Perceptions of Chronic Disease Self Management in rural primary health care and implications for routine clinical practice: a mixed methods study

Looking at issues of 'importance' and 'evidence' of CDSM in routine clinical practice, and what might support integration of CDSM support among the primary healthcare workforce

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Acknowledgements:

I would like to acknowledge the following people for their professional support and encouragement during this study:

- My research mentor and friend, Associate Professor Tony Smith PhD Deputy Director, University Department of Rural Health (UDRH) - Northern NSW, for his long suffering patience, encouragement and willingness to bounce ideas around
- Karin Fisher (UDRH) for her assistance in grappling with SPSS
- Tina Navin (CETI) for her assistance with non-parametric tests
- Emma Webster, Rural Research Capacity Building Program, Clinical Education and Training Institute (CETI) – Rural Directorate, for her encouragement, leadership and constructive review of this report
- David Schmidt (CETI), for his consistent encouragement and advice
- Sue Buckman, Hunter New England Local Health District, for allowing me time to devote to this project and encouragement along the way
- Carolyn Bailey, Hunter New England Local Health District, for being a supportive and inspirational leader.

List of Abbreviations:

ACIC – Assessment of Chronic Illness Care
AIHW - Institute of Health and Welfare
CDSM – Chronic Disease Self Management
CETI – Clinical Education and Training Institute
GP – General Practice
NPT - Normalisation Process Theory
PHC – Primary Health Care
SMS – Self Management Support
UDRH – University Department of Rural Health

Table of Contents

Summary of Figures and Tables:

Table 1: Definitions of Models of Health Care in Rural Australia
Table 2: Core skills for the PHC workforce as described by Battersby (2009)
Table 3: Comparisons made of elements with highest and lowest median differences
Table 4: Key mean differences between elements
Table 5: Elements with highest consensus as having 'Extreme Importance' when working with chronic care clients in primary health care, noting Action area and Capability required

Summary of Appendices:

Appendix 1 –The Chronic Care Model
Appendix 2 - Specific propositions of Normalization Process Theory (2009)
Appendix 3 – Chronic Care Survey
Appendix 4 – Survey Elements by CDSM Theme, Model of Care and Capability Required
Appendix 5 – Invitation to participate in research
Appendix 6 – Demographic Results

Abstract

Aims and rationale
There is an increasing need for primary health care professionals to provide their patients and clients with support in managing their chronic conditions. This study investigated the understanding of Chronic Disease Self Management (CDSM) support among rural health professionals and their capacity for integrating CDSM support into clinical practice.

Methods
An on-line survey was completed by 64 respondents, followed by seven (7) semi-structured interviews with volunteers from the survey sample. Respondents included public and private primary health care professionals (including nurses, allied health, Aboriginal health education officers, project/educator staff and one general practitioner) from regional and rural communities in north-western NSW. The survey investigated perceptions of the 'importance of', and 'evidence of integration of' 36 key elements of CDSM support, taken primarily from work by Ed Wagner and Malcolm Battersby. Interviews focused on perceptions relating to 'normalising' CDSM support in routine clinical practice.

Findings
Survey results were skewed towards 'great' or 'extreme' importance for most elements, with consistently lower results for perceptions of evidence. The elements with the greatest difference between ratings of 'importance' and 'evidence' were spread across key areas of CDSM support, such as sharing clinical care, developing patient/client skills, goal setting, identifying social and emotional barriers to care, and the need for patients to take responsibility for their health. Analysis of interview transcripts found limited exposure to CDSM models of care, with patient education seen as the priority, rather than the psychosocial aspects of investigating barriers, goal setting and wellbeing. Efforts to 'normalise' CDSM support into routine practice were seen as requiring system wide changes which involve training, mentoring and a change in focus of the model of chronic care.

Conclusions and Implications for practice
These findings could be used to help target education and support opportunities for the chronic care workforce. Staff mentoring and accessible education were seen as high priorities for the future, to develop a shared understanding of CDSM strategies and work roles of PHC professionals working chronic care clients. Giving appropriate value to CDSM support within a health system which has traditionally valued acute care, requires a shift of management, clinical practice and understanding of both clients and clinicians.

Key words:
Chronic Disease Self Management, Self Management Support, primary health care, barriers, enablers, routine practice

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Executive Summary[*]

Background

The incidence of chronic disease is growing rapidly, demanding more and more of the health care budget. The Australian Institute of Health and Welfare (AIHW) (2004) estimates this to be around 80% by 2020. Chronic Disease Self Management (CDSM) has been identified at every level of government planning as the most effective means of impacting on the care of the growing number of people with chronic conditions.

In 2008/9, the Community Health Strategy Group conducted the Assessment of Chronic Illness Care (ACIC) with chronic care teams across rural health services within Hunter New England Health. This audit highlighted that staff have a poor understanding of chronic disease self management (CDSM) in its broadest context, opting to understand it simply as providing patient education regarding their condition, medications and treatment plans.

Definitions of CDSM are broad and open to interpretation. However, the ultimate aim of CDSM support strategies is to increase patients' self efficacy, quality of life, motivation and effective engagement with medication, treatment and lifestyle change.

In 2009/10, the Community Health Strategy Group worked with the Heart Research Centre to develop an on-line training package to help develop a shared understanding of CDSM support in routine practice and was officially launched after the data gathering phase of this project.

This study

This study aimed to investigate existing perceptions of what is included in the delivery of CDSM support as well as investigate the perceived potential barriers and enablers to integrating CDSM support into routine clinical practice in rural primary health care (PHC) services.

The results of this study highlighted the disparity between what primary health care professionals see as important in terms of providing CDSM support and what is actually happening in routine practice. A number of recommendations were made through analysis of CDSM literature and study data.

Key issues
- There is no 'one-way' to provide CDSM support to people with chronic disease, as current definitions look at broad descriptions of strategies and outcomes, and are open to interpretation according to service delivery models.

- In this study, 36 key elements of CDSM support were identified from literature including Wagner, Battersby, Lorig, Zwar, Harris and others, which were broadly grouped according to Patient Centred, Behaviour Change or Organisational/System capabilities.

- An on-line survey identified a high level of perceived 'importance' for these key elements (ie how important the element is to delivering effective chronic care support). The survey was completed on-line by 64 PHC volunteers, which is likely to represent those health professionals with an interest in CDSM.

- The self reported ratings of the 'evidence' (ie to what extent respondents could produce evidence to demonstrate the application of these elements in their clinical practice) were

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[*] *This Executive Summary has been written especially for Hunter New England Local Health District (HNE LHD) managers, with local strategies included in the recommendations section.*

considerably lower. This suggests that knowing something to be important does not automatically make it happen in practice. The study therefore investigated issues regarding the integration of CDSM into routine clinical practice, to become a normal part of care.

- A number of preconditions were identified for the integration of change – both for clients undertaking behaviour change, and for PHC professionals undertaking practice change. Support is a well established requirement for client behaviour change, but has been less well recognised as part of the change process for clinicians wanting to integrate change into their practice.

- This study identified the need for further support to address the following preconditions for change, which included:

  o assessment and targeted education,

  o skill enablement and peer support,

  o development of a shared understanding, valuing and commitment to change,

  o ability to maintain an individual's locus of control,

  o plus personal attributes such as:

    ▪ support to improve self efficacy,

    ▪ reflective evaluation of the impact of their behaviour, attitudes and values to the change, and

    ▪ problem solving skills

- From the analysis of interview data, training and mentoring were seen as key issues for addressing the support needs of the PHC workforce working with chronic care clients.

Recommendations

The following recommendations have been made from an analysis of current CDSM literature, health policy and plans, as well as results from this study regarding barriers and enablers for CDSM support in routine clinical practice.

- Ensure primary health care staff working with chronic care clients have access to CDSM training to equip them for patient-centred care and behaviour change skills.

  o For HNE LHD staff, this includes ensuring that CDSM Support training is included in job descriptions and practice improvement initiatives.

- Ensure primary health care staff working with chronic care patients have access to mentoring, peer support and professional de-briefing to develop a coherent understanding of their role and commitment to CDSM strategies.

  o For HNE LHD staff, this may involve promotion of professional mentoring and coaching programs; promotion of practice development related the CDSM at Clinical Streams, Peak Forums, and Area Clinical Team meetings; promotion of on-line discussion forums with rural staff working with chronic care patients / clients.

- Work with key clinical staff to transform organisational systems to support staff to 'normalise' CDSM work practices, including care coordination.

  o For HNE LHD staff this may involve promoting systems to share patient /client information and assessments between health care providers; promoting evidence based practice (eg team meetings, journal clubs, research opportunities); integrating programs across the wider PHC team.

Literature review

Introduction

At every level of government in Australia, the relatively new concept of Chronic Disease Self Management (CDSM) has been promoted as the way forward for managing chronic illness[1,2,3]. Progress towards implementing CDSM support in primary health care practice has not been comprehensive, particularly in rural areas[4], as clinicians often do not understand CDSM and CDSM support in the same context as current literature[†] on CDSM.

This study therefore, aims to look at how the primary health care (PHC) workforce in rural and regional communities covered by Hunter New England Local Health District in northern NSW, understand the practice of providing CDSM support, to help shed light on the enablers and barriers to better integrating it into the routine clinical practice.

What is CDSM?

While there are many definitions of CDSM, the one most commonly cited and used by both NSW Health[5] and the Royal Australian College of General Practitioners[6] is as follows:

> *'Chronic condition self management involves (**the person** with the chronic disease) **engaging in activities** that **protect and promote health, monitoring and managing** of **symptoms and signs** of illness, **managing the impacts** of illness on **functioning, emotions** and **interpersonal relationships** and **adhering to treatment regimes**.'*
> *(Gruman and Von Korff, Centre for the Advancement of Health, 1996)[7]*

By highlighting the key elements of this definition (as above), I have attempted to simplify the definition as involving active participation by the client or patient (hence forth in this paper referred to as 'the client') in preventing deterioration of their health status. This involves knowing about their condition and the risk factors that contribute to it, as well as developing an understanding of things they can do to keep a check on the impact of the condition both in a clinical sense and a social/emotional sense.

There are a range of possible problems caused by chronic disease/s, such as pain, fatigue, shortness of breath, physical function and emotional dysfunction[8]. Learning how to better manage what contributes to these problems and putting strategies into place to minimise their effect of quality of life, is what CDSM aims to achieve.

Zwar et al (2006)[9] cited eleven systematic reviews of chronic disease management, which focus primarily on patient education and motivational counseling strategies. These studies have demonstrated mixed results in measures such as HbA1c for diabetes, health and functional status, patient satisfaction and health service usage. The greatest benefits were seen in programs which addressed therapeutic interventions, empowerment and motivation to change.

[†] *Search tools:*
For this literature review, the Clinical Information Access Portal (CIAP) was used to do an initial search on Embase and Medline search using the key words (including Chronic Disease Self Management, Self Management, routine practice, integration, normalisation) (Dec 2009). Reference lists from other studies and systematic reviews, in conjunction with updated readings from the PHC RIS e-bulletin were also used.

The greatest barrier to evaluating the success or otherwise of the interventions, was the lack of detail of what was included in each intervention. Indeed, there is no 'one-way' to provide effective CDSM support, as it is impacted by the skills, practices, values and beliefs of the PHC professionals providing care, and these aspects of care are difficult to capture on a broad scale.

Battersby, Von Korff et al[10], did however, developed a set of guiding principles to improve the abilities of primary health care teams to enable their clients to better manage their chronic conditions, based on the 'expert opinion' of the authors and other targeted literature. These principles included: (1) brief targeted assessments, (2) evidence-based information to guide shared decision making, (3) use of a non-judgmental approach, (4) collaborative priority and goal setting, (5) collaborative problem solving, (6) self-management support by diverse providers, (7) self-management support delivered by diverse formats, (8) patient self efficacy, (9) active follow-up, (10) guideline-based case management for selected patients, (11) linkages to evidence-based community programs, and (12) multi-faceted interventions.

This document also includes a suggested framework in which to implement these principles. This framework includes an enhanced pre-visit assessment, a focused clinical encounter and expanded post-visit options. These 'phases' as they are called, are recognised as being difficult to embed in routine clinical practice (p256).[10] Indeed, Battersby et al. recognised that CDSM support is the least implemented of the six elements of the internationally recognised Chronic Care Model (discussed later in this review), citing lack of time, inadequate information technology and physician resistance to chronic care management as being the major barriers to implementation in the United States.

In Australia, the National Chronic Disease Strategy (2006)[1] recognises that there are systemic barriers to incorporating CDSM within the health system.

> "Incorporating self-management within the health system requires significant change in focus. Currently, funding for self management approaches is set against an acute care system that, by virtue of its crisis response, tends to receive budgetary priority. In contrast, the longer term collaborative and multi-disciplinary planning that supports self-management encounters many systemic barriers." (National Chronic Disease Strategy 2006 p 38)

To find out what these barriers are in the context of the PHC workforce in Australia, it is important to first get a clear picture of what this workforce understands by the term CDSM support and what they understand as the barriers and enablers to integrating it into routine clinical practice.

Chronic Disease in Australia

With chronic disease estimated to rapidly increase from 43% of the healthcare burden in 2004 to around 80% by 2020[11], there is an urgency with which services must change to accommodate the increasing demand. It is also known that mortality from chronic disease increases with remoteness[12], creating an even greater need for rural and remote health care providers to deliver effective CDSM support.

Chronic diseases are generally recognized as having complex or multiple causes, have a gradual onset and lead to deteriorating health, most commonly in older age although they can occur across the whole lifespan[13]. They are often referred to as 'lifestyle diseases' because of the enormous impact of lifestyle factors on the occurrence of diseases such as diabetes, stroke and cardiovascular disease, pulmonary disease, renal disease, cancer, arthritis and osteoporosis.

Uptake of convenience foods, with all its processed fat-sugar-salt rich foods, along with labour saving devices such as mechanised tools and transport, and increased disposable income, has also brought about increased levels of obesity, lack of exercise and unhealthy eating practices.

Lifestyle risk factors such as tobacco smoking, high risk alcohol use, high blood pressure and high cholesterol, were identified by the Institute of Health and Welfare (AIHW)[14] as some of the major largely preventable risk factors that impact on the chronic disease burden. That report also identified poor health in childhood, excessive sun exposure, social isolation, genetic factors and depression as additional risk factors for chronic disease.

While it is acknowledged that psychosocial factors often underpin unhealthy behaviours[15], there has been a marked increase in the health promotion efforts to address risk factors. These include: the media encouraging strategies to lower cholesterol, reduce salt and sugar intake and adopt weight loss strategies; health coaching programs available through health services and health insurance companies; tobacco smoking cessation programs; responsible drinking laws; community based physical activity and stress management programs. The list of healthy lifestyle opportunities is vast.

Because chronic disease in the Western world largely has its roots in lifestyle risk factors, evidence is mounting that rather than finding medical cures to acute conditions, it is 'behavioural' changes which are most needed to stem the chronic disease 'tsunami'.[16]

Medical Model versus Primary Health Care Model

Health care has long been dominated by the medical (or acute care) model, with its emphasis on hospitals, medical practices and short term clinical interventions. The medical model has led to major advances in medical technology, vaccines and hygiene, greatly reducing the risk of communicable diseases. People are now living longer, but over 77% of Australians are living with one or more chronic conditions, and by the age of 85 years, all have at least one chronic condition[17].

The traditional medical model focuses primarily on the 'defect' within the patient and attempts to respond to that defect in its acute phase. In contrast, the Primary Health Care Model focuses more on shared care among suitably qualified health professionals, across the prevention, early intervention and acute phases of illness (Table 1).

Table 1: Definitions of Models of Health Care in Australia.

Model	Definition
Medical model[18]	The traditional approach to the diagnosis and treatment of illness as practiced by physicians in the Western world since the time of Koch and Pasteur. The physician focuses on the defect, or dysfunction, within the patient, using a problem-solving approach. The medical history, physical examination, and diagnostic tests provide the basis for the identification and treatment of a specific illness. The medical model is thus focused on the physical and biologic aspects of specific diseases and conditions.
Primary Health Care[19]	Primary health care is socially appropriate, universally accessible, scientifically sound first level care provided by health services and systems with a suitably trained workforce comprised of multi-disciplinary teams supported by integrated referral systems in a way that: gives priority to those most in need and addresses health inequalities; maximises community and individual self-reliance, participation and control; and involves collaboration and partnership with other sectors to promote public health. Comprehensive primary health care includes health promotion, illness prevention, treatment and care of the sick, community development, and advocacy and rehabilitation.

The World Health Organisation in 1978 described Primary Health Care as the first contact with health care[20]. In many small rural communities, these are health care professionals working in the community – the general practitioners (GPs), the community health or allied health staff, the visiting health service providers, and less commonly, private health providers. Embracing the PHC Model, would see more empowered communities and individuals, with the capacity to support one another to maintain health, prevent illness and improve referral systems.

Despite the evidence that chronic diseases are major contributors to ill-health and that recently developed policies and strategies reflect the need for significant change in healthcare, there is a long way to go before the primary healthcare model is truly embraced particularly in rural areas.

The National Rural Health Alliance[21] goes as far as saying the if rural communities are to become sustainable, the Government needs to work more closely with rural people to ensure the benefits of research and development are not as 'notoriously slow and uncertain' that it impacts on the lifestyle of rural communities.

In 1997, Hegney et al. reported that rural communities value rural doctors and therefore embrace the medical model of health care. Even rural nurses were found to value hospital nursing practice more highly than community nursing, which promote a primary health care model of health service delivery[22]. This reliance on the medical model also appears to stem from a lack of knowledge about other service providers (such as community health nursing and allied health, support groups or even local exercise or weight loss groups), recruitment and retention issues, and the GPs fear of losing patients off their 'books'.[23]

Skills Needed for Self Management Support

Over the past two decades, much has been said about Clinical Practice Improvement and Continuous Quality Improvement of healthcare[24] and the need for organisational and system change to accommodate the increasing demands of chronic care, such as the themes developed in the Chronic Care Model[25]. Despite these programs being supported by detailed tools and resources for implementation of change[11], delivering change appears patchy at best.

The internationally recognised Chronic Care Model[25], identifies supporting patients to achieve CDSM as one of six essential elements of effective chronic care (See Appendix 1 – The Chronic Care Model). This model places CDSM on the cusp of what the community can offer (such as lifestyle improvement, library resources and support groups) and what health services offer (such as general practice, acute and community health services), as self management plans need to integrate support from both. Integrating these services and resources for the benefit of the client is often overlooked in the traditional medical model, which relies almost exclusively on clinical management[26].

The Chronic Care Model describes self management support (SMS) as empowering and preparing clients to manage their health and health care[27]. It emphasizes the patient's central role in managing their health, albeit with support from health workers, using support strategies that include assessment, goal-setting, action planning, problem-solving and follow-up, and organising internal and community resources to provide ongoing SMS to patients.

Implicit in these discussions is the notion that all patients with chronic illness make decisions and engage in behaviors that affect their health every day. Primary health care practitioners have the responsibility to empower patients to make the best use of opportunities to improve their health while living in the community. The Chronic Care Model therefore promotes using a collaborative approach, where providers and clients work together to define problems, set priorities, establish goals, create treatment plans and solve problems along the way. Effective

CDSM support, therefore, means more than telling patients what to do. It involves the systematic provision of education and supportive interventions by health care staff to increase clients' skills and confidence in managing health problems, including regular assessment of progress and problems, goal setting and problem solving support[28].

The Assessment of Chronic Illness Care[29] (ACIC) is a self assessment audit of best practice based on elements of the Chronic Care Model. When this audit was undertaken with members of Community Health staff within Hunter New England Health in 2008-9, it was clear that most nursing staff interpreted self management support as "telling clients what they need to do" and expecting them to comply (see further details of the ACIC audit below).

However, knowing something to be the right thing to do, does not make it happen. There are many barriers which can get in the way of willpower alone. Most clients need support to find the way forward. Similarly, primary health care practitioners also need to move beyond thinking something is important, to being confident they can actually do it.

Table 2: Core skills for the PHC workforce as described by Battersby (2009)

General Patient-Centred Capabilities	Behaviour Change Capabilities	Organisational/Systems Capabilities
1. Health promotion approaches 2. Assessment of health risk factors 3. Communication skills 4. Assessment of self-management capacity (understanding strengths and barriers) 5. Collaborative care planning 6. Use of peer support 7. Cultural awareness 8. Psychosocial assessment and support skills	9. Models of health behaviour change 10. Motivational interviewing 11. Collaborative problem definition 12. Goal setting and goal achievement 13. Structured problem solving and action planning	14. Working in multidisciplinary teams/interprofessional learning and practice 15. Information, assessment and communication management systems 16. Organisational change techniques 17. Evidence-based knowledge 18. Conducting practice based research/quality improvement framework 19. Awareness of community resources

Equipping the primary health care workforce with the skills and self efficacy (ie confidence in their ability to manage their condition) to provide appropriate self management support has become a recent area of concern for tertiary educators, health managers and policy makers alike. Using the Chronic Care Model and an extensive review of self management literature and research, Battersby undertook a national survey of the primary health care (PHC) workforce and training organisations[30]. He developed a list of 19 core capabilities described as necessary for the PHC workforce to successfully support patients and carers within the self management continuum[30]. These core capabilities are divided into three groups: General Patient-Centred Capabilities, Behaviour Change Capabilities, and Organisational/Systems Capabilities (Table 2). Assessing the PHC workforce against these 19 capabilities, would provide a strong case for practice improvement initiatives; however, this is yet to be done.

Over recent years, 'patient-centred care', 'self-management' and 'health coaching', are terms commonly used within primary health care planning and training, sometimes interchangeably. Models of care which highlight particular aspects of each have taken prominence within Australian health care. The most well-recognised models, the Flinders Program™[31], Stanford[32] and the COACH Program™[33], each include aspects of cognitive behaviour therapy, problem solving and motivational interviewing techniques to build patient self efficacy. While each of

these models have been trialed within the Hunter New England region, a number of system barriers were identified by management as limiting the integration of these models into routine practice, including time, cost, lack of mentoring and support, and difficulties engaging the client group[34].

Assessment of Chronic Illness Care

An audit of chronic care services in rural Hunter New England Health was conducted in 2008-09, using the Assessment of Chronic Illness Care (ACIC)[35]. Based on the Chronic Care Model, this tool invites health care providers to self report on a continuum of best practice criteria within each of the six elements, from Level D (little support) to Level A (fully developed practice). Within the Self Management Support (SMS) section components have been consolidated into assessment and documentation issues, client self management support, addressing the concerns of families and carers, and effective behaviour change intervention and peer support (see Appendix 1).

Results among community health staff working with chronic care clients showed a consistently high level of confusion regarding these components[4]. Some of the key findings were as follows:

- Standardised treatment plans were rarely used and even when they were completed, were rarely shared with other health care providers or the client.

- Clinical educators providing SMS were rarely trained in patient empowerment and problem solving strategies

- While family and carer education was widely available, it was rarely offered in peer support or group settings, largely due to the small number of people requiring support at any one time in the smaller communities

- Professional mentoring and clinical supervision programs were not available at any site

- Effective behaviour change strategies were ad hoc or limited to the distribution of written materials.

All staff requested further training in CDSM and ways they could better provide SMS. Since then, an on-line training package has been developed by Hunter New England Health and the Heart Research Centre and undertaken on-line by over 100 primary health care staff in the area. While the training package is designed to 'raise the bar' in terms of understanding of components of CDSM and SMS, it does not assist with many of the other systemic and organisational barriers raised by health care providers and managers alike.

Accepting that change is difficult

Just as there are difficulties in achieving compliance with chronic care patients and clients to adopt sustainable lifestyle changes and care plans strategies, it is also difficult for primary health care professionals to embed change into routine clinical practice.

There are a number of issues evident in the literature relating to barriers to better managing the increasing prevalence of chronic disease. These range from the well-documented, practical issues of workforce shortages, a lack of competency based training[36], through to measures relating to the services themselves, such as the gaps in translating evidence into practice and then normalising processes within routine practice[37]. These translational gaps refer to how health professionals translate the elements of the change to 'normalise' or 'embed' innovation, often referred to as 'best practice'.

Much of the literature related to embedding CDSM support into routine practice focuses on implementation of specific programs. For example, Lawn (2010)[38] looked at case studies of health professionals who attempted to implement the Flinders Program[31] following in-depth training in the model. It was concluded that change management principles continue to be important, including leadership support, clear vision, team cohesion, effective people management and shared values. The Flinders Program, with its intensive suite of mandatory tools and strategies, requires not only change management, but also organisational change that builds capacity for running the program. In rural areas, where many primary health care practitioners have generalist roles, with only a portion of their time devoted to chronic care, the opportunities to run an intensive program like Flinders is often an impossible dream.

Diffusion of Innovations Theory[39] seeks to explain how innovations spread, by looking at content of the innovation and the process for dissemination. It argues that there is a predictable pattern of response to the introduction of any innovation and that its diffusion is more or less normally distributed according to whether they fit with the 'innovators', 'early adopters', 'early majority', 'late majority' or 'laggards'.

Therefore, 'normalising' practice change requires a shared understanding of the best practice strategies, a commitment to the value of these strategies and the organisational support to practice and be rewarded (either financially or professionally) for the changes.

These conditions have parallels in the implementation of individual changes as well. The approach developed for individual behaviour change by Batterham (2010)[40] categorises clients according to how easily they adopt change. Batterham argues that a person's capacity to self manage their condition is on a continuum, rather than a simply 'can' or 'cannot manage'. He says people need different levels of support according to the type of self manager they are. These include:

- Classic self manager – requires health education and they will do the rest

- Supported self manager – requires referral, health coaching and health education

- Prompted self manager – requires coaching, work with families/carers, encouragement

- Reactive self manager – requires assistance to develop routines, and possibly mental health support

- Non-cooperative self manager – requires help to find something they love about life and effort to maintain that, support to ensure critical needs are met, and clinician will need to try to establish a relationship with client to engage them.

It could be equally true that those health care providers who are slower to take up 'innovations', need different levels of support to achieve the change.

In a systematic review of Diffusion of Innovation Theory, Greenhalgh et al. (2004)[41] described limitations of the theory and argued that it should be broadened to include: the features of the innovation, rather than rolling out a 'package'; address issues of common definitions, measures and tools; various contexts and settings for dissemination; and allow 'on-the-ground' service providers to determine the questions relevant to the local situation.

The next generation of research, according to May et al.[37], proposes that Normalisation Process Theory (NPT) provides a more appropriate set of tools to understand and explain the social processes through which new or modified practices of thinking, enacting, and organising work are operationalised.

In particular, NPT is concerned with three core problems:

1. **Implementation** - the social organisation of bringing a practice or practices into action

2. **Embedding** - the processes through which a practice or practices become, or do not become, routinely incorporated in everyday work of individuals and groups

3. **Integration** - the processes by which a practice or practices are reproduced and sustained among the social matrices of an organization or institution.

May (2009) argued that because embedding practices depends on the social context in which people work, we need to start by looking at what they do and how they work.

Normalisation Process Theory is a theory of action. It arose out of concern that despite circumstances where professionals were favourably disposed to an innovation (such as telemedicine), where strong political support was committed, there was a wide failure to adopt the innovation in routine clinical practice. May suggested that a qualitative approach to map the implementation process helps to explain factors that "promote or inhibit collective action".[37] (The specific propositions of coherence, cognitive participation, collective action and reflexive monitoring are described in *Appendix 1 - Specific propositions of Normalization Process Theory).*

For the purposes of this study into the integration of CDSM support into routine clinical practice, NPT raises issues of involving the practitioners providing CDSM support in terms of looking at their apprehensions, their definitions of the practice, their investment in the change, and factors that promote or inhibit appraisal. The purpose of this study is to explore the political and social context in which primary health care staff provide care, with a view to how better integration of CDSM skills and strategies into routine practice might be possible.

Research questions

- What is the level of importance rural primary health care professionals attribute to elements of a chronic disease self management approach to care

- What is the self rated evidence of integration of chronic disease self management support elements into routine clinical practice by these rural primary health care professionals

- How do volunteer informants from the rural primary health care workforce describe their role in providing chronic disease self management support

- How do these volunteer informants describe the enablers and barriers to primary health care integrating chronic disease self management more effectively across rural health services

Methods and Methodology

Ethics
Ethics approval was granted for this study by the Hunter New England Human Research Ethics Committee of Hunter New England Health (Reference 10/02/17/4/02, Approved February 2010). A variation to this Ethics Application was also approved in June 2010.

Study design
This mixed methods study included a cross-sectional component using an on-line self administered survey and a qualitative component using in-depth, semi-structured interviews. The qualitative component used a phenomenological approach and drew from grounded theory data to inform collection and analysis techniques. Comparative analysis of the interview transcripts, with reference to the current literature, aimed to develop a clearer picture of what primary care practitioners working with chronic care clients are actually doing with their clients to incorporate CDSM principles into routine practice.

Methodology
The theoretical perspective which has informed this study comes from relativism with an interpretist perspective. There is no one truth concerning CDSM and CDSM support, as each person brings their own experience, values and skills to their understanding. Therefore the survey was designed to provide a framework for PHC participants to demonstrate their understanding and perceptions, while the interviews provided more detail of what CDSM support involves in their practice, as well as what might contribute to barriers and enablers to for the wider PHC workforce to integrate CDSM support in routine clinical practice.

Setting, sample and sampling
This study was conducted with primary health care professionals in rural and remote communities of northern NSW, which included northern Hunter New England Local Health District and general practice staff associated with the New England, North West Slopes and Barwon Divisions of General Practice. Health Service Managers and Division of General Practice Managers were recruited to issue invitations to participate in this study to nurses, allied health professionals, general practitioners and health educators (including Aboriginal Health Education Officers). Managers were supplied with participant information sheets and an email invitation to be forwarded to health providers who work with chronic care clients.

In the Information Sheet, prospective participants were asked to pass on the invitation to other health care professionals who may be interested in participating, adding a potential snowball sample. Consequently, it is not possible to estimate the size of the target population. As all participants completed an anonymous on-line survey (using Select Survey), no record is available as to how they received their invitation to participate. Voluntary completion of the survey was viewed as implied consent, with a total of 64 participants completing the survey.

At the conclusion of the on-line survey, participants were invited to contact the Chief Investigator if they wished to volunteer for a semi-structured interview on the subject of chronic care and their role of chronic disease self management (CDSM) support. It was hoped that from the volunteer sample it would be possible to purposively select highly interested key informants, and stratify them according to their chronic care service and geographical area. Seven staff volunteered, eliminating the need for stratification. All were registered nurses.

Written consent was given by all interview participants, signed prior to commencement of each interview.

Survey and interview design

The questionnaire was purpose designed for this study as no known validated equivalent exists. It included a range of demographic questions (Q1-7) to help create a picture of the workforce currently providing chronic care services. Demographic information included participant's place of work, their health care profession, the length of time in that profession, any management role they might have, the size of the rural community in which they work, their professional development in CDSM, and the number of chronic care clients they see each week. These issues were thought to potentially impact on how participants viewed and exercised CDSM. *(A copy of the questionnaire is shown in Appendix 3 – Chronic Care Survey)*

While finding out how important aspects of CDSM are to the PHC participants was important in terms of creating a picture of the value placed on CDSM strategies. It was also important to ask participants about which aspects of CDSM support are readily evidenced in their work environment, to provide a further picture of what is actually happening in the workplace.

Therefore, paired questions were used to solicit respondents' perceptions about the 'importance of' and 'evidence for' 36 elements of chronic care support found in CDSM literature (Q8-79).

These elements were identified as pertaining to specific CDSM themes, fitting within existing models of care, and requiring a capability or skill set to provide them. Elements were therefore drawn from concepts contained in the Chronic Care Model, the associated Assessment of Chronic Illness Care (ACIC), and Battersby's Core Capabilities for Primary Health Care. *(See Appendix 4 – Table of Elements by Action, Model of Care and Capability Required)*

The on-line survey used a 5-point Likert scale to rate the level of perceived importance of the element (ranging from 'No Importance' to 'Extreme Importance') and the level of perceived evidence of that element in their workplace (ranging from 'No Evidence' to 'Considerable Evidence'). Each question also had the option of a 'Not sure' response, to avoid respondents being forced to respond to a question they did not feel comfortable answering, as might be expected in the case of non-clinical participants (such as Aboriginal Health Education Officers, clinical educators or project staff).

Finally, two open-ended questions allowed respondents to make comments relating to the questionnaire and CDSM support in general (Q80-81).

The semi-structured, in-depth interviews explored participants' understanding of CDSM and the perceived barriers and enablers to integrating CDSM into routine clinical practice. Questions covered participants' knowledge, behaviour, experience, opinion, attitudes and feelings about CDSM, to provide an understanding of the experiences and perceptions of these health professionals. This understanding was important given that there does not appear to be any consistent understanding of CDSM among the staff who responded to the earlier ACIC, and given that a key aim of this study is to provide recommendations regarding the perceived barriers and enablers to incorporating CDSM into clinical practice.

Both the survey and interview questions were reviewed by my academic mentor and piloted with two chronic care clinicians prior to refinement and subsequent use in the study.

Data analysis

An on-line survey tool, Select Survey, was used to gather the quantitative data. This program provides basic descriptive statistics only. Responses were entered into SPSS for cross-tabulation comparison of demographic groups compared with their average (mean) responses. Further analysis was conducted in Strata version 10 comparing median scores, to eliminate any error

caused by the 'Not sure' responses. It is important to note that the five-point Likert scale were attributed rankings of 1-5 (1 being the lowest importance or evidence rank), while any Not Sure responses were given a zero value.

Interviews were conducted in private rooms at the volunteer's place of work. The interviews were audio recorded with field notes taken regarding impressions following each interview. Themes were manually identified from transcribed interviews, using a comparative analysis technique[42] and entered into a codebook, to synthesise the qualitative data. One interview was also analysed by another researcher who was familiar with the project to cross-check the process of identifying relevant themes. No member checking was conducted.

Reflexivity

Recognising that I, as the chief investigator in this study, bring my own experiences and perceptions to this study, I have attempted to be as reflexive as possible in the interpretation of the data collected. Efforts were made to limit any bias with oversight from my research mentor, Associate Professor Tony Smith, Deputy Director of the University Department of Rural Health & Rural Clinical School, Northern NSW.

I came to this study with a 17 year history of working in the health industry, mainly in health education and public relations, with tertiary qualifications in psychology and education. Over the past three years I have worked in practice development, working with primary health care (PHC) staff to improve their clinical practice in chronic care.

During this time, I have worked closely with rural PHC staff within the context of implementing the Chronic Care Model[25]. A key aspect of this has been looking for opportunities to extend chronic disease self management (CDSM) support for patients and clients. For example, I coordinated a project to develop an on-line training package 'Supporting Chronic Disease Self Management – a flexible learning package', highlighting the need for staff to move beyond clinical education of clients, to investigating their understanding of their condition, their barriers to change and their lifestyle goals, as a means to encouraging better self management of their condition.

Staff have often referred to CDSM in terms of patient education, with any aspects of emotional support or addressing of personal issues being provided out of kindness rather than as an integral part of patient-centred care. Therefore, in an attempt to look at what people do, or attempt to do, the survey asked participants to share their perception of chronic care best practice, rather than specifically CDSM. Not until the interview phase of the study, did I specially use the term Chronic Disease Self Management.

Having worked within NSW Health facilities in high profile positions for nearly twenty years, I am known to many PHC staff. In an effort to reduce any pressure participants may have felt to participate in the study, invitations to participate were issued via third party managers (such as Community Health Managers and Divisions of General Practice project staff).

It should also be noted that I have an ongoing professional working relationship with four of the seven volunteer interviewees, although I have no management responsibilities over any of them. Interviews included some reference to shared knowledge of staff and events, but I did not get the impression that the known interviewees approached the interview with a different attitude to the unknown interviewees.

Results

Response rate and exclusions

Despite substantial negotiation with managers regarding the proposed process of inviting their staff to participate in the study, some managers did not forward the invitations as planned and appear to have acted as filters of information to staff. For example, one manager reported posting the invitation on a notice board, while others targeted specific general practice staff they thought 'most likely' to be interested. Other managers were very supportive, adding a personal recommendation to staff encouraging them to participate, with comments such as "I highly recommend participation in this study as the results could have significant implications for chronic care in our area."

If invitations had been received by all potential participants, it is estimated that 250 people could have been invited to participate in the study. Some 64 people (approximately 26% of potential sample) completed the entire on-line survey, with a further 13 people (nurses, allied health and an Aboriginal Health Worker) only completing the demographic section of the survey. Only fully completed surveys were included in the analysis.

Seven survey respondents volunteered to do follow-up interviews, with participants ranging from Muswellbrook in the south to Moree in the north-west and Armidale in the north-east. All were registered nurses, with specialised community based clinical, as well as leadership, roles within Community Health or the Division of General Practice. Roles covered a range of chronic care services: cardiac rehabilitation, diabetes, respiratory, aged care, dementia, palliative care, and Aboriginal health.

While more interviews may have provided better data saturation, these seven interviews provided a wealth of information which was previously unavailable to managers and policy makers. It should be noted that each of the interviewees recognised significant flexibility in their specialist role, allowing them time, not only to do the interview, but also to provide patient-centred care. This may not have been possible for generalist nurses or allied health professionals who have a heavy clinical case load.

Demographic data

The valid survey responses (n=64) indicated a wide cross-section of participation across remote and rural (n=38) and regional communities (n=25)[‡], nursing (n=34) and other health professional (n=30) groups, as well as representing various periods of time working in their profession, and a range of managerial and clinical responsibilities.

Responses were grouped for the purposes of statistical comparison, in an effort to maximise the numbers in each group. For example, the 'nurse' group included all acute, community, private practice, specialist and non-clinical nurses, while the 'other health professional' group combined allied health professionals, such as dietitians and Aboriginal Health Education Officers, with two project officers and the one general practitioner who responded to the survey.

Cross tabulations demonstrated relationships with other demographic variables. A detailed explanation of the demographic analysis is provided in Appendix 6, with points of particular interest listed below:

Of the 34 nurse respondents:
- 10 (29%) had manager responsibilities; 24 (71%) no manager responsibilities

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[‡] One participant indicated they did not know the population of their community.

- 5 (15%) saw no clients; 9 (26%) saw 1- 5 chronic care clients per week; 16 (47%) saw more than 5-20 clients per week; 4 (12%) saw more than 25 clients per week. If 10 nurses have management roles and only 5 report not having clients, this suggests at least 5 managers have a partly clinical role and see some clients
- 4 (11%) had less than 5 years nursing experience; 18 (52%) had more than 25 years experience
- 9 (26.5%) reported having no specific chronic care training, other than on-the-job.

Of the 30 other health professional respondents:
- 8 (27%) had manager responsibilities; 22 (73%) had no manager responsibilities
- 5 (17%) had no clients; 10 (33%) had 1-5 clients per week, with 15 (50%) seeing more than 5 clients per week, suggesting that the majority of allied and other health respondents had duties that were broader than just chronic care
- 11 (37%) had less than 5 years experience; 1 (3%) had more than 25 years experience
- 15 (50%) reported having no specific chronic care training, other than on-the-job.

Of the participants who reported working exclusively in acute settings (n=12), 10 (83%) had completed professional development in chronic care, compared with those who worked exclusively in community health (n=27), 15 (55%) of whom reported having completed professional development in this field. This suggests that within this volunteer sample, chronic care training is more readily available to staff in hospital settings than in community settings.

Survey data

The 36 elements of CDSM were analysed using descriptive statistics, including comparisons of mean and median differences between paired survey responses. It is important however to remember that small sample sizes like this one, will provide an indication only of trends in the way respondents perceived the 'importance' and 'evidence' of CDSM in work practice of and should not be assumed to be conclusive evidence.

Due to the fact that all of the 'importance' responses were skewed to the left and therefore not of normal distribution, non-parametric tests were used to compare the difference between medians, which would provide a more reliable indication of the most common response than means alone.

Overwhelmingly, participants rated key elements of CDSM as either having 'Extreme Importance' (5 on rating scale) or 'Great Importance' (4 on rating scale). This was unexpected in that I had assumed there would be more of a spread across the 'importance' scale to indicate which elements contributed most significantly to the current understanding of CDSM. The highest scoring elements, with a mean score of 4.6 or higher on the 5 point scale, and a median of 5[§], provided a snapshot of what CDSM support in primary health care would ideally look like.

The top six elements were:
- Ensuring good communication across (healthcare) team participants ($\bar{x}$=4.75, median 5)
- Developing rapport between patient and health professional ($\bar{x}$=4.73, median 5)
- Patients being involved in decisions about their treatment ($\bar{x}$=4.66, median 5)
- Patients taking responsibility for their own health ($\bar{x}$=4.66, median 5)
- Addressing a patient's stress/anxiety/depression ($\bar{x}$=4.63, median 5)
- Clinicians being aware of community resources ($\bar{x}$=4.61, median 5)

Mean ratings of 'evidence' of the elements of CDSM were more normally distributed, as were

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[§] 24 of the 36 elements showed a median 'importance' score of 5 (the highest rank on the Likert scale)

the median scores (32 of the 36 elements had an 'evidence' median score of 3 or below). This suggests that while respondents understood the importance of certain actions, they were less evident in local practice. That is, knowing something to be important did not necessarily make them easy to implement in practice.

Therefore, an analysis of the difference between average 'importance' and 'evidence' scores was conducted. Thirteen (13) elements with a mean of more than 1.5 points difference on a 5 point scale, between 'importance' and 'evidence' rankings were identified. These elements ranged across all action groups (ie. clinical, enablement, assessment, goals, social/emotional and locus of control), suggesting perceptions of the importance are not limited to one specific aspect of CDSM (eg clinical care, goal setting, addressing anxiety issues).

In an analysis of the 24 elements with a median response of 'Extremely Important' (median 5), it was found that 20 of the 36 paired questions had a significantly lower median on the 'Importance' scale (median 3), with the other four elements being much closer (Median of 1-1.5 points difference). The elements with only one point difference between ratings of 'Importance' and 'Evidence' were in the areas of developing rapport between clients and health professionals and the need to document diagnosis and care plans.

Using the Wilcoxin signed-rank test, which paired the non-parametric data of the median differences between responses for 'importance' and 'evidence'[**], demonstrated the median score for importance was significantly higher than the median score for evidence on all comparisons. For example, even the two elements listed above which were closest in 'Importance' and 'Evidence 'rankings (ie rapport and documentation) were still significantly different (z=6.262, p<0.0001 and z=6.052, p<0.0001 respectively).

The greatest differences between 'importance' and 'evidence' rankings were found between professional groups (ie nurses or other health professionals) and according to whether respondents had participated in specific chronic care professional development or not.

The following comparisons (Table 3) were tested using the Two-Sample Wilcoxin Rank-Sum Test on the media difference between importance and evidence. Firstly, the difference between importance and evidence were calculated for all 64 participants. Then, the test was carried out to compare these difference for the two groups.

Table 3: Comparisons made of elements with highest and lowest median differences

Comparison	Element	z	p-value
Nurses vs Allied Health			
Q10/Q11	Knowing effect of medications	0.664	0.5067
Q16/Q17	Having a clinical management plan	2.190	0.0286
Q62/Q63	Documenting diagnosis & care plan	0.706	0.4801
Prof vs No prof devel			
Q68/Q69	Clinicians taking reponsibility for improving client's health	1.412	0.1580

Despite the medians and means showing a substantial difference between the comparison groups, the only comparison that showed a significant difference was between nurses and allied health on the elelment relating to the importance and evidence of clients having a clinical management plan (Q16/17) (z=0.706, p=0.0286). However, it is important to remember that small sample size could result in power too low to detect significant differences here.

[**] This analysis was conducted in Strata version 10.

A comparison of the mean differences between these groups also highlighted variations between perceptions of nurses and other health professionals particularly on elements relating to the need for a clinical management plan, assessing a patient's capacity to self manage and the need to address stress, anxiety and depression in clients (Table 4).

These bolded elements saw 30% more nurses ranking them as 'Extremely Important' than the other health professionals group. This suggests that nurses are more adamant about their perceptions of importance, while other health professionals might be more conservative in their assessment of importance of CDSM elements in practice.

As can also be seen from this table, reported evidence of these elements was less broad. The greatest mean difference being 21% with other health professionals perceiving less evidence of clients knowing the effect of their medication than nursing respondents. The next highest difference in mean scores between nurses and other health professionals, was in the area of addressing problem solving skills with clients. With this element, it was the nursing respondents who rated evidence more highly than nursing respondents.

Differences between the professional development groups also varied. Here the perception of importance of elements was generally higher in people with professional development than those without, while there were more participants who perceived little or no evidence of these elements in practice.

Table 4 also demonstrates that 15% more participants in the no professional development group ranked medication awareness as being more important than those with professional development. On the other hand, 15% less participants in the no professional development group ranked awareness of a long term treatment plan as less important than those with professional development.

Two open ended questions at the end of the survey enabled respondents to make more general comments. There was little consensus in these comments which included concerns regarding:
- the lack of resources and gaps in service in rural and remote areas, including allied health services
- the need for improved multi-disciplinary and inter-sectoral communication to provide better continuity of care,
- support for emotional needs of people with chronic conditions,
- the complex needs of Aboriginal chronic care clients,
- the difficulty of older staff changing their practice, and
- the difficulty of standardising practice across a wide area with access to different levels of service.

Interview themes
Each of the seven, hour-long interviews were recorded, transcribed and coded into themes using comparative analysis techniques[42]. As far as practicable, analysis of the early interviews was used to inform the development of later interview questions. Themes relevant to the research question were manually coded by the principal researcher and cross-checked by another researcher on one interview only.

Themes are discussed in two parts: those which apply to participants perceptions of client change and perceptions regarding barriers and enablers to practice change.

*Table 4: **Key differences between elements** - Elements with the greatest overall mean difference between perceived importance and evidence, showing comparisons between nursing /other health professional groups, and professional development/no professional development groups. Italicised rows show elements with greatest over all mean difference between Importance and Evidence. Bolded rows show elements with more than 30% difference in mean responses between nursing and allied health responses.*

Paired Qs	Elements	Overall diff between average 'importance' & average 'evidence' on 5-point scale	Extreme Importance (%)		Little /No Evidence (%)		Extreme Importance (%)		Little /No Evidence (%)	
			Nurses	Allied Health	Nurses	Allied Health	CDSM prof dev	No CDSM prof dev	CDSM prof dev	No CDSM prof dev
10-11	*Knowing effect of medications*	*1.82*	*76.5*	*50.0*	*29.4*	*50.0*	*60.0*	*75.0*	*30.0*	*50.0*
12-13	Knowing their long term treatment plan	1.65	67.6	46.0	26.5	34.6	65.0	50.0	27.5	33.0
14-15	Being involved in treatment decisions	1.52	70.6	69.2	17.6	15.4	75.0	66.7	12.5	29.2
16-17	**Having a clinical management plan***	**1.56**	**58.8**	**23.1**	**50**	**38.5**	**47.5**	**33.3**	**42.5**	**45.9**
22-23	Being able to identify exacerbations	1.60	67.6	38.5	29.4	23.1	60.0	50.0	27.5	20.8
26-27	*Being able to identify risk factors*	*1.81*	*61.8*	*46.2*	*44.1*	*34.6*	*57.5*	*58.3*	*40.0*	*23.4*
28-29	Having problem solving skills	1.74	44.1	38.5	50.0	34.6	45.0	37.5	37.5	50.0
30-31	**Assessing patient's capacity to self manage**	**1.54**	**73.5**	**42.3**	**23.5**	**15.4**	**65.0**	**58.3**	**17.5**	**29.2**
34-35	Supporting patient to set personal goals*	1.62	61.8	57.7	33.3	19.2	57.5	58.3	25.0	41.6
36-37	Understanding patient's priorities	1.52	58.8	57.7	23.5	19.2	67.5	50.0	15.0	41.7
40-41	**Addressing stress, anxiety and depression**	**1.68**	**76.5**	**46.2**	**32.4**	**38.4**	**65.0**	**58.3**	**30.0**	**41.7**
42-43	Having access to peer support	1.57	26.5	30.8	50.0	38.4	25.0	37.5	40.0	54.1
66-67	*Patients taking responsibility for own health*	*1.82*	*73.5*	*53.8*	*32.3*	*23.1*	*70.0*	*62.5*	*27.5*	*29.1*

* Each of these elements included two 'Not Sure' responses

Perceptions of client change:

1. CDSM practice – not a recognized thing
All interview participants declared they intentionally include CDSM in their practice, despite four of the seven reporting they had no exposure to any professional development specifically including CDSM. It was therefore important to me to find out what they understood as CDSM before asking about what they perceived as enablers and barriers to including CDSM in routine clinical practice.

> *'I didn't think of it (CDSM) as a practice' - #2*

> *'Twenty years ago there was no such thing – it might have been practiced but it wasn't a recognized thing' - #4*

2. She's intelligent, just never educated
Patient education, as part of clinical care, was seen as a priority for each interviewee, often including aspects of goal setting, skill enablement and multi-disciplinary care. All gave personal reflections of why education is an essential part of their CDSM support:

> *'An 18 year old client weighing 35 kg, (who) doesn't understand her diabetes and in a poor social situation… she's intelligent, but just never educated.' - #5*

> *'All patients that come along are given education about managing symptoms and they all get an action plan… (and) recommended that they get GP management plan … (and) access to allied health… and education sessions' - #6*

However, those interviewees with additional CDSM training, were able to articulate how education fits into the development of self management skills for the patient:

> *'It's giving clients that have chronic disease the tools to look after themselves and to manage themselves, basically. So helping the person, to have more awareness of their disease and how to manage their disease, so that they prevent exacerbations and deterioration in their condition' - #7*

3. CDSM is holistic care, involving more than education
Social, emotional and environmental issues were recognized as contributing to the client's wellbeing, but described in terms of 'holistic care' rather than in terms of patient centred care and behaviour change aspects of CDSM.

> *'It's important to look at what else is happening and self management of diabetes may not actually entail focusing on the diabetes … it might be managing depression or eating disorder or anxiety that impacts on your diabetes. It's holistic, and working on that from there… and sometimes that involves very long term goals … with mini-steps, like blood glucose monitoring.' - #5*

4. Collaborative planning
While most recognised that self management involved planning in partnership with the client, there was some confusion about the types of plans available to clients. Some referred to plans in a general sense of planning for the 'what-if this happened':

> *'We need to plan for 'what-if' … make a plan and write it down' - #2*

through to modifying standardised Action Plans developed for dealing with exacerbation of specific diseases to support individual clients:

> '*I can't write out Action Plans… telling people to take this medication or that medication. It's got to be signed off by the GP*' - #7

through to the formalised and overarching GP Management Plans, which typically include medications, referrals, team care arrangements and review dates. These GP Management Plans provide scope for General Practitioners (GPs) and the patient to document each of their own responsibilities. Concerns were raised that General Practice does not routinely invest in this level of planning with the patient:

> '*Patients are fairly confident in managing their diuretics when the GP fills out the plan and if it's clear on the plan, but I don't know how many GPs are using them*' - #6

5. Self management requires care co-ordination vs. Hotch-Potch
The need for care co-ordination was commonly discussed. Interviewees said that clients want to be 'known' by someone. This someone needed to be a person they trust and someone they believe has their best interest at heart. This can be the GP (when the patient has a regular GP), a community nurse or allied health provider, or even a well-educated carer. However, in rural areas where locum GPs are common and even local health services are staffed by visiting service providers, it is seen as the patient who misses out of adequate care:

> '*…it isn't management, it's hotch-potch – it's not helpful, it's bandaid… there's no outcomes, there's no goals, there's no progression … it's a case of that's happened, you might have been in hospital, righto, have three extra drugs and off you go home… good bye*' - #1

6. You can lead a horse to water, but you can't make it drink
All interviewees mentioned the importance of their clients having **choices**, as a fundamental aspect of CDSM. This 'choice' factor helped to relieve the frustration of clinicians when clients did not comply with best practice advice or adhere to agreed plans:

> '*You can lead a horse to water, but you can't make it drink. I have to respect that a person with lung disease might want to keep smoking, and I've given them the information they need to know what the consequences are, I can't make them do it. I have to respect their decision as the one in control*' - #5

> '*A light bulb moment for me … I went from acute where you put medication in front of someone and they (took it)… you watched them… to the community where no bastard took anything they were supposed to*' - #2

7. I can't do anything unless you do your part
Making choices about how to adhere to plans requires a **shared understanding** of the purpose and roles of each member in the plan:

> '*I once heard an endocrinologist describe someone who wasn't testing their blood sugars as like driving a car blind. You know, I can't adjust your insulin. I can't do anything unless you actually do your part*' - #5

> '*You've got to build boundaries (with clients)… like this is my job and this is your job. It's a trust relationship, but a professional trust relationship*' - #4

8. Self management requires considerable **family and community support**

> *'Family support is really important. In chronic disease we often see burn-out … if they don't have the support, it's a really hard battle' - #6*

9. Locus of control
Having information about their disease process empowers the client to be more in **control** of what they choose to do with their lives.

> *'Knowing about their condition, the plans and medications helps them to speak to their doctors more openly about what it is they want and what's going on for them… (and) utilize health services and doctors as a service, as opposed to old school where the doctor's in control and what the doctor says goes, which can often be a bit scary' - #1*

The decisions clients make aren't always seen as the right thing to do, but if the client is well informed the health professional should accept it as the client's right to choose:

> *'…(clients) are the ones that make the decisions to do the right thing and make the decision to do the wrong thing. And if they do the wrong thing, they need to be able to take responsibility for it and know there are consequences, that they are putting nails in their own coffin. We can't always help them if they keep doing the wrong thing all the time'- #3*

> *'Being involved in your own health care decisions is empowering. It means they have had some education, so they have some understanding of what's happening to their bodies … recognizing things… giving them facts … and (for us to) really support the decisions if the decisions are informed decisions' - #4.*

Perceptions of practice change:
Many of the themes identified as contributing to clinician practice change were of a system or organisational nature. In terms of strategies proposed to remediate these organisational issues, there were parallels in the interviewee's perceptions as to what supports client behaviour change and what they saw as contributing to clinical practice change.

1. Nurses are trained to 'do'
Integrating CDSM into routine practice is a significant shift from what most clinicians are trained to do, which is primarily based on the medical model. Most interviewees suggested that change in their practice came from 'being a good clinician' rather than any requirement from their workplace:

> *'As nurses we have been trained to 'do', and not to teach and not to manage… not to give education… but I developed that (in another health system) because there was no doctor, no back-up. So you did learn to listen and read the signs' - #4*

Other interviewees suggested that they do what they do because of their work requirements, rather than because of any philosophical or theoretical requirements:

> *'No I don't really have a clue (about what health policy says about CDSM). I'm sure there are policies … I know our rehab policy requires us to have a designated component of self-disease management education' - #7*

2. School of fish or supertanker

Interviewees saw considerable resistance to practice change. As was the case with clients, a lifetime of decision making in a certain way is rarely undone quickly. One interviewee recalled a speaker who likened our responsiveness to change as being either like a "school of fish or a supertanker", responding quickly and in unison or responding slowly and with less precision.

Many conditions were raised by interviewees which affect how practitioners approach this process of change, such as age, expectations of self and others, fear, personality, environmental and personal support, as well as how convinced we are of the evidence for that change.

> *'I think there can be resistance to change. We like to know what we know and what's familiar. So changing anything can be a lot of effort and take a lot of convincing, especially people who have been doing the same thing for a long time … you've got to produce the evidence don't you… in a tidy pocket that people can understand, and it can't take up too much of your time' - #6*

> *'Community Health Nurses often don't have the desire to do more holistic work with clients. But if they were given the support … the time and the education … that could possibly change. Their role needs to change and be seen as a great source of knowledge and great information' - #1*

3. Older clinicians can get battle weary

Several interviewees spoke about the frustration of working with people who were unable to commit to change and healthy lifestyle choices. This constant level of frustration without adequate measures of success to encourage staff, can leave them weary and deflated wanting more from their organisation and managers.

> *'Older clinicians can get battle weary' - #2*

> *'If you put lots of time and effort into someone over a long period of time and things don't change, that can be pretty taxing… I feel deflated for five minutes, but then you get over it. I get more deflated by the organisation' - #5*

The need for more support from the organisation seemed to focus on the need for increased training opportunities and mentoring for staff.

> *'We (the organisation) need to build that nurse or allied health staff person to be able to support this person or this family' - #1*

4. Bringing research to the coalface

Training needs were identified as bringing evidence based research to the people offering front line patient care so that health professionals see CDSM as part of their everyday practice. Interviewees felt unsupported and 'kept in the dark' in terms of evidence for practice improvement.

> *'I would really like to see some sort of forum so that the staff involved in chronic disease could get together somewhere and have a yearly update. It could come from a nursing body, the Health Dept, from programs... somewhere. I think its imperative in encouraging information sharing and generating interest... (in) changes in the way people are monitoring disease, you know all that stuff. The research comes to the coal face and not get lost in the echelons of power' - #3.*

5. Valuing support skills such as communication, trust and listening

Some interviewees said chronic care support skills were not valued highly enough by management to warrant the education and ongoing support needed, whereas clinical skills were seen as the priority.

> *'Wound management gets all the bells and whistles … (but)… sitting down talking with people isn't seen as important' - #1*

Interviewees however, reported effective communication is a vital part of establishing trust in the service, which was repeatedly raised as a fundamental part of any CDSM support service:

> *'If they don't trust you, there's your first barrier. You're not going to get anywhere, that's it. They've got to feel confident with the care, and trust that you'll be confidential and listen to them, and work in their best interest. Otherwise they're not going to listen to a word you say, you've lost them' - #6*

Learning how to listen, in a therapeutic sense, was seen as important, although nurses are not adequately trained to do so:

> *'(Listening to what clients think is important is good), but it's a hard thing for people (nurses) to let go. It's (talking rather than listening) entrenched behaviour by clinical staff. They just can't think outside the square' - #3.*

6. Mentoring

Mentoring was seen as providing much needed support for isolated rural health professionals, and as a fundamental means of bringing about practice change. Mentoring was described in various forms, from standing beside colleagues to explain things, through to formal and informal peer support:

> *'I think mentoring is one of the biggest things … sending people out with committed mentors, not cranky buggers… ones who will encourage you. The ones who made the biggest impression on me were the ones that were patient and the ones that liked to explain things' - #4.*

> *'Informal mentoring – like when I walk around the private hospital and say be mindful of these heart failure patients, and maybe give them weight charts' - #6*

> *'It's having that support. So if the girls (team members) have a concern, and their manager isn't available or doesn't know much about respiratory, they've got someone to call… it's having a central person to help them I suppose' - #7*

Mentoring involves watching and learning, and discussing issues with others, as well as being reflective about your own experience:

> *'Health professionals need a lot of face-to-face experience with patients … you can go to uni and do a course and understand everything about something, but it doesn't mean you're going to be good at any of it' - #4*

> *'If I could give a gift to the people I work with it would be reflection … it's a benefit of travel time in rural areas… time to think about things… sit back and think why didn't that work… Reflection is something they should teach more at uni' - #2*

The mentoring process can also include aspects of team work where people learn from each other. This can lead to a shared understanding and commitment within the team environment:

> 'Nobody can manage everybody, we have to recognise the strength of teams, the different skills, respecting strengths and skills. Learning from the people you are working with' - #4

> 'Everyone's talking the talk, but not walking the walk with enablement. Even the doctors. It's automatic for them to do things FOR people (rather than using the team to help the client with enablement) … its quicker, but less empowering for the client' - #3

7. The danger of making assumptions
Interviewees often raised the problem regarding clinicians making assumptions about what clients need. They suggested that health professionals need to test those assumptions and develop skills in health service co-design. This was discussed in terms of individual client needs:

> '…clinicians might think they know what clients need, but we need to check that out" - #2

and in planning services:

> '… like when the specialists who came up from Sydney and just assumed people would come… but it was harvest. No-one could get away' - #2

Often these assumptions are made because of a lack of communication and trust, reinforcing the need for expert questioning, listening and rapport building skills.

> 'The poor old GP doesn't get to see what's going on at home. The clients never (volunteer to) tell them the truth. And they slip through the holes.' - #7

8. No backfill for training
One of the issues for rural staff accessing training is the time and travel required to attend face-to-face training in metropolitan areas.

> 'They (staff) are not getting access to training. They can't be released from their work, there's no backfill and that sort of stuff' - #3

Yet training is seen as the means for developing a shared understanding of skills and values.

Four of the seven interviewees said they had not participated in any professional development specifically involving CDSM support. Two had participated in a recent pilot study for Hunter New England Local Health District's on-line training package 'Supporting Chronic Disease Self Management', developed in conjunction with the Heart Research Centre. One interviewee had also undertaken Stanford training. It was these three staff who demonstrated the broadest understanding of an integrated approach to CDSM support in routine practice.

> 'The medical model from what I can see, and I've been a nurse for 33 years, is if you get sick, we give you a pill or we'll do an operation or we'll do some treatment or

something like that. And basically, people have become dependent on going to the doctor and expecting the doctor to fix it. It doesn't work, and what we've actually got to impress on people, is that these diseases can't be cured. They can be controlled, they can be slowed up, but they can't be cured. And the biggest factor in managing the disease, and slowing the deterioration, is education and taking ownership of the problem. It's your problem, not the doctor's problem. So what can you do to modify your lifestyle. Small changes in the beginning... Look for exacerbations... Educating them about the signs of progressive worsening… and supporting them in the choices they make, if they are informed choices' - #4

Discussion

This discussion of the results in the context of the literature can be summarised under two key themes:

- knowing something to be important in your practice, does not necessarily make it happen
- practice change has similar preconditions to those experienced by the clients who are being asked to change their lifestyle to manage their chronic condition.

Knowing something to be important, does not necessarily make it happen
Evidence from the quantitative component of this study demonstrated that there was a substantial difference for most respondents in terms of what they believed to be 'important' in their practice, and the 'evidence' they perceived.

The table below (Table 5) shows the top six elements of CDSM as ranked by the greatest number of participants as having 'Extreme Importance'. These elements come from a mix of Action areas (refer Appendix 3), which illustrates an overall understanding of the 'importance' of these elements of CDSM support. However, when it is considered that five of these elements were also ranked as being among the 13 elements with the greatest difference between average 'importance' and 'evidence', it is important to look at the capabilities required to action these elements.

Battersby's Core Capabilities[20] are divided into three separate groups: Patient Centred Capabilities (PCC), Behaviour Change Capabilities (BCC) and Organisational/System Capabilities (OSC). Of the 13 key difference elements, ten sat within the PCC skill set, one sitting with the Organisational System Capability group, with two requiring a dual skill set. This suggests that training and skill development are required in each of the three Capability areas, with particular focus on the assessed needs of the group undertaking training.

As can be seen in Table 5, four of these five elements require Patient Centred Capabilities. In fact, ten of the 13 elements with the greatest difference also required Patient Centred Capabilities, raising issues regarding training and skill development requirements for primary health care staff.

In terms of participants' current understanding of CDSM support, most of the survey elements were rated as having either 'Great' or 'Extreme' Importance. Themes from the interview component of the study were more discrete, in terms of the value interviewees attributed to various aspects of CDSM support from their own experience. This allowed some consolidation of the previously identified Action areas and Capabilities classifications, by regrouping these to fit with other literature previously discussed and the various themes from the survey and interview data.

Table 5 – Elements with highest consensus as having 'Extreme Importance' when working with chronic care clients in primary health care, noting Action area and Capability required

'Extremely Important' Elements	Action	Capability
Patients being involved in decisions about their treatment	Clinical	Patient Centred Capability (PCC)
Addressing a patient's stress / anxiety / depression	Social / Emotional	PCC
Developing rapport between patient and health professional	Social / Emotional	PCC
Patients taking responsibility for their own health	Control	PCC / Behaviour Change Capability
Ensuring good communication across team participants	Multidisciplinary Team	PCC / Organisational Systems Capability
Clinicians being aware of community resources	Multidisciplinary Team	Organisational Systems Capability

From the survey and interview data, four broad themes were identified which were seen as well-entrenched in understanding, although not necessarily in practice, within this sample of primary health care participants. These included Education and Assessment, Skill Enablement and Support, Shared Understanding and Commitment, and Maintaining Locus of Control. Three further themes were identified as having significant relevance to this discussion, and how skills were integrated or 'normalised' into routine practice. These additional themes focused on the support needed to achieve Self efficacy, Reflectivity and Problems Solving.

Preconditions for change
1. Education and assessment – Survey and interview data strongly supported the view that 'change', whether for clients or health professionals, requires significant amounts of education and skills training. Both the survey and interview data support the need to base this education and training on an assessment of what is already understood.

In terms of the skills needed to assess clients' understanding of their condition and capacity to self manage, Batterham's self management continuum[40] may provide a simple, yet workable framework in terms of looking at the level of support required for change. Primary health care professionals need to be trained in various strategies for assessing clients understanding of their health condition, health literacy and social and emotional needs.

2. Skill enablement and support – Survey and interview data strongly supported the view that 'change' requires access to skill development and ongoing monitoring and support. Skill development is seen as different to knowledge, as health professionals often describe clients as 'knowing' what they need to do (eg take medication, record weight, get more exercise etc), but frequently lack the skills to do so. Similarly, the survey data demonstrates that health professionals know what they should do, but lack the skills to see it work in practice.

Consolidating skills within family, community or workplace, often requires significant levels of family, community, or professional support to do so effectively. Interview data clearly demonstrates that the lack of professional support appears to be a critical aspect in transferring the knowledge and skills into integrated practice.

The support most commonly referred to in interviews was support to undertake relevant evidence-based training pertaining to capabilities required to deliver CDSM support, together with professional mentoring.

This mentoring was seen to be supportive in several ways:
- sharing knowledge and debriefing
- role modelling and support with care co-ordination of complex clients
- acknowledgement of strengths and challenges, which in a rural, and often isolated, working environment, helps to develop self efficacy.

3. Shared understanding and commitment – Both the survey and interview data supports aspects of Normalisation Theory[37], where embedding change into normal practice requires a shared, coherent understanding of the 'cognitive and behavioural ensemble' which makes up the new behaviour. That is, before collective action can take place, all parties need to share the same understanding of what the change requires of them, both cognitively and behaviourally.

Mentoring, discussion and de-briefing all have the capacity to change thoughts and values relating to behaviours and skill development.

Interviewees also highlighted the importance of people not working in isolation to achieve this shared understanding. For the client, it is sharing the decision making and establishing clinical and personal goals which can be reviewed to celebrate success, or modified to be more appropriate to the circumstances of the individual client. For the health professional, it is more a matter of having opportunities to discuss their understanding of the meaning, purpose and evidence of a practice, within a team environment. Valuing the outcomes which stem from CDSM practices also enhances commitment to it.

Other evidence of commitment to chronic care services which interviewees identified as needed, included a reassessment of the roles and value of CDSM support by management. Interviewees said time was a luxury which the more generalist health professionals did not have. Managers therefore need to work with their clinical teams to trial changes to service delivery which can afford generalists more quality time with their clients. Just as health professionals say about client change, this starts with small changes and work forward.

A collective and coherent understanding of CDSM support – what it looks like, what the roles are for the client and health professional, what the evidence is – is all part of developing a shared commitment to the practice change. Shared understanding and commitment are seen as vital in terms of normalising the practice of CDSM support.

4. Maintaining Locus of Control – One of the most highly ranked elements of the survey, was patients/clients needing to take responsibility for their own health. All of the interviewees confirmed this as a major theme for successful behaviour change in clients.

Two interviewees used the same adage to describe how clients often make choices outside of the recommendations put forward by health professionals: *'You can lead a horse to water, but you can't make it drink'*. Despite providing clients with the education, skill development and support to enable change, there are other factors which impact on their ability to engage in sustainable change. These factors stem from the thoughts, feelings and attitudes people have, which impact on their ability to reflect on the situation, develop self efficacy and problem solving skills.

Similarly, despite policy requirements and directives at every level of government, piecemeal training opportunities and rhetoric relating to CDSM support, primary health care professionals have been slow to integrate CDSM support principles into routine practice. Just as health professionals need to assess their client's barriers to change, so too do health service managers need to work with key staff to assess the particular barriers in practice which may require additional support.

Preconditions for change - additional support required
It is this 'additional support', identified from the interview data, which were described as the 'not-so-well-entrenched' themes for effective practice change. These three additional preconditions for effective change are seen as necessary components for integrating change into routine clinical practice.

1. Self efficacy – Developing self efficacy in clients has been a well documented aspect of CDSM support, as it is regarded as a precondition of their ability to make effective choices. When self efficacy is lacking, clients are not seen to seek knowledge or skill development to be confident self managers, nor do they demonstrate the motivation to initiate or maintain the locus of control discussed previously, often deferring decision-making to others.

This study demonstrated that similarly, primary health care professionals need supportive mentoring and encouragement to develop their own self efficacy to practice new strategies, including CDSM support. Self efficacy comes from seeing success in the application of choices and strategies within the confines of the work environment. Health professionals therefore need to embed strategies which promote success, and acknowledgment of that success, in work practice. Suggestions from interviews included: formal mentoring; professional peer support programs; regular debriefing sessions in team meetings; collaborative planning and inter-professional training.

The goal of mentoring in this context is not strictly skill and knowledge development as in most mentoring programs, but in the broader context of building skills, confidence and commitment to a practice.

2. Reflective practice – Another key theme from the interview data was the need to encourage health professionals to be reflective. This definition of 'reflective' has borrowed from the qualitative research definition of 'reflexivity', to include more than a simple thoughtfulness about a subject. It is therefore discussed in the context of reflecting on the role played by the individual in the situation. It is concerned with the often taken-for-granted aspects of the situation. For example, providing education to clients which does not result in behaviour change, can often be put down to 'uncooperative' clients, whereas a reflexive response may look at the quality of the interaction between the health professional and the client, alongside other issues which may be impacting on the clients' confidence to embrace any change.

Interview data supports the importance of being able to weigh up the evidence of change for clients, as a means of encouraging them. Similarly however, it is important for health professionals to weigh up this evidence of the support given to clients (eg hospital presentations, monitoring of clinical measures, attainment of goals, quality of life measures) to reflexively enquire if changing aspects of their professional role (eg rapport building, assumptions made about clients) could have led to improved outcomes for clients.

One interviewee said 'reflection' is something which needs to be taught more at university, which may impact on the younger workforce entering health professions. For the ageing nursing workforce in this study, however, university training may not be relevant. The

challenge for health services therefore, is to integrate (and attribute value to) reflection and reflexivity in day to day practice.

3. Problem Solving – Linked with reflection is the notion of problem solving. The survey demonstrated that problem solving skills were seen by nearly half of the respondents as having 'Extreme Importance', however this element was one of the 13 elements which had a wide gap between importance and evidence in practice. For clients, problem solving is often seen as knowing how to tackle a problem, such as knowing when to access medical care, or how to adjust medications to respond to an exacerbation, or using applied cognitive behaviour strategies to modify thoughts and behaviours to make them less anxious.

When things start to go wrong, self efficacy can be seriously challenged. One interviewee described this as the 'domino effect':

> *'It's the domino effect. Something goes wrong and then something else goes wrong and then they can't manage and everything goes out of whack' - #3*

Similarly for health professionals, having the support to confidently tackle a problem is very important, particularly in isolated rural practices.

In circumstances where a professional mentor is not in place, staff should be encouraged to make links with supportive colleagues in other areas, with whom they can discuss issues and problems on a regular basis. One interviewee said she had recently set up some professional peer support with a geriatrician in another area, which she said will give her 'regular support' – something she says is lacking in her area.

Another interviewee spoke of the regular area-wide meetings which bring together specialist nurses in their chronic care field. She said while some people see their discussion as 'gossip' she said it is actually an informal debriefing session where staff can bring their successes and challenges to the table and the team brainstorms solutions. She added 'Sadly, this opportunity simply doesn't exist for other specialty areas at the moment'.

These last three themes present particular challenges for managers in their efforts to strategically plan chronic care services. However, unless these are taken seriously, it is possible that nothing will change, and health professionals will continue to 'talk the talk, but not walk the walk'.

Limitations and strengths of study

Several limitations to this study need to be acknowledged:
- The survey design did not achieve a normal distribution of ratings, so parametric tests were not considered in the analysis. The non-parametric tests used and the small sample size could have resulted in power too low to detect significant differences reducing the survey results discussion to trends only. However the strong response to the 'importance' questions, indicates a positive view of CDSM elements generally.
- The inconsistent distribution of invitations to participate in the study had a potential impact on the number of participants. In hindsight, it would have been useful to ask managers to document how they distributed the invitation and to how many people, so that a more accurate estimate of the response rate may have been achieved.

- The lack of GPs who participated in the survey reduced the generalisability of the quantitative results. While this poor response may have been the result of the invitation methods, it may well have been a result of the length of the survey.
- There was a small interview sample, which represented the views of senior specialist nurses employed by Hunter New England Local Health District only, also reduces generalisability to the rural primary health care workforce.
- This study was conducted in one geographical area rural and regional area. There is no evidence to suggest that these results are indicative of the perceptions of the whole PHC workforce in this area, nor that these results could be generalised to other rural areas.

However, there are significant strengths to this study as well, which included:
- The study attracted clinicians interested in CDSM to participate in both the survey and the interview components of the study, providing and insight into their beliefs and values.
- This study explores the complex theory-meets-policy-meets-practice interface, and creates a starting point for further exploration and discussion among researchers, health managers and clinicians in rural areas.

Conclusions and Recommendations

This study aimed to investigate how CDSM is understood within the rural primary healthcare workforce, with a view to promoting better integration of the practice within nursing, general practice, allied health and Aboriginal health services.

The quantitative component of this study enabled me to look closely at the elements embedded within CDSM theory. No simple definition captures all of the components of the theory, as there are many actions linking together which describe the practice. Therefore the 36 elements identified from the literature, used to develop the survey, were an attempt to provide respondents with an opportunity to rank their perceptions of 'importance of' and 'evidence for' CDSM in clinical practice.

The study sample was comprised of primary health care professionals working in rural areas in the northwest of NSW. Their responses demonstrated a broad understanding of the importance of chronic disease self management. However, the practice of implementing these CDSM elements is much less evident.

The elements within the survey were linked to the Chronic Care Model (Wagner, 1998) and Core Capabilities for Primary Health Care (Battersby, 2009) and the literature investigating principles of best practice for integrating CDSM into routine practice (Battersby 2010, Lorig 2000, Zwar, Harris et al 2006) as well as aspects of Australian healthcare policy. Because there is no 'one-way' to provide effective chronic disease self management support, this survey has helped to illuminate the complexity of integrating strategies into practice.

The qualitative component of this study, despite being limited to senior nursing interviewees, demonstrated a contemporary understanding of the way CDSM support is currently being offered within rural NSW and discussed a number of strategies which may assist in normalising this work further in primary health care. All interviewees described their role in CDSM as including a significant component of client education and skill development, and a commitment to building trust and rapport with clients. Some interviewees also included varying levels of goal setting and assessment. Most also

acknowledged that their clients wanted to be 'known' by someone who would assist them in coordinating their healthcare.

When combined with literature regarding CDSM support and embedding change into routine practice, several parallel preconditions for change were identified. Each of these preconditions seem to apply to integrating any sort of significant change, irrespective of whether we are working with chronic care clients undertaking health and lifestyle changes or working with PHC professionals undertaking practice change.

These key preconditions for sustainable change included:
- o Education and assessment
- o Skill enablement and support
- o Shared understanding and commitment
- o Maintaining the locus of control
- o Self efficacy
- o Reflective thinking
- o Problem solving

A number of other findings which have implications for managers were concluded from this study:

- Despite participation in this survey being by invitation (where it is assumed that only those PHC professionals interested in chronic care and CDSM would have completed the survey), there were still 24 (38%) of this sample of primary health care professionals who had not undertaken any professional development either externally or within their organisation, which specifically related working with chronic care patients and clients. This suggests that there is considerable scope for promoting both clinical chronic care CDSM support training in acute and community care settings as well as private practice.

- Evidence suggests that integration of strategies described in Batterby's Patient Centred Capabilities were the skills most needed by respondents to increase their capacity to integrate CDSM in the workplace. Behaviour Change and Organisational/Systems Capabilities were also needed.

- Primary health care professionals want to be trained in various strategies for assessing clients understanding of their health condition, health literacy as well as social and emotional needs, to equip them to better serve clients in a holistic way.

- Giving value to CDSM support and the outcomes of CDSM practice within the PHC workforce, requires more work to develop a shared understanding of **how** CDSM can be implemented in practice, which may be achieved through training and mentoring.

- The goal of mentoring, with both clients and primary health care professionals, is not strictly to develop skills and knowledge as in previous mentoring programs, but in the broader context of building confidence, reflective practice and problem solving which will enhance commitment to the practice of CDSM support.

Key recommendations to managers therefore include:

- Ensure all primary health care staff working with chronic care patients have access to CDSM training to equip them for patient-centred care and behaviour change skills

- Ensure all staff have access to mentoring, peer support and professional de-briefing to develop a coherent understanding of their role and commitment to CDSM strategies

- Work with key clinical staff to transform organisational systems to better support staff in their efforts to 'normalise' CDSM work practices, including care coordination.

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