning needs, so this study suggests unified training for both CMNs and CMRs at the beginning. Lastly, an induction programme was discussed as another learning source to improve the understanding of multidisciplinary work and to establish links with other care professionals. These findings will be discussed in more details with existing references and implications to the policy and practices in chapter 9.

7   The roles of CMNs and CMRs in case management

7.1   Introduction

To answer my two research objectives related to CMN and CMR roles, this second result chapter presents the common perception of CMN and CMR roles and their distinctiveness. According to the theoretical framework in TMT (See Chapter 4), 'the roles of CMNs and CMRs' was the sub-project to 'the organisation of CM'. The strategic action field looked at the logic of establishing a clear role as it was considered important in organising CM from the literature review. Then, the data around the CMN and CMR roles were analysed for the mechanisms of gaining its recognition and delivery. It describes the roles with detailed care activities and the mechanism of role delivery. This necessitated examining the process of introduction and embedding of the roles in social situations and order.

7.2   The common understanding of CMN and CMR roles

This thesis looked at reducing service usage and improving quality of life as the key roles of CMNs and CMRs which indirectly implies the perception of participants. In the interview data, participants described their perception of role in different ways without giving a simple definition. Participants tended to describe their roles with various care responsibilities such as identifying risk patients, assessing various needs, clinical intervention, care co-ordination and monitoring of patient condition. The analysis suggested that these responsibilities commonly aimed for reducing service usages and improving patients' quality of life. As mentioned in chapter 1, the political aim of introducing CM was to reduce the high secondary care usage from people with complex LTCs, and improve their quality of life by providing organised health and social care (Department of Health, 2005d). This organised care takes place through the process of assessment, care planning and implementation (coordination), review and monitoring (Department of Health, 2005e, Ross et al., 2011). In TMT, such policies and guidelines impact practice, hence those perceived CMN and CMRs roles seemed to reflect the

political (organisational) aims of CM and their key activities involve the core-activities of CM. Therefore, the next sections provide additional descriptions about the meanings and detailed activities of the roles in order to increase our understanding.

7.2.1 Reducing service usage as the main role

From this study, most CMNs and CMRs recognised that their primary role, as a function, was to reduce service usage which did not only include secondary care usage (hospitals) but also the use of GPs' visits and permanent care facilities. For this reason, the role was broadly described as 'reducing service usage' rather than reducing hospital usage or urgent care usage. Participants found that many service usages were caused by preventable health and psychosocial problems in patients with complex LTCs. In their experience, these problems could be managed at home by the participants' continuous monitoring, reviewing their treatment, proactive interventions, patient education and supporting discharge. Participants believed that their role could lead to overall cost savings for their organisations. This was seen as objective formation in mechanism that implied the purpose of introducing the roles of CMNs and CMRs and mobilising their actions within the roles.

Firstly, CMNs and CMRs explained that patients with complex and poor LTCs were often admitted to hospital, which in turn required GPs to be called out in order to manage the patients and to reduce the amount of hospital usage. These were interpretative repertoires that CMNs and CMRs make decisions on their action based on their knowledge on symptoms and diagnosis. Participant 18 managed 45 patients with either single LTC or multiple LTCs (respiratory or cardiac, renal and neurological problems) and these patients frequently accessed GP practices and hospitals. The target patients of CM seemed to be classified by the frequent usage in those services. Thus, the participant role was to reduce the amount of service

usages by dealing with the patient conditions at home. This role was the same for other CMNs and CMRs who worked in different CM services in rural and urban areas.

"I manage about 45 patients in my caseload, mix diagnosis of either single or multiple long-term conditions, which can be anything from respiratory or cardiac, renal, neurological problems, and these are usually patients that we call high in usage, so they access GP surgery a lot and hospital a lot, and repeat admissions." (Participant 18: CMN)

Participants also described clinical care responsibilities performed in patients' home as their practice boundaries when compared to other health care professionals. Participant 24 (CMR) demonstrated that her role was to reduce the amount of hospital admissions, GP visits and time. Additionally, this participant included the reduction of permanent care utilisations from the at risk patients within her role. The usage of permanent care facilities could be reduced by supporting patients' care needs in their homes, so the patients could manage their conditions better, and live in their comfortable environment longer. This means that CM offer patients another care option, as an alternative to long-term institutionalisations.

"Generally, my role is trying to reduce patients going into hospitals, reduce the amount of GPs' visits and time, and make a person's life more manageable and better for them, I think, trying to keep people at home longer rather than going into permanent care." (Participant 24: CMR)

CM in providing service options should be able to support the patients' care needs at home, in order to reduce their high service usage. Hence, further analysis was carried out to see how CMNs and CMRs can possibly prevent service usage. This was explained by the types of preventable patient conditions and proactive care approach. Participants found high service

usage was generated by many preventable health and psychosocial problems such as mild infections, symptoms caused by non-concordance to medications, and psychosocial problems. For example, participant 3 (CMN) found that many patients had been admitted to hospital for depression and anxiety rather than acute physical symptoms, so the participant would help the patients to deal with their psychological problems to prevent inadequate acute care services in the future.

"We get a lot of people with anxiety who will ring 999 after 5 O'clock, when we've gone home and go in with sort of anxiety issues; because, you know, they feel, they can't get their breath. They've been turned around pretty quick because when they go to hospital, there's been nothing acutely wrong with them apart from the anxiety. So, we work with those patients as well trying to reduce their anxiety." (Participant 3: CMN)

This participant also found that patients' non-adherence to medication also resulted in hospital admissions. The medications were prescribed to control their illness, so patient non-compliance with regards to their medication often times lead to their illness becoming worse. Notably, the non-adherence was caused by the lack of patients' understanding of their treatments.

"They don't know why they're taking 6 out of 11 pills of the day and often that leads to non-compliance, non-concordance and then people to admit to hospital." (Participant 3: CMN)

The participant 3 suggested that the non-adherence to treatment could be improved by patient education. If patients are reminded of the consequences of their illness and the importance of the medication, they could take their medication better. This will prevent additional hospital admissions caused by the non-concordance.

"We can actually educate them in the knowledge of why they take medications, because we found that when patients firstly come into caseload, there is high percentage of people who really doesn't know what's wrong with them, they don't know how the disease affects them in the long term." (Participant 3: CMN)

Again, participant 13 (CMR) also found that many patients were non-concordant to their medications. In this aspect, the medication review played an important part to improve a patient's condition and the potential risk to hospital admission.

"We do have a lot of issues with medications, old people are often picking and choosing what they want to take, and once we get them to take medications they should be taking, they usually get a lot better." (Participant 13: CMR)

Participant 17 added that chest infections had also led to many unnecessary hospital admissions. She considered that such conditions like chest infection can be managed with medication at home, so that only patients with severe and acute health problems are treated in hospital. She acknowledged the reduction in hospital usage among patients whilst delivering CM. On the other hand, the success of the role appears to be dependent on the detection of patients' symptoms at the preventable level; otherwise the patients will develop illness requiring hospital admissions.

"You know, it has cut down hospital admissions because only the acute ones are now going into hospitals, whereas it was anxiety or kind of normal chest infections going in." (Participant 17: CMN)

It was acknowledged that CMNs and CMRs take proactive care approach to delivering the role. They assessed any possible risks that led to high service usage and tried to solve the problems in order to prevent further service usage. Their care was rather more proactive than reactive. Such activities like detecting preventable symptoms, medication review and patient education can be the examples. Participant 2 agreed that identifying patients' deteriorating symptoms quickly and providing the appropriate treatment was essential to preventing hospital admissions. This supports the need for CMNs and CMRs' learning on the common LTCs.

"I would say it's being able to identify when patients are deteriorating and going down ill. I think it's important that you've got the skills and knowledge to identify all sorts of problems associated with long term conditions. You need to have the knowledge and ability to identify problems and deal with them." (Participant 2: CMR)

For proactive clinical intervention, participants highlighted the importance of the early identification of at risk patients and the continuous monitoring of the patients' conditions. In addition, patient education about the early signs of deteriorating symptoms was important in order to provide the right intervention on time. These are evidenced by participants. For example, participant 23 started to learn her patients' conditions and their deteriorating patterns, once the patients were enrolled to her service. From that knowledge, she could detect the early signs of the patients' deteriorating symptoms, and that enabled her to provide rapid clinical intervention at home.

"I think once they come into my caseload, if I found that, yes that's the pattern with them, and I tend to go more often to support them." (Participant 23: CMR)

Participant 17 supported the idea that the continuous monitoring of patients' condition could detect the early symptoms of deterioration, especially for patients with severe health conditions because these patients frequently experience deterioration.

"Patients who are at the top end, who are more poorly, so, we have to monitor their symptoms." *(Participant 17: CMN)*

Moreover, participant 18 suggested educating patients about their conditions, so the patients could identify deteriorating symptoms early and seek support. Thus, the participant could detect the health problems, and treat the patient at the right time before hospital admission becomes necessary.

"So, ideal of our role is to try to manage these patients better at home, and try to educate them better to their condition. If they become unwell, early (find symptom early) is to treat them early, to prevent them from going in hospital." *(Participant 18: CMN)*

Although physical and psychological problems appear to cause the majority of service usage among the patients, participant 6 experienced that hospital admissions can also originate in social problems. The social problems may be related to finance, family, living environment or carer support needs. These social problems can have a negative impact on patients' health so adequate social support could prevent the risk of hospital admissions. This requires CMNs and CMRs' knowledge and ability to assess and determine the social needs of the patients and make referrals to adequate services. Moreover, clear work-boundaries between CM staff and social workers are required with protocols and pathways to follow.

"People do go into hospital for social problems, when probably, what they need is not really hospital admission. They probably need better social input." (Participant 6: CMN)

Thirdly, the role of reducing service usage involved discharge support. When patients required hospitalizations, discharge support was another important aspect of the role. The aim of discharge support was to reduce log-term hospital stay and the risk of readmissions following the discharge. In discharge support, patients' hospitalisations should be monitored by CM staff, so that they are able to organise discharge care in advance. Once CMNs and CMRs identify patients' hospital admission, they could check the patients' conditions and accelerate the discharge of patients, when their condition is manageable at home. Participant 7 believed that the discharge support could minimize undesirable hospital stays.

"If they do go into hospital, a lot of patients would say, 'they don't t want go into hospital, so making sure they feel supported in hospital and getting them out of hospital as soon as possible." (Participant 7: CMN)

Participant 19 ensured that patients were discharged in an appropriate time and manner from acute care. This can require communication with patients and hospital staff to agree the discharge process. Moreover, patients should receive continuous care in their homes following discharge.

"We also deal with patients to ensure that they come home in a timely and appropriate manner; discharge in an appropriate manner from secondary or acute care." (Participant 19: CMR)

Participant 13 shared the positive experience of working with a hospital stroke unite. The participant's service provided discharge support through an agreed care pathway between the

two services. Her team were able to reach significant reduction in readmission rates in her locality. Such integrated care pathways between services appears to be ideal to deliver effective CM. In other words, the success of CM can depend on the number of formal linkages and care pathways between CM and relevant services.

"We have a stroke pathway support discharge service where we've been doing that since the beginning of the year, and we're doing a very good job compared to other areas like T city. I think we've got something like 80% patients less go back into hospital than T city, so it's a quite high figure really." (Participant 13: CMR)

The role of reducing service usage was very much related to organisational aims on saving health care costs for LTC management. As mentioned in Chapter 1, local health care authorities hold their own budget to investigate their services, and improve care of LTCs. Since frequent hospital usage is costly, local NHS trusts and its GP practices are where the participants investigated for this study of CM service were employed, in order to manage LTCs in a cost-effective way. Participant 9 understood that the GPs in her practice introduced her role to save health care costs by preventing patients from unnecessary hospital usage. It appears that the participant's role was valued in terms of the growing population of LTCs and their health care costs.

"Yes, we are employed by B Trust, obviously GPs commissioned that service, they wanted that service because times are changing, when people go in and out of hospital, it's coming out of GPs' budget, it might be in the future, they want us go and see them and stop some of the admissions as much as we can." (Participant 9: CMN)

The reduction of service usage in regards to GPs' visits and consultations, could also result in cost savings. Participant 23 assessed that her role could save care costs by managing patients on behalf of GPs. Previously, patients often accessed GPs with advanced symptoms too late for the GPs to control the conditions at home. Therefore, the participant's role as a CMR could detect exacerbating symptoms early, and arrange treatment before their condition worsens. In this way, the participant could save unnecessary GPs' visits and hospital usage.

"They are obviously looking at the cost saving out of the role, and also I feel that I often save a lot of GPs' time, because the ones that perhaps before I came to this post, they're going out regularly to see the patients with problems and they end up going into hospital." (Participant 23: CMR)

Such cost effectiveness of service is dependent on how many patients with deteriorating symptoms were prevented from hospital admissions, or reduced the length of their stay in hospitals or permanent care facilities by CM staff. This should also be evaluated with statistical significance. Otherwise, participant 6 found it difficult to prove the effectiveness of his roles with just 12 patients, although his service gained positive recognition from his patients. Moreover, it is difficult to detect patient with problems at the right time, and to prevent service usage. These results implied that local authorities put too much emphasis on cost saving on the CMN and CMR roles. This was regarded as unrealistic and undervaluing of the quality of care they provide for the patients. Hence, the roles of CMNs and CMRs and their actions were influenced by organisational aims and policies according to TMT.

"Patients always like the service but it's difficult to audit that popularity, difficult to say making a big difference in terms of quality of life and cutting hospital admissions because how

can you know those hospital admissions are going to occur? Because you're only comparing yourself with maybe 12 (patients)."(Participant 6: CMN)

In summary, the intended role of CMNs and CMRs is the organisational aim of cost saving by reducing hospital admissions (include readmissions), length of hospital stay, GPs' visits, and permanent care utilisations. The participants' rich experiences brought deeper understanding around what it means to prevent those service usages and how this role is achievable in practice. The following role 'improvement of quality of life' is then viewed as the benefit of patients in CM.

7.2.2 Improving quality of life as the main role

The improvement of quality of life was interpreted as another functional role of CMN and CMR in terms of participants' responses, political aim and the definition of quality of life in literature. Participants commonly described that their role was *'making sure patients are physically and psychosocially well'*. In literature, the level of physical, psychological and social well-being generally determines the quality of life for the specific ill individuals (Zoeckler et al., 2014). The previous section demonstrated how the complex physical and psychosocial problems of patients could cause high service usage. Then, this second role seemed to advocate the patients' experience in illness and suggest the benefit of CM for the patients from the CMNs' and CMRs' views and experiences.

For example, participant 7 acknowledged how physical and psychological problems are related to each other and how they influenced patients' lives. She noticed that patients with low mood could develop exacerbated symptoms leading to hospital admittance, so her role was to ensure patients are emotionally and physically well.

"I guess it depends, for me, it's making sure patients are well because if you make sure they are well, they are not going into hospital. I think making sure they are well is twofold things, you have to make sure they are physically well and mentally well because if they are low in mood, then there is sort of risk of exacerbating and maybe going into hospital." (Participant 7: CMN)

Participant 6 emphasized the importance of social care for the ill individuals. Although patients' illnesses have already been looked after by medical professionals like GPs, the social care needs are not easily combined in the medical care. This left a gap in patient care and brought about undesirable care outcomes. There is a need for staff who are able to bridge the medical and social care needs on behalf of GPs, so the CMN role appears to be beneficial for filling the gap between medical and social care.

"Medical approach on its own didn't work out; it wasn't successful approach really because the patients already have the medical staff there for their medical needs. They (GPs) try to marry that medical side with the social problems as well." (Participant 6: CMN)

To meet the various physical and psychosocial needs of patients with complex LTCs, an individualised and holistic care approach was required by CMNs and CMRs. Participant 1 viewed that her role was very much a patient-orientated role which took into account on individual's different care needs and interventions, and there were not many services providing the individualised care. Of particular interest, how participants interpreted the distinctiveness of their role compared to other services.

"You're actually going out to manage something that is not a health need, it's almost a psychological need but those services aren't there either to pick those things up for her. It's

very much patient-orientated, very much patient-faced." (Participant 1: CMN from an urban team setting)

For example, participant 10 indicated that CMNs and CMRs are the only professionals who can assess the various needs of individual patients and organise care for them. Hence, CM takes a more holistic approach to patient care.

"From a patient's perspective it's important because we are the only people who do everything, I assess patients with a whole spectrum of care with are coordination." (Participant 10: CMN)

Such holistic care of an individual patient was possible for CMNs and CMRs because of their flexible time management, home-based care and job description. Again, the job description of hosting organisations enact the practice of CM staff in TMT. Participant 4 supported the idea that CM allowed spending time with patients and their families in their home environment so she could more fully understand the various physical and psychosocial care needs of the patients and liaise with relevant care professionals to meet the needs of patients.

"We can spend more time with patients, it's advantageous to see the full picture of a patient's condition, treatment, and needs in their home environment, and acknowledge who would be beneficial for the patient and liaise with them, while other professionals have limitations to see it due to time and place and job description." (Participant 4: CMR)

The process of initial care can be lengthy depending on the patients' conditions. A CMN (P3) described that the initial patient care took around 12 weeks because of the various physical and psychosocial assessments, care planning and coordination in order to meet the assessed needs. Such lengthy assessment can differentiate CM from other care services.

"We make the first visit and we take with us obviously our cards with our numbers on, leaflet on community matron role what is all about and, um, we normally spend an hour, have a chat, don't do anything major when we are there... because it's hard when you walk in someone's house 'oh can I take your blood pressure?'... and then I do what's called the 'overview assessment' that pulls out salient points of what are the issues, like environmental factors like 'well I walk with a Zimmer frame but I keep tripping over... and the third visit usually is when I actually do my physical advanced practitioner assessment which covers all the actual parts of the body, you know, pain and falls, nutritional assessment, just to give you an overview of what's going on... And that obviously formulates the first impression you get: what the problems are and that formulates the management plan... And every time, I go after that, we have the specialist contact summary form which obviously record blood pressure, blood glucose, temperature, whatever obs you need to do, and then you would just do each assessment each time you went to see the patient... So try to individualise with that person, what works for them. The average care process takes 12 weeks per patient, but some patients require a bit longer " (Participant 3: CMN)

Participant 8 felt that their holistic care approach was appreciated by his patient and was believed to improve the patient's quality of life. The types of intervention can be different depending on the level of patients and their needs, but CM seemed to be beneficial for patients with complex care needs and poor physical health.

"Some people have no idea what can be offered. You know, just like the little lady 95 years old 'just tell me about it, just tell me about what services could be offered and how could make my quality of life better?' She was just overwhelmed by what was out there which nobody told her

about before so it's about showing them. It's not just about me helping them but how many other things are out there to help them." (Participant 8: CMN)

The quality of life for the identified patients is continuously monitored and reviewed through visits and phone calls by CMNs and CMRs. These were carried out on a regular basis and its frequency differs depending on the patients (see the daily routines in Appendix 10). Through the monitoring and review, participant 13 ensured patients' safety at home, adherence to medications and carer support needs. Any problems identified can be dealt with adequate intervention during the regular monitoring. This appeared to improve the general feeling of patients living with their illnesses. As mentioned earlier, CM takes a proactive care approach to patients' needs in which CMNs and CMRs monitor any potential risks harming patients' well-being. This is not only reducing future service usage but also improving quality of life so the two roles are closely associated.

"I think for patients, we prevent them from hospital admissions because patients don't want to be in hospital. I think it's really important for them to be at home. We can keep them at home with good monitoring, making sure they take medications, making sure everything is alright and they've got carers if they needed them. They've got the shopping and safety in their homes. You know, they don't have falls. What we can do is we could get something like caring and repairing, if you go in another home unsafe, we could get somebody to come and put that right back, tucking down the carpet, putting away the wires, just making sure they are safe and mobilising around their homes. I think that's one of the main things, we've done. Also, the patients feel a lot better since we've been sorting these things out." (Participant 13: CMR)

In line with holistic care, self-care support was highlighted for improving quality of life. Self-care can be supported through patient education around their conditions, treatment and coping

skills. This seems to increase the independence of patients while they live with illness. Participant 7 noticed that patients' quality of life was normally low when they were unable to control their illness so the self-care support was about '*empowering patients'* to take control of their illness. Through self-care support, patients become concordant to their treatment and confident in dealing with problems and their conditions. This is linked also to emotional well-being as they gain self-dignity.

"Personally, I think it's empowering patients, if you empower them they are concordant, they feel they've got control over their condition, it's giving them dignity back, you know it's giving them life back because often their quality of life is very poor.(Participant 7: CMN)

Nevertheless, participant 31 mentioned that the self-care support should be person-centred as individuals can have different LTCs. This means that their different diagnoses, treatments and symptom management needed to be taught and discussed between CM staff (CMN and CMR) and patients together, so each patient could have their own strategies to control their conditions in everyday lives.

"Various really, I've got patients with diabetes, patients with COPD, quite a lot of COPDs and a lot of patients with heart failure, patients that fall so it's about educating them about what would make their life easier, educating them about conditions they've got." (Participant 31: CMR)

In self-care support, the clinical knowledge of various LTCs and their management seemed to be essential for CMNs and CMRs. In addition, patients' ability and motivation to take responsibility in their care was important. For this reason, participant 5 found it difficult to support patients' self-care.

"I guess another difficulty is sometimes getting people to engage in their own self-care and so on."(Participant 5: CMN)

In summary, the CMNs and CMRs described their role as improving the quality of life for patients with complex LTCs. In this role, the participants ensured the physical and psychosocial well-being of their patients through a proactive and holistic care approach. These care approaches made CM distinctive from other services. Patients with complex LTCs and poor health can receive continuous care through regular monitoring and review. In addition, patients are empowered to manage their own illness at home through the education of patients. Therefore, an individualised and holistic CM care approach is not achieved by CMNs and CMRs alone. The general assessment of physical and psychological conditions will be carried out by both CMNs and CMRs, but their interventions are limited according to their skill set. It appears that the effectiveness of CMN and CMR roles tends to be valued by cost effectiveness but their work towards the improvement of quality of patient life may not be so visible to other health care professionals or by patients. It is only knowable in comparison with other health and social care professionals as differences in their work become apparent.

7.2.3 Different clinical work boundaries between CMNs and CMRs

Thus, CMNs' and CMRs' functional roles are the same in the care of LTCs. Their clinical skills mark the difference between them and this agrees with the definition of the DH (Department of Health, 2006a). The key difference between CMNs and CMRs in clinical practice was that CMNs could deal with preventable medical problems at home on behalf of GPs in order to reduce service usage. In comparison, CMRs did not have those advanced clinical skills, so their clinical intervention for the medical problem is limited to physical

examination and prescribing. Hence, GPs' support was necessary to provide adequate treatment in a timely manner as participants described;

"I am not case management, I am community matron there are differences between... we call it community matrons. Case managers manage patients with long-term conditions as I do but I work on a different level to case managers. Case managers don't prescribe; they don't do clinical assessments and make diagnosis." (Participants 18: CMN)

CMR participant 25 also agreed that her work in CM was almost the same as CMNs with the exception of the physical assessments, diagnosing and prescribing tasks. This determines the level of clinical intervention of CMRs and was perceived as a professional difference rather than a different service. It should be noted that their professional differences are not classified in a hierarchical order. However, this professional difference between them should be introduced clearly, for individual CM professionals and within CM teams.

"I can listen to chest and I did that as part of my Long-term condition (course). I do base line obs, I mean, I don't do full clinical assessment because from the level of a case manager, we never had to, when you look the level we are um that's not a necessary part of it to do clinical examination, but all the other parts are exactly same as community matrons." (Participant 25: CMR)

Although CMNs can be a useful resource to provide concurrent clinical interventions to risk patients at home, gaining competency in this responsibility was a huge challenge for the CMNs. The mechanisms of adapting CMN and CMR roles depended on their competency and trust in their relationship with others. Participant 8 noticed that people accept the CMNs' role when they are confident in advanced clinical skills. However, CMNs need much learning around

various LTCs and medications in order for them to prove their competency and perform medical responsibilities on behalf of GPs. This will be the direct care activity which will sustain their professional identity in LTC management in the long term.

"I think a lot of them didn't like us doing independent prescribing. They were quite threatened that we were able to have the power of prescribing because it was always the GP's role. I think when you work with surgeries they realize what difference we can make to support their high service issues, take pressure off them and we prove our competency with them. It's about letting them know that you can do it and have some support from them in that role as well. And it's something new and people don't like change I think." (Participant 8: CMN)

On the other hand, CMRs without the advanced clinical skills, believed that they could also provide the same level of clinical interventions as CMNs based on GPs' support. Unlike CMNs, CMRs generally assessed patients' health conditions through visual observations and previous clinical experiences, when patients experience problems in health. Then, they discuss the patient's conditions with GPs and seek out adequate clinical interventions from the GPs.

According to the participant 32, GPs trusted the participant's observation and clinical judgement on patients' conditions. This could mean that GPs can provide prescription without seeing the patients when CMRs' observation indicates acknowledgeable conditions and the typical symptoms of the particular patients. The GPs probably recognise the patterns of patients who frequently contacted them with the exacerbating symptoms. In this case, the process of clinical care of CMRs can be as quick as the CMNs.

"If it's more of somebody that I wasn't expecting to have chest infection, I always ask GPs to go out and see them because it could be chest infection, it could be pneumonia, it could be

anything, it could be heart failure, you know what I mean. I think the GPs do trust my judgements."(Participant 32: CMR)

When CMRs felt the patients need further clinical examination, they asked the patients' GPs. For example, participant 25 could identify physical health problems through basic observation and talking to patients, but if she had any concerns with the patients' health, she would discuss with her GPs for further investigation. Thus, CMRs' clinical intervention is based on general nursing practice around LTCs.

"As you talking to them, you are doing a visual assessment, I mean if I'm talking to someone, you know, your ankles are swollen or your tummy is not normal... as long as you're doing base line through your full capability. How are you drinking? How's your bowel like? Have you been passing urine? So, you're picking up that up while you are talking to them. So, I do all that as a part of my assessment but from a clinical, I don't do like neurological assessment anything like that. If I was unsure I will refer back to GP." (Participant 25, CMR)

Since CMRs relied on GPs for the clinical intervention, the agreement and support of GPs was important. According to participant 19, some GPs were quite supportive with prescriptions while some other GPs refused to prescribe on his requests. This made the participant's clinical intervention difficult. Again, the acceptance of CMR roles by others seemed to be related to building trust, relationships and understanding of their practice boundaries and clinical skills. This will be discussed further in the service arrangement in the next chapter.

"GPs are quite ambivalent about prescribing. Some of them quite like prescribing to make my life easier but some don't want you any near it." (Participant 19: CMR)

In summary, CMNs and CMRs share the common roles but they were recognised as different professionals from each other because of their different clinical skills. CMNs were different from CMRs due to the advanced clinical skills of physical assessment, diagnosis and prescribing. These different clinical skills influenced the clinical intervention which needed to be considered when implementing a CM service. CMNs can provide more concurrent clinical care on behalf of GPs, but they need thorough training to gain the competency in the clinical skills. In comparison, CMRs need GPs' support in clinical intervention so an effective link and supportive relationship with GPs is required.

7.3   Chapter summary

This chapter has presented the common perception of CMNs and CMRs concerning their roles in CM for complex LTCs. Their professional distinctiveness based on the different clinical skills and its influence on clinical care was also explored according to the analytical framework in TMT. The 32 participants of CMNs and CMRs from different CM services demonstrated similar understandings of their functional roles and distinctive responsibilities in LTC management. Their common roles were assisting the reduction of service usage and the improvement of patient quality of life. The reduction of service usage focused on hospital admissions, GP visits and permanent care utilisations caused by preventable physical and psychosocial conditions and inadequate support discharge. A proactive care approach takes place to deliver this specific role, and that approach was believed to bring cost savings for GP practices with high LTC populations and local commissioning bodies. The improvement of quality of life involved not only the physical but also psychosocial well-being of patients. This role takes account of an individualised and holistic care approach to the patients' needs. In addition, self-care support was suggested improving quality of life as patients gained knowledge and skills to control their symptoms at home by CMNs and CMRs. The two different professionals provided different level of clinical intervention according to their

clinical skills. CMNs with competency of physical assessment, diagnosing and prescribing can be beneficial for GP practices with many patients with unstable health conditions. At the same time, CMRs can also provide similar level of clinical intervention with GPs' commitment and support through linkage and trusting relationships. Therefore, the roles of CMNs and CMRs and their various responsibilities seemed to require a range of knowledge and skills to deal with patients in their homes. Moreover, collaborative networks with other care professionals is needed to meet the various care needs of patients. From these findings, the next chapter explores the different CM designs and systems in regards to staffing, using their different skills, assigning responsibilities, networking, overall benefits and limitations of each service setting.

8 Perception of different CM designs and systems

8.1 Introduction

This chapter examines how local CM services were organised in regards to their staffing, division of labour, network and systems for coordination and communication. CM arrangement was set as a third sub-project that has close relationship with organisation of CM. In TMT, the strategic action field and mechanisms of service arrangement was concentrated on its positive contribution to the efficient delivery of CM. The chapter will begin with presenting the service structure, materials and interpretative repertoires that mobilise the participants into action. Following this, how one service works out with all the complements of strategic action field will be explained in regards to benefits and barriers to the efficient CM delivery.

8.2 Different CM design by key features

From the analysis of interview data, four types of CM design emerged, namely skill mix nurse-led CM team, CMN-led CM team, practice-based CM and multidisciplinary team-led CM as shown in table 8.1. These types of CM resemble previous CM models identified in chapter 2 such as the alternative Evercare model (Sheaff et al., 2009), skill mix nurse-led CM team (Goodman et al., 2010), Evercare (Gravelle et al., 2007, Huws et al., 2008), Virtual word model (Lewis et al., 2011, Sonola et al., 2013, Stokes et al., 2015, World Health Organization (WHO), 2016). They have different systems of staffing, assigning work, identifying patients, managing caseload and establishing links with other care professionals (Appendix 13). It should be noted that the job title of CMNs and CMRs differed among the local CM services such as active case manager and nurse case manager (Appendix 11), but their job titles were synthesised as CMN and CMR according to their educational qualifications and the roles in the service. The table 8.1 only shows the key features of each CM type and the detailed

arrangement can slightly differ among the participants in details (please see appendix 13 for details), but the main difference between them was the staff members and service location.

8.2.1 Service location

Multidisciplinary team-led CM was only implemented in rural communities, the rest of CM types were situated in busy urban cities in this study. Skill mix nurse-led CM teams were generally located in a large health centre or a building in a central location in the city, while small teams were located in one of their assigned GP practices. The location of CMN and CMRs from multidisciplinary team-led CM were varied as they were located in one of the assigned GP practices, a chiropody clinic with DN team or a large hospital office with different professionals. Practice-based CM, single CMN or CMR worked in the assigned practice, and they either had their own office or shared an office with a district nursing team in the practice.

8.2.2 Staffing and roles delegation

Skill mix nurse-led CM teams were implemented in urban communities, and mainly arranged with different types of nursing staff including a band 8 CMN, band 7 CMN, band 6 CMR and band 4~2 assistant nursing staff and administrator. Multidisciplinary team-led CM has a similar staffing approach to skill mix nurse-led CM teams except for the smaller numbers, absence of band 8 CMNs, and the CMN and CMR's different locations. Hence, they recognised themselves as two different services. Overall, the two teams with skill mix nursing staff members shared various responsibilities of CM according to their skill sets. As shown in table 8.1, band 8 and 7 CMNs managed patients who had poor or unstable physical conditions requiring frequent clinical interventions since they had advanced clinical skills. The CMNs also supported other lower band staff with clinical issues. Then, the band 6 CMRs managed the majority of referred patients who had complex care needs but with less demands for clinical interventions. The assistant nursing staff (band 4, 3 and 2) then supported the CMNs and

CMRs in monitoring patient conditions, supporting self-care and carrying out simple nursing tasks (collecting samples and nursing assessments). The administrator supported the team members for clerical work, which is not directly linked to patient care. CMN-led teams only consisted of band 8 CMNs with AP qualifications same as some practice-based CM. In comparison, some other practice-based CM only hired CMRs. It depended on the GP practices where they commissioned the services. This means, the single CMN and CMR from the CMN-led CM team and practice-based CM, carried out all the responsibilities of CM without any support staff so the detailed responsibilities were not analysed.

8.2.3 **Target criteria and case-finding tools**

In skill mix nurse-led CM teams, the target patient criteria appeared to be slightly different, but broadly involved patients over 18 years old age with LTCs causing frequent service usage (hospital admissions and GPs visits). From the broad criteria, Central Manchester and Greater Manchester excluded patients with alcohol and drug abuse while the East and West Yorkshire teams were more specific with the number of patients' LTCs, medications and mobility, such as two or more LTCs, house-bound patients and poly-pharmacy (more than four medications). At the same time, there was flexibility to include other considerable conditions. This CMN-led team had more specific patient criteria with the number of patients' LTCs and medications, such as two or more LTCs and poly-pharmacy (more than four medications). At the same time, there was flexibility to include other considerable conditions. The target patient criteria were either similar to skill mix nurse-led teams or had no specific criteria. With the criteria, participants from the team setting identified patients through referrals and predictive risk models (Patient at Risk of Readmission (PARR) and clinical dashboard), but the referral tended to be the main tool to identify patients. Unlike the situation with the skill mix nurse-led and CMN-led teams, patients were identified through referrals only in practice-based CM and multidisciplinary team-led CM.

8.2.4 Workload: caseload size, care duration and assigned GP practices

Depending on the team sizes, the team types of CM were assigned to cover entire GP practices in a city or an area of the city. The team members then divided the number of GP practices among them according to the practice sizes in the locality, so the assigned number of GP practices ranged from 3 to 12. CMNs and CMRs from Practice-based CM only covered one GP practice. The caseload sizes of each CMN and CMR also ranged from 10 to 205 because of the different patient care durations and managerial duties of band 8 CMNs. Some participants from skill mix nurse-led teams and multidisciplinary team-led CM provided time-limited care between 6 weeks and 12 weeks, in which the smaller caseloads of patients (n=10~40) were turned over quickly. A few band 8 lead CMNs held the smallest patient caseloads (n=10~12) because of their managerial duties. Otherwise, the caseload size per CMN and CMR was generally between (n=40~70) regardless of full-time and part-time staff. Notably, a CMN from a large skill mix nurse-led team held an extremely big caseload size (n=205) compared to other participants because her service provided on-going care and only CMNs were allowed to hold the caseload of patients among the team members. Please see appendix 13 for detailed information about the service arrangement.

	Skill-mix nurse team	CMN-led team	Practice-based CM	Mutildiciplinary team
Service location (urban)	One of GP practices (urban)	Large health centre (urban)	GP practice (urban)	Large health centre (Rural)
Staff type (N)	**Band 8 CMN (1): manger** Band 7 CMN(1) Band 6 CMR(1) Band 4 AS(1), AD (1)	**Band 8 CMNs only)**	**Band 8 CMN**	**Band 7 CMN (1) Band 6 CMR (1)**
Delegation of responsibility	Band8 CMN: managerial duties and manage patients with multiple LTCs, poor/unstable physical health requiring frequent clinical interventions	Band8 CMN: manage patients with complex LTCs based on the referrals or criteria	Band8 CMN:manage patients with complex LTCs based on the referrals or criteria	X
	Band 7 CMN: manage the same level of patients as band 8 CMN, support lower band staff	X	X	Band 7 CMN: severe patients with multile LTCs and frequent hospital usage
	6 CMRs: majority of patients except the severe and high risk patients	X	X	Band 6 CMR: patient with one LTC and complex care needs requiring self-care support and coordination of
	AS: regular monitoring, patient education, simple nursing tasks. AD: administrative work	X	X	AD: administrative work, informing patient discharge
Target patient Criteria	One or more LTCs, aged over 18, frequent service users, one or two admissions in last 12 months, no alcohol and drug abuse	Two or more LTCs, four or more medications, flexible for other conditions	No specific criteria or Aged over 18 with one or more LTCs, poly pharmacy, but flexible	Divided patients between CMN and CMR according to the patient condition
Case-finding tools	Referral + PARR	Referral + PARR	Referral	Referral
Caseload size (N)	Band 8 CMN (10~50)	Band 8 CMN (40)	CMN (50~65) CMR (44~64)	CMN (45~51)
	Band 7 CMN (60~205)	X	X	CMR (22~30)
	Band 6 CMR (17~75)	X	X	X
Duration of patient care	On-going or time-limt	On-going for severe	On-going for sever patients only	CMN: On-going CMR: 12 weeks
Practices and nursing homes (N)	Practice (3~12) and Nursing home (4) by the team	Practices (3)	Practices (1)	CMN+CMR (6~9)
		Nursing home (6)	X	X

CMN: community matron, **CMR**: case manager, **AS**: assistant staff (assistant nursing staff, assistant practitioner), **AD**: administrator

Table 8.1 Key features of different CM designs

8.3   Benefits and barriers of service arrangement in delivering CM

8.3.1   **Team type of CM**

Participants from the skill mix nurse-led CM teams commonly suggested that the skill mix staffing has the benefit of peer support and efficient role delivery, when there were adequate numbers of staff and a good skill mix. Firstly, the benefit of peer support was appreciated for sharing the knowledge of specific LTCs and covering absences among CMNs and CMRs in the skill mix teams. Participant 10 demonstrated that her team members learned from each other when dealing with specific diseases such as diabetes and heart failure, as individuals had different skills and knowledge gained from previous work experience or additional training.

"So it's peer support, and also people have got different skills and knowledge where somebody might not know much about diabetes but another member of the team will, or somebody might not be brilliant on heart failures but somebody else in the team might know." (Participant 10: CMN from a skill mix nurse-led team in South Manchester)

The peer support was a common benefit among team based CM where team members share the same office. Participant 11 from the CMN-led team indicated that her team was advantageous for peer support in relation to clinical interventions. The team members could share each other's ideas for managing a particular patient with a problem. Peers could give advice on patient care based on their experiences, which can be helpful for making decisions. Sharing a work place seemed to create lively discussions among team members around the patients too.

"I think the advantage is that you've got peer support. We can bounce off each other. If you've got a problem with a particular patient, you can do a bit of a case study and they can help you."(Participant 11: CMN from CMN-led team)

In comparison, CMN participants from multidisciplinary teams in rural areas did not have the benefit of peer support because of the distance from their peer CMNs. Participant 8 felt that CMNs were isolated since they were scattered into large rural areas. For this reason, they sought frequent peer support through phone calls, regular meetings and clinical supervision days. However, this weakness was caused by geographical requirements rather than service design.

"I think we are quite isolated how we are presently... I think you've got to be quite good at communicating with other people because you can be quite on your own really, because we are just a few of us and quite far apart. You know, peer pressures, not peer pressures but, I can't explain it. Your supports and networks are stretched a little bit. You know we do a lot of phone ringing, we do have meetings to support each other, and we sometimes do group supervision to support each other because we do find it quite useful. Often you think, oh this problem is only related to me and then you find out in the clinical supervision, everybody has got that problem. So, it's about getting together and sharing those things really." (Participant 8: band 7 CMN from North Yorkshire 1)

For this reason, participant 18 from the multidisciplinary team preferred working with peers in a team because she could receive support from other CMNs in regards to sharing knowledge around patient care and covering each other's absence.

"Well a team where we are in a building together because we can support each other, peer support. We can offer better integrated service to patients because if I was on day off, somebody else in the team would actually respond to that, but that does not happen at the moment, holiday cover." (Participant 18: band 7 CMN from North Yorkshire 2)

Peers could also cover each other's absences, which could generate a continuity of patient care. Participant 1 described how the team members knew each other's caseloads, as they often discussed their patients together, so they could manage colleagues' patients while they were absent. The patients would not need to explain their condition again or wait for their CMR to return.

"Yeah, I think because we are working in the same office as well, you're discussing patients and getting feedback from others, about what they would do, and other people get to know your caseload. So, I think, it's shared. I think it's important because when patients phone, if you know who they are: 'Oh well, how are you doing?' You know, rather than 'Oh I will leave a message for somebody' then you tend to get to know somebody through the phone."
(Participant 1: CMN from a skill mix nurse-led team in Greater Manchester)

8.3.2 Delegation of responsibilities between team members

Delegation of responsibilities was only seen among the skill mix nurse-led teams and multidisciplinary-led CM teams. The benefit of role delegation was referred as efficient role delivery by sharing the various core responsibilities of CM among team members according to their qualifications and skills. Participant 4 from a skill mix nurse-led team outlined her positive experiences with her team structure. As a CMR, having a CMN with advanced clinical skills in the team could be advantageous in regards to clinical interventions, because the CMN managed physically severe patients, and gave her advice on clinical issues. Then, the band 4 assistant practitioner was able to reduce the participant's workload by providing regular monitoring and reviewing low level patients. The low level patients were meant to be patients with stable health conditions after the service provision. She suggested that such a team structure contributed to the success of her team as well as the minimal staff turnover.

"Alice is an advanced practitioner and Jane is an assistant practitioner and Jane takes a lot of pressure off from the low level patients, yeah I think all teams work well. I think in central Manchester we are very successful in case management because of the way our team is structured. We've been one of the most stable teams, we have very little staff turnover... the other team members just come and go." (Participant 4: band 6 CMR from a skill mix nurse-led team in Central Manchester)

Band 8 CMNs in skill mix nurse-led CM team carried out additional managerial duties for service development in line with patient care. The managerial duties involved introducing their CM services to stakeholders, attending organisational meetings, reporting on service progress, and auditing the training and performance of team members (see Appendix 13). From a leader's perspective, participant 10 believed that working together as a team was better for the development of CMN and CMR roles. She could support the team members, when they implement their distinctive roles and liaise with other care professionals across different organisations. Moreover, she could advocate any challenges and needs related to service development on behalf of the team members, so these can be beneficial for organisations in order to evaluate the progress of the service.

"Hum because we're all in the same office, you've got peer support because in other areas, the case managers are split up to district nursing team, I fought to have mine kept together because when they're isolated with bigger teams of nurses, they tended to end up being pulled into district nursing activities. Where we've got specific roles and if they ask to do anything different, I'm the gate keeper, I protect their role. (Participant 10: CMN from a skill mix nurse-led team in South Manchester)

However, the benefit of efficient role delivery by skill mix team members depends on the balance between having an adequate number of staff with the skills for efficient role delivery. Band 8 CMN leaders from the large skill mix nurse-led teams found it difficult to strike the balance. For example, a lead CMN from the large skill mix nurse-led team is supposed to have 19 full-time staff to cover all GP practices in that city, but only ten staff members were recruited at the time of the interview. To balance staff numbers and their skills, organisation funding was essential.

"So, we're trying to get to the stage where all band 7s have those clinical skills because they can't all prescribe medications, things like that at the moment. So, some of the 7s are really working like some of the 6s because they don't have some of the clinical skills. And I think it's because people were invited to join the team rather than be interviewed. But these are all things that we are looking at now, wanting to try, and I suppose funding wise really we are a team that should have 19 full time equivalent staff but we've been running with ten."(Participant 1: band 8 CMN from a skill mix nurse-led team in Greater Manchester)

Another CMN leader was the only CMN with advanced clinical skills since three CMNs moved on from the team. Their vacancies needed to be filled by training a number of CMRs in advanced clinical skills similar to the band 7 CMNs in the small skill mix teams. The issue was that not many CMRs wanted to progress their learning further.

"Case managers are lower grades; they may in the future do the non-medical prescribing. Now, the community matrons have been moved out of the service... I think there is need for more prescribers. Some of them want to do it and some of them don't." (Participant 10: band 8 CMN from a skill mix nurse-led team in South Manchester)

Furthermore, using lower band staff such as non-registered nurses was a concern in terms of adequate responsibilities and training. Participant 1 was unsure about how to use the band 4 assistant practitioner and maximise her skills. If the band 4 was to educate and monitor the condition of patients, a certain level of training maybe required to carry out these responsibilities. Although the participant planned to enhance the clinical assessment skills of the assistant staff, these types of responsibility appear to be more suitable for registered nurses such as band 5 nurses.

"So, it's hard to think how best to use her (band 4 assistant practitioner) really, but she is going to do some clinical examinations as well. So we're skilling her up so she's got skills when she goes to see patients, she can listen and she can provide some information about GP stuff as well. They are not decision makers but just do some clinical assessment and liaising with whoever needs to be there. We have only band 6s and 7s. Kate is band 4, she is an assistant practitioner. We don't have band 5."(Participant 1: band 8 CMN from a skill mix nurse-led team in Greater Manchester)

8.3.3   Allocation of adequate workload

It was interpreted that the number and size of the GP practices allocated, caseload sizes and care duration influence the capacity of CM staff. DH suggested a CMN have a caseload of approximately 50 – 80 patients with highly complex LTCs (Department of Health, 2005d). The caseload sizes of participants generally ranged from 40 to 60 patients, but a few lead CMNs in skill mix nurse-led teams had caseload sizes as small as 10 due to their managerial roles and the severity of the patient conditions. One particular participant from a large skill mix-led nurse CM team held a caseload of 205 patients. Although band 6 nurses and other lower band staff supported managing her large caseload of patients, it was difficult to detect

health changes and service usages in her patients. The participant felt that the large caseload size and its work volume shared with many staff members was a barrier to effective CM.

"I think it's the volume of the patients I've got really. Sometimes, as I said earlier, it's about being able to keep taps on those patients. Well, I'm not saying we are in control of patients but I have a full knowledge of what's actually happening with those patients and I do think with the number of patients, - we've all got our caseloads- it is very very difficult to actually perform effective case management. I'm not sure if we are performing effective case management because a lot of our patients, they disappear in hospital and we don't know whether they are unwell."(Participant 30: band 7 CMN from a skill mix nurse-led team in Easter Yorkshire)

It is difficult to judge adequate caseload sizes but it appears that CMNs or CMRs providing ongoing services will have larger caseloads of active and inactive patients.

"It's difficult what I do on a daily basis because it rolls on from day to day... so, it's all about prioritising your caseload really. We all have roughly about 60 patients on our caseloads that we look after day to day basis. Some of those will be active and some of those will inactive and the inactive ones just ring you whenever they need you, the active ones, and the ones that we see ongoing all the time." (Participant 7: band 7 CMN from a skill mix nurse-led team)

CMNs and CMRs who provide time-limit care will have a smaller caseload of active patients (see appendix 13 for care duration). The different types of caseload management should be regarded when assigning the workload of CM staff.

"We take two long-term conditions and they take one long-term conditions and they only do 12 weeks input with them, so people who can turn around quickly to improve their circumstances not as acute as we would normally take, not as poorly... It might be some quick education or getting other services to support them, they use a lot of voluntary services liaising services, so it's not as intensive and long as ours are." (Participant 8: band 7 CMN from multidisciplinary-led CM team)

In terms of allocating the number of GP practices, the number of potential patients with highly complex patients in the GP practice should be considered and it normally depends on the practice sizes and locality (urban and rural). For example, participant 10 found that bigger practices tended to have more complex patients and GPs who were interested in CM compared to smaller practices.

"It tends to be the bigger practices where we've done a lot of work with complex patients, they recognise what we do and send more referrals through. There may be smaller GP practices they send us one or two." (Participant 10: band 8 CMN from a skill mix nurse-led team in south Manchester).

For this reason, participant 2 and her band 7 CMN colleague could only manage patients who were referred by some close GPs among 12 GP practices, so CM was not widely offered in those GP practices. Hence, overloading affects the work of CMNs and CMRs in regards to patient identification and continuity of patient care among the assigned practices.

"Very. I think that's another thing because of only a few of us covering whole of B city, I mean, there is only Mary and me. My team is covering 12 GP practices and it is impossible to see all the patients. So in a way, I don't feel our service is equitable because at the moment we are

working with GPs that are quite keen on the service while some other GPs aren't involved with us." (Participant 2: band 6 CMR from a skill mix nurse-led team in Greater Manchester)

8.3.4 Systems supporting the networking

Structural components were found to be important in networking including CM service (or staff) location, the number of allocated practices and formal links with other care professionals. CM anticipated the delivery of proactive, holistic and individualised care, in which patients with high service usage should be identified early and monitored regularly to prevent inadequate service usage and save care costs. Furthermore, the coordination of various health and social care services was the key to improving the quality of patient life.

For participants covering multiple GP practices and located in separate place from their assigned GP practices, both formal links and close relationships with key health and social care professional involved in CM were needed. This was the most challenging aspect as establishing close relationships and linkages tended to be established through continuous organisational and individual commitments to service introduction and effectiveness. Participant 10 claimed that the managerial support from her organisation was essential for linking with other care professionals. Her senior manager should pull all the relevant referrers together as a network and try to get them engaged with CM so that the service would be well used and bring about positive outcomes.

"Networking is absolutely the key so when I came into this, that's what I've done. I've networked, the more people you know, the more people you can get on your side, then the more you can achieve. If you don't have a supportive manager who understands case management and who wants to move forward, you don't have users! You've got to have that." (Participant 10: band 8 CMN from a skill mix nurse-led team in South Manchester)

Although organisations initially supported the service introduction through advertisement and meetings with stakeholders, the service still needed good recognition from individual GPs and other care professionals across the GP practices and professional bodies. It means that the link between CM and other care services needed to be established at both an organisational and individual level. Such recognition of GPs and other care professionals about the CM service greatly influenced patient identification and care coordination process. This is inter-related with role recognition in the subproject roles of CMN and CMR. Without making the service compulsory to use by other services, participants had to constantly reintroduce their service to new people. At the same time, regular reminders were needed for people who were already aware of the service to refer patients to CM service.

"There has been a change of GP or somebody new join the practice, they just don't know who we are. You know what I mean so again that's on the knowledge of the referrers... people don't refer, we just keep going back there." (Participant 10: band 8 CMN from a skill mix nurse-led team in south Manchester).

Particularly, GPs mainly made referrals to CM based on their recognition of and familiarity with the service so participant 15 pointed out that patient identification was very slow. Unless there was a systematic process of patient identification, GPs would not necessarily prioritise referring patients to CM. Hence, the right number of GP practices and the system of patient identification need to be considered in order to improve service utilisation.

"Because it's not a mandatory service, I found that the referrals coming through tend to be slow, because the referrals are supposed to be coming from mainly the GPs and most of them they don't really engage with the service to be sending through referrals, so because of that the team is not getting as many referrals as it should. That's what I found most difficult, the

fact that there are not enough referrals coming through to keep me as busy as I want to be."

(Participant 15: CMR from a skill mix nurse-led team in South Manchester)

Participant 5 found that other care professionals were reluctant to know about his service and collaborate with him because he was not working in the same GP practice or hospital. The poor collaboration of other care professionals was again associated with poor service recognition among health and social care professionals across the different organisations.

"I think central to the case management role is communication cross different organisations that include GP practices, hospital, social services, all the health care professionals... I think that's very difficult to co-ordinate because there isn't a culture of understanding each other's role across organisational boundaries in order to appreciate what other people do at all."

(Participant 5: band 8 CMN from a skill mix nurse-led team in Central Manchester)

Any materials such as tools and systems were examined to support the roles of CMN sand CMRs in care coordination with other care professionals for the team based CM. For patient identification, skill mix nurse-led teams combined predictive risk models and referrals in which there was no direct case-finding system for CMNs and CMRs. Although they identified high service users through patients at risk of readmission (PARR) and the clinical dashboard, they could not approach patients in hospital directly because of the issue of patient confidentiality and insufficient medical information. This required either consent from ward staff or referrals from relevant GPs. For example, participant 16 indicated that some patients were not happy about sudden visits from CMRs after the PARR data was provided by the hospital so her team stopped approaching patients directly without the consent of hospital staff.

"There have been issues over consent that has been raised within the team. I assume that if there was GPs that referring over, they would discuss with the patients at the time. On the wards, - as I said we had issues around that – we should get consent on the wards, this is what we decided… When we were doing the case-finding, we did find issues over that. Somebody actually said 'Oh you know they (patients) were quite cross actually when you contacted them'. I was offered a list - I think, it's A&E list- we're just going through that and looking at patients that we thought might just case-finding, but we had to stop because somebody may complain about it. They were not happy at all so we had to rethink, so we stopped doing the A&E list, so it's more a matter of case-finding and trying to get the consent." (Participant 16: CMR from a skill mix nurse-led team in South Manchester)

It is not only matters related to confidentiality but also insufficient patient information on the predictive risk models that required communication with GPs. For this reason, participant 1 discussed with GPs whether the patients in high service usage on her computer system were appropriate for CM because the system did not show enough information to judge the patients' conditions. The process of patient identification on its own appears to be time consuming and causes delays to CM delivery.

"We would go to discuss that patient with the GP saying 'they're using services quite a lot, do you want us to case manage that patient?' We let the GP decide whether it's appropriate or not because the GP obviously has a lot more information about the patients than we do. We literally just have their names and NHS numbers. We don't really know much else other than the date of birth, so we don't know anything about their history to be able to make those decisions. So, yes we speak to the GP about that." (Participant 1: band 8 CMN from a skill mix nurse-led team in Greater Manchester)

To support discharge, patients admitted to hospital should be informed to CM staff so that they can support patients for early discharge. To do this, a computer system and communication pathways were required within hospital wards and units. Participant 14 and her team had asked the hospital for a flag system that could detect patients' attendance in hospital, and then contact her service. Again, the hospital staff may not necessarily act on the demand of CM staff since it is not based on a formal agreement or order from the managerial team of their hospital.

"We haven't got a database to search for the information that tells us who's gone in. We've asked the hospital to sort of put something on the system that will flag if patients were repeatedly attending. We are still waiting because GPs don't have the information. They don't receive it, the only people who do is the hospital. So, what we are trying to do at the moment, we try to work very closely with bed management team and the community nursing team in hospital and to say 'You know, you've got all individual wards, could you have look on the patient folders or look on the front sheet?, which will show the number of attendances in the last 12 months and the number of A&E attendances also and that data is there in front of them. From that, can we decide whether or not these patients need referral to the service? But everything takes forever to setting up." (Participant 14: CMR from a skill mix nurse-led team in South Manchester)

In addition, a lack of systematic delivery pathways was another problem for ineffective communication and liaison with other care professionals. Participant 1 spent a lot of time on the phone making referrals to other services and checking their compliance with her requests. She felt frustrated because there was a lack of agreed communication pathways in order to organise patient care. The verbal referrals were difficult to follow up so a shared recording system was necessary to share the information around patient care. This seemed to originate

with CM staff having to cover many GP practices and overcome technical problems to access the practice links and information system from other premises.

"Um, it's frustrating because there isn't any clear communication pathway to do that. It's all very verbal. There is no other ways of doing those types of thing. Verbal information isn't always best reliable information. Um but unfortunately, that's all we've got. So there is a lot of time when you are on the phone. "(Participant 1: band 8 CMN from a skill mix nurse-led team in Greater Manchester)

The principle behind the multidisciplinary team is to create a formal network with relevant services and work together for efficient delivery of LTC care according to the virtual ward model (Lewis, 2011). However, this study found that although organisational formal links allowed the CMN and CMR to liaise with GPs and other care professionals, and attend regular meetings with them, they still struggled with similar problems to the skill-mix nurse-led teams. For example, participant 32 was formally linked to other care professionals within a virtual ward, and she had regular meetings with them. The formal links seemed to be useful to bring all the dispersed community services together in large rural areas.

"A virtual ward is a ward without walls, we've got all the services that you deal with in the hospital, you've got an administrator, and you've got a pharmacist and therapist and nurses. We are spread over large geographical areas… We get together through meetings, so we go to virtual ward meetings on a regular basis." (Participant 32: band 6 CMR from North Yorkshire 4)

However, participants still faced difficulty in gaining good recognition of their roles and support from GPs and other care professionals because they covered many GP practices in

distant locations, especially in rural areas. Participant 18 described having to 'sell' her service to GPs and practice staff in order to receive sufficient referrals. This was the case despite the constant reminders and education around her roles and referral criteria.

"When I first started I have to sort of sell the service and had to do quite a lot of education to surgeries and GPs about my role and referral criteria and we had to overcome quite a lot of barriers initially so we go to GP meetings regularly so we can keep up to date and we communicate all the time about patients so it is better. It takes a long time, good 18 months because I have 9 GP practices. If I have one GP practice, this is not a problem because they see you every day 'oh so and so' that will be good for referral but unless you are there, they will forget." (Participant 18: band 7 CMN from North Yorkshire 2)

Patient identification through referrals was also difficult when participants covered so many GP practices. Participant 22 complained that eight practices were too many for one CMR as they spread into large rural areas. The distance among the assigned GP practices made it difficult to visit individual GPs frequently and to work closely with them. This was a barrier to getting enough referrals as well as providing equal service to her practices. The eight practices may not be considered big in terms of whether she could share the patients with CMN. This was quite normal for skill mix nurse-led teams. It appears that the main problem is the systematic patient identification process because the patient identification was reliant upon the referrers' recognition of CM through the regular meetings. Thus, the delivery process of CM needed to be well structured and systematic within the dispersed network.

"I suppose the disadvantage is you're actually working for 8 GP practices so the geographical area is immense and not only of that, I think… because you are not working closely with GPs. We've been spread around a lot. You are now working closely with say 2 or 3 GP practices.

You are actually covering a whole bit of a patch that's I think one of the down sides. The fact that you are not getting referrals, the appropriate referrals, the number of referrals that you could have because you are not present enough in surgeries to, for them 'oh by the way there might be someone who you might be able to help me with whereas when you're work so many, some of them you only see like once a month or if I haven't got any patients for that practice on the current caseload then they might not see me unless there is monthly meeting. You know so that's the down side." (Participant 22: band 6 CMR from North Yorkshire 2)

The communication and information sharing was also limited despite the formal link with GP practices. Participant 17 claimed that CMNs could not access patient records and receive GPs' feedback through the computer system because of patients' confidentiality. This limitation may be associated with the different staff location and shared computer system in place. Thus, the formal linkage only created organisational agreement on adapting CM without agreeing to the practical side of support.

"The difficulty is we put information in system one but we can't get any GP information back. So, I put my consultation in but we can't access any GP or patients information in GP' site, that's the big block. Because GPs put block on it we are not allowed to access it and because as I said patient confidentiality." (Participant 17: band 7 CMN from North Yorkshire 3)

For this reason, some participants suggested that CMNs and CMRs may focus on a few large practices where high LTC populations were concentrated. For example, participant 6 acknowledged that GPs wanted to work with their own CMRs. The GPs did not understand why CMRs covered many other practices despite one GP practice having enough cases for them. Large practices had more issues about the expenditure of LTC care rather than small practices as they have many patients with LTCs. Hence, the participant considered prioritising

large GP practices with high LTC populations, working closely with individual GPs in those practices. By doing this, GPs will support CMNs and CMRs better with referrals and clinical supervisions.

"I think a lot of them (GPs) would like to have one case manager of their own. They don't always understand that you're covering lots of different practices. I do think that's where we would sit better within specific practices and I think you can highlight, you could prioritize GP practices because some practices in our areas have very high urgent care costs associate with them.... I would like to think that in the future, we could sit with doctors in a surgery and sort of be able to work with doctors more specifically. It would be more integrated." *(Participant 6: CMN from a skill mix nurse-led team in Central Manchester)*

Participant 22 wished to be either in a standalone LTC team consisting of all different services and peers, or working with a smaller number of GP practices so that her role would be well recognised and facilitated by GPs and other care professionals. Additionally, she would be well positioned to receive peer support. These same concerns have also been raised by participants from other CM services, but the large rural setting increases barriers to support.

"We either have a standalone Long term conditions team that would serve all virtual wards so we would be sitting together and we would be supporting each other and get a lot of referrals and sharing things, obviously if someone is off sick and someone's caseload became unmanageable, you can actually share the work around. Um the other thing I would like to see is maybe you have a smaller number of GP practices and then hopefully the role in this area would be utilised more. You know you get more appropriate referrals. They would know what you're capable of doing, what your role is."(Participant 22: band 6 CMR from North Yorkshire 2)

Some positive examples to improve collaborative networking were identified among the participants from practice-based CM and CMN-led CM team. Participants perceived that practice-based CM was beneficial for the good recognition of the roles of CMN and CMR, integrated working and communication with GPs and other care professionals. These benefits were closely associated with a number of GP practices, staff locations and the use of practice links and computer systems. For example, participant 27 described that working in a GP practice made her feel like a member of the practice team as she and the practice members could see each other every day. GPs and other care professionals could learn about the roles and skills of CMN and CMR while working in the same GP practice. As the participant only dealt with patients who were registered in that practice, there was also trust and consistency between the patients and CM staff. This means that patients could rely on her service and contact her with problems so the participant could prevent inadequate service usage.

"I think working in a GP practice means that I'm very much part of their team and they do see me as part of the team. For me, I have that continuity of patients that I see. That's important and they have trust in my assessment skill, so they don't need to go out to visits because they trust my assessment. I think if I was working in a team with a lot of GPs referring to us, they wouldn't know me from the next person; they don't know the skills I've got. What I can do. I think you will have more issues, if we were working in a bigger team." (Participant 27: CMR from practice-based CM)

Participant 28 added that practice-based CM led to greater understanding of other care professionals' work. In CM, the understanding of each other's role is very important for making adequate referrals and organising care with others in order to meet the various needs of patients. CMN and CMR roles were more quickly adopted into the existing care systems of

the GP practice. As multidisciplinary working is one of the key aspects in organising CM, practice-based CM was ideal for this nature of work.

"Becoming a part of this team wasn't just about working with doctors and nurses. It's about working with everybody here and we understand how each other works." (Participant 28: CMN from practice-based CM)

Most notably, effective communication and information sharing between CMN/CMR and other care professionals contributed to positive integrated working. In the practice-based CM, CMNs and CMRs could easily speak to GPs and practice members as well as other care professionals outside the practice due to working in the same location and sharing the same practice links. Participant 9 supported the idea that being in a practice was convenient for communicating with GPs in order to obtain patient information. She could access the medical records of patients through the practice computer system, and if there was any concern around the condition of patients or her performance, she could easily discuss them with GPs face-to-face in the practice. This type of communication was difficult for participants who covered multiple GP practices.

"GP practice, it's all about communication. I think if you are somewhere else, they don't have a connection with you. I know some other district nurses moved into one building... it's a nightmare getting access to computers, making sure their practices are safe, you know. In a moment, I just go on to the screen and I know exactly what has happened to that patient. I know what I'm doing and then I can go down and talk to the GP." (Participant 9: CMN from practice-based CM)

Participant 24 worked closely with district nurses as they shared an office together in the same practice. The participant reviewed and discussed the care of her patients with district nurses whether her inactive patients needed continuous support from district nurses or were to be removed from her caseload. In addition, the participant could pass the inactive patients to other care professionals who were involved in the patient care for continuous monitoring. If there were any changes in the patients, they could report the participant for adequate intervention. In skill mix nurse-led teams, the inactive patients were either discharged or monitored by lower banding staff, in which the continuity of care was unsure in the time-limited CM. In this respect, the practice-based CM was able to maintain continuity of patient care by liaising with existing practice staff.

"The good thing that I do with a district nurse - she is off sick at the moment - once a month I go through my caseload and we discuss it together and then evaluate whether they need to be involved or I take them off, I try to do that so that has been a good thing so I think their approach has got better… I always look at if they've got plenty of agencies involved like home carers going in day to day, you know somebody to keep an eye on patients who would contact you if there is a problem."(Participant 24: CMR from practice-based CM)

Another benefit of being collocated in the assigned GP practice was to have clinical supervision. From the experience of participant 28, GPs seemed to be more open to CMNs and willing to support them when they work directly with CMNs and meet frequently in the practice. In comparison, the participant did not receive the same openness from her two previous practices because she was located in one of the two GP practices. She found that the GPs from the other practice did not show much interest in her service, and the different location made it difficult to access the GPs too. This implies that there is a strong relationship between the recognition of the role and the service location.

"I think it's ideal, no complaints at all. Where I worked before, I was based with DNs but I worked for two different GP surgeries and I was based upstairs away from one of the surgeries and in a different building from one of the other surgeries. So, it meant we have to go, physically find the doctor you need to talk over all patients and that's often very difficult and often they weren't interested in what you have to say whereas here you feel like you're working with each GP, you can find them whenever you want them, we can sit and have coffee with them and talk over the situation and share the care rather than working on your own which is ideal." (Participant 28: CMN from practice-based CM)

Again, CMR participant 26 from practice-based CM could attend weekly practice meetings to discuss her patients with other care professionals. In this way, her input was valued and recognised by others.

"You get feedback and valued and they have every Tuesday meeting, I can go into the meeting. I have a few patients to discuss. 'Don't worry about that, we know about that.' whereas if you are based in another place you never get that interaction. It is about communication and building relationships."(Participant 26: CMR from practice-based CM)

Another way to improve the network was to have a smaller number of GP practices with many LTC patients and an active commitment to CM service, ones that commissioned the service. From a case of CMN-led team, CMNs were given the choice for GP practices and the GPs from the practices decided how to support the CMNs in clinical skills and roles. Participant 12 chose three large GP practices where they had a strong strategy to adopt CM services and utilise her role well. Larger practices have many patients with complex LTCs for CM. As expected, the practices asked her to do presentations about her roles and then appointed a

mentor GP to support her role. This appears to be a systematic and effective way of adopting the CMN roles into GP practices.

"I chose the practices that I want because it's predominantly the biggest in this area and people that are in those practices are quite vocal, you know strategically... I knew that if you want to make an influence yourself, show what good services we have, we actually contact people like that, so I could choose practices but they choose us as well, I had to do two presentations about the role of the community matron and then they chose which GP was gonna mentor me. Practices are important for CMNs to play the role, need to get good one."(Participant 12: CMN from CMN-led team)

Furthermore, participant 12 could access the shared computer system called 'system one' in order to obtain detailed medical information of the referred patients. This enabled her to take only patients with poor health and complex care needs. Furthermore, she could liaise with other care professionals for the overall patient care.

"We tend to get referrals that can be the referrals from the hospital or that can be referrals from GPs, bring them onto caseload, so what we tend to do is look on 'system one', look at what medication they are on at the moment, what co-morbidities they've got, or is there anything we can do because, sometimes, some things are for district nurses and some things are for community matrons. Sometimes, you need to pass it to the district nurses because we saw high level and we can only have a small caseload." (Participant 12: CMN from CMN-led team)

Only two participants were from the CMN-led CM team, and they did not make any negative comments on their service. Perhaps, the results suggested that peer support, assigning a few

large practices with agreed links and communication pathways could contribute to the positive experiences for CMNs.

8.4 Chapter summary

This chapter explored CM design and organisation and how it influences the work of CMNs and CMRs according to the TMT framework. Of the 32 participating CMNs and CMRs, the local CM services were variously grouped as skill mix nurse-led CM team, CMN-led CM team, practice-based CM and multidisciplinary team-led CM. The key differences between these CM approaches were described as geographical setting, staff types, assigned GP practices and caseload sizes. The perceptions of participants on each of the CM types were explored and compared. Regardless of geographical settings, participants suggested factors improving role recognition, integrated working and communication with GPs and other care professionals. These were the allocation of fewer GP practices, being in the assigned practice, and systematic CM delivery process. These findings will be discussed in greater detail in regards to the research objectives and their main contributions to the existing knowledge in Chapter 9. The thesis then goes on to discuss policy and practice implications and future research in Chapter 10.

9 Discussion of the study findings

9.1 Introduction

This discussion chapter builds on literature reviews which highlighted the need for more standardised, structured and systematic approaches to CM. To improve CM, this study approached the complex phenomena involved in the organising work of CM through TMT. The discussion examines the use of theory, details the aims and objectives (Chapter 3) of this study, and integrates key findings with existing knowledge.

9.2 Use of TMT

As presented in chapter 3, TMT is constructed with three key components, namely, the project, strategic action field and mechanism. The project is the primary unit of analysis which is an institutionally sanctioned and goal-oriented enterprise constructed by situation of community and institutional contexts. My research focuses on understanding the dynamic and complex interactions, processes and practices involved in delivering CM in local community throughout the time and space. The simple ontological definition of project is "What" is done through collective action. The second component, strategic action field, defines the institutional contexts, situations, and resources for actors to mobilise the project, "Where" it is done. Mechanism, the third component of TMT, explains how the collective action of the project progressed (Allen, 2018c, Allen, 2018a).

This thesis widens the use of the theory in more complex and broader context of health and social studies. Allen previously suggested that the TMT has primary implication for understanding complex work of nurses in managing health care trajectories, as well as the inner world of patients, and how they enact multiple identities that are assigned by others. Pragmatically, TMT was also suggested for providing a framework to analyse the healthcare trajectories in a systematic way, and used for its educational and practice purpose. So far, it

has been used for analysing healthcare coordination, for example, a rescue trajectory for quality improvement, Alcohol Intoxication Management Service and nursing work in hospital settings as mentioned in chapter 3. Although the theory has been established through much empirical research, its overall utility and relevance in health and social studies has been under-investigated (Allen, 2018c). CM was implemented in community settings where the service is situated within a dispersed multidisciplinary network and various private and state organisations. The goal is for care of patients to be personalised rather than institutionalised. The scale of organising work is immense because CM staff are more autonomous and yet interdependent with other professionals in comparison to the task-orientated work of nurses with clear work boundaries in hospital settings. For these reasons, this thesis used the framework of TMT to investigate the complex organising work involved in the implementation of a new service. By doing so, the thesis examined the readiness of adopting a new service as well as its development and integration over time. TMT has not previously been applied in such a context; this thesis extends the use of theory in complex settings and provides a rich description of the core components of TMT according to my own interpretation and implication of the theory.

According to Allen, the domains of the three components are interrelated to each other (figure 9.1) which has been well demonstrated in my study. The analytical guidance to the project involving sub-projects was limited to fit into my study, though a description was given explaining that a primary project focuses on the collective action while a sub-project is a discrete component of collective action (Allen, 2018c, Allen, 2018a). In my study, I adopted the concept of a sub-project as a key element of a primary project requiring concrete development in its own context, practice and commonality. This will have critical impact on the success of mobilising the primary project. This means that the collective action of each

sub-project is conditioned by a discrete components of the strategic action field and mechanisms.
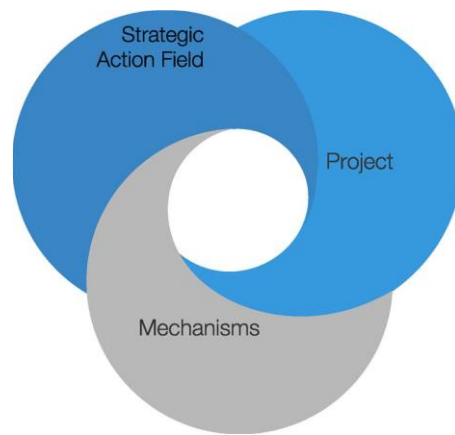
Figure 9.1 Inter-relationship between core components of TMT (Allen, 2018)

The success of government policy with regards to CM implementation relies on the existence of fully-equipped professionals and the readiness of the care system. This has taken a long time to actualise due to the inherent complexity of the endeavour. CM cannot simply be implemented as a clinical tool to be used by already trained professionals because an innovative LTC management tool it requires creating new professionals and delivery systems. The development process of individual sub-projects needs to be understood through the collective actions of actors to find commonalities in their daily practices with materials and cognitive processes in mobilising the primary project effectively. This means, the organising work of CM is discussed after identifying a certain formations of defined roles, adequate training and integrated network and care pathways. The detailed process of establishing these formations is not directly interrelated to the organising work of CM. Thus, a study exploring the complex organisational work of any kind of care trajectory, needs to consider the purpose of the study and types of required information. Particularly, if it is to see how a service is organised or how a service is established and organised for its effective delivery through the

collective action. My focus is on the latter, where I examined both the readiness of the service at individual and organisational levels to implement CM and then the complex organisational work of CM. Surprisingly, there was much organising work involved in not only the primary project but also each sub-project. For example, training needed to be planned and organised according to policy guidelines and course availability, field practice with a mentor, organisational beliefs and staff's previous skills and knowledge. The CM role and its detailed responsibilities were also developed through the policy guidelines, people's perceptions and division of labour within the organisational or professional cultures. In a similar manner, CM was organised in an institutional context (GP practices, PCTs or hospitals). For me, the duration of CM was important to analyse the maturity of the role, training and service arrangement before suggesting the important interrelationship between the sub-projects with the primary project.

In this regard, my study develops the theory that exploring the implementation and development of a new service could require multiple layers (sub-projects) of discrete collective action. Each of them needs thorough investigation before combining the findings with the primary project as demonstrated in figures 3.1 and 9.2. However, it should be noted that sub-projects should not be confused with the lines of work where recurrent activities go into multiple projects which can be contributed by other services such as district nursing, physio therapy or social service (Allen, 2018a). To do so could obscure the focus of the study. As I planned, my final analytical goal was to suggest a systematic approach to CM from the collective action of CMNs and CMRs in their learning, role development and establishing collaborative networks and systems through time (working experience) and space (work place). Thus, Allen's TMT theory was extended in this thesis which was formulated in figure 3.1 (p90). I set three sub-projects that have fundamental relationships with the primary project. Although the three sub-projects (roles, training and service arrangement) are interrelated, I

analysed their domains of strategic action field and mechanism separately during the analysis because the context of each sub-project was considered different. The detailed description of operationalising TMT (Chapter 3) and sufficient understanding around the core-components and their domains was essential for the data analysis and presentation.
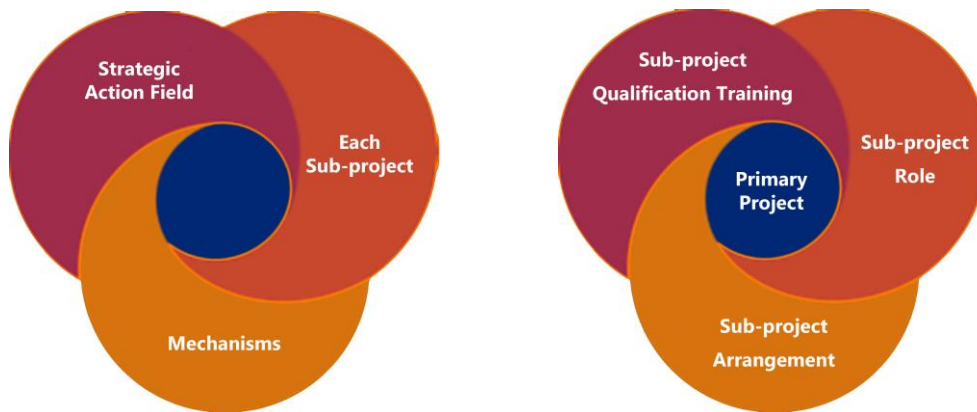
Figure 9.2 Analytical adaptation of core components of TMT for doctoral study findings

The previous results chapters described, characterised and explained the strategic action field and mechanisms of the three sub-projects. The strategic action field enabled me to describe the situational basis of the sub-project including organisation, rules, shared understanding, materials, people and their knowledge. These conditioned actions to progress in a certain mechanism which were shaped through their continuous daily practice, reflexive monitoring, articulation, translation and sense-making process. Notably, the density of theoretical assumptions and required information for each of the domains of core components differed depending on the situation and context of the action. For example, training is mainly underpinned by the practice theory that focuses on the concrete and material activities such as training programmes, care pathways and protocols. On the other hand, role development is more related to the ecological approach and socio-materiality which includes the understanding and support from other professionals, systems and materials to perform the

defined role and responsibilities. Moreover, organisational support and interaction between CM staff and other professionals were involved in improving the role recognition. Many theoretical assumptions were then embedded into service arrangement including practice theory, ecological approach and Actor Network Theory, as they involve many guidelines, pathways, systems and network that mobilise the collaborative action to deliver CM. Overall, a process view was taken into the data analysis to explain how participants conceptualise adequate training, distinctive role and responsibilities, and supportive service arrangements as their on-going accomplishments.

Here, these findings have been taken further to answer the research objectives within the following themes.

1) *How qualification and training support the role of CMN and CMR?*
2) *The distinctive roles and responsibilities of CMNs and CMRs*
3) *Supportive CM arrangement for efficient CM delivery*

The story evolves from three aspects including 1) the common understanding or characteristics of each sub-project, and their meaning in comparison to existing knowledge; 2) the inter-relationship between the sub-projects; 3) what would become routine practice for a systematic approach to organising CM. This is done through an orderly construction, interpretation and discussion of the findings.

9.3   How qualification and training support the role of CMN and CMR?

The focus of study on the training and qualification of CMNs and CMRs was to examine the effect, if any, of professional backgrounds on gaining competency in the CM role. Additionally, it explored how the training was organised, who was responsible for it, what kinds of learning materials or resources were utilised and provided, their content, how it was carried out and ultimately if and how it supports CMNs and CMRs to better perform their roles.

9.3.1 Merging the previous working experiences with the new role in CM

Within the TMT, previous professional backgrounds and working experiences were the structural domains of the strategic action field and because of them participants possessed a certain level of background knowledge and skill to begin their work in CM, providing organising logics to their actions. Echoing previous work (Reilly et al., 2010), the majority (n=32) of participants had nursing backgrounds, particularly district nursing, though the sample also consisted of a former podiatrist, a former occupational therapist, and a former physiotherapist. This nursing background meant participants had some knowledge of LTCs and enabled participants to adopt the core responsibilities of CM. Even so, participants identified a need for further training, especially around proactive, holistic, and individualised care (Dossa, 2010, Drennan and Goodman, 2004, Evans et al., 2005). Through their daily practices, participants described their objective formation of practice and then evaluated their practice boundaries and required knowledge for further training or liaison with other experts. This was the mechanism of developing professional competency in the early stages of their CM career. Most participants of both CMNs and CMRs began their CM job without completion of any training or induction programmes. The most frequent concern raised by participants occurred early on in their CM careers when they were first responsible for autonomous decision making and clinical interventions in the community setting. For this reason, participants without a clinical background or community work experience took a longer time to adapt to CM work and required more extensive training. In addition, prior knowledge and skills of CM staff had an effect on the depth and efficacy of their clinical assessment and interventions (Challis et al., 2010a).

9.3.2 Tough Journey for CMNs to become generalist to specialist

Training of CMN involved hosting organisations, Higher Educational Institutions and actors of CMNs who support and participates in the training. Organisation of CMN training was

based on the competency frameworks but in reality it was contingent upon available courses and self-motivation to meet learning needs. As stated in chapter 1 (section 1.4.2.1), the expected level of competency for individuals performing a CMN role was that of an advanced nurse practitioner who is able to independently manage LTCs through clinical skills (physical examination, history taking, diagnosis, planning treatment, ordering tests, prescribing and managing cognitive problems) and CM (NHS Modernisation Agency and Skills for Health, 2005). Notably, PCTs and GP practices where employed CMNs seemed to follow the policy guideline by supporting CMNs with AP and DP courses, courses generally focused on advanced clinical skills for general illnesses. This means, the courses did not meet the immediate learning needs of CMNs in managing LTCs compared to the previous CMN programmes (Girot and Rickaby, 2008, Rosser and Rickaby, 2007). TMT enabled me to gather the different participants' accounts of the training with respect to strategic action field and mechanisms. The strategic action field focused on education programmes, and course content and structures, used to identify the characteristics of CMN training. There were clinical practice sessions with GPs and hospital consultants during the AP and DP, but CMNs mainly self-directed their learning on common LTCs, such as COPD, diabetes, heart failure, and a few psychological courses for managing dementia, depression and anxiety as outlined in Chapter 6. Only a few of the participants reported learning about CM and certain LTCs during the AP and DP courses.

The detailed learning journey of CMNs, and the practicality of their learning programmes with respect to their role, were evaluated in order to make sense of the adequacy of training programmes through the mechanisms of TMT. Although CMNs were supposed to develop their skills and knowledge through on-going and self-directed learning at work (Department of Health, 2005b), combining work and training was not easily accomplished. As the CMN role was new, most CMNs started their role without being fully trained in AP and DP. The

different levels of training between AP and DP were determined by the previous educational qualifications of the participants prior to the courses as Goodman et al., (2010) also identified. The AP and DP courses were recognised as intense courses as they covered a wide range of clinical practices. Many found having to work concurrently while learning the material difficult, especially with regards to providing proactive care. Previous studies also mentioned the wide range of learning in the CMN education programmes and the negative impact of combining continuing education and work (Salford Primary Care Trust, 2006a, Banning, 2006, Sheaff et al., 2009). These considerations identify the need for a well-structured programme and separate learning time (Banning, 2006). The current CMN training through AP and DP is based on the existing advanced practitioner/nurse practitioner courses. Local authorities and higher educational institutions did not seem to reorganise the contents of existing programmes for the CMN role. The urgent learning needs for CMNs were the understanding of common LTCs including psychological conditions and how to make autonomous clinical decisions in the patients' homes.

CMNs' feeling of confidence was expressed differently depending on the person's working experience in CM and acquired knowledge from all the formal and informal training on LTCs (see section 6.3.2). Participants who have just completed AP and DP courses expressed that they are 'not specialist for any LTCs' or 'scared' to perform the medical role of CMN. Whereas, CMNs with more than 7 years of experience (participant 7) felt much more confident in using their knowledge and skills in practice. Thus, it is a long journey for CMNs to gain the confidence in recognising symptoms of general illness as well as recognising the deteriorating symptoms of individual patients in their LTCs. Prescribing treatment required much field practice under supervision. This has rarely been discussed in the previous studies, what delivering clinical intervention of patients with complex LTCs entails from a CMN's perspective. The clinical practice sessions during the AP and DP courses were criticised for

being insufficient or unrealistic which has also been a longstanding problem in the advanced nurse practice education programmes (Gray, 2016, Scambler, 2008). Nursing education and professional practice boundaries have changed according to the demographic changes in illness and care demands on growing population with LTCs and aging population (Cronenwett et al., 2011).

In America, a new doctoral nursing education pathway has been introduced to meet the needs of care demands. They fill service gaps for medical doctors in the community as well as cover the additional field practice required from advanced nursing practice. Nurses with the terminal degree of nursing claimed to better prepare nurses for leadership roles in the health care system (Cronenwett et al., 2011). However, this type of higher nursing education programme is not ready to be implemented as there are many barriers to overcome. There would be employers who undervalue the additional education for daily routine care and the financial resources of higher educational institutions (Paplham and Austin-Ketch, 2015). The role of doctoral nursing can cause much confusion over the role and identity with other nursing professions (Udlis and Mancuso, 2015). A study mentioned that low income is also a reason to cause impediment to the DR nurse (Coombes, 2008)

In the UK, there has also been confusion and controversy around the adequate qualifications for CMN training and whether this should be an undergraduate degree, or a post graduate certificate, or a full Masters (Baker et al., 2005, Banning, 2006, Lillyman et al., 2009b). In this study, CMNs agreed that the educational qualification should be at masters level (not necessarily full-masters) or similar (depending the previous educational qualification), and that their clinical practice also needs much support by GPs, consultants or senior nurse practitioners. The average starting salary of a GP is from £58,808 to £88,744 while the average salary of a CMN starts from £38,890 to £44,503 according to National Careers Service (https://nationalcareers.service.gov.uk). Most CMNs and CMRs in this study were graded at

band 6, 7 and 8, and their income is not low as they are well-experienced nurses. According to the NHS healthcareer, band 6 nurse salaries start from £31,365 to £37,890 and band 7 nurses start from £38,890 to £44,503 while the maximum salary of a nurse with band 8a with over 5 years experience can reach between £73,664 and £87,754 (https://www.healthcareers.nhs.uk). Therefore, it should be consider that the CMN role is expected to deal with LTCs in which CMNs meant to have good understanding of LTCs and have confidence in clinical skills of physical examination, diagnosis and prescribing enough to prevent some of exacerbating symptoms leading hospital admissions. Would the band 8 CMNs who almost as expensive as GPs can effectively work in their medical role worthy to replace the GPs in managing people with complex LTCs in community? (Gray, 2016, Rolfe, 2014, Por, 2008).

International programmes tend to train and certify nurses as a specialist in a specific LTC such as COPD, diabetes or heart diseases (Jones, 2015, Poole et al., 2001, Sun and Hsiao, 2013, Watts and Sood, 2016). However there isn't any available evidence that the nurses hold more than one speciality in LTCs for delivering clinical interventions for patients with complex LTCs. For this, the UK CMN and CMR roles and education programme has significant meaning for shaping future nursing. This doctoral study suggests that the CMN training should focus on the promotion of advanced nursing practice in the field of LTC management in primary and community settings. To do this, the required level of knowledge and skill to organise physical and psychosocial care needs to be understood, as well as the kinds of preventative measures taken to control the conditions in the patients' homes with their direct and indirect care activities. Limited research revealed that the most common prescriptions issued by CMNs were related to respiratory diseases (COPD) and a few symptom controls from LTCs (pains, constipation). The pharmacological knowledge of CMNs was used to review medication of older people with poly-pharmacy in order to reduce prescription costs

and side effects (Banning, 2006, Brookes, 2008). Therefore, the detailed evidence of CMN training on psychological and social care is limited.

9.3.3 'It's all about managing LTCs': CMR training

The analytical purpose of evaluating CMR training was to identify any training programmes for CMRs and its adequacy in their role performance. As a consequence of poor political guidelines (Chapter 1), the finding of this study on CMR training revealed a quite unstructured and inconsistent learning journey for CMRs compared to CMNs. Again, the combination of work and self-directed learning discouraged and delayed the ability of many CMRs to take additional training. Thus, they relied on their previous work experiences and work-based learning acquired from their colleagues, GPs, nurse specialists and practice staff instead.

In spite of individual differences, TMT helped me to categorise and describe common patterns in CMRs' learning experiences as well as characterise their self-examination of these learning experiences. CMRs training included common LTCs identified from their caseload of patients such as COPD, heart failures, diabetes, Parkinson's disease and psychological conditions (depression, anxiety, dementia, cognitive problems). CMRs generally showed great willingness to undertake any form of training to meet their key learning needs but they desired to be supported with formal LTC modules from university as they provide standardised knowledge about the illness, deteriorating symptoms, treatment and the concept of multidisciplinary work in community. Informal training was felt to be more adequate for updating their knowledge on LTCs. This matched with their roles. Evidence suggested that a CMR should be able to identify their learning needs and access adequate training, support and mentorship (Ross et al., 2011), but a more formal standardised training programme is suggested in this study before starting the CMR role. The training would improve the competency of CMRs and gain trust from GPs in relation to their clinical judgement as they

would be able to describe patients' conditions more precisely for prescription. Moreover, it could also improve the quality of patient care and patient education around illnesses.

9.4 The distinctive roles and responsibilities of CMNs and CMRs

Echoing the definition of CMN and CMR roles from DH, the varied descriptions of the perceived role of CMNs and CMRs were interpreted into general roles and specific care responsibilities/activities in CM. Using TMT, clarifying roles and responsibilities was viewed as an organising logic to drive the action in delivering CM. By taking into account participants' daily care activities, policies, organisational guidelines and pathways, and ecological relationships with other professionals and cultures. TMT enabled the understanding of how the CMN and CMR roles were shaped, described and characterised. Organising CM involves not only dynamic inter-relationships with others but also networks and pursued strategies developed through time and space. Moreover, the actors' own understanding of roles and responsibilities and their competency, all inform how they prioritise their care actions and liaise with other services. The reflexive monitoring of participants intimated why the roles and responsibilities of CMN and CMR were perceived to be unclear and unmethodological. This lead to a search for sustainable definitions of roles and responsibilities for CMNs and CMRs and systematic ways for their dissemination through the sense-making process.

9.4.1 Common perceptions around the roles of CMN and CMR

Firstly, data from this study indicate that the CMNs and CMRs shared the same understanding of functional roles in CM for complex LTCs: to assist the reduction of service usage and the improvement of quality of life for people with complex LTCs through a proactive, individualised holistic care approach. These roles reflected the government aims of introducing CM in LTC management (Department of Health, 2005d). Definitions can be argued by other researchers as the definition of the CMN and CMR roles were varied

depending on the participants and interpretations by researchers in qualitative approaches (Armour, 2007, Dossa, 2010, Lillyman et al., 2009b, Offredy et al., 2010, Banning, 2006, Cubby and Bowler, 2010). The role of assisting the reduction of service usage meant reducing unnecessary hospital admissions, GP visits and permanent care utilisations caused by preventable conditions and inadequate support following discharge from hospital. The improvement of quality of life involved not only physical but also the psychosocial well-being of patients. Goodman's synthesis of literature distinctively classified the role of nurse CMR/CMN into three categories namely, as a supplement, a substitution and a complementary role to other services or professionals. These categories appears to be based on their new professional position, activities and work in CM (Goodman et al., 2010).

Therefore, the most frequent questions participants faced were who they are (professional qualification, job title), why they are there? (Key roles, purpose of their roles), what they do? (Job, types of work and care activities) and how they achieve such an ambitious role (knowledge and skills) during their introduction of their role to other agencies and professionals. For CMNs and CMRs themselves, the key question was not about the definition of their role but rather how to achieve their role without a protocol guiding the detailed care responsibilities, activities and practice boundaries, and the systems of patient identification while networking with others. Evidence often criticised the role of CMNs against GPs (Bee and Clegg, 2006, Chapman et al., 2009, Murphy, 2004) and district nurses (Cook, 2005, Sargent and Boaden, 2006).

Job	General description of role	Responsibilities and activities
District nurse	Play a crucial role in the primary healthcare team. Visit people in their own homes or in residential care homes, providing increasingly complex care for patients and supporting family members.	Assess the healthcare needs of patients and families; monitor the quality of care; be professionally accountable for its delivery. Patients could be any age, but often elderly. They could be recently discharged from hospital, have LTCs, terminally ill or physically disabled. Provide home visiting, direct patient care, help, support, advice, education about self-care, co-ordinate a wide range of care services. May work alone or with other groups. Have own patient caseloads and keeping hospital admissions and readmissions to a minimum and ensuring that patients can return to their own homes as soon as possible. Care activities: advice and support, bowel care, continence management, end-of-life care, general nursing care, health education, injections (intramuscular/intravenous/subcutaneous). intravenous therapy, including chemotherapy, medication administration, medication reviews, monitoring/screening, nasogastric tube feeding, pain control, percutaneous endoscopic gastrostomy feeding, phlebotomy, prescribing, pressure area care, referral to other services, risk assessment, skin care, urinary catheterisation and on-going catheter care, wound care
Advanced and specialist nurses	The post-types are differentiated by the activities they undertake. They do a slightly different mix of activities from one another and have different views about which activity types most central to their role. Main themes: case management, diagnosis and organisational activity. Role typology: care coordination, diagnostic activity, organisational level	**Nurse practitioners-** Role typology: care coordination, diagnostic activity **Advanced nurse practitioner-** Role typology**:** diagnostic activity, Work setting: general practice and hospital (emergency department, trauma and orthopaedic surgery, medicine units) **Nurse consultant-** Role typology: organisational, care coordination, diagnostic activity, Speciality: psychiatry, acute medicine. Work setting: mainly acute/hospital **Clinical nurse specialist-** Role typology: coordination, speciality: cardiology, palliative medicine, general surgery, stroke, neurology, blood transfusion, critical care, adult mental health, Work setting: mainly hospital units **Specialist nurse-** Role typology: coordination, speciality: cardiology, head and neck, haemophilia, endocrine, breast cancer, renal, Parkinson's, respiratory specialist nurses. Work setting: mainly hospital units

Source: (Ball, 2005, Maybin et al., 2016)

Table 9.1Extended nursing roles

As shown in the Table 9.1, the general description of district nursing role is overlaping with the CMR and CMN roles in regards to the community-based work and providing complex care to patients with LTCs except the detailed description of nursing responsibilities and activities. It is understandable why their role can be confusing. A professional identity can be shaped by their professional title, educational qualification and work. Majority of CMRs were from district or community nursing and now the former district nurses shifted their identity as a CMR without further educational qualification. Meanwhile, CMNs introduced themselves as both an advanced nurse practitioner and a CMN. Rolfe criticised of the unclear term of 'advanced' nursing as it focus on medical skills and that makes difficult to define whether the 'advanced' nursing means existing nursing with an additional skillset to become more accomplished in the existing nursing, or a totally different level of nursing that attempts to push the nursing outwards or upwards in new skills and create another layer of nursing profession in the hierarchy. The extended role of nursing appears to cause rapid shortage of nurses and in return assistant nursing staff increasingly carried out the usual nursing care (Rolfe, 2014). In comparison, Barton et al (2012) viewed that advanced nurse practitioners ascend a hierarchy of skills and expertise because they start as a novice advanced nurse practitioners and then progress their competency into expert in a new area of practice. A novice advanced nurse practitioners only made sense if their practice was regarded distinct from the ordinary practice and this had to be new rather than extending some of the ordinary practice. Nursing profession has evolved into many disciplinary which makes difficult to differentiate. This invisibility of nursing was mentioned previously in chapter 1 (section 2.4.3).Therefore, the roles of CMN and CMR need much development as an occupation with consistent job title and clear description about their roles and responsibilities.

9.4.2 Responsibilities and activities of CMN and CMR

9.4.2.1 Clinical intervention/direct care

One of the key responsibilities of CMNs is the clinical intervention of people with complex LTCs. These include providing patient education about the illness and coping strategies; providing intermediate medical care to reduce hospital usage or post-discharge readmissions from patients with deteriorating symptoms caused by their LTCs; regular monitoring of patients' conditions to detect any changes in their health. To achieve this clinical role, they need advanced clinical skills and knowledge of LTCs that should be gained through the AP and DP training. Through educational preparation, they would be aware of preventable and treatable symptoms at their competency level. The definition and guidelines to these need clear organisational and policy legislations for them to practice. This is another area to be examined but this study together with existing evidence can list a number of preventable and treatable symptoms such as chest infections, urinary tract infections, skin problems, constipations, pain, dehydration, respiratory exacerbations, minor injuries (Banning, 2006, Offredy et al., 2010). There could potentially be more treatable symptoms CMNs could deal with in everyday practice based on the educational qualifications and practice legislations. This needs to be taught and stated in the job descriptions of the CMNs, thus helping CMNs to understand their responsibilities and practice boundaries clearly. As the DH mentioned, CMRs can provide clinical intervention to those patients with deteriorating symptoms but with the support of GPs (Department of Health, 2005e, NHS Modernisation Agency and Skills for Health, 2005). They can only identify the deteriorating symptoms of patients based on their clinical experiences. Thus, professional differences and any additional support required should be taken into account whilst designing a CM service.

9.4.2.2 Psychological aspects of care

CMNs and CMRs are responsible in managing cognitive impairment and mental well-being (Department of Health, 2006a) but previous studies are limited in this area of care. The most frequent psychological and mental health conditions they manage are depression, anxiety, and dementia. These conditions often lead to unnecessary hospital admissions or call emergency services. Dementia was the main focus of the social care model of CM (Challis et al., 1991, Challis et al., 2002, Elkan et al., 2001), but this seems to have shifted into the category of LTC management.

9.4.2.3 Social aspects of care

CMNs and CMRs are responsible for assessing social conditions of patients in their home environment. The nature of CM work allowed them to have time to explore not only patients' problems but also social conditions such as family relationships, living conditions, care needs and the safety of their environment. This differentiated CMN and CMR work from existing care professionals. However, unlike CMRs in social care, CMNs and CMRs in health care do not have the brokerage roles to negotiate care services directly with the allocated budget (Chevannes, 2002, Manthorpe et al., 2009). Patients' social care needs depended on the collaboration of social workers and the available care package. Thus, CMNs and CMRs responsibility in social care involves detailed assessment, making referrals to adequate social care services and advocating on behalf of patients for their needs (Cowie et al., 2009, Goodman et al., 2010). This requires a good recognition of their roles and formal links and communication pathways with various care agencies. Other studies support this idea that patients want to be assessed and have their care organised by one cohesive key professional rather than be referred to different care professionals (Jacobs et al., 2006). To do this, a global assessment and unified target criteria involving not only diseases, but also social, cognitive,

and functional problems should be developed and key professionals taught how to use them (Onder et al., 2015).

9.4.3 The recognition and embedding of the CMN and CMR roles

Although the DH (Department of Health, 2005e) recommended local authorities develop the CMN and CMR roles and introduce them into existing services, evidence revealed the poor understanding of CMN and CMR roles creating confusion, professional rivalry and mistrust by other care professionals (Bee and Clegg, 2006, Cook, 2005) in chapter 2. In this study, many participants also faced unfriendly reactions from other care professionals at the beginning of their employment because of the poor recognition of the CMN and CMR roles. The poor recognition was caused by insufficient organisational support on the introduction of the service as CMN and CMR roles constitute a new profession. In addition, doubts about the clinical competency, poor organisation of formal network and delivery pathways were critical barriers to embed the CMN and CMR roles into the existing health care system. Participants also expressed that their PCTs and GP practices tended to value their roles based on the overall cost saving caused by the number of prevented hospital admissions and reduced days in hospitals, GPs visits and permanent care utilisations. However, this is very difficult to achieve by CMNs and CMRs alone as they have to bring various health and social care services to patients' homes to prevent service usage and improve quality of patient life. CMNs and CMRs were confident in their contribution to the cost saving, but it is based on good organisation, a supportive network and professional competency over time.

Evidence suggests that the degree of early implementation and routinisation are closely linked to system readiness and additional elements. These included 1) an adaptive and flexible organisational structure and process of making decisions; 2) continuous leadership and management support during the implementation process; 3) Individual practitioners'

competency, motivation and capacity; 4) funding, feedback system, communication and network across structural boundaries (interorganisational communication); and 5) Flexible linkages between organiser and agencies (Greenhalgh et al., 2004). The DH required CMNs and CMRs to become competent for working across organisational boundaries and for that strong organisational support on service introduction is essential (Department of Health, 2005d). Organisations should clearly explain service aims to all stakeholders in order to ensure their commitment to the new service and the stakeholders should disseminate the upcoming services to their staff (Eile et al., 2011). In this study, the information about the new CMN and CMR roles did not seem to be well disseminated to front-line staff by relevant stakeholders prior to the service implementation because CMNs and CMRs had to continuously explain their roles and referral criteria to other care professionals. Only a few participants were offered an induction programme to introduce their roles and work together with other care professionals. At other times, lead CMNs in skill mix team-led CM tried to introduce the service to relevant stakeholders, and present their positive contribution to patients in GP practices, so GPs would make more referrals. Even so, a constant reminder and face-to-face contact were needed because the GPs and other care professionals often forget about the service as the service was not made compulsory. This was a significant problem among the participants who covered multiple GP practices or were not co-located in the assigned GP practices. Thus, the organisation work of CMNs and CMRs is not only based on ecological relationships but also structures, guidelines, tools, formal links and systems (Allen, 2018c). These aspects, the positive CM arrangement from the collective information and actions of participants is discussed next.

9.5 Supportive CM arrangement for efficient CM delivery

UK CM models were organised differently in terms of staff, target patients, case-finding, assigned GP practices, caseload sizes and staff location (Chapter 2). However, there was a lack

of understanding in terms of how the different service arrangements influence the work of CMNs and CMRs. To bridge the research gap, this study examined the design of local CM services and their delivery systems. By using TMT, the CMNs and CMRs' work of organising and delivering CM was examined within their institutionally sanctioned socio-material network, institutional contexts and division of labour, tools, technologies, practices, norms and rules. In Chapter 6, the frame of strategic action field enables one to identify these various domains as four different types of CM: skill mix nurse-led CM team, CMN-led CM team, practice-based CM and multidisciplinary team-led CM. The mechanisms of TMT allow for the examination of ecological relationships with other health care professionals through network and material artefacts. Service arrangement is mainly Each CM type had different benefits and limitations in relation to delivering the roles of CMN and CMR. Participants' self-reflection and feedback on their service arrangements were documented for future improvement in service design. The following sections discuss the key findings of this study with existing CM models and consider potential changes to improve the service.

9.5.1 Systems and tools for patient identification

Identifying target patients (case-finding) is the initial step of CM. CMNs and CMRs obviously cannot organise CM without the patients. CM is for highly complex patients who have multiple LTCs and intensive service usage in secondary care (Department of Health, 2005d). Echoing the previous study findings, participants initially identified target patients through referrals and predictive risk models (PARR, clinical dash board). This requires accurate systems and collaboration with core health and social care professionals. Skill mix nurse-led teams combined predictive risk models and referrals but the predictive risk models had technical problems and issues of patient confidentiality to identify appropriate patients for the service and directly access patients. Even the referral system was found to be too slow to identify target patients as it is based on the recognition of referrals. Thus, participants from large skill

mix teams spent much of their time filtering accurate patients from the PARR list through discussions with GPs according to their target criteria. Previous studies also pointed out similar barriers from the predictive risk models (Billings et al., 2006, Holland et al., 2012, Ross et al., 2011).

Most participants used target patient criteria to select adequate patients for CM service. Although they are slightly different, they broadly involved patients over 18 year old with LTCs causing frequent service usage (two or more hospital admissions in the last 6 or 12 months, frequent GP visits). The age of the target patients was much younger than was the case in previous models (Evercare, Unique and Virtual ward) that set the age between 55 + and 65 + (Chapter 2): this is because younger people can also develop complex LTCs (Fortin et al., 2005). The target criteria seemed to indicate the second level patients who are at high risk due to a complex single condition or multiple conditions. This patient group was to be managed by a disease specific CM through protocols and pathways (Department of Health, 2005b). From the broad criteria, some CM services excluded patients with alcohol and drug abuse while others were more specific with the number of patients' LTCs, medications and mobility, such as two or more LTCs, house-bound patients and poly-pharmacy (more than four medications). At the same time, there was flexibility to include other significant conditions (please see Appendix 13 for the detail). All these target criteria were suggested as useful indicators of patients at high risk of hospital admissions in previous studies (Billings et al., 2006, Clarkson et al., 2009, Lewis, 2004). Therefore, some participants from practice-based CM and multidisciplinary team-led CM did not have specific target criteria as they accept most referrals. The flow of case-finding had close associations with the knowledge and formal agreement of GPs on CM as the main refers. Moreover, CMNs and CMRs from CMN-led teams and practice-based CM had active support from GPs due to their co-location and a formal agreement to access patient data from the assigned practices.

This finding indicates that a more systematic and unified approach to case-finding is required in order to support the work of CMNs and CMRs. The case-finding process can be much easier when the potential target patients are registered in hospitals based on medical information of patients in GP practices (Wennberg et al., 2006). In this way, the high risk of patients would be approached early and monitored by CM staff.

9.5.2 **Balanced staffing and workload**

Staffing structure was the key feature of the different service designs. Different types of care responsibilities in CM are delivered by either a CMN/CMR alone or shared between CMN, CMR and other lower band nursing staff according to their skill set. The different merits of the staffing has been presented in chapter 8. Firstly, being in a team with other CMNs and CMRs was beneficial for peer support in sharing each other's knowledge of specific LTCs and covering absences among CMNs and CMRs in the skill mix teams. Since CMNs and CMRs work autonomously on various patient conditions, information and knowledge is very important in making care decisions.

Evidence related to skill mix team-led CM were limited in previous studies, even the skill mix teams were composed differently. They were a mixture of different care professionals including nurses, social workers, occupational therapists and physiotherapists (Challis et al., 2010b, Sheaff et al., 2009) or mixture of ranged nursing staff with a doctor (Lewis, dalmane). The skill mix team-led CM in this particular study consisted of a range of nursing staff including advanced practice nurses (at CMN post), registered nurses (at CMR post) and assistant nursing staff. Some CM teams could be categorised as skill mix team as few participants had professional backgrounds of a physiotherapist, a podiatrist and an occupational therapist, but the majority of CM teams consisted of staff from nursing backgrounds. As such, the structure of nurse-led CM team was only reported by Goodman

(2010). However, the perceptions of these skill mix teams had not been explored much in those previous studies. The peer support was based on the number of CMNs and CMR with different degrees of knowledge gained through previous working experience and additional training. CMN-led teams also had the same benefit of peer support. CMNs and CMRs who work individually in a practice could also receive the peer support if the organisation arranged regular meetings for CM staff at the early stage of service implementation according to the participants. Since peer support is important for information and clinical knowledge sharing, practice-based CMNs and CMRs fill this need by working closely with GPs and other practice members. This should be considered when designing a CM service.

Secondly, staffing was considered for carrying out the various care responsibilities associated with a large caseload of patients with different care needs. In skill mix nurse-led teams, CMNs and CMRs generally hold their own caseload of patients and these patients were managed by a team of CMN, CMR, assistant nursing and administrative staff according to the patients' conditions and types of care responsibilities associated with the patients each day. Band 8 CMNs were advanced practitioners as well as team leaders, responsible for managerial duties and patients with severe and complex conditions (usually two or more LTCs, frequent demands on clinical interventions). Band 7 CMNs also managed the same level of patients and then helped CMRs and non-qualified nursing staff for the clinical aspects of work, because CMNs possessed advanced clinical skills. CMRs then tended to manage patients who had single LTCs but needed a more complex coordination of care services. Assistant staff supported the CMNs and CMRs through patient education, hands-on-nursing tasks and regular monitoring of inactive patients, but the CMNs and CMRs had overall responsibility for their patient care. Administrators also supported the team with clerical work.

Such delegation of responsibilities commonly takes place in hospital wards and community nursing teams. The delegation is about moving a task up or down in a traditional unidisciplinary ladder (Sibbald et al., 2004). Managing patients with complex conditions requires medical treatment, nursing, education, and liaising with other services (Dubois and Singh, 2009). Registered nurses often delegate nursing activities to support workers (non-qualified, non-registered nurses or health care assistants) according to their competencies for the tasks. The typical work of the support workers included hands-on-nursing (washing, dressing up, assisting toilet and feeding), housekeeping duties and clerical work. Health care assistants (HCAs) could be given the task of patient observations after the appropriate training, but the nurse who delegates the task has the responsibility for the delegation (HMSO, 1989). Sharing the responsibilities of GPs with advanced nurses and sharing responsibilities of senior assistant care staff suggested a cost effective approach, but evidence also warned that skill mix staffing should not be focused on saving costs by substituting lower banding staff for senior staff, as it can affect the quality of care. The use of a skill mix approach depended on what kind of care activities are involved in a service (Dubois and Singh, 2009, Sibbald et al., 2004).

The audit of support staff's performance can be important for ensuring the same quality of CM. A previous study pointed out that many assistant nursing or non-nursing care staff looked after frail older people with complex needs at home on behalf of district nurses and their performance was often found to be poor (Cornwell, 2012). Current government policy also emphasises better care standards, audit systems and clear roles and responsibilities at the organisational and personnel level (Exworthy et al., 2017). Similarly, large skill mix team-led CM teams were perceived to be challenging as to balance the number of ranged staff and with limited budget and to assign those with right tasks for maintain the care quality. It can be effective when a skill mix team covers few GP practices so CMNs and CMRs can monitor other staff's work and their patients on an ongoing basis as it was exemplified by participant

4 from a small skill mix team in chapter 8. Otherwise, the efficient staffing and delivery of the various responsibilities can be achieved when CMN and CMR participants were collocated in their assigned GP practice and use the existing practice nursing staff such as district nurses and practice nurses to monitor inactive patients (Maybin et al., 2016). Another previous study informed that CMNs took approximately six months to build up relationships with patients and see some improvement in their conditions (Goodman et al., 2010). They also had a greater sense of control over their work when they had a set caseload of known patients (Sargent et al., 2008).

Therefore, the allocation of an adequate workload should consider the balance of staff numbers and their capacity to manage a certain number of patients. Although the DH suggested the caseload size of a CMN should be between 50 to 80 patients, previous studies revealed various caseload sizes among the CMNs and CMRs as did this study (Goodwin et al., 2010, Grange, 2011, Ham et al., 2010). The manageable caseload size differed depending on the portion of active and inactive patients in the caseload between ongoing and time-limited care. Participants' caseload sizes fall between the DH's proposed caseload size despite differing service duration. However, a larger caseload size of 205 made CM reactive in meeting the needs of patients. Evidence also indicated that 20 patients with intensive care needs were almost the equivalent of 40 patients with less severe conditions (Grange, 2011) and therefore even a caseload of 50 patients was quite a big number for providing proactive and holistic care (Sargent et al., 2008).

9.5.3 Formal network and pathways to liaise with core professionals

This study finds that formal network and delivery pathways are extremely important for effective CM. It affects case-finding, coordination of patient care and embedding of CMN and CMR roles as it takes a proactive, holistic and individualised care approach. It was made

apparent that many participants from skill mix nurse-led teams began their job without formal agreement and linkage with relevant organisations and services. PCTs only supported CMNs and CMRs with service introduction through advertisement and meetings with stakeholders, but this was not enough to mobilise the various health and social services and their front-line staff. Although CMNs and CMRs can establish informal links by gaining positive relationships and recognition, this informal link takes a lot of effort and time (Goodman et al., 2010). Challiner (2009) argued that although health care systems are planned at a high level of detail, many primary care services are not combined to provide continuity of care for patients' needs.

Even the informal and formal linkages were not effective without agreed pathways to deliver CM with other care services (McGrath et al., 2008). The pathways should indicate how to identify and approach patients; how to support discharge with hospital and community staff; how to communicate and share information each other. The most frequently required links were with GP practices, hospital units (stroke, respiratory, cardiac, diabetes, specialists, emergency departments and discharge units) and community services (district nursing, social workers and therapists). According to the DH (Department of Health, 2005b), these aspects of work should be in place prior to the implementation of CM. Previous evidence also referred to the lack of formal agreement as a barrier to the effective networking in line with poor role recognition and trust relationships. Thereby, on-going organisational support was important for effective networking (Challis et al., 2006, Chapman et al., 2009, Cubby and Bowler, 2010, Lillyman et al., 2009a, Salford Primary Care Trust, 2006b).

There have been positive examples of the formal linkage and communication systems contributed by participants from CMN-led CM teams and practice-based CM. One participant from CMN-led team chosen by three large GP practices through interviews and the practices actively support her role with mentor GPs and enough referrals. In addition, this CMN could

access a shared computer system for referrals, communication with GPs and other care professionals and the detailed medical information of referred patients. The positive impact of formal agreements between CM and relevant services and the sharing information system have been already mentioned by previous studies (Abell et al., 2010, Challis et al., 2011, McEvoy et al., 2011, McGrath et al., 2008). Moreover, the systematic and simple networking system might increase the commitment of other services and their front-line staff (McGrath et al., 2008). Perhaps, this particular CMN-led CM team overcame the organisational boundaries through the systematic approach, whereas CMNs and CMRs from skill mix teams struggled to obtain this positive networking.

Although the detailed care pathways were uncertain, practice-based CM had a particular advantage in establishing close links and integrated working relationships with GPs and other health care professionals. These benefits were mainly based on the co-location of the CMN and CMR within the assigned GP practice. As CMNs and CMRs saw GPs and other practice members on a daily basis, they rapidly built relationships with them and came to understand each other's role. CMNs and CMRs as a practice team could receive clinical supervision from GPs, and liaise with practice members and other services easily through existing practice links. Similar findings were seen by Goodman et al (2010) who found that CMNs built close working relationship with GPs when they were based in GP practices. Thus, their work related to case-finding and co-ordination seemed to be simpler than other CM models as they only manage patients registered to one GP practice and its shared computer system. On the other hand, participants from multidisciplinary team-led CM did not benefit from the formal linkage and pathways with other members due to the dispersed network in large rural areas. The concept of multidisciplinary team-led CM (so called Virtual ward model) is ideal but geographical differences should be considered when implementing this type of CM approach (McEvoy et

al., 2011, Sonola et al., 2013). From the positive examples of other CM approaches, co-location of CM staff with assigned GP practices may strengthen the multidisciplinary approach.

9.6 Summary

This chapter discusses the key findings with relevant literatures and my interpretations to add new information concerning research topics and suggestions on how CM can be better organised. The next chapter continues to discuss how the findings can be implied for policy, practice and research.

10 Implications for practice, policy and research

10.1 Introduction

The previous chapter discussed the key findings of the study related to the research topics and existing knowledge. This chapter further discusses how the key findings of the study can be applied in practice and policy, what the limitations of this study are, and what remains to be explored in terms of future research.

10.2 Implication for policy and practice

10.2.1 Qualification and training based on the care demands

Entry into the CMN profession is open to nurses who provide advanced clinical care and CM to people with complex LTCs. The CMR profession is open to a qualified nurse, a social worker or allied health professionals to provide CM to patients with a complex single LTC requiring intensive need for organised care through CM (NHS Modernisation Agency and Skills for Health, 2005). As it was discussed, this study is focused on improving the professional identity of CMNs and CMRs according to their educational qualification, roles and responsibilities. Implications are considered from the study findings related to their qualification and training. Firstly, the professional identity of CMN and CMR should be made clear as an occupation. It is better to narrow the entry of different types of health and social care professionals into CMN and CMR role if the professionals are to sustain the management of growing LTCs. Their previous backgrounds and working experience will influence the adaptation of CMN and CMR roles for the individual who accepts the roles as well as other care professionals. It is almost certain that nurses, especially district nurses are more suitable for these posts although their responsibilities are different from the usual nursing role. This difference should be overcome with adequate training.

Secondly, CMN and CMR education programmes should be standardised. So far, CMNs and CMRs have a experienced a tough journey in developing their professional competency and establishing a professional identity. CMNs start their role as novices and ascend a hierarchy of skills and expertise through poorly organised training pathways and self-directed learning. The AP and DP course identified from this study had critical problems in supporting the CMN role with regards to the absence of LTC and CM modules. Likewise, it provided extremely insufficient practice sessions in relevant work settings. This is a waste of resources and time for both government and individual staff if CM staff take longer to build their competencies or are unable to reach the expected level in their roles after providing the funding for their courses. The professional development of CMN will bring major changes in primary care as they have the potential to remove the burden of GP practices and hospitals as the majority of GPs' appointment and hospital beds are occupied by the LTC patients (Department of Health Long Term Conditions, 2012).). The educational preparation for CMN roles should be taken seriously rather than simply give them an advanced practice qualification.

From the findings of this study, it is suggested that the government and higher education institutions should establish standardised programmes by improving current advanced practice programmes. The advanced practice programme may offer optional modules to classify the career path between acute advanced nursing and primary (community) advanced nursing as initially proposed (Department of Health, 2005d). The course duration should be increased and offered to full-time students as the two year part-time AP course was insufficient. DP should be also organised in a similar manner for nurses who held a diploma in nursing in the past. The course should also be open to newly qualified nurses to continue their learning to progress their career. They will either self-fund or seek available funding for their education. This will solve the shortage of both general and specialist nurses in community and improve the professional competency of CMNs. However, most CMNs joined the post in their 40s and

the free educational support and part-time learning may be attractive to them. It is uncertain whether graduates of BSc Nursing students would be interested in slow phased community nursing and caring for older people with complex LTCs. This may require further inquiry.

CMRs also endeavoured to develop their professional competency and establish a professional identity by self-directed and work-based learning. From the study findings, CMRs' immediate learning needs overlaps with CMNs in terms of common LTCs and CM concepts in the community care setting. Organisation may support their role with formal LTC modules consisting of those learning needs. This will reduce the knowledge gap between different health care professionals who take the role of CMR as well as aiding patient care. The additional training will be used to appeal to CMRs' professional identity and their competency to carry out their distinctive roles in the community.

10.2.2 How to improve the diffusion and embedding of CMN and CMR roles?

As discussed, the perception of ideal diffusion and embedding of the CMN and CMR roles into the existing health care system requires both political, organisational and individual commitment (Greenhalgh et al., 2004). From the findings, this study suggests that the central government should publish a standardised practice guidelines in regards to their distinctive roles and responsibilities, and qualifications and skills. In addition, CM should be made available as routine practice for people with complex LTCs across country. Although central policy provided definition of CMN and CMR roles with a political aim and professional competency, they were not clearly adopted into practice. The population with complex LTCs is continuously increasing and so is the need for integrated health and social care in the community (Department of Health and Social Care, 2018b). This study values CM as an essential service in this trend of disease and health care. The current barrier to CM is the lack of clarity over practice boundaries in providing various health and social care through CMNs

and CMRs' direct care input and other services. The roles of CMNs and CMRs often cause confusion and their practice boundaries are poorly understood by other care professionals. The standardised practice guideline will help local commissioning bodies to develop the workforce of CM and provide the right support to introduce and routinise the service. Prior to this, more evidence is required for the detailed practice boundaries of CMNs and CMRs.

10.2.3 Organising structured and systematic CM for complex LTCs

As discussed, the work of CMNs and CMRs in CM is very difficult deliver as they need professional competency, role recognition, formal links, agreement, pathways and being co-located with their assigned GP practices. The core activities of CM such as patient identification, assessment, coordination, monitoring and review need much structure and a system for their effective and efficient delivery. Similarly, an interesting Spanish study tested the usefulness and performance of an integrated care service system to support adoptive CM by using the Linkcare system (Figure 10.1). The research team first developed a conceptual model of integrated care service management and execution into five stages. These stages included case identification (patient entry), case evaluation (for illegibility to care), work plan definition (set of both timed and non-timed tasks), follow-up and event handling (corresponds to the execution of the working plan and discharge (terminated from the service).
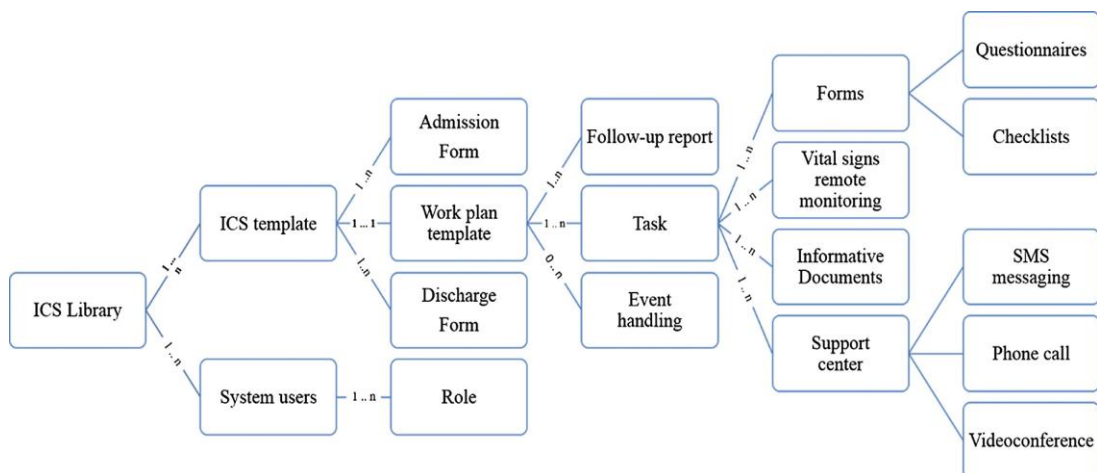
Figure 10.1 Linkcare system to support Adoptive CM (Cano et al., 2015)
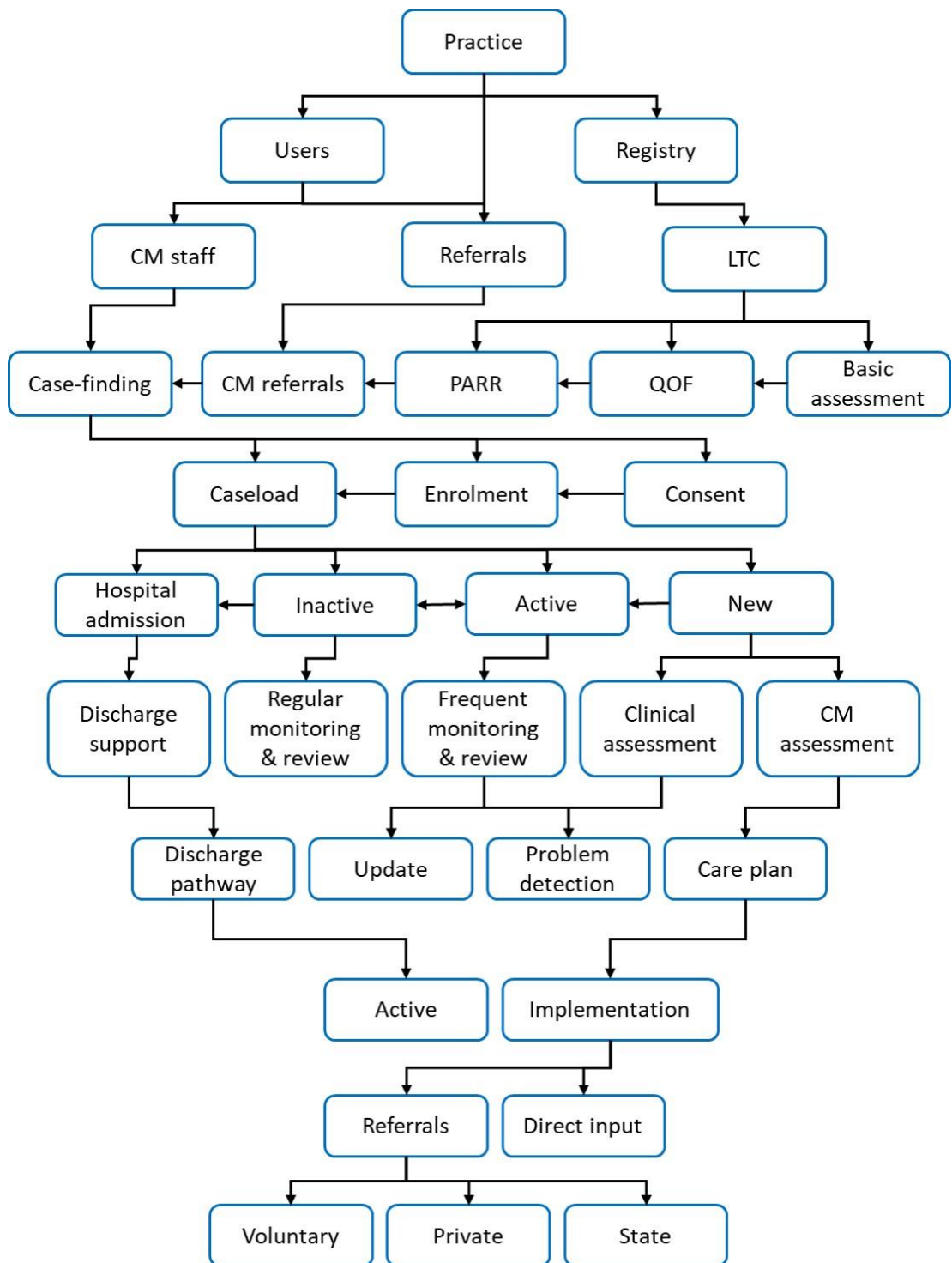
Figure 10.2 Practice-based CM system

By using existing UK system, we could develop a practice based integrated care system that support the care process of CM as demonstrated in Figure 10.2.

Patient identification

For patient identification, general practices and health care centres already have the patient registry system so we can stratify all patients who are diagnosed with one or more LTCs. Table 10.1 shows the possible process. To decide the right care approach, all LTC patients will be assessed for basic physical and psychosocial conditions for a certain period of time. Current GP practices do not take into account the social status of patients but evidence increasingly emphasises the close association of health and social conditions with LTCs. For this reason, recent studies have focused on developing a social determinant of health assessment tool to support the holistic care approach of LTC management (Hosseini Shkouh et al., 2017, Randall et al., 2016). Majority of the LTC population will receive regular medical care and self-care support through existing QOF system in the practice. Then, the small portion of patients at high risk and highly complex patients can be stratified by an automatic PARR system for CM which uses the target patient criteria (Billings et al., 2006, Clarkson et al., 2009, Lewis, 2004).

LTC population	Basic assessment	High risk and highly complex
Age 18+ with one or more LTCs	Physical ability Mental health Social status Disease specific	Frequent service user Currently admitted in hospitals Co-morbidity Poly-pharmacy Vulnerable situation (living alone, risk of fall, disabled and house-bound)

Table 10.1 Patient identification system

Then patients from the PARR and referrals (made by practice staff and other core professionals from outside) will be examined for adequate cases for CM. CM staff can access the practice

system for the case finding and manage their own caseload of patients and record their CM process.

Enrolling process

Before enrolling the identified patients into their caseload, patient consent should be obtained with detailed information about CM as confidentiality is an issue. Patients who agree to be case managed will be enrolled into CM and reviewed their medical conditions before approaching patients for assessment and then be managed within the caseload of CM staff. The caseload of patients will be divided into four groups, namely 'new', 'active', 'inactive' and 'unexpected hospital admission'. These groups of patients will be managed according to care pathways.

Process of managing different group of patients

Firstly, new patients will be assessed of their current health and psychosocial status through a unified CM assessment followed by clinical assessment. Many recent studies have concentrated on developing a unified assessment tools to strengthen the single assessment for patients with complex LTCs (Chiêm et al., 2014, Onder et al., 2015, Palmera et al., 2018, Struckmanna et al., 2016). This will reduce the workload of CM staff as to define the various health and social care needs of the patients with complex LTCs. From the assessment, CM staff will issue a care plan and implement the planned care by using their clinical skills and by liaising with relevant services. The assessment tool will indicate the right services to meet the care needs of the patient. There should be an agreed link and agreement between practice and various services including state, private and voluntary services. When the initial course of care was completed, the new patient will be moved into the active group for frequent monitoring and review.

Secondly, the active group will be frequently monitored and reviewed depending on the severity of their health issues while inactive patients (those whose conditions remain stable for a while) will be monitored and reviewed regularly through reminders. The regular monitoring and review will take place either in the practice when patient attend practice for regular QOF check or in their own home due to poor condition. During the monitoring, any potential problems will be detected and solved proactively. Lastly, the unexpected hospital admissions will be informed to practice by hospital staff according to a formal agreement and discharge pathway for LTC. CM staff will organise post-discharge care together with hospital and community care staff and when the patient receives all care following the discharge care plan, he/she will be moved into the active group. The practice-based CM can maintain the continuity of patient care and improve integrated care.

Staff location and adequate work volume

The work volume of a CMN and CMR depends on the conditions of patients in their caseload, staff members and the duration of patient care. From the study findings, CMNs and CMRs are better co-located with assigned GP practices. Ideally, each CMN or CMR may attached to just one GP practice with a manageable size of LTC population. They can work together with practice nursing staff to share the workload.

10.3   Strength and limitations of the study

From my knowledge, this is the first study that has tried to characterise, describe and explain the complex organising work of CM by using TMT. TMT is quite a newly developed middle-ranged theory that has not been used much in previous health and social studies. Thus, I initially struggled to clearly understand the concept of TMT in regards to many elements in the three core components, namely the project, strategic action field and mechanisms. Although the process of building the theoretical framework of this study took a long time,

TMT was extremely helpful to situate my research aim and objectives and analyse the vast amount of interview data to fulfil the purpose of this study. Qualitative descriptive research and FA were suitable methodological approaches with TMT as well. I tried to maintain rigorous research by following these theoretical and methodological stances. Especially, the use of FA ensured systematic and transparent research process (Burns and Grove, 2011, Green and Thorogood, 2014, Maggs-Rapport, 2001, Smith and Firth, 2011).

The study however acknowledges several limitations; overall, the study findings are limited in their ability to be generalised for other CMNs and CMRs working in different areas. They reflect interview data from just 32 CMNs and CMRs together with the researcher's analysis and interpretation of the data, noting that their information is quite subjective. The traditional sociologist may argue about the deductive approach to qualitative data in analysis because of the predetermined categories and using data tables rather than letting themes emerged during the analysis and providing patient quotations only. They might wish to explore and interpret the data in depth. It is true that I found it difficult to capture the complex phenomena around each research objective in full; the roles of CMN and CMR, their training and different CM approaches. It was apparent that the role could be interpreted in various ways in regards to the post, aims and responsibilities but the study is unable to compare the formal descriptions and guidelines around the roles from their organisations (local PCTs and hospital trusts) as it needs additional permissions and data collection methods. For the training of CMNs and CMRs, the title of education programmes was varied and the information on training was based on the memory of participants. As a result, it could be disputed by the programme providers from Universities or other educational institutions.

Moreover, their professional identity and acquired skills were often compared with existing health care professionals. For CMNs, their professional identity and clinical skills were aligned

with either generalists or specialists, but this is difficult to determine from this study alone. It was felt that there needs to be more information about detailed care activities and the different competency levels among the individuals. Also, needed was CMNs' own perspectives on what it means to be a generalist or a specialist. For CMRs, their linkage with GPs and efficient clinical intervention needed to be observed and discussed in comparison to CMNs, as the verbal information was not clear in this respect. It was thought that the training could have been studied singly and described in more depth. The key learning and intervention of CMNs and CMRs tended to be focused on the clinical side of care. This may be related to the professional backgrounds of participants and my nursing background. It is possible that CMNs and CMRs outside of this study and other researchers would interact with participants differently and interpret the data differently. Perhaps, a case study consisting of focus groups with different care professionals, observational study and diaries could have been useful.

The study is limited for the samples with non-clinical backgrounds such as social workers. As the majority of participants had nursing backgrounds, the influence of allied health care backgrounds is not strong enough to suggest nurses are more suitable for the CMR post. The study is further limited by balanced staffing against their work volumes. It would be helpful if the study compared the number of GP practices and the size of practices that were assigned to individual CMNs and CMRs in order to gain a clearer insight. This study did not consider the perspectives of local commissioners, senior managers (if any), GPs and other care professionals in regards to supporting CMN and CMR roles and arranging CM service in a particular way.

Although the data is very interesting and new, the small sample size offered is arguably of insufficient depth to explain and characterise the dynamic organising work of CM. It is regrettable that this study took an extended time to complete; this made it difficult to show any

changes in CM after the introduction of the health and social care act in 2012. CM can be one of the LTC models introduced in UK communities and is adopted selectively. It is not clear whether central government and local commissioners are still interested in this model. In fact, this study focused on the development of CM service without proving their effectiveness in patient health and cost saving. The findings and the implications of this study may already be acknowledged in current service in which the study outcome may not be so significant. Therefore, some of the study limitations may be considered and developed in future studies.

10.4   Recommendation for future work

10.4.1   Defining the professional identity of CMNs and CMRs in CM for complex LTCs

Further research aims to improve professional identity is needed. Firstly, CMNs and CMRs were given or introduced to others by different titles which could cause poor recognition of their roles and professional identity in CM for complex LTCs. It would be helpful to collate the perceptions of CMNs and CMRs about their job titles to understand how they feel these titles represent their work involved in CM. A focus group study or a survey with open and closed questions may be considered for this. Secondly, the roles of CMN and CMR needed to be clearer in their care responsibilities and activities which will determine the division of their labour in the health care system. We do not exactly know what kind of care they provide with detailed practice examples and how their professional skills can be utilised. Their possible nursing and medical care activities should be examined through close observation and an activity diary (or audio diary). This type of research has not been done for CM for people with complex LTCs except the care activities of CMRs from the old social care model (Bergen, 1994, Reilly et al., 2007, Weiner et al., 2003). Observing the work of CMNs and CMRs will increase our understanding of patients' various health and social care needs and gain much insight into their practice boundaries to support patients more efficiently. Their work may be

compared with existing care professionals such as district nurses and advanced nurse practitioners too by using case studies.

10.4.2 **Research developing practice-based single assessment tools for CM**

As proposed, introducing a unified health and social care assessment is very important for managing a growing population effectively. Two assessment tools can be considered, a basic assessment tool and CM assessment tool. Firstly, all registered adult patients with LTCs should be assessed not only for medical health but also social status from the onset of a LTC. As they grow older their condition can become complex so a unified CM assessment tools will be useful for updating patients who enrolled CM service and seek for right service. Research may examine the assessment tools that are used among local CM services and compare their usefulness with users' perceptions. Evidence related to social determinants of health assessment may be reviewed and adopted into a practice system.

10.4.3 **Research developing a practice-based case-finding tools**

The process of patient identification requires a more systematic approach since it only relied on hospital PARR data and referrals. In terms of policy and practice implications, this study suggested a practice-based case-finding system by installing systematic stratification tools. The usefulness of a practice information system has been mentioned already. PARR can be better utilised in the practices since there are most patient medical records. A pilot study with a few GP practices and hospitals is suggested with involving various expertise such as technicians, CM staff and practice staff.

10.4.4 **Research evaluating CMN and CMR training**

From the implication of findings, much further research is required for the education of CMN and CMR. Firstly, a comparison study that examines the number and the contents of advanced

nursing practice and CMN/CM related programmes among higher educational institutions would be interesting. The number and type of education programmes for CMNs may be examined through the search of higher educational institutions and open-ended survey questions to CMNs or advanced practitioners. Following this, interviews with university informants will be carried out to see why they considered designing a CMN programme, what barriers they've experienced in running the programme, and the possibility of providing a full-time course as part of the programme. Also, questionnaires can be used to examine the level of interest in working in community as a CMN or CMR with further education among the BSc nursing students or junior nurses. Overall, the affordability of a training programme may be evaluated for both self-funding and government funding based on the required number of CMNs and CMRs.

10.5 Conclusions

In conclusion, this study sought to enhance our understanding of the mechanisms of complex organising work of CM including the roles of CMNs and CMRs; training and learning to fulfil the two roles; different CM designs and systems supporting the roles. Through the use of TMT, the complex phenomena were explored with clear research strategy. Through, semi-structured interviews, evidence was found to suggest the common understanding of CMN and CMR roles in the reduction of service usage and improvement of quality of life for the benefit of the NHS and patients. It was acknowledged that the poor recognition of CMN and CMR roles was caused by insufficient service introduction at organisational and individual levels, weak professional identity and a lack of practice guidelines over other care professionals to deliver the service. The training and self-directed learning of CMNs and CMRs indicated a need for improving knowledge and the skills of managing common LTCs, and thus a need for a standardised education programme. Furthermore, CM needs to be designed and implemented systematically for the effective delivery of CM; by assigning an appropriate work volume to

staff; by organising formal links and agreed care pathways with other care professionals. The work volume of each CMN or CMR needs to take account of GP practice sizes, patient conditions, support staff and patient care duration. Each member of staff should be given clear responsibilities according to their skill set. Otherwise, the quality of CM services should be equalised across the country. To incorporate the different levels of linkage and integrated working with other care professionals, the target patients, case-finding, assessment tools and the service provision should be unified within local CM services, so that CMNs and CMRs can perform more autonomously. Therefore, it is hoped that the findings of the study will help policy makers, health care professionals and researchers to improve their work in the management of a growing population of LTCs in the UK and elsewhere.

Appendixes

A.1.   Participant invitation Letter

Research: "Implementing case management successfully: exploring the experiences of case managers and community matrons in rural and urban areas" (Ethics No: 11/EM/0182)

Date:

Dear Sir or Madam

My name is Mi-young Kang and I am currently studying a PhD in Health and Social Policy at the University of Durham. I am carrying out research as a part of my PhD course and the research topic is "Implementing case management successfully: exploring the experiences of case managers and community matrons in rural and urban areas". The purpose of this study is to explore various factors that best facilitate case management among case managers and community matrons, and to identify the factors that have led them to carry out their role successfully.

This research will contribute to evidence that may enhance the services of case management and its implementation in the future. This study received ethical approval from the NHS Ethics Governance and each Primary Care Trusts (PCTs) Research Governance **(Ethics no:).**

You have been selected because you are currently posted as a case manager/community matron in your trust. Therefore, I am writing to ask if you would wish to participate in my study. You will find more information about what this study involves from the attached information sheet. I will go through the information sheet with you and answer any questions you have. I would suggest the interview should take approximately 60 minutes. Please take time to read the information carefully before making a decision and talk to others about the study if you wish.

If after having read the information sheet, you are interested in taking part in the study, I would be very grateful if you could complete the attached reply slip and return it in the pre-paid envelope provided. If you have any questions, please contact Mi-young Kang (mobile: 078 8198 5670).

I appreciate your interest and look forward to hearing from you.

Yours faithfully

Mi-young Kang
PhD student in Applied Social Sciences, University of Durham

A.2. Participant Information Sheet

Researcher
Mi-young Kang (mi-young.kang@durham.ac.uk)
School of Applied Social Sciences, Durham University

Research Title
"Implementing case management successfully: exploring the experiences of case managers and community matrons in rural and urban areas"
(Ethics No: 11/EM/0182)

What is the purpose of the study?
Case management has been used to support the most vulnerable people with long-term conditions. Therefore, case managers and community matrons are key health care professionals to implement the service. The study is interested in the different case management services in rural and urban, and team-based and practice based case management. The researcher believes that there will be difference in service provision, resources, and communication within the work setting. This is important because case managers and community matrons work closely with other health care professionals. The purpose of this study is to explore good models of case management from their experiences. The results of the study will help to understand the case managers and community matrons' working world, and contribute to provision of the service.

Why have you been invited?
You have been selected because you currently work as a case manager/community matron. Permission was sought from the PCT or Hospital Trusts you work for to give this information pack to all case managers/community matrons. The study aims to recruit 30 case managers and community matrons from across the North of England.

Do I have to take part?
Taking part in this study is voluntary and it is up to you to read all the information and decide whether you would like to take part or not. If you decide to participate, you will be asked to sign a consent form but you are still free to withdraw at any time without giving a reason.

What will happen to me if I take part?
In this information pack, an interview guide will give you an idea of what the interview questions will involve. It is hoped that you will take part in an audio-recorded interview that could last up to an hour (60 minutes). After having read the information, if you are still interested in taking part in the study, please send the reply slip back to the researcher, Mi-young Kang in the enclosed pre-paid envelope. She will then contact you by telephone to arrange the interview place, date and time. The researcher will either travel to your home or practice for the interview whichever you prefer. Prior to commencing the interview, we will discuss any questions you may have and explain your rights. You will be then asked to sign a consent form. If you have any questions or concerns please contact Mi-young Kang on 078 8198 5670.

What are the possible disadvantages and risks of taking part?
It is not envisaged that there will be any direct risk to you by taking part. The researcher will do her best to minimise any inconvenience and disruption for you. You can decide not to take part or stop during the interview with no further consequences. The study is interested in all experiences of participants in case management; there will be no right and wrong answers so you will not be judged on what you say.

What are the possible benefits of taking part?
This study will have no direct benefits for you. However, it may offer you a chance to share your experiences. It is hoped that the information gathered in this study may contribute to developing the case management services including recruitment, performance and training course for case mangers/community matrons in the future.

What happens when the research study stops?
At the end of the study, the results will be presented as a dissertation for a PhD qualification and may be published in a research paper. All written information collected will be retained for 5 years and the audio records will be deleted at the end of the study. If you would like to know the result of the study, a summary will be provided at the end of the project.

What will happen if I do not want to carry on with the study?
You are free to withdraw from the research project at any time without any consequences or explanation. If you wish to discontinue during the interview, the interview will be stopped and you will be asked whether you want the researcher to include or exclude the gathered information in this study. If you so wish, any recorded information that is still identifiable as yours will be deleted.

What if there is a problem?
It is unlikely that you will be harmed in any way by taking part in this study. However, any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. If you have a concern or a complaint about this study, you should contact the researcher (MI-young Kang on 078 8198 5670) who will do her best to answer your question. If you remain unhappy and wish to complain formally, you can contact Helen Charnley from the School of Social Sciences (SASS) ethics committee at the University of Durham (Address: The University of Durham, 32 Old Elvet, Durham, DH1 3HN; Tel: (0191) 33 41470); email: h.m.charnley@durham.ac.uk). She can provide you with details of the University of Durham Complaints Procedure.

Will my taking part in this study be kept confidential?
During the data collection, your name will be coded as a number on the audio-record at the interview and within the data analysis process such as P1, P2, P3, etc. All the information that is collected about you during the research process will be kept confidential Your name and address will not appear in any papers and your name will be coded as a pseudonym in the paper so that no one will recognise it. For example, Kate will be replaced as Esther. Your information will be kept in a secure locked drawer and the electronic data will be kept in the researcher's password

protected computer. Your information will be only discussed between the researcher and supervisor.

What will happen to the results of the research study?
The results of the study will be presented as a dissertation for a PhD qualification and may be published in a research paper. If you would like to know the results of the study, a summary will be provided.

Who is organising and funding the research?
The researcher is organising and funding the study. The study will be sponsored and insured by the Durham University. They will take ultimate legal responsibility for this study and be legally liable in the case of any harm.

Who has reviewed the study?
The research has been discussed with my two supervisors Prof. Ian Greener and Dr. Tiago Moreira. This study has been reviewed and given a favourable opinion by the School of Social Sciences (SASS) Ethics Committee and Nottingham Research Ethics Proportionate Review Sub-Committee.

Contact for further information:
If you would like any further information, please contact Mi-young Kang on 078 8198 5670.

THANK YOU FOR READING THIS INFORMATION SHEET.

Mi-young Kang
Durham University
Elvet Riverside 2
New Elvet
Durham
DH1 3JT

Mobile: 078 8198 5670
Email: mi-young.kang@durham.ac.uk

A.3. Interview Guide

Research: "Implementing case management successfully: exploring the experiences of case managers and community matrons in rural and urban areas" (Ethics No: 11/EM/0182)

The study is interested in hearing stories and experiences in case management. This interview guide shows main interview questions related to participants' background, roles, caseload, working environment. All participants will be asked the same seven questions but the probes and order of questions may be slightly amended depending on the participants' interests.

1. Would you briefly tell me about yourself?
   For example; age, duration of case management, job grade and professional background

2. Could you tell me if you had any training or qualifications for the post of case manager/community matron?

3. Could you describe your daily tasks?

4. How many patients do you have on your caseload?

5. Could you tell me about your working environment?
  - Where do you work?
  - Who do you work with?
  - What is the level of service provision to meet patients' needs in your region?

5. In your experience, what has been most helpful in implementing your role as a case manager/community matron?

6. If possible, please say if you have faced any difficulties or barriers whilst performing case management duties?

7. Is there anything else that you would like to talk about in relation to this topic?

A.4.   Reply Slip

Research: "Implementing case management successfully: exploring the experiences of case managers and community matrons in rural and urban areas" (Ethics No: 11/EM/0182)

I am interested in finding out more about the following study:

"Implementing case management successfully: exploring the experiences of case managers and community matrons in rural and urban areas"

Name:

Date:

Could you include your contact number and address (or write on the envelope)

Contact No:

Address:

Please return this reply slip in the stamped addressed envelope attached, to:

Mi-young Kang
Durham University
Elvet Riverside 2
New Elvet
Durham
DH1 3JT

The information of this reply slip will be destroyed at the end of the study.

A.5.   Consent Form

Title of project: "Implementing case management successfully: exploring the experiences of case managers and community matrons in rural and urban areas"
Name of Researcher: Mi-young Kang
(Ethics No: 11/EM/0182)

Please Initial box

1. I confirm that I have read and understood the information sheet dated 26/04/11 (version 1.0) for above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand my participation is voluntary and that I am free to withdraw at any time without giving any reason.

3. I understand that relevant sections of data collected during this study may be looked at by individuals from University of Durham, from regulatory authorities or from the NHS trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.

4. I consent to the interview being audio-recorded.

5. I consent the possible use of annonymised quotes in the final dissertation, and any subsequent publications or conferences.

6. I would like to receive summary of the results.

7. I agree to take part in the above study.

……………………………   …………………….. ……………………..
Name of participant   Date   Signature

8. I have explained this study to the above participant and have sought his/her understanding for informed consent.

……………………………   …………………….. ……………………..
Name of researcher   Date   Signature

16/05/2011 (version1.1)

A.6.   NHS Ethics approvals

NHS

National Research Ethics Service

NRES Committee East Midlands - Nottingham 2

The Old Chapel
Royal Standard Place
Nottingham
NG1 6FS

Telephone: 0115 8839390 (Direct Line)
Facsimile: 0115 9123300

23 May 2011

Mrs Mi-Young Kang
PhD student
Full time PhD Student
Durham University
Elvet Riverside 2
New Elvet
Durham
DH1 3JT

Dear Mrs Kang

Study title:	**Implementing case management successfully: exploring the experiences of case managers and community matrons in rural and urban areas**
REC reference:	**11/EM/0182**

The Proportionate Review Sub-committee of the NRES Committee East Midlands - Nottingham 2 Research Ethics Committee reviewed the above application on 23 May 2011.

Ethical opinion

On behalf of the Committee, the sub-committee gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation, subject to the conditions specified below.

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk.

This Research Ethics Committee is an advisory committee to East Midlands Strategic Health Authority
The National Research Ethics Service (NRES) represents the NRES Directorate within the
National Patient Safety Agency and Research Ethics Committees in England

WPH 1370

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R&D Unit reference: HHC-A01955

Mrs Mi-Young Kang
Applied Social Sciences
University of Durham
Elvet Riverside 2
New Elvet
Durham DH1 3JT

26th August 2011

York Hospitals **NHS**
NHS Foundation Trust

North and East Yorkshire Alliance R&D Unit
Main Office: Learning and Research Centre
York Hospitals NHS Foundation Trust
York
YO31 8HE

Tel: (01904) 726996
Fax: (01904) 731297

Dear Mrs Kang

www.northyorksresearch.nhs.uk

NHS Permission to undertake a research study

Trust: Harrogate and District NHS Foundation Trust
Trial Title: Implementing case management successfully: exploring the experiences of case managers and community matrons in rural and urban areas
Ethics Committee Favourable Opinion dated: 23rd May 2011

Thank you for submitting details of this study for NHS Permission from the above-named Trust, which is a member of the North and East Yorkshire R&D Alliance.

I confirm that the study has NHS Permission and can now begin in the Trust.

Please note that the study must be conducted in accordance with the approved protocol, the Department of Health *Research Governance Framework for Health and Social Care* and any applicable legislation.

Please check that you are aware of the sponsor's Standard Operating Procedures that are applicable to this study. If your study is sponsored by the Trust, please refer to the Standard Operating Procedures published on the Unit's website www.northyorksresearch.nhs.uk. These should also be used as a default for externally sponsored studies where the sponsor does not have its own procedure or where there are gaps in the sponsor's procedure due to local circumstances.

Please note that this NHS Permission applies only to those documents granted a favourable ethical opinion on the above date. Please ensure that you notify the R&D Unit if there are any amendments to the study or when the study has ended and send me details of any publications that result from it.

May I wish you every success with the study.

Yours sincerely

Caroline Mozley
On behalf of Harrogate and District NHS Foundation Trust

cc: Liz Cook; Dr Alison Layton

The R&D Service for: NHS East Riding of Yorkshire, Harrogate and District NHS Foundation Trust, NHS Hull, NHS North Yorkshire and York, York Hospitals NHS Foundation Trust

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Harrogate and District NHS
NHS Foundation Trust

R&D Unit reference: HHC-A01955

Mrs Mi-Young Kang
Applied Social Sciences
University of Durham
Elvet Riverside 2
New Elvet
Durham DH1 3JT

Harrogate District Hospital
Lancaster Park Road
Harrogate
HG2 7SX

Telephone: (01423) 885959
www.hdft.nhs.uk

26th August 2011

Dear Mrs Kang

Re: Pilot to test implementation feasibility and acceptability of a delirium prevention system of care

The information supplied about your role in this research project has been reviewed and you do not require an honorary research contract. The purpose of this letter is to clarify your responsibilities while you are conducting research in Harrogate and District NHS Foundation Trust.

Your activities will be overseen by Becky Case who is employed by the Trust.

You are considered to be a legal visitor to Trust premises. You are not entitled to any form of payment or access to other benefits provided to employees and this letter does not give rise to any other relationship between you and the Trust(s), in particular that of a contract of employment.

You must act in accordance with Trust policies and procedures, which are available to you upon request and must observe the same standards of care and propriety in dealing with patients, staff, visitors, equipment and premises as is expected of Trust staff. You must also act in accordance with the Research Governance Framework for Health and Social Care.
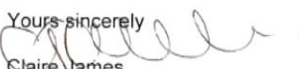
You are required to ensure that all information regarding patients or staff remains secure and strictly confidential at all times. You must ensure that you understand and comply with the NHS Confidentiality Code of Practice and the Data Protection Act 1998. You should be aware that under the Act, unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.

You should ensure that where you are issued an identity or security card, a bleep number, email or library account, keys or protective clothing, these are returned on termination of this arrangement. Please also ensure that while on the premises you wear an ID badge at all times or are able to prove your identity if challenged.

Please note that the Trust accepts no responsibility for damage to or loss of personal property.

Any breach of these requirements will result in withdrawal of the access conferred in this letter and will be notified to your employer or academic supervisor. Your substantive employer or academic institution is responsible for your conduct during this research project and any breach may therefore result in disciplinary action against you. Any breach of the Data Protection Act 1998 may result in legal action against you and/or your substantive employer.

Yours sincerely

Claire James
Resourcing Officer

HR Directorate

Airedale General Hospital
Skipton Road
Steeton Keighley
West Yorkshire   BD20 6TD
Fax: 01535 294362
Direct Line: 01535 294877
Email : human.resources@anhst.nhs.uk

Airedale **NHS**

NHS Foundation Trust

12th August 2011

Mrs Mi-Young Kang
Flat 111
Horniman House
66 Grafton Street
MANCHESTER
M13 9NT

Dear Mrs Kang

Letter of access for research
Project Title: Implementing case management successfully: exploring
the experiences of case managers and community matrons in rural and
urban areas.

This letter confirms your right of access to conduct research through Airedale NHS Foundation Trust for the purpose and on the terms and conditions set out below. This right of access commences on 12th August 2011 and ends on 11th August 2012 unless terminated earlier in accordance with the clauses below.

You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from this NHS organisation. Please note that you cannot start the research until the Principal Investigator for the research project has received a letter from us giving permission to conduct the project.

The information supplied about your role in research at **Airedale NHS Foundation Trust** has been reviewed and you do not require an honorary research contract with this NHS organisation. We are satisfied that such pre-engagement checks as we consider necessary have been carried out.

You are considered to be a legal visitor to Airedale NHS Foundation Trust premises. You are not entitled to any form of payment or access to other benefits provided by this NHS organisation to employees and this letter does not give rise to any other relationship between you and this NHS organisation, in particular that of an employee.

While undertaking research through Airedale NHS Foundation Trust you will remain accountable to your employer University of Durham but you are required to follow the reasonable instructions of **Fiona Hewitt, Matron, Surgical** in this NHS organisation or those given on her/his behalf in relation to the terms of this right of access.

Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by this NHS organisation in

Associated Teaching Hospital of the University of Leeds School of Medicine

NHS SalfoR+D Director:	Professor Bill Ollier
R&D Lead:	Rachel Georgiou
Enquiries:	Email: Salford-Regroup-RD@manchester.ac.uk
	Tele: 0161 206 8343
	Fax: 0161 206 4205
SalfoR+D web address:	http://www.nhssalfordrd.org.uk/
ReGrouP web address:	http://www.gmregroup.nhs.uk/index.html

12th July 2011

Mrs Mi-Young Kang
PhD student
University of Durham
Department of Applied Social Sciences,
Elet River Side 2,
New Elvet,
Durham
DH1 3JT

Dear Mi-Young

Study Title: Implementing case management successfully: exploring the experiences of case managers and community matrons in rural and urban areas
REC Reference: 11/EM/0182
R&D Reference: 2011/128

This letter confirms your right of access to conduct research through the following organisation for the purpose and on the terms and conditions set out below:

- Bolton PCT
- Salford Royal NHS Foundation Trust

This right of access commences on 12th July 2011 and ends on 12th July 2014 unless terminated earlier in accordance with the clauses below.

You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from this NHS organisation. Please note that you cannot start the research until the Principal Investigator for the research project has received a letter from us giving permission to conduct the project.

The information supplied about your role in research at the above mentioned NHS Organisation has been reviewed and you do not require an honorary research contract with these NHS organisations. We are satisfied that such pre-engagement checks as we consider necessary have been carried out.

You are considered to be a legal visitor to the Trust premises. You are not entitled to any form of payment or access to other benefits provided by the Trust to employees and this letter does not give rise to any other relationship between you and this NHS organisation, in particular that of an employee.

While undertaking research through the Trust you will remain accountable to your employer but you are required to follow the reasonable instructions of the heads of the relevant NHS Departments in this NHS organisation or those given on her/his behalf in relation to the terms of this right of access.

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| NHS SalfoR+D Director: | Professor Bill Ollier |
| R&D Lead: | Rachel Georgiou |

Enquiries:	Email: Salford-Regroup-RD@manchester.ac.uk
	Tele: 0161 206 8343
	Fax: 0161 206 4205

| SalfoR+D web address: | http://www.nhssalfordrd.org.uk/ |
| ReGrouP web address: | http://www.gmregroup.nhs.uk/index.html |

25th July 2011

Mrs Mi-Young Kang
PhD student
University of Durham
Department of Applied Social Sciences,
Elet River Side 2,
New Elvet,
Durham
DH1 3JT

Dear Mi-Young

Study Title: Implementing case management successfully: exploring the experiences of case managers and community matrons in rural and urban areas
REC Reference: 11/EM/0182
R&D Reference: 2011/128

This letter confirms your right of access to conduct research through the following organisation for the purpose and on the terms and conditions set out below:

- Trafford PCT

This right of access commences on 25th July 2011 and ends on 12th July 2014 unless terminated earlier in accordance with the clauses below.

You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from this NHS organisation. Please note that you cannot start the research until the Principal Investigator for the research project has received a letter from us giving permission to conduct the project.

The information supplied about your role in research at the above mentioned NHS Organisation has been reviewed and you do not require an honorary research contract with these NHS organisations. We are satisfied that such pre-engagement checks as we consider necessary have been carried out.

You are considered to be a legal visitor to the Trust premises. You are not entitled to any form of payment or access to other benefits provided by the Trust to employees and this letter does not give rise to any other relationship between you and this NHS organisation, in particular that of an employee.

While undertaking research through the Trust you will remain accountable to your employer but you are required to follow the reasonable instructions of the heads of the relevant NHS Departments in this NHS organisation or those given on her/his behalf in relation to the terms of this right of access.

University Hospital of South Manchester NHS
NHS Foundation Trust

Research & Development Directorate
Ground Floor, Education & Research Centre
Tel: 0161 291 5768 Fax: 0161 291 5771
Jennifer.boyle@manchester.ac.uk

Wythenshawe Hospital
Southmoor Road
Wythenshawe
Manchester
M23 9LT

Tel: 0161 998 7070

Mrs Mi-Young Kang
PhD Student
University of Durham
Department of Applied Social Sciences
Elvet River Side 2
New Elvet
Durham
DH1 3JT

2nd September 2011

Dear Mrs Kang

Study Title: **Implementing case management successfully: exploring the experiences of case managers and community matrons in rural and urban areas.**

R&D Ref: **2011RB004**
REC Ref: **11/EM/0182**

Thank you for providing us with all of the documentation for the above mentioned research project.

This research project has now been given R&D Management Approval.

Please note it is a requirement of the approval given by the Trust that the research project is being conducted in line with the guidance given within the Research Governance Framework as issued by the DH: (from the R&D website www.researchdirectorate.org.uk click on the link 'Carrying out research').

May I also draw to your attention the need to comply with the Health & Safety at Work Act, the Data Protection Act and the Human Tissue Act 2004.

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Chairman - Felicity Goodey, CBE, DL
Chief Executive - Julian Hartley, BA, MBA

UHSM
Your Hospital

City Health Care Partnership

City Health Care Partnership CIC
2 Earls Court
Priory Park East
Henry Boot Way
Hull
HU4 7DY
Tel: 01482 347643
Fax: 01482 347621
Employee Resources Directorate

Date: 17th November 2011

Dear Mrs Mi-Young Kang,

Study title: Implementing case management successfully: exploring
                      the experiences of case managers and community
                      matrons in rural and urban areas

REC reference: 11/EM/0182

The Proportionate Review Sub committee of the NRES Committee East Midlands
Nottingham 2 Research Ethics Committee reviewed the above application on 23 May 2011

Ethical opinion

On behalf of the Committee, the sub committee gave a favourable ethical opinion of the
above research on the basis described in the application form, protocol and supporting
documentation, subject to the conditions specified below.

This letter confirms your right of access to conduct research through City Health Care Partnership CIC (CHCP CIC) for the purpose and on the terms and conditions set out below. This right of access commences on 17th November 2011 and ends on 31st March 2013 unless terminated earlier in accordance with the clauses below. You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from this organisation. Please note that you cannot start the research until the Principal Investigator for the research project has received a letter from us giving permission to conduct the project.

The Project Specific HR passport information supplied about your role in research at **CHCP CIC** has been reviewed and you do not require an honorary research contract with this organisation. We are satisfied that such pre-engagement checks as we consider necessary have been carried out. You are considered to be a legal visitor to **CHCP CIC** premises. You are not entitled to any form of payment or access to other benefits provided by this organisation to employees and this letter does not give rise to any other relationship between you and this organisation, in particular that of an employee. While undertaking research through **CHCP CIC**, you will remain accountable to your employer (**Professor Ian Greener and Dr. Tiago Moreira, Senior Lecturer, SASS, University of Durham**) but you are required to follow the reasonable instructions of **Mrs Lynda Whincup, Operational Services Director**, in this organisation or those given on her behalf in relation to the terms of this right of access.

Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by this organisation in connection with any such claim and to give all such assistance as may reasonably be required regarding the conduct of any legal proceedings. You must act in accordance with **CHCP CIC** policies and procedures, which are available to you upon request, and the Research Governance Framework.

Providing Quality Care

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PART E: OUTCOME OF APPLICATION

Please tick

a) The proposal is satisfactory and should be accepted as it stands.	✓
b) The proposal should be accepted subject to the conditions noted below.	
c) The proposal is accepted subject to approval of an NHS or Social Services Ethics Committee	
d) (If applicable) The proposal is accepted and any necessary external approval has been granted.	
e) The applicant should submit a new/revised proposal in the light of the comments noted below.	

Comments *(for forwarding to the applicant)*

Signed ...... *Helen Charnley* ...... Date ...... 5 May 2011 ......

Name (block capitals) ...... HELEN CHARNLEY ...... Designation ...... Director PGR ......

A COPY OF THE APPROVED FORM MUST BE KEPT ON FILE.
STUDENTS ON TAUGHT PROGRAMMES MUST SUBMIT A COPY OF THE APPROVED
FORM TO THE RELEVANT PROGRAMME SECRETARY .

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A.7. Example of field note and interview questions

Interview Guide

1. **Would you briefly tell me about yourself?**
   - ☐ How old are you?
   - ☐ What is your **job title**?
   - ☐ Do you have any other **specific job title** or position?
   - ☐ **How long** have you **worked** as a case manager or community matron?
   - ☐ If it's possible could you tell me your **job grade**?
   - ☐ What kind of professional **background** do you have?
   - ☐ Where did you **work before**?
   - ☐ What did you do?

2. **Could you tell me if you had any training or qualifications for the post of case manager / community matron?**
   - ☐ What is your highest level of **education**?
   - ☐ Did you have **any training** for the post of case manager?
   - ☐ If you can remember, could you tell me more about the **training** related to its contents, length and quality?
   - ☐ What did you **learn** from the course or each session?
   - ☐ What was the **duration** of the course?
   - ☐ How did you get **benefit** from the training?
   - ☐ How do you **feel** about the training?
   - ☐ Do you have any suggestions to **improve** the training?
   - ☐ What are the **helpful factors** to gain the clinical knowledge?

3. **Could you describe your daily tasks?**
   - ☐ Identify pt, accessing, visiting
   - ☐ How do you **identify** patients?
   - ☐ **How** patients are referred to your service? by GPs, physiotherapist, District nurse or a department manager in hospital?
   - ☐ Where the **majority** of the referrals are made?
   - ☐ Could you explain about the **dashboard** system?
   - ☐ How do you identify patients with dashboard information?
   - ☐ What kind of information can you get from the board?
   - ☐ What is your **target** patients group?
   - ☐ Do you have any **criteria** for identification?
   - ☐ Can you access the system anywhere in NHS organizations?
   - ☐ What is the next step after identify the pts?
   - ☐ Can you describe the **care process** for a patient?
   - ☐ How do you **assess** patients?
   - ☐ Is there any **assessment tool**?
   - ☐ How many **visits** do you have in a day?
   - ☐ When is the **purpose** of the visits?
   - ☐ What kind of support do you offer to patients at the visits?
   - ☐ Do your **patients contact** you for medical help?
   - ☐ What are the most **frequent reasons** of the calls?
   - ☐ How do you **organise services** to meet the patient's needs?
   - ☐ What do you think the **major contribution** of case management to LTCs?
   - ☐ What have you felt most **important roles** of case management?

4. **How many patients do you have on your caseloads?**
   - ☑ What are the range of **patients' age**?
     - ○ Do you have younger than 40 years old patients?
     - ○ What is the main age properties in your patients?
   - ☑ **What kind** of long term conditions do they have?
     - ○ Main long term?
   - ☐ How patients are **allocated** to each team members?
   - ☐ How do you feel about your **caseloads size**?
     - ○ too much - what is the best size? / why?
   - ☐ When pts **discharge** from case management?
   - ☐ Do you inform patients for their discharge?

5. **Could you tell me about your working environment?** *Settg. structure,*
   - ☐ Where do you work?
   - ☐ Where is your office based?
   - ☐ When did your case management service **set up** in your trust?
   - ☐ Who do you work with?
   - ☐ If it's possible, can you tell me about your **team members**?
     - ○ What kind of **background** do they have?
     - ○ Are there any **differences** in roles or positions?
     - ○ Do you have **specific roles** in your team?

   where the CM should be located?
   Setts.
   Wht kind of enviromt fuctors help you to play well?

   - ☐ Do you **manage** your patients **independently** or do you manage your patients with your colleagues **together**?
     - ○ Independently
     - ○ Colleagues together- Could you tell me how you and colleagues provide care together for a patient?

   - ☐ What are the advantages and disadvantages of working in the **service setting** like yours?

   - ☐ Does your **trust support** case management service enough?
     - ○ Yes → what kind of support your trust provided for the development of CM?
     - ○ No → what kind of support do you wish to receive from your trust?

   - ☐ What do you think about **service provision** in your region? (You organise other health and social services to meet the patients' needs)
   - ☐ Do you have **links** with local health and social services?
     - ○ What kind of the links to the local health and social services do you have?
     - ○ How have you built relationship with other HCPs within the local services?

   - ☐ Please tell me about your experience, when you initially joined as a case manager,
     - ○ How did you **introduce** case management to each organisations?
     - ○ Where have you been introduced your service?
     - ○ How did they **response** when you introduced your service?

   - ☐ Please tell me, what kind of service have you been **referred** and recommended to your patients?
     - ○ How did the service delivered to your patients?
     - ○ Are other health and social care professionals cooperative on your referrals?
       Yes / No → why do you think?

   - ☐ Do you think case management is well **recognised** by other Health care professionals?
     - ○ Yes → how do they recognise case management well?
     - ○ No → what is the main problems for the low recognition?
       → do you have any suggestions to improve introduction of case management?
   - ☐ Is there any advantages and disadvantages in working in **urban areas**?
   - ☐ What are the advantages and disadvantages in working in the **rural area** like North Yorkshire?
   - ☐ Are there any differences of working between PCT and hospital trust?

6. **In your experience, what has been most helpful in implementing your role as a case manager/community matron?**

7. **If possible, please say if you have faced any difficulties or barriers whilst performing case management duties?**

8. **Is there anything else that you would like to talk about in relation to this topic?**

✓ **Check Point**
   ☐ **Patient Survey Pack** ☐ **Consent**

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A.8. Examples of indexing

P	important role or role (Raw codes)	Indexes
1	the idea is to prevent people going to other urgent care services (12)	Prevent inappropriate hospital adm
2		
3	Proactive management for LTCs PTs who can be empowered to manage themselves. Prevent inappropriate hospital adm (8),	Proactive management for LTCs Prevent inappropriate hospital adm Empowering PT self-care
4	Care co-ordination and advocacy (19). Relationship building (37).	care co-ordination advocacy Relationship building
5	Don't provide direct PTs care but help nurses and carers both to communicate other organisations and get support they need.-care co-ordination Provide information. Ask clinicians seeing problems in the nursing residence homes and working partnership with GPs to sort the problems (10). CM role is focused on enabling, facilitating, improving nursing home services (11). PTs eating and drinking, maintain weight, tissue break down, aspiration infections, nutritional status....which lead many admissions(13).-Improve nursing home service important role: caring palliative way.	care co-ordination Provide information Improve nursing home service Caring palliative way
6	Saving care cost and improves quality of life. Empowering self-care with supervision (7).	saving care cost Improve quality of life Empowering PT self-care
7	Making sure PTs are well, physically and mentally-Proactive management for LTCs this prevent hospital admission. Empowering PTs which lead concordance (9). Improving quality of life.	Proactive management for LTCs Improve quality of life Empowering PT self-care
8	Gives PTs continuity in care (high GPs turnover rate affect following PTs condition, what is normal and what is not for them (6)	Continuity in care
9	Try to keep PTs home (9) Care co-morbidity, frequent user of services (10)-Proactive management for LTCs Pts care is most important role (11).	Keeping PT home Proactive management for LTCs PT care
10	Care co-ordination and being advocate for PTs (5). Holistic care, continuity care, gives PTs confidence (10).	care co-ordination advocacy Holistic care Continuity in care Empowering PT self-care
11	Review PTs medication to reduce cost.-saving care cost Reduce hospital adm, Reduce GP visits- reduce service usage Important role: Pts care at right time and place-Proactive management, being able to prescribe (20)	saving care cost Reduce service usage Proactive management Prescribing skill
12	Medication review, more indepth assessment, more holistic (5) Keep up to date to be professional all the time, use what is around (for mentor, colleague, GP, different services...)(18) -Professional development	Medication review In-depth assessment Holistic care Professional development
13	Prevent hospital admission, PTs don't want go to hospital, PTs feel better if they've been seen (12)-Keeping PT at home	Prevent inappropriate hospital adm Keeping PT home
14		
15		
16	Being Co-ordinator: It's been that hope and that person who got compete control over the whole multidisciplinary team, making sure that everything happen (17) I don't think there is another service is like that. They do all bits and back out again (18) Stopping PT hospital admission and also keep PTs out of hospital (9)	care co-ordination Prevent inappropriate hospital adm Keeping PT home

17	preventing hospital admissions (4) Health promotion role, at the top end that are more poorly, so we have to monitor their symptoms (5) Help PTs to be self-managing (10)	Prevent inappropriate hospital adm Health promotion role Empowering PT self-care
18	Role manage the PTs better at home, -Keeping PT home try to educate them to better to their condition,-Empowering PT self-care treat them early to prevent hospital admission (11). Managing PTs with anxiety, a liaising service for PTs needs (12). Closely monitor,-continuity in care managing end of life PTs (13)-Caring palliative way	Keeping PT home Empowering PT self-care Prevent inappropriate hospital adm care co-ordination Caring palliative way Managing PTs with anxiety
19	Prevent hospital admission PTs discharge in timely and appropriate manner from secondary or acute care .- Support discharge (7) Have close link with acute hospital-Relationship building (8) 70% of the role is nursing and 30% of the role is social role (9).	Prevent inappropriate hospital adm Support discharge Relationship building Ability to do both nursing and social role
20	Just support nursing homes, try to prevent hospital admissions and to accelerate PTs discharge from the hospital (7).	support nursing homes Prevent inappropriate hospital adm Support discharge
21		
22	Support People with LTCs to be able to self-manage better (12)	Empowering PT self-care
23		
24	Reduce hospital admission and GP visits (11)-Reduce service usage Keep PTs in safe home by co-ordinating and communicating other services which is most important thing (12)-Keeping PT home	Reduce service usage Keeping PT home
25	Prevent hospital admission Big part of role is co-ordinating (6)	Prevent inappropriate hospital adm care co-ordination
26	Visit PTs who are mainly house-bound to be able to co-ordinate their care (11)	Care of house-bound PTs care co-ordination
27		
28	Helping PTs with LTCs to manage better. Preventing unnecessary hospital admissions and GP call out. Managing people' social circumstances (9). Working closely with other agencies for PTs care (11)	Reduce service usage (hospital and GP) Empowering PT self-care Working closely with other agencies Managing social circumstances
29		
30	Reduce hospital admission and GP visits (10)	Reduce service usage (hospital and GP)
31	It's about educating PTs about what would make their life easier and conditions they have (15)-Empowering PT self-care	Empowering PT self-care

Issues (indexes)	Difficulties (Raw codes)
Empowering patients	Empowering patients to manage themselves: 1, 5, Difficult to let patients take part of their care: 14 Many elderly patients don't see the value in changing:14
Managing patients	Managing heart failures ones: 2 End of life patients, grey area: 2 Some patients don't respect professional boundaries: 8 patients with mental problem: 9, 17 (anxiety) patients who don't response to the service provided: 10, 25 Some panicky patients: 12 patients who don't take medication properly:12 Encouraging patients who have fear of death: 13 patients with Parkinson's disease: 13, 16 patients who doesn't care: 15 patients with multiple LTCs or poly-pharmacy: 18 Some patients don't accept the service: 26 Time management: 6 Build up trust with patients: 23 Covering somebody's patients at absence: 4
Caseload	Over 20 patients is difficult for manager: 1 Managerial role take a lot of time rather than patients care: 9 Building caseload took length of time: 23 Caseload of 44 is big with three days of work: 26 Difficult to perform effective CM with large caseload: 30
Lack of recognition	lack of understanding of the CM role: 1, 2, 10, 12, 14, 18, 32 a lot more about CM role, not just about stopping hospital admissions: 23 colleagues find difficult to accept her new role: 8 Being accepted by fellow professionals: 19 confused with care manager in social service: 24 educating other professional about the role: 31
Proving the effectiveness	Saving cost: 1 Visualise the work: 1 Difficult to say making a difference: 6 No measurement with control group: 6
Perception of other professionals	CM is part of their role:1 some GPs and some practice nurses get threatened by the CM post: 2, 23 Some GPs didn't want service: 12
Barriers with GPs	Barriers with GPs: 3 Doubt about prescribing skill and taking on advanced role: 8 GPs didn't refer to the services for long time: 13 Not enough referrals: because it's not mandatory: 15 High expectation of GPs on CM: Could do more with support from GPs: 18 Practice demanding a lot of things: 26 Not allowed to see GPs: 13 Don't have meetings: 13, 17 Sharing information: can't access GP site due to confidentiality: 17
Lack of co-operation from other professions	Lack of co-operation from other professions: 9 deprived area and single handed practice: 13 GPs don't do anything when CM report patients poor condition: 13 No response from other agencies: 29 Some Practice do not refer to service: 31 Social service didn't want share patients information at start: 32 Communication: GP don't response on system one: 17 Don't co-operate with flagging system: 16 Sharing equipment with DNs: 23 No on-going mentorship on medical perspective: 6

Getting start	No model to follow: 4 Trying to work differently: 6, 8 Felt under skilled, hadn't done training many years: 7 Both Practice and CMN didn't know what supposed to do: 9 No template for the new role: 19 Medical approach is difficult: 6 Multidisciplinary approach: 6 No help from trust in introduction, I just sell myself: 13 fitting the study and working at the same time: 8 Isolated: 27 (Lack of experience)
Relationship building	Make people understanding the role: 4 Communication across different organisation: 5 Making referrals: some services should make through GP: 8 Takes a lot of time, poor response: 14 Keep going and out: 25
Changes	ORGs keep changing: 4 A lot of restructuring services: 22
Reporting system	Duplication in writing information: 4 Performance indicator: take off sight of logical action: 4
Lack of role clarity	Difficult to define CM role: 5 Other people don't understand why CMNs are there at start: 9 Lack of role clarity and understanding at start: 24 Mix team CMNs, CMRs had a lot of issues around role: 14 Confusing to have two separate post CMN and CMRs: 8 (service call CMN service) Difficult to draw line for inclusion criteria: 2 Title of CMN: Community matron, it seemed be big deal for patients:8, 9
Not enough funding	To improve programme:5 Limitation in providing support due to NHS fund: 29 Social services have changed, difficult fit patients in criteria: 24 Difficult to get care package: 4 CM is limited due to resources: 7

A.9. Examples of Charting

Initial themes

Main themes	Subthemes	Extracts
Demographical data		Age range, Professional background, Different titles, Grade
Qualification and training for CM	Qualification and Trainings	Band 8 Active case manager, Community matron, Advanced practitioner Band 7 Community matron Band 6 active case manager, nurse case manager, case manager
	Level of training	Advanced practitioner course, HE level, degree pathway and Keep update their skills
	Perception of important training needs and current training	Knowledge about LTCs and skills to identify all the problems associated with long term conditions Communication skill Keep update skills and knowledge Prescribing skill, Understanding social side of things, family dynamics work Skills of holistic assessment, Health assessment skill, body function Good nursing background co-ordination skill
	Comment on current training	Prescribing Satisfied with meeting learning needs Ongoing learning Not enough funding Confidence in work Advanced practitioner course Case Management course MSc module Qualification University courses Need clinical lead or clinical Changes in DN course
	Utilization of work experience	Therapist better skills to identify the things and also skills to impact on how to people manage themselves DN experience: able to manage on your own, able to manage on your own. Nursing background helps to do CM role well, maybe quicker than other colleagues Podiatrist involve minor surgery, longterm conditions, Good knowledge of LTCs, Medications, other services, how to engage with them, taking histories. Previouse leadership experience ,communication skills Experience of working in community
	Usfulness of the training	Different types of things that impact on long term conditions. Helps to understand interaction and side effect of the medications. Sufficient to carry on CM role. Having advanced training is better for PTs
	Uniqueness of the CM	Filling the gap, improving quality of life, CM is a link for PTs, we can spend more time with patients, Caring house-bound PTs
Building Caseload	Caseload size	
	Identifying PTs and criteria	
	Type of LTCs on the caseload	
Care process		
Perception of Important CM role		Prevent inappropriate hospital admission, Empowering PT self care, Care co-ordination
Daily routine		Clerical work, visiting, Deal with urgent problems, Attending meetings, On CALL, Manager duties
Type of CM setting	CM setting	
	Structure	
	Advatages	
	Disadvantages	
Ideal CM setting	CM as an independant team	All in one team with clerical staff : 2 CM team should be independent: 7, 10 All in one team with better link to other services: 15, 16 All in one team: 12 All in same building and be allocated to one or two GP practices:18
	A CM team with other professionals	A small team where have DNs and co-social worker within the team and attached to GP practices: 3 Being in fast response team where can have access to all relevant services: 20 CM should be in DNs team because previous CMR didn't get enough referrals: 21 Attached with one GP practice and have DNs, OTs, physios, CMNs, social workers all in one office: 9 Based within a team, consisted with CMRs, GPs, DNs and health visitors: 26 Based in one practice working with social worker and have direct access to physios and OTs and DNs: 27 Should be based with DNs: 30 Work independently with therapist and community support workers together: 32
	Attached with one GP practice	Attached with one GP practice: 4 One GP practice or maximum two: 17 GP surgery and lots of other services are usually in health centre: 13 Based in one practice is ideal: 28, 29 Being single practice and working with DN team: 24
	CM in Virtual ward	All the services should be in virtual ward together: 8 Stand alone LTCs team, serve all virtual ward and cover smaller number of GP practices: 22

Role differences between CM staff		Band 8, band 7, band 6, band 5, band 4, band 3 and 2
Geographical differences between Urban and Rural in CM	Advatages and disadvatages	
Helpful factors in implementing CM s	Empowering patients	Building rapport with PTs Encourage and give some feedback, being responses to their needs, provide advice and pick up any changes Give PTs list of service numbers to call for help and encourage to contact: looking what's important for the PTs
	Time management	be flexible for emergency Prioritize your work consider travelling time
	Building network (Introduction)	Face to face contact with other professionals do joint visit be polite and good listener to their demand Offer help to other service Attend GP practice meeting Good working relationship with practice
	Update skills and knowledge	Attend various courses learning new things constantly from work Practice skills and expand,
	Clinical competency	Positive feedback from GPs and Patients Making difference with skills
	Support from GP	getting medication Getting GPs on board is key thing willing to help and discuss PTs and value the service
	Co-operation from other services	PTs, note (DN note at home) and liaise with them communications and joint visit Multidisciplinary team approach helps solve problems quickly
	Peer support	how to pull resources, what's available in community At initial start
	Management support	manager has good vision, knowledge
	Developing the service	A&E attendance data is good for scoping
	Good recognition	communication with other professionals about cost effectiveness of CM
	Managing various LTCs in community setting	Long work experiences Broad range of personal experience
	continuity care	
	Good IT system	Communication with other services Evaluating their activity
	Organisational change	lots of free training opportunities and better communication, link, acknowledgement
	Nursing home	Service (nursing home) improvement
Difficulties in implementing CM servi	Empowering patients	Empowering PTs to manage themselves
	Managing PTs	PTs who don't response to the service provided
	Caseload	Managerial role take a lot of time rather than PTs care: 9 Building caseload took length of time: 23
	Lack of recognition	lack of understanding of the CM role:
	Proving the effectiveness	Saving cost
	Perception of other professionals	CM is part of their role:1 some GPs and some practice nurses get threatened by the CM pos
	Barriers with GPs	Doubt about prescribing skill and taking on advanced role GPs didn't refer to the services for long time
	Lack of co-operation from other professions	GPs don't do anything when CM report PTs poor condition No response from other agencies Some Practice do not refer to service
	Getting start	No model to follow Trying to work differently Felt under skilled, hadn't done training many years
	Relationship building	Takes a lot of time, poor response Keep going and out
	Changes	ORGs keep changing A lot of restructuring services
	Reporting system	Duplication in writing information:
	Lack of role clarity	Difficult to define CM role: 5 Other people don't understand why CMNs are there at start
	Not enough funding	Limitation in providing support due to NHS fund Social services have changed, difficult fit PTs in criteria
	Nursing home	difficult visits all the nursing homes on a daily basis:

Modified themes

Implementing case management successfully		
Main themes	Subthemes	
	Professional background	
	Different titles in CM	
	Duration of CM	
	Training differences among the participants	
	Training of community matrons:	
	Benefit and deficiency of the community matron training	
	Training of case managers	
	Level of training provision	
	Knowledge about LTCs and clinical skills	
	Communication and co-ordination skill	
	Keep update skills and knowledge	
	Suitable Training	
		Prevent inappropriate hospital admission
		Empowering PT self-care
		care co-ordination
		Identifying patients
		Caseload size
		Care process
		Daily routines
	Independent CM team settings	
	Single practice based CM settings	
	Virtual ward settings	
	Differences between Urban and Rural in CM	
		CM as an independent team
		A CM team with other professionals
		Attached with one GP practice
		CM in Virtual ward

Final themes

Implementing case management successfully		
Main themes	Subthemes	
	Influence of professional backgrounds	
	Training of community matrons:	AP and DP
	Benefit and deficiency	Knowledge common LTCs and clinical skills
	Training of case managers	Self-directed learning
	Benefit and deficiency	Require standardised training programme
		Reducing service usages
		Improving quality of life
		Professional difference
		Proactive patient identification
		Holistic assessment
		Individualised care plan
		co-ordination
	Skill mix team-led CM:	
	Service Design	A CM team with ranged level of staff
	Working experience	Positive and negative aspects
	CMN-led CM team:	
	Service Design	A CM team consisted of CMNs only
	Working experience	Positive and negative aspects
	Practice-based CM:	
	Service Design	One CMN/CMR to one GP practice
	Working experience	Positive and negative aspects
	Multidisciplinary team-led CM:	
	Service Design	CMN and CMR as a member of multidisciplinary team
	Working experience	Positive and negative aspects

A.10. Daily routines

Clerical work	Visiting	Deal with urgent problems	Attending meetings
		Calls: from PTs and family, provide advice, visit to do full assessment and phone GPs at the visit for discussion. it can be health or social problems Acting on what you are finding: inform abnormal blood test result **Responding pack**: Responding PTs needs at their urgent call rather than planning **Do extra visits-**if GP and PTs request. **Deal with report from Tele-health system** **Calls from hospital:** help discharge Make calls to monitor	Team meeting for clinical supervision, Review PTs Attend GP meeting Attend relevant meetings to give input. with hospital consultant. Discuss about discharge Decide caseload and person who attend meetings (Team meeting, supported discharge team meeting, GPs meeting...) Service development: have monthly meeting to discuss projects, managers (CN) involved in that and we get ask to participate something. Winter project meeting join the discharge

professionals and voluntary agencies. Discuss with GP Make phone calls to different teams **Check messages:** Check e-mails and messages and online data. Check tasks that given by GPs and put response to it. **Recording and Reporting:** Record PTs data both on file and online Input activities on the computer: number of contact, PT name, hours spent each PT and reason. Routine reports: multidisciplinary team contact, meeting attendances, care plan and problem solving actions, education or advice...Lorenzo system. Proxy contact: telephone or visit that deal with someone else, social workers, joint visit, attending meetings so on to advocating PTs… Monthly reporting system- number of caseload and face to face contact, phone calls and referrals to services).	A&E to see PTs and help early discharge, liaise with nurses. **Act on whatever the visit pulls out:** Get prescription from GP Managing mental health Put everything in place before PTs discharge. Prescribe medication. increase social package Regular monitoring: Inactive PTs by calls or visits Telephone contacts with PTs: assessment, monitoring		planning in hospital. Attending Training, sessions, forums...
		Manager duties	**On CALL**
		Involved in many project to develop the service. Manage the team: manage rota, sickness, make professional development plan, do appraisals and produce reports for the team. Deal with more complex patients. Do a lot of presentation and workshops about CM. Allocate caseload. Arrange team meeting Attending meeting in hospital Help out team members (P 1, 3, 7, 10)	9 to 4 Saturday, Sunday and Monday bank holidays (P2) Work 7days including weekends (P9) Out-of-hours: two nurse practitioners work at the weekend (P12)

A.11. Demographical data

P	Age	Sex	Current Job title	Position	Grade	Duration	Professional background
1	34	F	Active case manager	Team leader	8a	2yrs (moved)	Physiotherapist Acute and community hospitals Falls team (CM role)-care only pts with falls but the falls related to mismanagement of other LTCs.
2	44	F	Active case manager		6	14 mons	Rehabilitation unit Bank work Community nurse District Nursing DN+ CM role (difficult due to lack of staff who is able to carry out CM role)
3	51	F	Advanced practitioner (CMN)	Clinical governance lead for the service	8a	7yrs	RGN Specialty in neuroloogy, medicine and surgery Midwife District nurse
4	46	F	Active case manager		6	7yrs	Podiatrist involve minor surgery, longterm conditions (diabetes, rumathology, preperal vascular disease). Acute hospital
5	49	M	Advanced practitioner (CMN) (nursing home support team)	ACM Team lead	8a (posted at band 7 then promoted with MSc)	5yrs	RGN IN Coronery care unit District nurse (10yrs) Eldery care unit Clinical leadership national health development team within the Trust
6	43	M	Advanced practitioner		8a	7yrs (3 places)	Civil engineering RGN in hospital ward (1yr) District nursing Specialist practitioner degree District nursing team leader + ACM role (1st ACM) district nursing + case management failed
7	45	F	CMN	lead case manager	7	7yrs	RGN in geriatric medicine and medicine as a junier sister. Bed manager in hospital Placement officer (social+health care for nursing residential home) Interest in community work
8	47	F	CMN		7	5yrs	Nursing Young disabled unit Sroke and accident rehab unit Nursing home District nursing community nursing (DN) joint Work with Fast response team in hospital for early discharge and prevention of adm
9	47	F	CMN		7	2yrs	Enroled nurse RGN in acute medical and surgical in hospital community nurse District nursing Fast reponse team
10	47	F	Consultant nurse for old people/ACM	CMRs team lead	8b	5yrs + 6mons	Community nursing most of career Specialist service for elderly similar to CM for 5yrs DN Service development work RGN in hospital
11	48	F	CMN		8a	About 3yrs (Current care home 1yr Community 18 mons)	DN RGN in surgery Regidential Social worker (Not qualified social worker)
12	51	F	CMN		7	6yrs	DN sister Staff nurse in PCT Accountant
13	56	F	Nurse case manager	mentoring student nurse	6	5yrs	Nursing for 20 yrs Dermatology specialist nurse(Qualification) DN RGN (Cardiac surgery)
14	55	F	Active case manager		6	5yrs	RGN DN sister Hospital in community discharge team Vascular surgery
15	37	F	Active case manager		6	1yr	Social worker (Masters) Renal ward as a staff nurse (BSc)

A.12. Qualification and training for CMN and CMR

P	Current Job title	Grade	Duration	Professional background	Qualification and training for CM
10	Consultant nurse for old people/ACM	8b	5yrs + 6mons	Community nursing most of career Specialist service for elderly similar to CM for 5yrs DN Service development work RGN in hospital	MSc in gerontology from last post Clinical skills and prescribing course later- GP mentor (10 days working with GP) Diabetes, cardiac, dementia, Strok, mental health, Parkinson's disease (by specialist nurse), whatever available without costing firtune (17:50)
1	Active case manager	8a	2yrs	Physiotherapist Acute and community hospitals Falls team (CM role)-care only pts with falls but the falls related to mismanagement of other LTCs.	HE level (degree level) - Clinical assessment skills and management of LTCs. Independent prescribing course In house trainings to up date - managing diease, new medication. Mandatry training: Health and safety, patient handling on complaints training.
3	Advanced practitioner (CMN)	8a	7yrs	RGN Specialty in neurology, medicine and surgery Midwife District nurse (DN certificate)	Advanced practitice course (Masters): physical examination skill, research module, history taking, advanced clinical skill mentored by Doctors within the acute and community setting, assignments, dissertation. Independent prescribing course Cardiac respiratory training Regular workshops on COPDs, Diabetes and dementia, depression in the elderly (In-house and outside).
5	Advanced practitioner (CMN) (nursing home support team)	8a	5yrs	RGN IN Coronery care unit District nurse (10yrs) Eldery care unit Clinical leadership national health development team within the Trust	MSc in advanced practitioner course (2 yrs)- Non-medical prescribing Short courses: heart failure, end of life course. Mandatory trainings: record keeping, not related LTCs. Induction and online induction MA in Gerontology
6	Advanced practitioner (ACM team)-Introduced HCP as AP and to PT as Nurse practirioner. Don't like title of CMN.	8a	7yrs (3 places)	Civil engineering RGN in hospital ward (1yr) District nurse District nursing team leader + ACM role (1st ACM) district nursing + case management failed	MSc in advanced practitioner course (2yrs) Non medical prescribing (13wks) Cardiorespiratory palliative module Sessiona in hospital: Motivational Interviewing technique Attending forums to update skill and competency: non-prescribing forum, hear failure forum.
11	CMN	8a	About 3yrs Current care home 1yr Community 18mons	DN RGN in surgery Residential Social worker (Not qualified social worker)	MSc in Advanced practitioner course V 300 prescribing course Education sessions every month-invite speakers dietic specialist nurse, hear fialures (20:00) Liver symposium is coming because manage care home where has high rate of residences have alcolol dependency or dementia or cause disease due to alcohol. Dermatology course (paid) -PTs have a lot of dermatological problems.
28	CMN	8a	4yrs	RGN- medical. Sugical and eldery unit in hospital Community staff nurse DN Cardiac rehabilitation in community	Nurse practitioner course (cover general terms of diseaes, how to recognise symptoms and treat (5:35)) Previous work experience gave advantage (3:59) Diploma in coronary heart disease, asthma and COPD and diabetes (4:48) changed work place
7	CMN	7	7yrs	RGN in geriatric medicine and medicine as a junier sister. Bed manager in hospital Placement officer (social+health care for nursing residential home) Interest in community work	Degree pathway Community matron course Advanced clincal skill in diploma Mental health Currently doing prescribing course. A ot of trainings, start off courses related to LTCs COPD, heart faiure...and regular update on those illness. Mandatory training every year. GP's mentor Induction: basic standard (policies and protocols), spend time with other professionals in community.
8	CMN	7	5yrs	Nursing Young disabled unit Sroke and accident rehab unit Nursing home District nursing community nursing (DN) joint Work with Fast response team in hospital for early discharge and prevention of adm	Degree in health sciences Health assessment first contact (Fast response) community matron course -looking at confidency (fully assessment, case finding, physical assessment, spent time with GP mentor) Independent prescribing course (6 months) -GP mentoring (5:40) LTCs lead organised sessions but she resigned Geriatirc consultant work with their ongoing skills and lessons (8:02) Ask GPs if need advice in relation to their PTs. Get a lot of training herself to improve skills (59:12)
9	CMN	7	2yrs	Enrolled nurse RGN in acute medical and surgical in hospital Community nurse District nursing Fast reponse team	MSc in Advanced practitioner course 2 yrs (case finiding, assessment, policy, tests, research proposal, waiting for the result-> 8a No great difference GP mentoring for two years (8:31) Prescribing course-waiting for Pad. Haven't started prescribing. without this skill they can't do the job. (8:38). It was hard with full time job (3 days (5:00) Keep update skills- being CMN can be deskilling, because dealing with common LTCs (cardiac and cheat problem), it's rare to see nurological one(6:20). Action learning set- learning CMNs themselves, get speakers in(pick on people who have known), identify learning needs and apply to manager (13:13), discuss cases and share ideas, critical (14:45). Nurse practitioner forum held monthly (paid self)
12	CMN	7	6yrs	RGN DN sister (have DN degree) Staff nurse in PCT Accountant	MSc in Advanced practitioner course Independent prescribing course LTCs module Monthly educational seessions Diploma in COPD PGC in palliative care
17	CMN	7	6yrs	DN Pallative care team Community staff nurse (15yrs) RGN Enrolled nurse in community	First contact course in diploma (degree pathway) Independent prescribing in diploma Various courses: COPD, heart failure modules and ongoing training Reguar meeting for educational sessions-get guest speaker, GP, consultant...(6:18) Attend any available courses (9:20) Palliative care degree, teaching and
18	CMN	7	3yrs	GP out of hours Nurse-led minor injury unit RGN -A&E sister Acute medicine, surgery orthopedics, A&E Nurse led minor injuty unit Enrolled nursing	Differences between CMRs and CMN Diploma in COPD management Diploma in asthma management I needed bit more long term management skills (5:23) Reguar meeting for educational sessions-get guest speaker, GP, consultant... (6:32) Independent prescriber (During the A&E sister) Advanced practitioner course (in minor injury unit) (5:00)

A.13. Different CM designs

Skill mix nurse-led CM team

	Central Manchester	South Manchester	Greater Manchester	East Yorkshire
Service duration	**7 years**	**5 years**	**14 months**	**5 years**
Service location (urban)	One of GP practices	Large geriatric health centre	Large health centre	Central location
Staff type (N)	**Band 8 CMN (1): manger** Band 7 CMN(1) Band 6 CMR(1) Band 4 AS(1) AD (1) **(Included nursing home CM team)**	**Band 8 CMN (1): manager** Band 6 CMR (7), Band 4 AS (1), AD (1) **Required few band 7 CMNs**	**Band 8 CMN (1): manager** Band 7 CMR (4) on training, Band 6 CMR (4), Band 4 AS (1) Awaits for more band 7 CMNs and AS	Band 7 CMN (6) **Shared** band 6 senior nurses (3), band 5 nurse (3) and band 3, 2 AS (1 each)
Delegation of responsibility	Band8 CMN: Managerial duties and manage patients with multiple LTCs, poor/unstable physical health requiring frequent clinical interventions			Band 7 CMN: severe patients, audit members
	Band 7 CMN: manage the same level of patients as band 8 CMN, support lower band staff	x	Band 7 CMR: care of severe or high risk patients, no direct clinical care	Band 6 Nurse: similar to CMR
	6 CMRs: majority of patients except the severe and high risk patients			Band 5 nurse: routine visits, assessment and care planning if need
	AS: regular monitoring, patient education, simple nursing tasks. AD: administrative work			Band 3 and 2: phlebotomy, nursing assessments
Target patient Criteria	one or more LTCs, aged over 18, frequent service users, one or two admissions in last 12 months, no alcohol and drug abuse	LTCs, aged over18, two or more admissions last 6 to 12 months, poly-pharmacy, frequently call GPs out, flexible for other conditions	LTCs, high service usage, aged over 18 without alcohol or drug abuse	two or more LTCs, frequent attendance of hospital, frequent uses of GP practice, mainly house-bound who cannot access surgery
Case-finding tools	Referral + PARR	Referral + PARR	Referral + Clinical dash board	Referral No longer use PARR
Caseload size (N)	Band 8 CMN (50)	Band 8 CMN (10)	Band 8 CMN (12)	×
	Band 7 CMN (60)	×	Band 7 CMR (not known)	Band 7 CMN (205)
	Band 6 CMR (55)	Band 6 CMR (20~40)	Band 6 CMR (17)	Band 6 senior nurse (75, not case holder)
Duration of patient care	On-going	Time-limit (6 weeks)	Time-limit (12 weeks)	On-going
Practices and nursing homes (N)	By the team (8~10), nursing home (4)	Band 8 CMN (All)	Band 8 CMN (All)	×
		Band 6 CMR (3~6)	By a group of a band 7 CMR + a band 6 CMR (12), 4 groups	Band 7 CMN (6)

CMN-led team

	West Yorkshire
Service duration	6 years
Service location	Large health centre
Staff type (N)	Band 8 CMNs only (including a nursing home support CMN)
Target patient Criteria	two or more LTCs, four or more medications, flexible for other conditions
Case-finding tools	Referral + PARR
Caseload size (N)	Band 8 CMN (40)
Duration of patient care	On-going for severe
Practices **Nursing homes (N)**	Practices (3)
	Nursing home (6)

Practice-based CM

	West Yorkshire 1	West Yorkshire 2	West Yorkshire 3	West Yorkshire 4	West Yorkshire 5
Experience of CM	4 years	2 years	3~6years	2~10years	2.6 years
Service location	GP practice with DN team	GP practice	GP practice	GP practice with DN team	GP practice with DN team
Staff type	Band 8 CMN	Band 8 CMN	Band 6 CMR	Band 6 CMR	Band 6 CMR
Target patient criteria	Aged over 18, one or more LTCs, poly pharmacy, but flexible	No specific criteria	No specific criteria	Elderly, two or more LTCs, frequent admissions (two or more) and use of practice service, poly pharmacy, recurrent fallers, but flexible	No specific criteria
Case-finding tools	Referral	Referral	Referral	Referral	Referral Stop using PARR
Caseload size (N)	P28 (65)	P9 (50)	P25(50)* P29 (50)	P24(54)*, 26(44)* P23 (62), P27 (64)	P19 (47)
Duration of patient care	On-going	Discharge inactive patients. On-going for sever patients	Discharge inactive patients. On-going for sever patients	Discharge inactive patients. On-going for sever patients	Discharge inactive patients. On-going for sever patients
Practice (N)	1	1	1	1	2

*Part-time staff (3~4 days/week) DN: District nursing

Multidiciplinary team-led CM

Virtual ward	North Yorkshire 1	North Yorkshire 2	North Yorkshire 3	North Yorkshire 4
Experience of CM	CMNs (5years) CMR (3years)	CMN (3years) CMR (3years)	CMN (6years)	CMR (3years)
Staff location	One of GP practice Close to DN office	In a chiropody clinic, **shared office** with DN team, ward manager	One of four practices	a large office shared with other services and ward manager in hospital
Staff type (N)	Band 7 CMNs (**2 include nursing home CMN)** Band 6 CMR (1) AD (1)	Band 7 CMN (1) Band 6 CMR (1)	Band 7 CMN (1) **Required** a band 6 CMR	Band 7 CMN(1) Band 6 CMR (2)
Target patient Criteria	**CMN**: above 18, two or more recent hospital admissions and frequent usage of services. Two or more LTCs but flexible **CMR**: one LTC, not necessarily frequent hospital admissions, lives alone, poor education, need services	Either singular or multiple LTCs, high usage of services, accessing GP surgery or hospital a lot, inadequate home support, lives alone. No without mental problem or alcohol abuse or drug abuse.	**CMN**: two or more hospital admissions in short period of time and two or more LTCs. **CMR**: one LTC, not necessarily frequent hospital admissions, lives alone, poor education, need services	Bit loose, frequent visit in hospital, out-of-hour services, contact GP constantly, have LTC, need care support, family changes, Patients are referred when everybody failed
Case-finding tools	Referral	Referral	Referral	Referral
	Band 7 CMN: manage patients with multiple LTCs, poor physical health requiring frequent clinical interventions			
	Band 6 CMR: manage patient with one LTC and complex care needs requiring self-care support and coordination of services.			
	AD: administrative work, informing patient discharge	x	x	x
Caseload size (N)	CMN (50) CMR (28)*	CMN (45) CMR (22)	CMN (51)	CMN(not known) CMR (30)*
Duration of patient care	CMN: on-going CMR: 12 weeks	CMN: On-going CMR: 12 weeks	CMN: On-going	CMN: On-going CMR: 12 weeks
Practice and nursing home (N)	CMN + CMR (6) CMN (20 nursing homes)	CMN+CMR (9)	CMN (4)	CMN(6) CMR (3) + CMR (3)

*Part-time staff (3~4 days/week)

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