Nurse Perceptions of the Challenges of Providing Self-Management Education in Primary Health Care to People with Newly Diagnosed Type 2 Diabetes

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ABSTRACT

Background: As primary care nurses have become increasingly involved in the provision of Diabetes Self-Management Education (DSME) and the care of newly diagnosed patients with Type 2 Diabetes (T2D), it is important to explore the challenges associated with this role.

Aim: The objective of this study was to explore the perceptions of primary care nurses of the challenges they face in providing DSME to newly diagnosed patients with T2D. Further aims were to explore current knowledge bases, training backgrounds and education content to determine their consistency and to understand whether current nursing guidelines are incorporated into DSME and if they are found to be useful in practice.

Method: Ten Practice Nurses with Diabetes as a Special Interest (PNDSI) participated in audio-taped, semi-structured, face-to-face interviews. Data was analysed thematically using Thomas’s (2006) general inductive approach as a guide.

Findings: The following key themes were identified: 1) the primary care nursing Role in DSME; 2) the challenges of providing DSME; 3) how nurses dealt with the challenges of providing DSME; 4) what nurses considered to be the main points of DSME; 5) resources used for DSME; 6) guidelines; 7) confidence and preparation for providing DSME; 8) cultural training in the DSME setting; 9) nurse education and training.

Conclusion: The nurses’ perceptions of their role in the care of patients newly diagnosed with T2D varied, but many indicated that it had evolved to encompass more complex aspects of DSME. The challenges they faced included achieving patient comprehension of DSME concepts and access to care. The nurses accessed further education as they perceived necessary rather than to meet role requirements. National diabetes management guidelines were considered useful for standardising and supporting practice, but were used only as a guide for providing individualised patient care. Understanding cultural practices was viewed to be important to improve health outcomes particularly for Māori patients. DSME educational resources used by nurses varied, and the study’s results suggest further research around the content and usefulness of current educational material may be beneficial to ensure consistency of information for nurses and patients.
ACKNOWLEDGEMENTS

“Research is to see what everybody else has seen, and to think what nobody else has thought” Albert Szent-Gyorgyi

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<td>BP</td>
<td>Blood Pressure</td>
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<tr>
<td>DAR</td>
<td>Diabetic Annual Review</td>
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<td>DHB</td>
<td>District Health Board</td>
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<td>DNS</td>
<td>Diabetes Nurse Specialist</td>
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<td>DSME</td>
<td>Diabetes Self-Management Education</td>
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<td>GP</td>
<td>General Practitioner</td>
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<tr>
<td>Hba1c</td>
<td>Glycated Haemoglobin</td>
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<tr>
<td>MDHB</td>
<td>MidCentral District Health Board</td>
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<tr>
<td>MOH</td>
<td>Ministry of Health</td>
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<td>NCNZ</td>
<td>Nursing Council of New Zealand</td>
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<td>NDNKSF</td>
<td>National Diabetes Nursing Knowledge and Skills Framework</td>
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<td>NP</td>
<td>Nurse Practitioner</td>
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<td>NZ</td>
<td>New Zealand</td>
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<td>NZNO</td>
<td>New Zealand Nurses Organisation</td>
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<td>NZSSD</td>
<td>New Zealand Society for the Study of Diabetes</td>
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<tr>
<td>PDRP</td>
<td>Professional Development Recognition Programme</td>
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<tr>
<td>PHC</td>
<td>Primary Health Care</td>
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<tr>
<td>PHO</td>
<td>Primary Healthcare Organisation</td>
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<tr>
<td>PN</td>
<td>Practice Nurse</td>
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<td>PNDSI</td>
<td>Practice Nurse with Diabetes as a Special Interest</td>
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<td>Abbreviation</td>
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<td>PWD</td>
<td>Patients with Diabetes</td>
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CHAPTER ONE: INTRODUCTION

1.1 Introduction

In New Zealand (NZ) the prevalence of Type 2 Diabetes (T2D) is increasing toward epidemic proportions (MOH, 2007). Coppell et al. (2013) indicate that seven percent of the NZ population are known to have diabetes and 18.6% are diagnosed with pre-diabetes. The highest incidence of diabetes was noted in Pacific Island populations, the next highest in Māori populations. Although pre-diabetes was high in all age groups, it was particularly high amongst the working age groups of 35-64 years. The increasing social and economic impact of T2D on the healthcare system has led to changes in ‘care’ from secondary care to a primary care focus (Joshy & Simmons, 2006).

Brown et al. (2002), cited in Ross Barnett, Pearce and Howes (2006), suggests that public health strategies to approaching diabetes management include firstly, facilitating awareness of the disease and risks of developing T2D and secondly, promoting and providing education particularly to newly diagnosed patients to support them to effectively self-manage their condition.

National programs in NZ encompass this approach and Kenealy et al. (2004) suggest programmes have been developed to encourage practice nurses to take a more active role in the management of diabetes. Examples of this are the ‘Get Checked’ Diabetic Annual Review (DAR) programme and funded, nurse-led clinics introduced by Primary Healthcare Organisations (PHOs). Practice targets are set with financial incentives to reach groups of high deprivation and the general population. The effectiveness of these programmes vary amongst healthcare providers and PHOs and also depend on the medical practice’s capacity to encourage people with diabetes to access these free services (Brady, 2007; Cowley, 2010).

Within these programmes the role of nurses providing diabetes care has advanced. Cowley (2010) describes the scope of this evolving role in NZ as providing care and education for people with T2D, supporting them to develop understanding and acceptance of a chronic disease and managing complex issues such as commencing insulin therapy.
1.1.1 Diabetes Self-Management Education (DSME)

Diabetes education is viewed as a foundation for optimal health outcomes for Patients with Diabetes (PWD) and can be defined as addressing patients’ needs via an exchange of knowledge, tools and practices (Ellis et al., 2002). The importance of receiving effective self-management education is recognised as significant for all PWD, particularly people with newly diagnosed T2D, as this group of patients need prompt access to information to enable them to adequately self-manage (Lawrenson, Joshy, Eerens, & Johnstone, 2010).

Self-management is a common term used in health care education and is often used within health promotion programmes. Corbin and Strauss’s (1991) framework cited in Lorig and Holman (2003), outlines medical or behavioural management, role management and emotional management to be components of self-management for people living with a chronic disease (Lorig & Holman, 2003). Coleman and Newton (2005) further describe self-management education as supporting patients to have the confidence to make informed choices about their health-care, to improve their health outcomes using techniques such as motivational interviewing and identifying potential barriers to patients achieving their self-management goals.

A number of studies have examined the impact and outcomes of newly diagnosed T2D self-management education on PWD, exploring ways for health professionals to provide appropriate care (Clarke, 2009; Ellis et al., 2003; Norris et al., 2002). Organisations such as the National Institute of Clinical Excellence (NICE), United Kingdom (UK) and American national standards for DSME have outlined recommendations for the provision of structured education for people with newly diagnosed T2D (Davies et al., 2008; Funnell et al., 2009; NICE, 2009; Ockleford, Shaw, Willars, & Dixon-Woods, 2008; Skinner et al., 2006). These recommendations have led to the development and introduction of programmes including group education such as the Diabetes Education and Self-management for Ongoing and Newly Diagnosed (DESMOND) programme and individual education such as the Diabetes Manual DSME patient programme(Davies et al., 2008; Funnell et al., 2009; NICE, 2009; Ockleford, Shaw, Willars, & Dixon-Woods, 2008; Skinner et al., 2006).

The DESMOND group and individual Diabetes Manual programmes, along with majority of DSME for people with diabetes, are designed to be provided in Primary Health Care (PHC) settings, for the most part by practice nurses (Davies et al., 2008; Funnell et al., 2009; NICE,
Although there is evidence exploring the patients’ perspectives around the provision of DSME in PHC settings, it is also important to establish practice nurse perceptions and potential challenges they encounter providing DSME (Peters et al., 2001).

1.1.2 Type 2 Diabetes (T2D)

T2D is a complex disease involving the pancreatic beta cells, peripheral tissues such as adipose (fat) and skeletal muscle along with the liver. It is characterized by elevated blood sugar levels which, if left untreated, can lead to retinal, neuropathic, cardiovascular and renal damage with fatal results in some cases. Blood measures used to monitor the progression of diabetes are the Hba1c blood test (measurement of glycated haemoglobin) which is seen as the gold standard test for assessing glycaemic control and is now also used for diagnosis along with fasting blood sugar levels in NZ (Fonseca, 2006; NZGG, 2012). The risks of developing complications are measured on a variety of factors including blood markers and presence of co-morbidities such as hypertension (high blood pressure), previous stroke or cardiovascular disease, hyperlipidaemia (high cholesterol) and renal impairment (kidney disease)(NZGG, 2012).

The prevalence of T2D in NZ is rapidly increasing and is three times more common in Māori and Pacific Island populations, with people of South Asian descent also identified as being at high risk of developing the disease. These statistics indicate that there is a growing need for patients to be supported and educated to self-manage their condition to minimise the risk of developing diabetes related complications (Joshy & Simmons, 2006).

1.2 Researcher’s Interest

My role working as a Practice Nurse with Diabetes as a Special Interest (PNDSI) evolved through the establishment of nurse-led clinics in a rural health care setting. The diabetes management part of this role has grown substantially. My clinical practice and development is supported by the General Practitioners (GP) and a Diabetes Nurse Specialist (DNS) employed by the PHO. There are, however, no specific training or educational pre-requisites (other than being a registered nurse) in regards to this evolving role.
When discussing the practice issues of this role with other nurses working in similar positions it appeared there were significant differences in nurses’ skills, knowledge and role development. These differences were most obvious around what self-management information is given to people who are newly diagnosed with T2D by practice nurses working in nurse-led diabetes clinics.

The education given to patients during clinic visits also appeared to depend on the extent of the barriers present and around both nurses and patients. Some of these barriers included practice nurse education and training backgrounds, consultation timeframes, patient levels of understanding/knowledge and patients perceptions around the management of T2D. It was these informal discussions with other nurses regarding their perceptions and attitudes to providing self-management education to patients with T2D that led to the development of my research question.

1.3 Significance of the Research

The increasing prevalence of T2D means more newly diagnosed people require self-management education. Practice nurses working in specialist diabetes roles are often primary contacts for many newly diagnosed people for self-management support (Peters et al., 2001; Simenerio, Funnell, Peyrot, & Rubin, 2007). Currently there is limited literature around what information is given by these practice nurses to people in NZ with newly diagnosed T2D.

In NZ, diabetes care is guided by MOH directives initiated by District Health Board’s (DHBs) and PHOs like the ‘Get Checked’ programme and nurse-led clinics. The New Zealand Guidelines Group (NZGG) national diabetes guidelines underpinning these initiatives indicate the health priority for patients with diabetes is to achieve optimal glycaemic control. This is to reduce the risk of developing diabetic complications and to improve patient health outcomes (NZGG, 2003). These diabetes guidelines outline the biomedical factors of managing this chronic disease with little focus on the impacts on daily living for these people.

An aim of this study was to identify what patient barriers impact on nurses’ ability to deliver self-management education. It would help establish whether barriers are related to
education content, delivery method issues or a combination of both. Strategies for reducing these barriers could be designed and implemented into practice as a result.

A further aim of the research was to establish nurse perceptions of their knowledge and skills and to identify why and where they need support and development to effectively care for people with newly diagnosed T2D. By identifying nurses' perceived challenges to providing education and their possible knowledge gaps, strategies and training may be tailored to support nurses to improve their delivery of care. For example, Livingston and Dunning (2010) explain, as diabetes treatments and care are continually advancing it is important for practice nurses providing this education to up-skill to help people to achieve optimal health outcomes.

The study’s findings would be useful to indicate whether there is consistency in the information provided to patients by these nurses, how national guidelines are implemented in practice and whether they are viewed as useful or limiting. This could perhaps indicate a need for the development of an evidence-based standard education package for nurses to use as a guide in practice.

By exploring what nurses do in practice, the research could potentially benefit patients, particularly regarding consistency and delivery of patient education. Ultimately if gaps exist in nursing practice this impacts on the content and quality of education given to patients and effectively their ability to adequately self-manage.

1.4 Research Question

The question the research addresses is:
‘What are the challenges for nurses in primary health care providing self-management education to people with newly diagnosed Type 2 Diabetes (T2D)?’

1.5 Aims and Objectives

The aims of this research were to identify some of the challenges of providing DSME to newly diagnosed patients and to discover the methods they use to overcome these challenges to support patients to self-manage. Specific objectives of the research are to:
• Explore current knowledge bases, nurses training backgrounds and education content to gauge consistency.

• Explore whether current guidelines are incorporated into self-management education and if they are found to be useful in practice.

• Identify nurses’ perceived challenges to providing DSME and how they impact on their delivery of care.

1.6 Assumptions

Certain assumptions were made during the development of the study and after reviewing the literature which are as follows:

1. Practice nurses with diabetes as a special interest (PNDSI) working in PHC will be interested in learning about their experiences providing DSME to newly diagnosed patients.

2. PNDSI will be interested in what resources and guidelines are used within medical practices in the Location A and Location B areas.

3. PNDSI will be interested in what are the main points of DSME considered important to communicate to patients with newly diagnosed T2D.
CHAPTER TWO: REVIEW OF THE LITERATURE

2.1 Introduction

The objective of this review was to explore nurse perceptions of providing self-management education to people with Type 2 Diabetes (T2D) and the impacting barriers in Primary Health Care (PHC) settings. An integrative methodology was chosen to incorporate both qualitative and quantitative empirical research papers in this literature review. This design was outlined as being particularly useful for developing nursing science and applying to nursing practice (Whittemore & Knafl, 2005).

Databases used for this review include ebscohost (including CINAHL), MEDLINE, ProQuest, Cochrane, Google and Google scholar. Search terminology used were “Type 2 diabetes” or “diabetes” or “diabetes care” in combination with “nurse* perceptions/perspective” or “nurse* views” or “nurse* knowledge” or “nurse* understanding” or “nurse* care” or “nurse* role” or “practice nurse” and “newly diagnosed” and “primary care”. These terms were combined in different variations to ascertain primary studies and literature reviews. Inclusion criteria was data around nurses’ perceptions, attitudes, views and beliefs around diabetes education and/or impacting barriers in primary care. Material excluded were DSME data from the patients perspective, specific studies investigating Type 1 diabetes, involving secondary providers, for example, Diabetes Nurse Specialists (DNS) working in-patient settings and ‘health professional’ perspectives if a comparatively small proportion of those were nurses. A manual search of references was also performed in attempts to accumulate further related studies. The limits set were publication date: 1990-2012; peer reviewed; human populations; English Language and adults.

The following review will critique the 14 studies that were located including six qualitative, four quantitative, two mixed methods, one Delphi study and one integrated review. A quality appraisal was conducted of all studies retrieved.

2.2 Literature Critique

Two main themes emerged from the literature analysis. The first theme concerned nurses’ perceptions of their role providing Diabetes Self-Management Education (DSME) of which three sub-themes emerged: guideline use; nursing knowledge; and nursing role in primary
care. The second main theme was nurses’ perceptions of patient barriers in providing DSME, in which three sub-themes emerged: patient knowledge; compliance versus concordance; and other impacting barriers.

2.2.1 Nurse Perceptions of Providing DSME

2.2.1.1 Diabetes Guideline Use and Implementation in Practice

Guidelines in the studies are described as being recommendations in diabetes care either at national or practice level. These are mostly described as medically orientated goals of diabetes care based on standards developed by groups such as the British Diabetic Association (BDA) and New Zealand Guidelines Group (NZGG) e.g. optimal blood glucose control and screening measures to prevent diabetic complications (Jutterström, Graneheim, Isaksson & Hörnsten, 2012; Kenealy et al., 2004; Stewart, Dyas, Brown & Kendrick, 2006; Woodcock & Kinmonth, 2001). Nurses involved in Gillibrand, Taylor and Hughes’ (2004) Northwest England study described local and national diabetes guidelines and registries, suggesting the added security and uniformity of care resulting from the use of guidelines was beneficial to their practice. These nurses did, however, note the documentation requirement of these management protocols was time consuming and impinged on their consultation time with their patients, with some nurses explaining that they used un-contracted time to record patient information.

Time constraints and the medical model approach were also noted by nurses involved in Hörnsten, Lundman, Almberg and Sandström’s (2008) and Stewart et al.’s (2006) studies, where they highlighted how strict adherence to diabetes guidelines impeded their focus on understanding the ’lived experience of illness’ and their ability to encompass whole patient care and engagement when providing DSME.

Nurses in Stewart et al.’s (2006) study also highlighted that while many of the interviewed nurses providing DSME strived to achieve the ideal patient-centred care, in reality, adhering to diabetes guideline recommendations such as traditional medical focus on patients’ metabolic control and completing diabetes complication risk assessments were considered to be ‘actual’ nursing practice. Hörnsten et al. (2008) reported that nurses felt uncomfortable when they deviated from the diabetes guidelines around metabolic limits to
cater for patients personal goals. This was due to the nurses’ perceptions of medical practice expectations placed on adhering to these diabetes guidelines.

In other studies some nurses reported a lack of guidelines available in PHC for diabetes management left nurses feeling unsupported, particularly around diabetes complications, management and screening (Kenealy et al., 2004; Livingston & Dunning, 2010; McDonald, Tilley, & Havstad, 1999). Livingston and Dunning (2010) further noted that Practice Nurses (PN) identified lack of diabetes knowledge, such as disease complications and screening procedures, as impacting on their ability to implement national or practice-recommended diabetes monitoring guidelines, potentially affecting their patients’ health outcomes.

2.2.1.2 Nursing Knowledge of DSME

Nursing knowledge of DSME is identified in the reviewed studies as including disease management and complications, commonplace treatments for diabetes and self-care issues e.g. lifestyle and diet counselling, smoking cessation, weight management issues, neuropathic and retinal checks and optimal glycaemic control. Nurse perceptions were related to their knowledge base around these factors when providing DSME to patients with diabetes. Limitations associated with the nurses’ ability to provide DSME, were the nurses’ education level and the delivery methods they used to communicate the information to their patients (Jansink, Braspenning, Van Der Weijden, Elwyn & Grol, 2010; Livingston & Dunning, 2010; Woodcock & Kinmonth, 2001).

Kenealy et al.’s (2004) South Auckland based longitudinal study described an increased practice nurse involvement in complex diabetes care in 1999 from 1990, with nurses also reporting higher diabetes professional education levels in 1999. This led to these nurses demonstrating an improved understanding of some of the presenting challenges that prevent Patients with Diabetes (PWD) from achieving adequate diabetic control (particularly Māori and Pacific Island populations). McDonald, Tilley, and Havstad’s (1999) findings are consistent with this, stating nurses with higher educational levels demonstrated improved understanding and performance of diabetes self-management care in comparison with nurses with lower education levels. These studies also reflected on the nurses’ reported knowledge deficits and educational gaps, which potentially impact on their ability to provide effective DSME.
Specific gaps in nursing knowledge, such as diabetes complications and screening procedures, were identified in rural Australian practices by Livingston and Dunning (2010). These factors along with limited nursing knowledge around diabetes self-management care, suggest that the information Practice Nurses (PN) are providing may be outdated and impact on PWD health outcomes (Livingston & Dunning, 2010).

Nursing knowledge gaps pertaining to physical activity, smoking cessation and dietary advice were also recognised, but a gap in nursing skills in delivering self-care education, more specifically counselling methods, was also acknowledged (Jansink et al., 2010). Jutterström et al (2012) also state that nurses recognised their lack of tools, resources and knowledge to effectively counsel patients and provide sufficient DSME.

Possible reasons for nursing knowledge deficiencies may be related to a lack of national training frameworks for primary care diabetes management in rural parts of Australia, and also to limited accessibility and consistency of higher level education (Livingston & Dunning, 2010). With regard to the latter, there were various courses offered via universities and other learning institutions that were accessible online whereby nurses could up-skill (Livingston & Dunning, 2010). In New Zealand (NZ), Kenealy et al. (2004) found there was also no national framework for training and higher level of education for diabetes specialisation in PHC and professional education was provided through a range of sources. Furthermore, there was no specific training for PNs despite these nurses describing a more complex diabetes work role. NZ PNs educational needs were however noted to be different to their United Kingdom (UK) counterparts in regards to scientific knowledge, possibly due to the evolving diabetes nurse prescribing pathway in the UK (Cowley, 2010).

Some studies identified ‘how’ PNs use diabetes knowledge in the self-educator role (Hörnsten et al., 2008; Livingston & Dunning, 2010; Stewart et al., 2006). The patient-centred approach to patient education is perceived as the ideal approach for nurses, however Hörnsten et al.’s (2008) and Stewart et al.’s (2006) studies both indicated that nurse-patient interactions described by the nurses revealed a more professional-as-expert view, rather than the patient-centred approach of integrating the patients’ ‘lived experience’ into their DSME. Hörnsten et al. (2008) and Pill, Rees, Stott and Rollnick (2001) further describe nurses as feeling more at ease during consultations if they perceived their knowledge base as being superior to the patients. They identified feeling uncomfortable
educating patients at an equal level, indicating a preference for a ‘power-over’ relationship. Despite nurses identifying a partnership approach to diabetes care as being ideal, these studies, along with Jutterström et al. (2012), found that in reality nurses still focus on the traditional biomedical approach.

### 2.2.1.3 Primary Care Nursing Role providing DSME

Practice nurses’ perceptions varied around their role of providing diabetes care. Siminerio et al. (2007) found that North American PNs viewed themselves as generalist nurses, providing patients with security and hope, as well as acting as mediators between General Practitioners (GP) and patients to ensure adequate care is achieved. This is despite being in a key position to provide self-management education and psychosocial support. Peters et al.’s (2001) study also discussed how PNs identify as generalist nurses even though they provide diabetes care and implement diabetes guidelines. The time nurses spent providing patients with diabetes education was a small proportion of their total daily work content which may be the reason why they continue to identify as generalist nurses. The nurses in Peters et al.’s (2001) study revealed concerns that the developing of a semi-specialist diabetes role could be potentially be problematic, in that it could lead to nurses either having not enough responsibility such as due to lack of GP support, or too much responsibility, unsupported by further educational development or adequate financial rewards.

In other studies, however, PNs recognised their role as being pivotal to the provision of DSME, however, their lack of specialised knowledge and skills limited their abilities to provide effective care (Hörnsten et al., 2008; Jansink et al., 2010; Stewart et al., 2006). Cowley’s (2010) NZ review showed how the shift in diabetes care from secondary to primary healthcare has resulted in the emergence and development of the PN role in diabetes. This has highlighted a need for advanced ways to manage patients with T2D self-management needs in PHC.

### 2.2.2 Nurse Perceptions of Patient Challenges to providing DSME

#### 2.2.2.1 Patient Knowledge and Education

Nurses’ views of their patients’ knowledge of T2D were largely measured on the patients’ understanding of metabolic control and by reducing the risk of diabetic complications,
focusing on the traditional values of a biomedical model of care. Nurses also reported in some studies, as feeling frustrated if these key points of T2D self-management were not considered important by patients or were ignored (Hörnsten et al., 2008; Pill et al., 1999; Stewart et al., 2006). Some nurses in Pooley, Gerrard, Hollis, Morton and Astbury’s (2001) study also felt a sense of failure if patients’ glycaemic control deteriorated, using biomedical markers as a way to measure a patient’s self-management progress.

Interestingly, in Woodcock & Kinmonth’s (2001) study, nurses’ perceptions of what is important to patients with T2D, in relation to diabetes care, differed considerably from patients’ perceptions, with issues of ‘fear of getting worse’ and ‘damage caused by diabetes’ rating of higher importance to patients than to the nurses interviewed.

### 2.2.2.2 Patient Compliance versus Concordance

Nurses referred to the term ‘compliance’ rather than ‘concordance’ when describing patients’ self-management practices, differing from the holistic model of patient-centred care (Hornsten et al., 2008; Jansink et al., 2010; Stewart et al., 2006). The idea of ‘patient acceptance’ was also considered to impact on compliance regarding patients’ ability to self-manage their diabetes, with nurses recognising that patients who accepted their diagnosis were more likely to take an interest and achieve improved health outcomes than those patients who were classed as ‘non-accepters’ (Jansink et al., 2010; McDonald, Tilley & Havstad, 1999; Stewart et al., 2006).

Nurses reported some patients’ attitudes to diabetes lifestyle management as being potential barriers, with elderly patients and those who were unwilling or adverse to change as being patient groups who particularly searched for excuses to avoid habitual, sustainable change (Jansink et al., 2010). Nurses also described categorising patients into groups, e.g. by using dichotomous classifications like ‘adherers versus non-adherers’, ‘compliant versus non-compliant’, rather than viewing patients as individuals, thus creating a ‘distancing effect’ (Hörnsten et al., 2008; Stewart et al., 2006). It was evident from these qualitative studies that when nurses distance themselves by labelling patients behaviour, this became a barrier to providing effective DSME. Nurses also distanced themselves by using labels such as ‘professionals’ and ‘patients’ in a hierarchical fashion, with the focus of education being
ongoing directives rather than forming partnerships in self-management care (Hörnsten et al., 2008; Stewart et al., 2006).

Some health professionals’ responses in Pooley et al.’s (2001) research indicated how their focus was on education and compliance to treatment rather than on facilitating the development of a self-management plan in concordance with the individual. Other health professionals in this study, along with patients however, did recognise the need to deliver individualised care. Both parties cited lack of time and continuity of care to be major barriers to achieving this. Patients further stated that effective diabetes self-management can only be achieved when patients’ individual needs are accounted for, highlighting that no two PWD are identical in their lived experiences. Diabetes care and education should be tailored to the individual rather than guided by a standard textbook-like response which was described to be a commonality in practice. PNs and DNSs were indicated as the health professionals already providing this type of service, however responses varied significantly across the study area (Pooley et al., 2001).

Nurses in Pill et al.’s (1999) study reported difficulties when attempting to provide patient-centred DSME, particularly for patients with poorly controlled diabetes. Despite nurses in other studies indicating empowerment models of care being ideal for patients living with chronic illness (Gillibrand, Taylor & Hughes, 2004), Pill et al., (1999) suggests that nurses are challenged to be able ‘let go’ and encourage patients to self-manage their condition. This was seen as being an issue for nurses due to their perceptions of not conforming to the conventional biomedical model of care and the possible deterioration of patients’ glycaemic control.

The nurses involved in Jutterström et al.’s (2012) study do however suggest that, in ideal situations, patient experiences and their individual issues of living with diabetes are explored to encourage active input into their own self-management predominantly where patients demonstrate active participation. Jutterström et al. (2012) show that although the ideal was achievable in nursing practice for these PWD, in reality some patients needed instruction or governance. This was due to a perceived lack of patient motivation, insight and compliance with diabetes treatments and self-management initiatives which supports the nursing perceptions identified in the other studies (Hörnsten et al., 2008, Jutterstrom et al., 2012; Stewart et al., 2006).
2.2.2.3 Other Patient Impacting Barriers

Other factors considered by nurses that impact on disease management and self-care for PWD are identified as being socio-economic status, consultation time availability, presence of family during consultations and cultural differences (Jansink et al., 2010; Kenealy et al., 2004; Stewart et al., 2006). Nurses in Stewart et al.’s (2006) study considered patients’ socio-economic factors to be possible barriers which may impact on their ability to self-manage. The study suggests that for PWD living in poor-housing situations, with family pressures and limited income, lifestyle changes would be difficult to implement and sustain. Lower socio-economic status is often linked with ethnicity, particularly in NZ but also globally, and language and understanding levels are also considered possible barriers to effective education (Kenealy et al., 2004; Jansink et al., 2010).

Both health professionals and patients considered appropriate time allocations for consultations to be essential in Pooley et al.’s (2001) study. This was to enable nurses to provide effective information, to allow patients to ask questions and have them answered, and to formulate an individual care plan fitting with the patient’s wishes. Lack of time was cited by both parties as a challenge to achieving optimal education and care outcomes (Pooley et al., 2001).

Family support and participation were viewed as vital for PWD self-care success and the lack of their involvement was described as a potential barrier. Kenealy et al. (2004) reported how NZ nurses considered it important that family members be present and involved in PWD self-management education. However, they failed to ascertain which particular patients would most benefit from family presence or how the PNs would best run the consultations to accommodate them.

2.3 Summary

Despite the limited amount of research on the topic of nurse perceptions of providing DSME to patients with T2D in PHC, it is possible to identify some key findings. All research reviewed investigated nurse perceptions in diabetes care although the focus and methods used varied. One study examined PN and DNS perceptions (Jutterström et al, 2012). Most, however, focused on the perspectives of PNs, outpatient or district nurses who were working in PHC areas (Cowley, 2010; Gillibrand, Taylor & Hughes, 2004; Hörnsten et al.,
Three studies made comparisons between health professionals which included PNs (Peters et al., 2001; Pooley et al., 2001; Siminerio et al., 2007). The main focus of the studies was nurse perceptions of providing forms of diabetes self-management education and care in general practice settings. However, some studies focused more on role development and scope of diabetes care, particularly nursing interventions in primary health care (Cowley, 2010; Gillibrand, Taylor & Hughes, 2004; Hornsten et al., 2008; Jansink et al., 2010; Jutterström et al, 2012; Kenealy et al., 2004; Livingston & Dunning, 2010; MacDonald et al., 1999; Peters et al., 2001; Pill et al., 2001; Pooley et al., 2001; Siminerio et al., 2007; Stewart et al., 2006; Woodcock & Kinmonth, 2001).

The relationship between the years of nursing experience and the nurses’ perceived knowledge base were noted as limitations by Livingston & Dunning (2010) who suggested this to be an area requiring further ongoing research. The demographics of the participants differed between studies with varying sample inclusion criteria and data collection techniques. These factors may limit the findings of the studies and implications. The studies which compared PN roles and DNS roles in diabetes care were helpful to understanding the definitions and restrictions of these roles, particularly related to the shifting focus of diabetes care. However, once again the differing research designs made it difficult to compare findings (Peters et al., 2001; Pooley et al., 2004; Siminerio et al., 2008).

The lack of NZ based research, alongside the many studies originating from other countries, made it difficult to apply findings specifically to NZ practice situations. The global evidence reviewed was, however, congruent with some of the findings in the NZ studies, therefore can be considered as valuable. A relationship was evident between nurse perceptions of their role in self-management education and their views of potential patient barriers. Guidelines for diabetes management were considered as useful, however, nurses suggested that the biomedical focus limited their ability to provide patient-centred care (Hörnsten et al., 2008; Stewart et al., 2006). Nurses’ descriptions of the reality of practice, particularly evident in qualitative studies, was as a professional-as-expert model of care, whereby they viewed successful DSME for PWD to be evident when patients demonstrated sound understanding of metabolic measures and a reduction in the risk of developing diabetes complications. Only two studies, Gillibrand, Taylor & Hughes (2004) and Jutterström et al.
describe delivering care in a holistic way. While PNs in Gillibrand, Taylor & Hughes’ (2004) study perceived themselves as delivering holistic, multifaceted self-management care to patients with diabetes, nurses in Jutterström et al.’s (2012) study also considered this to be achievable. These nurses, however, acknowledged this to be ‘ideal’ practice, recognising that when patients demonstrate a lack of motivation to engage in the self-management of their diabetes, nurse control or governance over diabetes care is often a reality in educating some PWD.

Acknowledging the ‘lived experience’ of PWD, such as understanding the fears, concerns and arising issues, was not rated as being as important by nurses in self-management education as achieving good understanding around optimal glycaemic control (Woodcock & Kinmonth, 2001). Compliance and adherence were measured by PWD achieving dietary, lifestyle and treatment changes outlined in self-management education. Patients were labelled as ‘non-compliant’ or ‘difficult’ if they lacked understanding of the importance of achieving adequate glycaemic control or their biomedical levels deteriorated (Hörnsten et al., 2008; Pooley et al., 2004; Stewart et al., 2006).

This biomedical focus may be due to organisational influences and national significance placed around these metabolic measures in diabetes guidelines. This is evident in tools such as the DAR in NZ, where the nurses’ focus is on obtaining this information (Cowley, 2010; Hörnsten et al., 2008; Stewart et al., 2006). It may also be related to nursing knowledge gaps in DSME (Livingston & Dunning, 2010). Many studies indicated PNs acknowledged requiring further education, particularly on biomedical education and counselling methods. More research is needed to identify areas of diabetes specific educational weaknesses for PN’s practicing in NZ.

Potential barriers for successful patient DSME included the lack of family involvement, language barriers and socio-economic factors. Nurses indicated that these could impact on the provision of DSME, though studies lacked depth around this area (Kenealy et al., 2004; Jansink et al., 2010). It may be valuable for further comparative studies looking at barriers to diabetes education and possible solutions from both nurse and patient perspective to improve content and delivery of education.
In NZ the evolution of the PN role, from generalist to a more specialist role in diabetes care, is apparent with the introduction of nurse-led DARs and screening (Cowley, 2010; Kenealy et al., 2004). It is evident, however, that continued higher level education and increased knowledge around diabetes self-management is needed for PNs to step up to being effective educators for PWD in PHC (Cowley, 2010; Livingston & Dunning, 2010). Further research would be valuable around the perceptions of PNs with diabetes as a special interest working with people with diabetes in PHC in NZ.

2.4 Conclusion

In conclusion, this review has identified that the PNs diabetes education role is evolving in NZ and other countries and it is important to understand the perceptions of the nurses involved. There was significant evidence in the literature to indicate that for PNs to be successful in providing DSME, globally and in NZ, knowledge gaps need to be identified and support given to address those gaps through access to further education in DSME. If these knowledge gaps remain unaddressed, however, it may result in patients receiving inconsistent DSME across PHC settings nationwide. To reduce these variations in the ways DSME is provided to PWD in NZ, further research is necessary to identify specific knowledge deficits indicated by PNs.

Whilst national diabetes guidelines are considered to be useful for biomedical measures and metabolic control the literature implies that their usage comes at the cost of providing holistic care. This is significant both in NZ and worldwide, as diabetes care and associated governmental health directives are based on evidence-based guidelines which impact on the PNs delivery of DSME.

Finally the literature implies that, whilst patient perceived barriers to the provision of DSME are important, there appears to be some disparity between what nurses identify as patient barriers and those identified by PWD. This, combined with the tendency toward a ‘directive’ style of care described in some studies, impacts on nursing practice as it can influence the content and delivery of DSME provided by nurses in PHC, potentially affecting patient outcomes.
CHAPTER THREE: METHODOLOGY

3.1 Introduction

The literature review highlighted a number of knowledge gaps for further research around the provision of Diabetes Self-Management Education (DSME) by nurses in Primary Health Care (PHC) within New Zealand (NZ), including nurses’ perceptions of providing DSME to patients with newly diagnosed Type 2 Diabetes (T2D). The usefulness and implementation of diabetes guidelines, DSME content and nursing professional diabetes education and knowledge levels were also areas identified as requiring further research. These areas were incorporated into objectives for this study. This study followed a descriptive, exploratory qualitative model, involving Practice Nurses with Diabetes as a Special Interest (PNDSI) working in PHC in nurse-led clinics, providing DSME to patients newly diagnosed with T2D. Ethical approval was granted and the nurse participants were purposively recruited from medical practices in the Location A and Location B areas. Semi-structured interviews were used to collect the data, and raw data was analysed thematically using Thomas’s (2006) General Inductive Approach.

3.2 Qualitative Research

A descriptive exploratory qualitative design was chosen for this research. This method is described by Glacken, Kernohan and Coates (2001, p.108) as “being useful to give authentic insight into peoples experiences” and “is particularly appropriate in areas where nurses have little theoretical or factual knowledge known”. Unlike a quantitative research focus of evaluating how often, when and how effective interventions or treatments are, qualitative research is designed to explore and interpret meanings of experience (Schneider, Whitehead, LoBiondo-Wood & Haber, 2007). The research focus was to illuminate nurses’ ‘experiences’ of providing DSME working in the role of PNDSI.

Annells (2007) identifies the descriptive exploratory methodology as being the most common form of qualitative research used in nursing at present. This design is based on the general principles of naturalistic inquiry with the results offering much information to apply and consider in the practice context (Annells, 2007; Polit & Beck, 2010). The disadvantages of choosing this particular methodology is there is some criticism that the descriptive/exploratory design findings are not as rich in insight to the human experience.
as a true phenomenological approach (Annells, 2007; Polit & Beck, 2010). A phenomenological approach was not appropriate for this study as the required scope of the study and limited time frame prohibited an in-depth phenomenological study. The qualitative design is not considered to be representative of whole population groups and therefore lacks generalisability (Schneider et al., 2007).

3.3 Insider Research

This study involved participants practicing in the same field of interest and work as the researcher, with the potential for the researcher to know the nurses included in the study. The concept of the researcher conducting a study involving an area in which she/he practices, is referred to by Shaw (2005) as ‘practitioner research’ and is widely embraced within professions such as nursing, social work and education. Whilst considered a limitation in quantitative research, ‘insider knowledge’ in qualitative research can be viewed as an asset and valuable to data interpretation. The textual data can have multiple meanings and how the researcher interprets this data is influenced to some extent by their personal history (Graneheim & Lundman, 2004). As the researcher most often collects and analyses the data, achieving credible findings requires a balancing act. It is acknowledged to be impossible for the researcher not to add a particular perspective to the data during the analysis phase but it is necessary that the text also be able to ‘speak for itself’ (Graneheim & Lundman, 2004).

Patton (1999) highlights that, for the research to be credible, the researcher must be transparent about the experience, perspective and training they bring to the field. For this study, the researcher has indicated being an ‘insider’ to the field of study and outlined the personal context in the previous chapter. To further ensure credibility of the data, the researcher referred to two independent supervisors to review the raw data, analysis process, findings and conclusions to provide a more objective view.

3.4 Setting

The setting for the research was diabetes nurse-led clinics held within PHC centres in the Location A and Location B regions. According to the 2006 census (Statistics NZ, 2006), Location A has a population of 141,783, with 5.9% of NZ’s Māori population also residing
here. Statistics NZ (2006) identifies Location B population to be 222,423 with 7.5% of NZ Māori residing in the area. The median age of the population of Location A was 37.5 years with 13.9% above the age of 65 years and 23% below the age of 15 years. Comparatively, the median age was 36.7 years in the Location B region, with 14.3% above the age of 65 years and 21.8% below the age of 15 years. Location A and Location B are culturally diverse however NZ European was the most dominant ethnicity. Location B and Location A regions rank sixth and eighth respectively within NZ's 16 regions for the number of Māori residing there. Currently in NZ, the 2008/09 New Zealand Adult Nutrition Survey (NZANS) and National Virtual Diabetes Registry (VDR) (2010), indicate that 7% of the population are currently diagnosed with diabetes and 18.6% have pre-diabetes. This high prevalence of pre-diabetes strongly suggests a continued increase of diabetes within NZ in the foreseeable future (Coppell et al., 2013).

3.5 Selection of Participants

Research participants were Practice Nurses with Diabetes as a Special interest (PNDSI) working in diabetes clinics in primary health care settings. The researcher discussed the study with the Diabetes Nurse Specialists (DNS) and Nurse Practitioners (NP) who supported PNDSI clinical development in primary care to identify participants in the Location A and Location B who met the inclusion criteria. The aim was to conduct 10-12 interviews across the two areas and the researcher managed to recruit ten participants, five from each area.

The researcher made contact by phone, giving a verbal introduction to the researcher, a description of the study and the interview process. Once the nurse expressed an interest in participating in the research, an email was sent including an information sheet, consent form and a copy of the semi-structured questions to be used in the interview (See appendices A to C). All nurses were informed they could withdraw from the study if they changed their mind with no negative ramifications. All 10 of the nurses approached consented to participate in the study.
3.6 Data Collection

Semi-structured interviews are described as being conducted with a broad list of questions or topics to be discussed during the course of an interview (Polit & Beck, 2010). The interview design incorporated mainly open-ended questions but had a ‘free form’, allowing the researcher to ask questions in different orders and to seek clarification or more depth related to the particular research topic (Schneider et al., 2007). The semi-structured interview questions were developed in relation to the issues highlighted in the literature and subsequent objectives of the study. These questions include demographical information, education content, guidelines, knowledge/education and challenges to providing education. The guiding questions are presented in Appendix C.

Interviewing is indicated by Schneider et al. (2007) to be the prime method for qualitative data collection. These interviews allow an interpersonal contact between the researcher and participant as it can be easier to gauge reactions to questions and non-verbal body language. Also, it allows the opportunity to give time for participants to expand on answers to the semi-structured questions. Conducting good quality interviews was an important skill to develop prior to undertaking the research, as poor interviewing techniques can lead to poor quality of data (Schneider et al., 2007).

The disadvantages of conducting interviews are that they can be time-consuming and energy exhaustive exercises. The interviewer’s reactions, body language and tones in questioning can influence participant’s responses, which introduces a risk of bias to the data collection (Schneider et al, 2007). During the face-to-face interviews it was important to ensure the participants felt comfortable, non-threatened or judged and safe to take part in the study for the researcher to obtain the best possible data.

A pilot study to trial the interview questions, techniques and equipment was conducted prior to commencing the data collection. This was to help ensure the collection of high quality data and minimise any risk of harm (Schneider et al., 2007).

The 10 semi-structured interviews were conducted during the month of August, 2012. These took place in a location of the participant’s choice, which was either their place of work or their home. Their duration ranged from 30 minutes to 90 minutes. All interviews were recorded and later fully transcribed.
3.7 Qualitative Data Analysis- A General Inductive Approach

Content thematic analysis was chosen as the means by which the data generated from the study was analysed. This method analyses the content of narrative data to identify prominent themes and relationships between these themes using selected styles (Polit & Beck, 2010).

Thomas’s (2006) general inductive approach was chosen as a guide to assist the evaluation of the findings from the study. This approach includes condensing raw data into brief summaries, establishing well-defined links between the objectives outlined in the research and the brief summaries. To ensure these links are clear and transparent they must be justifiable in context to the research aims and be able to be demonstrated to others. Finally, the underlying experiences or processes evident from the textual data can be developed into a model or a theory (Thomas, 2006). Thomas (2006) describes five procedures involved in inductive analysis to be:

1. Preparation of raw data files or ‘data cleaning’
2. Close reading of the text
3. Creation of Categories
4. Overlapping coded and uncoded text
5. Continued revision and refinement of category system

These were the steps used for the data analysis of this research and are explained below.

3.7.1 Preparation of the Raw Data Files

The first step of analysing the raw data was the transcription from verbal (recorded) to written form which was undertaken by the researcher. The audiotapes of each interview were listened to multiple times to ensure the accuracy of the transcriptions. Pseudonyms were attached along with a regional code to distinguish participants in Location A from those working in Location B. Hard-copies were generated to assist the analysis phase and back-up copies were saved electronically on to a password protected USB stick.
The interview transcriptions were done by the researcher to enable her to become more familiar with the raw data to aid with the next phase of the analysis, close reading of the text.

### 3.7.2 Close Reading of the Text

Close reading of the texts enabled the researcher to increase familiarity with the participants documented responses thus allowing the researcher to gain greater understanding of the emerging themes and events within the text (Thomas, 2006).

### 3.7.3 Creation of Categories

Upper-level themes were distinguished by generally linking the text to the aims of the study. In-depth multiple readings of the text led to the development of the lower-level categories, originating from specific segments within the data where quotations and phrases were identified (Thomas, 2006). Specific quotes and phrases were highlighted using different colours and given codes to link themes and sub-themes for each individual data set. Each set was then grouped and summarised together on another hard-copy, the phrases were coded and numbered to ensure traceability to the original transcriptions.

### 3.7.4 Overlapping Coded and Uncoded Text and Continued Revision and Refinement

Some segments of text were coded into more than one category, which is acceptable within this style of qualitative data analysis. Although all text was read in-depth, only the text which was considered to meet the aims of the research was included (Thomas, 2006). During the analysis phase, the categories and sub-categories were continually reviewed and refined and specific quotations were isolated to represent the identified themes. The process was independently reviewed and selected transcripts were coded by the researcher's supervisors to provide a means of cross-checking the data codes and interpretation.

### 3.8 Ethical Considerations

Ethics approval was obtained prior to commencing the research. An application for approval was made to the EIT Ethics and Research Approvals Committee and was approved on 27th July, 2012 (See appendix D & E).
Informed consent was obtained prior to commencing the research. Participants were given written information explaining the purpose of the research and the planned process. Within this documentation participants were given contact details for the researcher should they wish to ask questions or needed further clarification prior to signing the consent form. Participants were also informed of their right to withdraw from the study at any time.

To ensure participant confidentiality, pseudonyms were used to replace identifying information for data storage and analysis. The hard copy (paper) data and audio tapes are stored in a locked box at the researcher’s home. The electronic copies of the data are stored on a locked (password protected) USB drive held by the researcher. For the study only the researcher, principal and associate supervisors have access to the collected raw data. Data was de-identified prior to transcribing as no names were asked on the recording, only demographical information. Participants were informed of who would have access to the research data prior to signing the consent form.

The identified potential risks of harm are poor interviewing techniques. To reduce the risk of harm to participants involved in the study, it was important to ensure the researcher’s interviewing skills were practiced and the semi-structured questions were non-biased. Nurse participants commented on feeling mostly comfortable before, during and after the interview, describing feeling somewhat self-conscious of the audio recording device. To ensure privacy and a non-judgmental, safe environment, locations to conduct the interviews were chosen by the participants and were mainly at their workplaces. Two nurses invited the researcher to their homes.

The study focused on exploring nurses’ professional experiences around providing DSME therefore meets criteria for a mainstream study. There is however a potential for the inclusion of Māori participants. To ensure safety to Māori participants the principles of protection, participation and partnership as outlined in the Treaty of Waitangi and Te Ara Tika Māori ethics guidelines, were considered (Hudson, Milne, Reynolds, Russell, & Smith, 2010). Participation and Partnership were addressed by consulting with local Māori health representatives to discuss the research and for input regarding the questions for the semi-structured interviews to ensure these were deemed to be culturally appropriate.
There was only one nurse interviewed who identified as being of Māori descent, the principle of protection was achieved by ensuring the safety of personal information and knowledge. This was demonstrated by de-identifying the data, outlining the right to withdraw or refuse to participate in the study and obtaining informed consent. The research findings are presented as a thesis in a bound copy. This will be available in the library on completion of the course for research participants to access if interested in the findings.
CHAPTER FOUR: FINDINGS

4.1 Introduction

The following chapter describes the findings derived from the raw data. Qualitative data was collected from ten semi-structured interviews with Practice Nurses with Diabetes as a Special Interest (PNDSI) working in Primary Health Care (PHC), with five working in the Location A region and five from the Location B. The report follows nine main themes which strongly link with the aims of the study.

4.2 Who Were the Nurses Interviewed

The majority of the nurses interviewed identified as New Zealand (NZ) European in origin, with one nurse identifying as NZ European/Māori and one as an immigrant from Europe. The length of time these nurses had worked in the role of PNDSI varied from one to 14 years, with their total nursing experience ranging from five years to 36 years. Nine of the nurses had both hospital and primary care nursing experience. Their training/education backgrounds varied, with four nurses having completed NZ Bachelor of Health Science (BHSc)(Nursing) degrees. Five had completed hospital-based training Registered General and Obstetrics Nursing (RGON), and one had completed a Nursing diploma outside NZ. All nurses had continued to participate in ongoing, practice-specific training such as immunisation certification and diabetes courses run by Primary Healthcare Organisations (PHO’s) and District Health Boards (DHB’s). Four nurses were engaged in post-graduate studies at the time of the interviews.

Understanding the training, educational and practice backgrounds of the nurses interviewed is important for providing a context for their perceptions of the challenges that influence the provision of self-management education and diabetes care to people with newly diagnosed Type 2 diabetes (T2D).

4.3 The Role of the PNDSI

The role of the PNDSI as described by the ten nurses interviewed varied across the two regions of Location A and Location B, with fifty percent working solely in diabetes clinics and the other half working a mixture of diabetic clinics and general practice clinics. They reported that the patients who attended their diabetes clinics were an even spread of male
and females in both regions with an age range of 30-80 years. Nurses working in low socioeconomic areas reported having a higher number of Māori and Pacific Island patients than those nurses working in more affluent areas. The main ethnicities of patients described by nurses as attending diabetes clinics were NZ European, Māori, Pacific Island and Asian.

The PNDSI role has evolved in primary healthcare largely due to the rapidly growing T2D population which has led to challenging numbers of patients needing support and self-management education which was traditionally provided by secondary services. Prior to the emergence of this role, the form of diabetes education given to patients in primary healthcare varied amongst medical practices and the information given by nurses was mainly limited to basic dietary and lifestyle modification information. One of the interviewed nurses (Fiona) described the diabetes education she provided ‘in the old days’ as brief, always in conjunction with a doctor’s consultation, and consisted of her spreading out a range of brochures and asking the patients to choose some to take home. She recalled how she might have taken the patient’s weight and blood pressure if required by the General Practitioner (GP).

Many of the interviewed nurses had developed their clinics in response to client needs and the practice support provided by the GPs, DNS’s and PHO’s, therefore it was noted that the services provided in these clinics varied considerably. However, the main function of the PNDSI role is the provision of DSME to support patients with newly diagnosed or existing T2D to self-manage their condition.

### 4.3.1 DSME Role

The main role identified by the nurses interviewed, for all their patients, was to provide effective DSME. The content and resources used to do this are described later in this chapter, however all nurses described incorporating the Diabetic Annual Review (DAR) into their clinical practice as an educational tool, though this initiative is now being phased out.

The DAR was described as a useful way for nurses to identify their client base, but it was also a way for them to gather baseline information, particularly biomedical data, on their patients’ current condition. This information included foot checks for neuropathy, eye checks for retinopathy, Hba1c levels (a test used to determine how much glucose is attached
to the haemoglobin over a 3 month period), blood pressure, weight and parameters for referrals to secondary services. Whilst these biomedical checks were considered to be a necessary part of DSME, nurses reported that the key parts of their role were supportive and partnership aspects and providing education around the main principles of diabetes self-management. They placed emphasis on getting to know their patients, ascertaining what information they needed and their perceptions or ideas about how they were managing their condition. As Lucy described it,

[I] focus on just really knowing where that person’s at and where their thinking is and what their fears are rather that just a medical model [approach], it’s just really getting to know the person (Lucy, p.2).

All nurses reported that medication options and management were considered to be a part of providing DSME to patients with T2D, along with making recommendations for treatment to GPs. Many nurses recounted introducing and managing insulin (previously mostly done in secondary care) when patients needed this form of therapy in conjunction with the GPs. The confidence to do this varied, however, which is discussed further in the chapter. Four of the nurses also described making recommendations to GPs for patient treatment and management options. One commented,

We’re still under the guise of the GP because we’re not nurse prescribers or specialists for diabetes but we are actually managing these patients (Emma, p.2).

4.4 The Challenges to Providing DSME to Patients

The interviewed nurses identified a variety of challenges to their practice of providing DSME to their patients. These included patient comprehension or understanding of diabetes, constraints on clinical time, cultural and financial issues. These are discussed more fully below.

4.4.1 Patient Comprehension and Understanding of Diabetes

The nurses interviewed described the importance of ensuring their patients had some understanding of diabetes, its related complications and how it needed to be managed. This
was considered to be the main challenge of providing DSME to patients with newly diagnosed diabetes. For example, Lyn said,

> You've got to really see if they understand, you don't talk above them, get down to where they want, where they know, it is really important they actually understand what you're talking about. You have to wait till that light-bulb moment (Lyn, p.2).

There were also factors that impacted on the ability to achieve greater patient understanding which included the amount of information given in one session, the patient's willingness to engage with the nurse and the patient's preconceptions or misinformation about diabetes.

### 4.4.1.1 The Amount and Delivery of Information

One of the issues raised by the nurses concerned was the medical information given to patients, especially those newly diagnosed with diabetes. One nurse commented on how she felt that too much information could be given at one time, creating an ‘information overload’ effect which could impact on the patient’s ability to fully comprehend the condition. She explained,

> I feel that the newly diagnosed [patients], we’re giving them an awful lot of information all at once. It would be good to have a shorter session but a couple of them, so they can have some time to think of some questions and they can come back, but it doesn’t always happen (Fiona, p.2).

The timing of when information was delivered and how receptive the patient was during consultations were also factors, along with the amount of information, that were reported to affect patients’ ability to understand their condition. Paula remarked that, although it is important that patients understand the pathophysiology, progression and gravity of the disease,

> I find it important to get to know the patient, establish a working relationship with them, find a common ground first. It is important that they realize [diabetes] is now with them for the rest of their life, then you get to the lifestyle modification, not straight away on the first appointment. It

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depends a bit on how the whole communication between me and them goes (Paula, p.3).

The amount and delivery of information were described as important factors to facilitate good understanding. How nurses dealt with this will be described further on in the chapter.

### 4.4.1.2 Patients Willingness to Engage

Another nurse described the patients’ willingness to engage as a challenge to their achieving better understanding of their condition. Patients were reported to vary in their willingness to listen and participate in nurse-led education sessions and it was important to acknowledge this. When asked about the challenges to providing education, Lilly commented that, to be able to effectively support patients, it was important to acknowledge,

> Their willingness to take [the information] on board to start with. Everyone is quite different, some people are ‘no I don’t want to hear this’ and are quite angry to start with, other people are ‘tell me everything I’m going to beat this’. It never seems to fall in the middle. They seem to be either sort of group (Lilly, p.3).

Eight of the interviewed nurses reported patients’ who did not or were unwilling to attend appointments as being a challenge to providing DSME. The number of non-responsive patients varied between practices and regions, however, this issue appeared to be more pertinent in the practices providing services to lower socioeconomic populations. One nurse working in a more affluent residential area reported having very few issues with patients non-engaging which she attributed to her length of time working with the diabetic community and her established relationships with the patients she sees. She commented,

> I know them, because I’ve been there for so long I know them well enough and I’ve got a really good rapport with them or with the majority of them. Out of 320 diabetic [patients], I’ve got probably six [non-engagers] and out of those six, two of them flatly refuse to come near nurses. It’s not that they deny their diabetes at all. It’s just that they will not partake in anything, they want to manage their diabetes [their way] and unfortunately their way is not my way. The other four, we’ve got one chap that jokes cause he doesn’t think
he’s got diabetes and it’s everyone else’s problem and not his, and the other three I just chase continually. I might be walking down the corridor and see someone in the waiting room and I jolly well know they’re overdue [for a check-up] and I tackle them and jolly them along. It’s not always easy but the majority of them respond eventually (Mary, p.7).

Overall, nurses described non-responders to be a particularly frustrating challenge and the methods they used to deal with this are outlined further in the chapter.

4.4.1.3 Patient Preconceptions or Misinformation

Two nurses identified patient misconceptions or general myths about diabetes and patients’ poor previous education as a presenting challenge to patients’ ability to comprehend their condition. One nurse suggested that, in her experience, the biggest hurdle at the first consultation with newly diagnosed patients was the patients’ misconceptions around the causes of diabetes and the resulting blame they sometimes put on themselves. Lyn noted,

Probably the biggest barrier at the beginning [of education] is for patients to understand how they got there. Lots of them will blame themselves and for a lot of them it isn't their fault (Lyn, p.3).

Poor information provided to patients by previous health care professionals, including GPs and people from within the patient’s community, can also create inaccurate preconceptions of diabetes management. One nurse described the importance of dispelling myths in order to achieve good levels of understanding. She said,

They arrive in clinic and they have a poor understanding of diabetes. They've heard from the doctor ‘oh your sugar levels are just a little bit high, don’t do this and don’t do that and see the diabetic nurse’. When they actually make an effort to come in initially they can be quite defensive (Paula, p.2).

Within this study, the interviewed nurses reported that their major challenge to providing DSME to newly diagnosed patients were achieving sound patient comprehension of T2D, related diabetic complications and DSME principles. Issues such as the amount and delivery of DSME, willingness of patients to engage with the nurse and presence of myths and
misinformation were all highlighted as contributing factors to achieving patient understanding of diabetes self-management. The strategies the nurses used to deal with these challenges will be later described in this chapter.

4.4.2 Time Constraints

Four nurses described time constraints as presenting a challenge to providing DSME to newly diagnosed patients with T2D. These constraints included patients' ability to attend diabetes-clinic appointment times, the nurses' availability to provide consultations and the amount of allocated consultation time available.

Half of the nurses interviewed worked a mixture of general practice clinics and diabetes nurse-led clinics and they reported difficulties scheduling diabetes-specific consultations with patients in these allocated nurse-led clinic times. Mary commented,

> It’s actually just getting [the patients] in within the clinic times and I do one clinic a week. So that’s one day a week that I can [see patients with diabetes] and it’s not always possible [to see them in that time]. That would be one of the biggest [challenges] for me (Mary, p.3).

In conjunction with nurses' availability to see patients in their nurse-led clinics, some patients were reported to have difficulties attending appointments. These included patients who were reliant on employed family/whanau to transport them to clinic or interpret for them, those patients who worked alternate working hours, e.g. night shift, or who were unable to get time off work to attend their appointments, and patients caring for dependent children who were unable to access childcare. Penny noted from her experience,

> I think childcare, getting childcare is a big thing and again, it's priorities. You know, these [women] put themselves so low down on the scale, especially mums. It's accessibility to get to the doctor, like these truck drivers who are hitting the road at three or four o’clock in the morning and not getting back till five o’clock at night. Getting into appointments [is difficult] because we don’t have late night appointments (Penny, p.6).

These nurses spoke about how many of their patients or their supporters, such as other family members who act as interpreters, worked during the daytime clinic practice hours.
These medical practices were not open for late nights or during weekends, which creates an access issue for these patients in inflexible employment or caring for dependent children.

**4.4.3 Cultural and Lifestyle Issues**

Some nurses identified patients’ lifestyles and cultural practices to be issues that present challenges to their ability to provide effective DSME while also acknowledging that it was important to try to understand a patient’s cultural practices and to work with them on lifestyle issues. For example, Lucy expressed,

> Lifestyle is culture, [the patients] are kind of not ready to change their whole way of living, it’s just the way they do things, they’ve always done it [that way]. It’s not just a personal lifestyle choice, it’s actually a whole cultural influence, [for example] they might not eat three meals a day, they might just eat in the afternoon or have their main meal at night (Lucy, p.4).

Another challenge the nurses faced concerned patients who prioritized the needs of their families above their own health concerns. This was particularly prevalent with female patients, especially those with limited financial means. Penny described a woman in her care who was newly diagnosed with T2D but appeared to be neglecting her diabetes care. She struggled to pay for her medical needs and food to enable better diabetes management because her first priority was the welfare of her family. Three nurses reported seeing this situation particularly strongly amongst their Māori and Pacific Island patients. For example, Penny explained,

> We do have Pacific Island and Māori populations and some of them can be quite a challenge because their own health is not a priority. That’s really hard because I think their extended family depends on them so much. They’re often looking after mokopuna [grandchildren] and trying to feed them so their own diet is not so good. Or they can’t pick up their medication this week because they’ve had to loan whoever [money] to buy some bread for the kid’s school lunches (Penny, p.5).

Language barriers were also described by three nurses as presenting challenges when providing care for patients for whom English is not their first language. These nurses
described the importance of ensuring such patients attended with an English speaking interpreter otherwise it was very difficult to provide an effective level of diabetes education and care.

4.4.4 Financial Issues

Six of the interviewed nurses identified financial factors as presenting challenges to the level of self-management education that could be provided to newly diagnosed patients. These factors included the cost of consultations to see diabetic nurses, with many commenting that this issue for patients has significantly reduced with funding to support DSME being provided by their PHO’s. This funding, however, was described as being for initial patient visits or for diabetic annual reviews, depending on the PHO locality. Some patients required more intensive management and nurses were challenged to become creative with available funding to achieve this without the cost to patients. Examples they gave included splitting an hour consultation into two half-hour sessions, using different funding streams to add another funded consultation for a patient or adding a ‘nursing consultation’ onto a patient’s GP visit to absorb the cost. Fiona noted,

I don’t believe people need to be charged for that sort of thing [diabetes education] right at the beginning [newly diagnosed] for something as basic as education (Fiona, p.2).

Some nurses described a relationship between financial issues and appointment attendance. For example, Penny described a woman with limited personal resources who could not afford childcare so found it difficult to attend the consultation. The funding for DSME, transportation and outreach diabetes services from PHOs was acknowledged as being imperative for nurses to be able to provide diabetes support and education, particularly to newly diagnosed patients with limited personal resources.

Along with the cost of consultations, two nurses described how, for some patients, the costs of medications also presented a challenge to effective diabetes care. One nurse described from her practice experience how some patients were unable to afford their medications as they put their family’s medication needs ahead of their own. She said,
If they’ve got to get the kids inhalers this week instead of their own medication it’s really hard [for them]. Sometimes looking at their scripts they say “I can only afford to get two of them which two do I get?” (Penny, p.11).

Funding for transportation for patients to attend appointments was also described as an issue. One nurse explained how, in her locality, there was some funding provided by Work and Income New Zealand (WINZ) and the PHO for patients who meet socioeconomic criteria to attend their registered practice appointments. However this funding was not available for patients to attend her specialist diabetes clinic run at another location which was not their registered practice. This meant that some patients were unable to attend her specialist clinic due to the cost of transport to get there.

4.4.5 Summary

Patient understanding of diabetes and the need to self-manage their condition was considered by the nurses interviewed to be a major challenge to providing DSME to newly diagnosed patients with T2D. The factors they highlighted as impacting on patients achieving greater understanding of T2D were the timing and delivery of the main points of information regarding DSME, preconceptions and misinformation, and the patients’ willingness to engage in the DSME process.

Access to DSME and diabetes care for patients presented a challenge for the nurses interviewed, with contributing factors such as time constraints, lifestyle and cultural issues and financial challenges. Examples of time constraints impacting on the provision of effective DSME to patients with NDT2D included patients’ ability to attend diabetes-clinic appointment times, the nurses’ availability to provide consultations, and the amount of allocated consultation time. Financial challenges included the costs of medical reviews and treatments that were described to impact on the patients’ ability to access diabetes care. Nurses’ highlighted the importance of understanding patients’ cultural practices and beliefs and described the challenges of adapting and incorporating these into their provision of DSME to more effectively support these patients to self-manage their condition.
4.5 How Nurses Dealt with the Challenges to Providing DSME to Patients

The section above outlines the challenges the nurses faced when providing self-management education and support to patients with newly diagnosed T2D diabetes. The following section presents their descriptions of how they dealt with these challenges in their professional practice.

4.5.1 The Challenge of Achieving Patient Understanding and Comprehension

All the nurses interviewed described providing a supportive, caring environment to enable patients to feel comfortable enough to be able to ask questions and to participate in learning about their illness. The nurses described getting to know their patients, understanding their lives and what they already knew and wanted to know about their condition, which helped the nurses to deliver the information at the right level to achieve understanding. Lyn said,

> It is being allowed the time to get to know these people and see where they’re at, to know where you can actually communicate with them at their level. You want them to understand it [diabetes], you want them to go away and say I can control this because I've got the knowledge and feel confident doing that (Lyn, p.6).

Another nurse commented that, due to the volume of information sometimes necessary to give to patients, the challenge was to try to express things in a simple way, without a lot of medical jargon, so patients could understand more easily.

4.5.1.1 Amount and Delivery of Information

To deal with the large amount of information about diabetes management considered necessary to give to patients, one nurse described being creative with the annual diabetes check, dividing the single appointment into smaller time slots, resulting in the same amount of funded time being used. This meant she was able to break up the information into more ‘digestible blocks’ to facilitate improved patient understanding. She also described being guided by the patient's level of understanding when delivering information to avoid giving too much at once. Lilly commented,
I don’t say, right we have to get through this tick list, because that’s not what this is about. It’s about being positive about [diabetes], that this is manageable. Just coming back to [the points] often, calling sessions to a halt [early] for the first one and getting them back in the next week so they have had some time to absorb the shock. Taking it at their own pace (Lilly, p.7).

Along with breaking up the information content, some nurses commented that patients needed to be open to receiving the information before they could effectively absorb it. Paula referred to this as ‘making the patient the expert’. She said,

It’s making the [patients] realise it’s something [the education] we do together. I work on establishing a good working relationship and the barriers, if there are any, will disappear. If there are barriers and for whatever reason I haven’t managed to establish a common ground, I readdress it from a different angle and try again (Paula, p.5).

Most nurses identified either timing of the information, the form of delivery or the amount of information as being challenges to providing DSME. Many of them dealt with this by ‘working with’ the patient to establish how to individualize the education process to achieve greater patient understanding of how to better manage their condition.

4.5.1.2 Patient Willingness to Participate

The nurses described how they dealt with patients’ lack of engagement by using compromise strategies. They described a ‘partnership’ approach to DSME, which sometimes meant supporting patients to try their own treatment methods first, even though it may not have been the best-practice recommended option, as a way of gaining a positive working relationship with the patient. For example, Fiona described working with patients whose rising glucose levels indicated that they needed medication but who try to avoid this by instead saying ‘I’m going to exercise more’ or ‘I will go to the pool everyday’. In cases such as this, the nurse described how, rather than pushing medication on the patient, she would set target blood sugar goals with a set time frame and regular contact, thus giving the patient the opportunity to try his/her own ideas about how to reduce their blood sugars, with the view to trying medication if needed. She said,
I often say, let’s try what you want to do first. I’ll schedule in that we’ll touch base by phone call and you can let me know if you’re achieving [your goals] and if you’re not we’ll re-discuss [treatment options] (Fiona, p.5).

Patients who completely disengage from DSME services were described as a particularly difficult challenge to deal with. Many options such as cold calling, text-to-remind systems, recall letters and referrals to diabetes outreach nursing services have been used to try to re-engage these patients. One nurse in the Location B described their text-to-remind system to be effective for clinic attendance, particularly for Pacific Island patients. Despite having a variety of systems to invite patients to attend the diabetes clinics, some nurses described non-attenders as frustrating. Two nurses described cold calling as not a particularly effective method of gaining attendance, with one nurse describing how she would rather spend the time with engaged patients than trying to continually target the hard-to-reach population. She said,

I mean there is a point, it sounds awful but there is a point where you have to let go because there’s other people who want your help. You can bang your head against a brick wall so many times and they are the ones that usually end up in hospital. Sometimes you can lead a horse to water but you can’t make them drink (Lyn, p.7).

4.5.1.3 Patient Preconceptions or Misinformation

The nurses who identified patient preconceptions as a challenge to providing DSME described dealing with this by engaging with their patients, by being empathetic, offering hope, empowering them and attempting to find a common ground to start their education. One nurse described how early efforts to dispel some of the myths patients dwell on helps them to understand their condition better and to stop ‘blaming’ themselves. Penny noted,

It’s trying to put things in a simplistic way so they can understand where they’re at and how they've got there and it’s not because they ate ten million lollies when they were a kid, which is a big one that comes up lots of times (Penny, p.6).
She and one other nurse commented on how some patients have an “I’m here for a short time so I’m going to have a good time” attitude to their health, particularly men and those who have had family members die young as a result of diabetes. Understanding this mindset was considered important for knowing how to approach the self-management education for this group.

The nurses concerned dealt with the challenge of achieving greater patient understanding of their diabetes by having more and shorter consultations to provide information, fostering a ‘togetherness’ in their delivery approach, and striving to provide an empathetic, empowering environment where patients felt comfortable and receptive to DSME principles. The overall goal of this was to facilitate the patient to become the expert in the self-management of their diabetes.

4.5.2 Dealing with the Challenge of Time Constraints

Regular phone calls and emails to patients were identified as the most common methods used by nurses who identified limited consultation times as being a challenge to their attempts to provide DSME. This helped them try to maintain support and contact with their patients. These options were described as time efficient and provided an alternative to face-to-face consultations when patients found it difficult to attend clinic visits, particularly for those patients needing insulin titration or had follow-up questions. Three nurses described using referrals to diabetes outreach nursing services that were available to them to try to provide more support to patients they viewed as having high needs. Penny noted,

It is really good having the DNS [Diabetes Nurse Specialist] there because it does not cost the [patients] money. If you have someone who needs a little bit more time, she is there and free. The [patients] don’t have to go anywhere, they can just come to the surgery or she can come and see them in their own home (Penny, p.6).

4.5.3 Dealing with the Challenges of Cultural and Lifestyle Issues

The cultural issues were identified by some of the nurses interviewed as being particularly challenging when providing DSME to patients with newly diagnosed T2D. They recognised the importance of understanding different patients’ cultures and being sensitive in the ways
they provided care and support to help patients to manage their diabetes within their cultural practices. One nurse described how, for patients in particular who identified as Māori, the needs of their whānau are often seen to be more important than their own health needs. The nurse described the importance of acknowledging this and also the importance of providing education around the benefits to these patients of looking after themselves so they can remain helpful to their whānau in the future. She said,

> It’s just being very much more aware of the way [Māori] look at life and the family, whānau perspective. The ways to approach people, you know, often them bringing a support person with them [is] helpful. Māori live for their families, if you can say to them, you know, if you want to see your mokopuna grow up and get married and provide you with more of an extended family [you need to look after yourself] (Penny, p.10).  

Culturally-based food rituals were also described by two nurses as presenting challenges to patients’ managing their diabetes, particularly those on medications. These nurses talked about discussing medical options with their patients and their doctors to try to develop a regime that is effective. One nurse described how food etiquette could be particularly challenging for Māori women taking insulin, saying,

> The rituals with food, you know, eating at certain times aren’t really part of the procedure. When [Māori women] have got occasions on maraes and stuff like that, when there isn’t a lot of food choices and you know they feed everybody else and they’re the last ones to eat. Sometimes it’s just changing thought processes a little bit, ‘cause these ladies in the kitchen are the last to be fed, they get what’s left over and if they’re trying to control their diabetes and they’re on insulin [it is difficult for them] (Penny, p.9-10).

The nurses who identified language barriers as presenting challenges to providing DSME, described the solution as being reasonably uncomplicated, explaining that if the patients had English speaking family members who could translate for them, the only difficulty was managing to schedule appointments at times when that family member was not working. These nurses described the need to be flexible with appointment times to try to accommodate these patients. Although they recognised that professional interpreters were
available for patients via a service offered by the PHO/DHB, none of the interviewed nurses had used them.

### 4.5.4 Dealing with the Challenge of Financial Barriers

The financial challenges around providing education to newly diagnosed patients were described by some nurses as having eased more recently due to greater allocated funding provided by the PHOs. The amount and types of funding described varied between practices and regions due to different PHO and DHB funding schemes, with some practices being better funded to provide a wider service than others. For example, one nurse working in the Location A region described having funding available for transportation, consultations and access to an outreach service if patients were considered to be ‘hard-to-reach’. In contrast, another nurse in the Location B region described having limited funding available for transportation and consultations which meant she had to be more resourceful to help these patients. She did however have access to a PHO- provided Diabetes Nurse Specialist (DNS) for ‘hard-to-reach’ patients.

The costs of medication remain a barrier for some patients from lower socioeconomic groups with one nurse describing going out of her way to assist such patients herself. Penny said,

> They can't pick up their medication this week because they've had to loan whoever money to buy bread for the kids school lunches and stuff like that. I've been a bit naughty once or twice when I've told the chemist I'd pay for medication because I knew somebody was struggling and she paid me back when she [could]. I knew she needed the medication and things were going to go a bit haywire if she didn't get her medication and I could've said no don't pay me back but it's pride and respect really (Penny, p.5).

### 4.5.5 Summary

The challenge of achieving patient understanding of diabetes, for newly diagnosed patients, was managed by nurses using patient-centred care approaches and providing a supportive and caring environment. Working in partnership with patients, empowering patients to be active in their self-management and using compromise strategies to facilitate patient
involvement were considered important elements for engaging patients and reducing the misconceptions around T2D. Nurses used various methods of communication to support patients on a regular basis, particularly those patients (or their interpreters) whose hours of work were during clinic consultation times. Patients’ cultural needs were described as needing to be dealt with sensitively, with nurses talking about tailoring their care to the individual needs of patients as a way to address this challenge. The extent of financial barriers varied between regions and medical practices due to different funding streams and systems. Overall nurses described needing to be resourceful to provide low-cost DSME to their patients.

4.6 What the Nurses Consider to be the Main Points of DSME Necessary to Provide to Patients

During the interviews with PNDSI, they were asked to identify what they considered to be the five main points of information necessary to get across to newly diagnosed patients with Type 2 Diabetes (T2D). They were not in full agreement about the five main points but between them they offered seven. Many of the interviewed nurses commented that due to the large volume of important information they chose to divide it into several consultation sessions to give patients the ability to absorb it and allow time to think of questions. The seven main points of information considered by the interviewed nurses as necessary education for newly diagnosed patients are presented below.

4.6.1 Diabetes Pathophysiology

The nurses interviewed identified knowledge about basic pathophysiology of diabetes as being one of the most important points of information to give patients for understanding their disease. This was to ensure that they could comprehend what was happening in their bodies, and where and why different treatment options were needed. Sally commented,

Knowledge about the body, anatomy and physiology is really important to start off with. I think that is the most important thing that they understand. They've got the idea of what is actually happening so once they understand the importance of why they shouldn't be having sugary foods then you can go on to the diet part [of the education] (Sally, p.3).
Most of the nurses indicated that this was where they started the education process, setting a foundation to build onto other important principles of diabetes self-management.

**4.6.2 Progressiveness of Diabetes**

Another point described as important by most of the nurses was for patients to understand the progressive nature of diabetes and that it is a lifelong condition. A strong relationship was described by most nurses between the progressiveness of the disease and the patient's future need for medication, particularly insulin. Mary commented,

> The big thing is actually getting them to understand that it’s a progressive disease and that they may not be on medication now but they may have to go on medication at some stage. They may even have to go on to insulin and not to be ashamed or anything like that, it's just your body (Mary, p.3).

One nurse did not share the view that patients needed to know this disease was progressive when they were newly diagnosed. She said,

> They don’t need to know how it’s progressive or anything else at this stage (Lucy, p.4).

Overall, however, most nurses did describe the importance of highlighting the progressive nature of diabetes along with reassuring patients that a complication-free life was possible with good diabetes self-management.

**4.6.3 Reassurance**

Determining the level of understanding patients already had about diabetes and identifying their ability to process information were two things the nurses interviewed considered to be important for them to do. Working with patients at their pace, along with reassuring them that diabetes is a manageable disease, was also described as a main part of providing DSME and establishing a working relationship. Jane noted,

> They're seeing all this doom and gloom and I say, well that’s not the case. I instill a lot of positivity. I say there is no reason people with Type 2 Diabetes can’t live a long and complication-free life, but we need to get the treatment in now (Jane, p.8).
4.6.4 Lifestyle Education

Lifestyle modifications such as diet and exercise were described by all nurses interviewed as being imperative information that needed to be communicated to patients for DSME. Some nurses further specified as important the relationship between patients understanding the basic pathophysiology of diabetes and the concepts of balanced diet and exercise so they could understand the rationale behind making lifestyle changes. Lyn commented that it was important to talk about,

Doing some exercise and why they have to do it, not just say we want you to exercise. Because we could sit here and say we want you to eat this and do that [but] they’re not going to do it unless they understand why this benefits them (Lyn, p.3).

Although having a healthy diet was referred to by all nurses interviewed as a main focus of patient education, three nurses specifically noted that healthy eating was about balance. They described reassuring patients by using terms such as ‘moderation’ when discussing diets with them. Mary explained that she told patients,

Everything in moderation. You can still have your treats, you can still live life. It’s not the end of the world (Mary, p.4).

One nurse further highlighted the importance of trying to dispel myths about expensive foods being the only option for healthy eating. She said,

It doesn’t need to be a huge cost cause that’s the big thing. They think they need to eat special food, and the [cost of] the doctor’s visits. It’s just reassuring them that we’re there to help, that we’re only as far as a phone call away (Penny, p.7).

4.6.5 Medications

The nurses interviewed thought that information about what medications are available for the treatment of diabetes and how they work was valuable to give to newly diagnosed patients. Some nurses also acknowledged that they specifically discussed insulin therapy
with newly diagnosed patients as part of their medication discussion. Lilly stated she talks about,

> How medication includes tablets and insulin and that most diabetics end up on insulin. So we start that, maybe not on the first consult but certainly on the second and the third [consult] (Lilly, p.3).

Though education around these medications was considered important by these nurses, communicating to patients about the need to take medications regularly when prescribed was also viewed to be equally important, particularly for those patients who had variable hours of work and so therefore led less-routined lives.

### 4.6.6 Complications

The medical complications of diabetes, such as neuropathic, retinal and cardiovascular risks, and the benefits to patients of having regular checks for these complications, were identified by the nurses interviewed as being key points of information to be conveyed to patients. Some considered it important to outline the severity of the disease and the possible complications associated with poor management. Mary explained,

> To understand the complications I go through the whole of what we do each time we see them and what we do annually. We check your feet because this is what we’re looking for or we check your eyes because we’re looking for these things, because if your diabetes isn’t well controlled these things are going to show up and these are the things we don’t want to show up (Mary, p.3).

These nurses all mentioned that whilst diabetes complications were a key message of DSME, they were mainly discussed with patients after they demonstrated an understanding of diabetes pathophysiology. This was so that patients were able to make links between the pathophysiology and complications of diabetes. Emma said,

> [Important points of DSME first for] newly diagnosed [patients] is exactly what diabetes is, isn't it? Then, how [patients] can manage it to prevent complications of diabetes and actually developing a healthy lifestyle, so having that balance of diet and exercise. Managing to sort of try to normalise
that that's part of the parcel, therefore the ongoing need for monitoring, and retinal screening and [checks](Emma, p.3).

### 4.6.7 Ability to Self-Manage

Four of the interviewed nurses described educating patients to be able to self-manage, with two nurses acknowledging this to be a significant goal of education. Lilly commented,

> We push about being self-managed. I always print off their blood forms and talk to them about what their bloods are so that they get that understanding, cause they're going to have to manage it themselves (Lilly, p.4).

Considering the ability to self-manage is the ultimate goal of DSME, this is a very important issue. Emma commented, "that most of DSME is around how patients can look after themselves".

Lyn also discussed the concept of self-management, describing a main part of DSME, for her, was to guide and work with patients toward being able to manage their condition themselves. She said,

> I explain to them I’m really a tool. I’m here to give them advice, you know, help them to understand [diabetes], so that they can manage their condition. Basically I work with them to decide what avenue is right for them and go down that one (Lyn, p.2).

### 4.6.8 Summary

Facilitating a sound understanding of the basic principles of diabetes pathophysiology and disease progression was considered to be a good foundation to building DSME for newly diagnosed T2D patients. Working with patients in a partnership approach to achieve this understanding was described by nurses as of equal importance as these basic principles. Information about ideal lifestyle, medication and complications from diabetes were also viewed as being important messages to convey, with nurses reporting that they divided these topics over consecutive consultation sessions. Nurses believed patients were more likely to comprehend these concepts if they understood the pathophysiologic rationale for suggested lifestyle modifications rather than being ‘directed’ blindly. The significant goal of
DSME described by nurses was to provide education and support so patients were able to effectively self-manage their diabetes.

4.7 Resources Used for DSME

Another part of the interview asked the nurses to identify the resources they used in their practice to support them in providing DSME. All nurses interviewed described a range of resources, which are listed below. The material available varied amongst practices and between regions.

4.7.1 Booklets and Brochures

All nurses spoke of using a booklet or information pack containing a range of brochures as a resource for patients with T2D. Those nurses working within the Location B region identified using the local Location B Diabetes Trust (LBDT) information folder, reporting that they found it comprehensive. The folder included information regarding the management of Type 2 Diabetes (T2D), exercise and nutrition, food label reading and when and where group education sessions were held in the area. These nurses reported how these group education sessions were useful for patients in conjunction with clinical consultations. One nurse explained,

> It's got all that relevant information in that folder, so [at] the very initial chat I give them that and then they come back in a week or two weeks and we go through any questions they come back with. It’s usually, ‘what’s [diabetes] got to do with your feet or how do I find out more about that course’. It's a good comprehensive wee folder (Jane, p.9).

Two nurses in the Location A region reported using a local folder provided by the Location A Diabetes Service, containing similar information to that used in the Location B region. Another two nurses from Location A described the Diabetes New Zealand Organization (DNZO) ‘Diabetes and Healthy Food Choices’ booklet to be effective, describing it as simple, visual (with lots of colour pictures) and easy for patients to understand. Sally referred to the booklet saying “it is like your little gold book”. Lyn commented,

> I like it because it’s normal language, it doesn’t have all this hifalutin stuff. It's got pictures and pictures are good ‘cause you don’t know what level
they’re at. You don’t want to pass them a piece of paper and say read it because you don’t know if they understand it or not (Lyn, p.3).

One nurse, however, reported not using many DNZO booklets as she found these not to be as useful in practice. She explained,

I very rarely use the [DNZO] booklets. I did not come across a lot of people that actually used them, that’s the feedback I got from patients. I used to give them the nutrition booklets that we have, I actually go through the information sheets of nutrition, [show them] where carbs, proteins and fat are and I explain exactly how that works and what effect that has on the blood sugar levels. I think that comes across much better than a booklet, but I think that’s different probably for everyone (Paula, p.3).

4.7.2 Visual Aides/Diagrams

The nurses from both regions described using hand-drawn diagrams and models to illustrate the pathophysiology, Hba1c, blood pressure, food and medications of diabetes. One explained,

I use drawings to explain how blood pressure works, what it means, how an Hba1c [works] and what that is. I pretty much draw it for them and the drawing I use is what the [diabetes specialist] uses for pathophysiology and [the patients] really like it ’cause it makes sense (Paula, p.3).

Another nurse reported using hand-made models and the whiteboard to demonstrate Hba1c and diabetes processes. She said,

I always draw a picture of the process. Just about every patient gets my picture. I have the ball that I’ve made up that has got Hba1c’s with the glucose attached to them. We use them a lot and when I’m teaching I use the whiteboard a lot (Lilly, p.4).
4.7.3 Internet Websites

Some nurses described finding internet websites as useful resources and used trusted sites as references for patients. Mary’s advice was to avoid patients receiving inaccurate web-based information, she said,

Make sure they’ve got relevant websites. I’ve got a couple of websites that I can give them. I found a really good website to show a chap who was starting insulin a picture of the pen because I wanted him to look at the pen and recognize it when he got his script (Mary, p.4).

Other nurses reported disliking internet websites as a source of information for patients due to disparities in the information posted which they thought could contribute to myths and misconceptions around the management of diabetes. One said, for example,

I really struggle with people who sit there and say I’ve looked that up on the internet, because a lot of stuff on the internet is not quite right (Lyn, p.3).

4.7.4 Referrals to other Health Care Professionals

The interviewed nurses listed other associated health care professionals as useful resources to whom they referred their patients. These included referrals to Diabetes Nurse Specialists (DNS), local group education sessions, exercise programs, dieticians and PHO provided education (e.g. diabetes maps). The referral services described by these nurses varied between regions and amongst practices, with nurses from the Location B region referring to psychology services which are not available in Location A for people dealing with long term conditions. One nurse reported that this service was particularly useful for some of her diabetic patients experiencing associated depression. She said,

As we know, a lot of these people come with not only diabetes, they have other things, so their whole, how they cope with change or health and wellness can be varied. The [Psychology service] actually works really well for those people who might need those services (Emma, p.4).
4.7.5 Summary

A variety of resources including booklets, visual diagrams, websites and secondary health providers were used by nurses to provide DSME to patients. The most commonly described material used were the diagrams hand-drawn by the nurses to depict the pathological process of diabetes along with the use of DNZO Diabetes and Healthy Food Choices booklet and, in the Location B, the LBDT information folders. Internet websites were used less frequently as educational resources as nurses believed these contributed to the misinformation and misconceptions patients often had surrounding the management of T2D. Referrals to alternative health providers such as DNSs, dieticians and, in Location B, psychology services were also noted to be an effective resource by the nurses in this study.

4.8 Guidelines around the Management of Type 2 Diabetes

In NZ, the New Zealand Guidelines Group (NZGG) (which created evidence-based guidance and tools) published national guidelines covering the management of T2D (NZGG, 2003, 2011) which were consequently adopted by the Ministry of Health (MOH). In 2012, the MOH reviewed these guidelines and distributed them to primary health practices as a section of the Primary Care Handbook (NZGG, 2012) for health practitioners to use.

Most nurses interviewed described using the NZGG/ MOH national guidelines as a basis for providing patient education around the management of Type 2 Diabetes (T2D) and also for the introduction of medicines, particularly insulin. One commented,

NZGG is fantastic, it’s based on worldwide knowledge, it’s up to date, it’s the most up to date stuff we’ve got. [Diabetes] is still a grey area but it gives you guidelines. Obviously they’re guidelines for a reason, I trust them, they’re used widely and the Ministry of Health put them out. It’s succinct, it’s clear and it really is best practice (Jane, p.9).

The nurses described these guidelines as useful within their practices for several reasons, one being that the guidelines clarify diagnostic criteria, which one nurse reported had reduced the number of unnecessary Glucose Tolerance Tests (GTT) performed at her practice. She describes the guidelines as,
Actually diagnosing [patients with T2D]. Best practice for example now, is using Hba1c [levels]. We’ve certainly cut down on our glucose tolerance tests and I’m sure the lab thanks us for that (Mary, p.4).

This nurse, along with some other nurses interviewed, reported that the NZGG/MOH guidelines were very useful for standardizing care provided by doctors and nurses across the country. She commented that,

[The guidelines] are standardised and national. We’re dealing with people all the time coming from other areas, going to other areas, I think the last thing [the patients] need to do when they come into a new practice, if they’re already diabetic, is to be told they have to be doing something differently. I mean you’ve got to have a standard don’t you? If you’ve got a group of GPs that can’t agree on a particular standard then we’ve got policies and protocols. I rely on what’s national (Mary, p.5).

Another nurse reported the guidelines were useful to recommend treatment and care plans to doctors, based on what was nationally considered to be best practice. She explained that,

As far as going along and saying to the GP look I want to do this because the [Hba1c] is up, the guidelines actually have given us some leeway. [For example] this [patient’s] blood sugar has never been under this so can we increase this by four units or two units and that gives them something to go by as well. We’re actually updating [the GPs] and up-skilling them in insulin titration (Emma, p.4).

Although the guidelines have been described as useful for helping ensure some consistency in the information provided to patients, one nurse also saw the guidelines as beneficial in that they are ‘just a guide’ so it is possible within the guidelines to cater for individual needs. She stated,

I like [the guidelines] because I think that they’re only a guideline, so there is always that individual thing that you put in there, but it gives consistency, that everyone, certainly at this practice, is giving the same information. I think that a disadvantage at the moment with diabetes nationally is there is
no consistency and even regionally people depend on who their GP is and what services they provide (Lilly, p.5).

Two nurses were not familiar with the national guidelines, but instead relied on other tools such as the Diabetic Annual Review (DAR) on which to base their patient education. One commented,

I'm guilty of not knowing about or referring to the guidelines much, I guess
the online form involves some of that anyway and I'm going to read up on
the guidelines now (Lucy, p.5).

The DAR is, however, based on NZGG guidelines.

4.8.1 Summary

The NZGG/MOH guidelines were considered to be the national recommendations for best practice for the management of T2D in NZ, with nurses seeing the benefits of these guidelines as providing a standardization of care, clear diagnostic criteria and insulin management parameters. While guidelines were considered valuable for providing DSME, they were viewed as being ‘just a guide’ to practice, therefore nurses continued to encompass individualised care in their practice.

4.9 Nurses’ Perceived Confidence and Preparation of Providing DSME

The interviewed nurses all provided diabetes support and education to their patients through nurse-led diabetes clinics in primary health care settings. One of the questions inquired about how confident and prepared they felt within these clinics when providing DSME to newly diagnosed patients. Their responses are described below.

4.9.1 Confidence

The majority of nurses interviewed described themselves as being confident in providing education to patients with newly diagnosed diabetes. One nurse described this as being reflected in other health professionals seeking her advice around diabetes management. She said,
I think I deliver a good service. I wouldn’t like to say I’m over confident but I know what I’m doing, if I don’t I will ask. When you’ve got doctors actually asking me [for advice] and I do understand, you start realizing that you actually do know what you are talking about (Lyn, p.4).

Confidence was described by some nurses as developing over time and that, with more education and knowledge, they have become more comfortable in their practice. Mary noted,

“The more I get into it, the more I’m doing [education] the more I want to know and the more I’m trying to back up my knowledge and develop. It’s never enough (Mary, p.5).”

Confidence in introducing insulin to patients and insulin titration was also described by some nurses as developing with practice. The practical experience of ‘doing,’ facilitated by the support of DNSs and medical practice colleagues, was described as valuable in advancing these nurses’ confidence. Lilly commented,

“I think that my [colleague] and I have to get more confident with our titration of insulin. We probably err on the side of caution a little bit. Recently I sent a guy up to [secondary services], we’ve been titrating him, we’ve put him on a basal bolus regime and the [DNS] said we’ve done it all right but we just needed to increase the Lantus, the background insulin a bit more and they’d gone up six units just like that. Whereas we’re like hmm maybe not quite as much [of an increase], so yeah that’s just doing it I think (Lilly, p.5).”

One nurse, however, described herself as being less confident, particularly around insulin. Jane says she gives “an air of confidence” but when discussing patients with the DNSs she doesn’t feel as confident. She continued by saying,

“Confidence, it’s funny because the minute you think you are, something just throws you. I was way more confident, weirdly enough, when I first started, as time’s gone by it’s got worse and worse. The DNS comes in and I say I
knew more before she came but that's the right way to be feeling I think, apparently it's called healthy anxiety (Jane, p.9).

4.9.2 Preparation

All nurses involved in the study described themselves as being ‘very prepared’ when delivering self-management principles to newly diagnosed patients, referring to this as their “bread and butter”. Sally explained,

I saw a newly diagnosed diabetic, I knew exactly the things I was going to do today, the information I was going to give out and the diagram [I was going to draw] and everything just really revolves around that and you can take each step (Sally, p.4).

Specific clinic rooms set up with educational material such as resource folders, booklets and posters solely for diabetes were described by some nurses as being part of their preparation. Lilly noted,

We have all the things in our rooms set up for us for our education. It’s all there, we’ve got insulin boxes for each different type of insulin for teaching, they’re already set up ready to go (Lilly, p.5).

Although all nurses described how they felt prepared, one nurse did recognise that she struggled when spontaneous requests for patient education were given to her by doctors in the middle of a non-clinic day. Mary said,

What I do find difficult is when I have someone thrown on me in the middle of the day, on the floor, with the doctor coming to me and specifically saying that they’re newly diagnosed and I put them in that cubicle there, you’re on it. That’s not as satisfying because sometimes it’s a matter of scraping the surface because they’ve already seen the doctor and maybe a little bit bamboozled anyway. [I try] to get [the patients] back as soon as possible into clinic for a quiet time, a quiet chat and I give them some stuff to take home and read (Mary, p.5).
4.9.3 Summary

Overall, the nurses involved in this study described themselves as being confident in their ability to provide DSME to patients with newly diagnosed T2D, labelling this as their 'bread and butter'. Nurses reported less confidence in their ability to manage insulin, however, describing the practical experience and support of DNS mentors as valuable for improving this. Nurses reported their clinics to be well resourced and prepared for patients, with the only difficulty noted as being when newly diagnosed patients were unexpectedly referred to them on a non-clinic day.

4.10 Nurses’ Views of Cultural Training in the DSME Setting

Nurses described providing DSME to patients from a variety of cultures within their practice, particularly those of Māori, Pacific Island, Asian and European ethnicities. One of the interview questions asked about nurses’ views of cultural training and its usefulness to providing DSME. Cultural training was considered useful in general by the majority of nurses, with most of them reporting they had attended a form of Māori cultural training within the last two years.

Understanding Māori cultural practices and beliefs were reported as being of particular importance to providing education effectively. As Lyn explains,

You have to remind yourself, like when [Māori patients] are not looking at you, if you didn’t do the training you’d think well they’re not even listening to me why am I bothering, but they are. If you didn’t have that sort of awareness, especially inviting families which is really important to a lot of [Māori], if you didn’t have that basis you know they could feel quite isolated, more isolated than they obviously already do because all of a sudden they’ve got this condition that they don’t understand, I think [cultural training] is really important (Lyn, p.5).

One European nurse described having an affinity for Māori people and identified using the Māori health principles of protection, participation and partnership in her practice. Jane said,
The three 'P's is exactly [how] I want to be. I actually do feel like I’m helping to protect [Māori] sometimes from themselves, from a lack of knowledge, from a lifestyle that they’ve had no chance to change. It’s not feeling sorry for them, it’s empowering them (Jane, p.11).

This same nurse also described the high prevalence of diabetes and poor health outcomes amongst Māori to be most concerning to her, believing the Māori culture to be at risk if no action is taken. Jane explained,

You know there’s fear and there’s that ‘she’ll be right’ attitude, well she really won’t [be alright], so it’s the protection thing. The Māori culture is really at risk here because of the high, high rates [of diabetes], they’re younger when they’re developing it and they’ve come to quite an impasse (Jane, p.12).

Culture was described in broad terms by some nurses, who described their practice as multicultural. Nurses highlighted a growing Asian T2D population, with Penny saying, “Asian to me is a fairly unknown culture and they’re becoming a bigger part of New Zealand all the time” (Penny, p.11). Mary also suggested that, although Māori cultural training was important, it would be useful to have more training around these other cultures as well. She explains,

Again it’s knowing customs and I’d say I’ve got as many Asian diabetics on my books, probably more than Māori, and I’ve got to know what they eat and what they won’t eat and compromises we make, so that’s as much research to me as [Māori cultural training], is. I have to say that that is probably a bit of a downfall in our training (Mary, p.6).

One nurse commented that, despite finding some of the cultural training useful, she chose to look at what the individual’s needs and beliefs were and worked within those to form a respectful relationship. She said,

Overall, in my personal opinion, people are people and that everyone is an individual and everyone has their own beliefs and values. Some of them related to culture and some of them completely not, just personality and
character. That’s why I think it’s so important to establish that working relationship because then it’s not about the culture, it’s about the person sitting in front of you and their beliefs (Paula, p.4).

Two nurses described finding the cultural training they had done not to be particularly useful in their practices, with one nurse describing a previous experience as a ‘tick box’ exercise and a bit broad, saying it needed to be “more specific [to diabetes] to make a difference” (Lilly, p.6). The other nurse thought her initial undergraduate training on cultural practices was useful but did not feel that continuous education was beneficial. She continued,

Some of the more basic input we got was really good but I mean it stays with you, they talk about updating and updating but cultures don’t change for me. I guess you can learn more about cultures but I don’t know if it really makes a big difference for me. I mean it depends very much on your person. Like in Auckland we all had the same training but some of the Indian ethnic people that came in would always be looking for me because it’s your way of actually relating to them (Lucy, p.6).

4.10.1 Summary

Māori, Pacific Island, Asian and European groups were described as the main ethnicities seen in diabetes clinics by the nurses interviewed. The poor health outcomes and incidence of diabetes in the Māori population were recognised with nurses reporting a need to provide DSME in a culturally appropriate way. The current Māori cultural training was viewed by some as useful, however, others discussed a diabetes specific approach to this form of cultural training as being more useful to their practice. Nurses reported limited knowledge of cultural practices of other ethnicities, particularly Asian, highlighting a need for further training around this. Lastly, the concept of individualised care, was alluded to by some and described more fully by one nurse, as focussing on patients’ unique values, beliefs, character and personality in a partnership approach to providing DSME rather than using a specific cultural model of care.
4.11 Nurses’ Views of Ongoing Diabetes Education and Training

Half of the interviewed nurses had completed undergraduate degrees in Health Science (Nursing) along with their State registration exams, with the other half qualifying as hospital trained, Registered General and Obstetrics Nurses (RGON). The majority of the nurses, at the time of the interviews, had completed locally based diabetes training sessions, with four nurses having completed post-graduate level eight papers. Only one nurse indicated having completed a chronic disease management course and one nurse was currently enrolled in two post-graduate level courses.

All nurses identified the need for further training within the diabetes field. The specific areas and levels of training in which they were engaged varied, however, with some attending diabetes in-service education and others completing post-graduate diplomas or a Master's degree. Post-graduate qualifications were described by three nurses as a goal they were working toward, as they viewed this to be necessary to achieve nurse prescribing endorsements. One nurse commented,

I want to do my Masters, only really to prescribe because to me it’s a barrier. [I say] okay you need to do this now [to the patient] then I’ve got to go and find a doctor [to prescribe it]. It’s a time thing, when I could just give it to them straight away [if I were prescribing]. I introduce the insulins. The only thing I don’t actually do is write the script but we do everything else (Lyn, p.6).

Paula spoke of undertaking a diabetes specialty endorsed post-graduate diploma to have formal qualification to support her practice. She explained,

Post-graduate diabetes training is something concrete. I would like something to show for what I’m doing and what I’ve done because unfortunately if you don’t have the paperwork behind you in a way I don’t think people take you seriously overall, I think you need that (Paula, p.5).

Insulin management was reported by nurses to be a part of their clinical role and the need for further insulin education to up-skill was viewed as important to their practice. Early
insulin introduction was also considered to be significant, one nurse explained her concerns,

> Probably around starting the patients on insulin. I think we leave [starting insulin] too long and it's like we'll leave it another three months and then if [the Hba1c] doesn't come down we'll start insulin. I actually went to a recent course with [a diabetes specialist] at the hospital. They did a day seminar focused on starting insulin early (Fiona, p.4).

One nurse suggested that, along with ongoing diabetes education, she needed an external critique of her and her colleagues’ practice providing DSME. She felt this would improve the quality of DSME communicated to patients. She explained that,

> Working in isolation and you’re actually not sure [if you are doing well]. I think we’re doing really well but as far as critiquing your work with other colleagues who also do diabetes [education] we have no external review. It would be really good to actually have someone come in and offer you a review and feedback and say where you could improve. I think that is missing (Emma, p.5-6).

Further education for nurses was reported to be reasonably accessible, with many of the nurses interviewed living near tertiary providers, having access to in-service education opportunities and reporting supportive work environments. One nurse explained that although most education is available, nurses need to be motivated to access it. She said,

> I think you just have to do it for yourself, I think a lot of nurses want to be spoon fed a bit but you just have to get off your bum and do it, really (Lilly, p.6).

### 4.11.1 Summary

Diabetes education and training for nurses was described as being reasonably accessible and supported in the primary health care setting. Nurses accessed this training opportunistically, attending education depending on what they deemed to be important to their own professional development, rather than following a specific diabetes education framework. Post-graduate study was viewed as vital for nurses following the nurse
prescribing pathway and less important by nurses who were not interested in prescribing. Training around the management of insulin was recognised as being important as all nurses described this to be a part of their DSME role. Finally, running diabetes clinics was viewed by some to be a solitary experience and that regular reviews and feedback from peers and diabetes specialists would be beneficial to improving practice and the provision of quality DSME.

4.12 Conclusion

The findings of this study highlight what PNDSI nurses perceive their role to be, particularly in relation to DSME for newly diagnosed patients. The nurses identified the challenges to providing effective education for patients with T2D, and these related to patients achieving an understanding of diabetes as well as time, cultural and financial factors that are involved in providing education. These challenges were overcome using principles, such as patient-centred care and a partnership approach, with nurses highlighting the need to be resourceful in regards to consultation times, funding and cultural issues. Nurses discussed the content of DSME and what they considered to be the most important points to convey to patients with newly diagnosed T2D. Most nurses referred to the NZGG/MOH guidelines as a practice resource for the management of T2D, indicating that the guidelines were useful to support their practice as well as ensuring the standardization of DSME across health professionals and medical practices. Cultural training, particularly around Māori culture, was considered to be important, however, it was thought to be more beneficial if the training was tailored to DSME principles rather than the generic training the interviewed nurses had received. The nurses also expressed a need for training around other cultures, particularly Asian, as they were seeing more of these patients in their diabetes clinics. Most nurses described feeling confident about providing DSME to patients newly diagnosed with diabetes and felt well prepared in most cases. The ongoing educational needs reported by the interviewed nurses concerned diabetes pathophysiology and insulin management. One nurse referred to a need for an external critique of clinical practice around the delivery and content of DSME, provided by peers or a DNS to improve diabetes nursing practice. Further education for nurses, despite being described as easily accessible was described to be opportunistic according to the nurses’ perceptions of their own educational needs, rather than in relation to a specific diabetes framework, and the amount and type of
education/training being undertaken was variable amongst the nurses interviewed. These results will now be further discussed.
CHAPTER FIVE: DISCUSSION

5.1 Introduction

This qualitative study was designed to explore factors that influenced the Practice Nurse with Diabetes as a Special Interest (PNDSI) role in primary health care. The aim of the research was to understand nurses’ perceptions and challenges of their role providing Diabetes Self-Management Education (DSME) to patients with newly diagnosed Type 2 Diabetes (T2D).

In this chapter the major themes identified from the findings of the research, along with the implications to nursing practice, will be discussed. The major themes for discussions are related to the primary care nurse’s DSME role. Nurse perceptions of providing DSME focus mainly on the challenges associated with this role and how the nurses address these challenges. The part national guidelines play in providing DSME to patients with T2D is considered. The resources used by nurses to reinforce DSME are reviewed and, finally, a discussion around specific diabetes training and further education the nurses consider important to their ability to provide DSME effectively. This chapter concludes with the study’s limitations, the implications to practice and how this research adds to the body of nursing knowledge.

5.2 Primary Care Nursing DSME Role

A key outcome of the study is that it has highlighted the evolution of the PNDSI role and how these nurses interviewed are providing self-management education to patients newly diagnosed with T2D. The results indicated that the role, described in the beginning as being simple, providing ‘basic lifestyle and dietary’ information, has evolved to encompass whole patient assessment, monitoring, treatment initiation (including the initiation and titration of insulin) and self-management education.

This evolution was suggested by Cowley (2010) who saw the evolution of the diabetes practice nurse role in NZ to be in response to the increasing and unmanageable demands on secondary health care providers. A similar situation in the UK led to specialist-nurse prescribing diabetes roles to be developed in primary health care (Stewart et al., 2006).
In NZ, the nurses interviewed in this study described the Diabetic Annual Review (DAR) to be the foundation from which the current diabetes clinics have emerged. The DAR was a MOH (1997) initiative designed to bring diabetes detection and management into primary care (Cowley, 2010). Kenealy et al.’s (2004) study further suggests that the DAR encouraged nurse-led practice in primary care for the management of diabetes rather than leaving this care solely to General Practitioners (GP). This form of care was reflected in this study, with nurses reporting having made recommendations for patient care and treatment options and implementing these changes with patients.

This study focused on the ‘newly diagnosed’ T2D patient for DSME and most nurses considered themselves to be reasonably confident in their ability and knowledge around diabetes to provide DSME to these patients. One nurse referred to providing DSME to newly diagnosed patients as her ‘bread and butter’. She was less confident, however, when initiating and titrating insulin or when she compared her nursing practice to that of her Nurse Practitioner (NP) mentor.

While the role of the Diabetes Nurse Specialist (DNS) is more clearly defined in secondary services, the primary health care PNDSI role is less apparent, with many of these nurses responding and catering care to the needs of their patients and medical practices (Cowley, 2010; Peters et al., 2001). In this study, the nurses’ descriptions of their roles varied from working alongside GP directives to more autonomous practice of providing DSME, including recommending and initiating treatment under standing orders. Gillibrand, Taylor & Hughes (2004) reported similar findings, saying that some practice nurses, like in this study, described a more specialised DSME role, more similar to the role of DNSs, however the descriptions of their role also varied amongst the nurses interviewed.

How practice nurses view their diabetes role in primary health care may be related to these varied role descriptions. Siminerio et al.’s (2007) research showed that some practice nurses working in the field of diabetes continued to identify as ‘generalist’ practitioners. They viewed themselves as mediators and supporters to guide care between the GP and the patient, rather than at a specialised level of providing DSME. Primary care nurses involved in another study also used the term ‘generalist’ to describe their diabetes role, but were more specific, indicating that diabetes practice nurses were instrumental in providing diabetes care and education to patients in conjunction with other health professionals (Peters et al., 2001). It may be seen that knowledge and confidence in their ability to
practice at a more specialised level and a lack of definition for this role could be a reason for these varying perceptions of this nursing role.

5.3 Nurse Perceptions of Providing DSME

DSME is considered to be the principle role of the PNDSI. This section explores what nurses recognise self-management education to be and what the challenges are when they are working in this role.

5.3.1 Providing DSME

An aim of this study was to determine what PNDSI perceived as constituting ‘self-management education’, with nurses discussing information content and the delivery of DSME as being the major factors involved. Strong importance was placed by all nurses on ‘holistic’ and ‘patient-centred’ care principles which were particularly evident in their descriptions of dealing with presenting challenges (discussed further in the chapter). The nurses interviewed described the main points of DSME content, those considered most important to communicate to newly diagnosed patients with diabetes, included diabetes pathophysiology, progressiveness of the disease, reassurance, lifestyle education, medications, complications and an understanding of the patient’s ability to self-manage. These main points of DSME were congruent with results from reviewed studies regarding the main concepts of DSME (Gillibrand, Taylor & Hughes, 2004; Hornsten et al., 2008; McDonald et al., 1999).

Nurses believed that for newly diagnosed, as with existing patients with T2D, it is important that these key points are communicated to patients as a part of the education process. It is considered routine to perform the essential biomedical monitoring checks such as Hba1c, retinal, Blood Pressure (BP) and neuropathic screening. While these are considered vital, it is argued that educating around the pathophysiology, maintaining patient wellbeing (including diet and lifestyle), discussing complications risks and treatments, and improving patient’s ability to self-manage, are the most important aspects of providing DSME (Gillibrand, Taylor & Hughes, 2004). The results of this study are similar to Gillibrand, Taylor and Hughes’ (2004) findings. Whilst the nurses interviewed considered biomedical measures essential to provide monitoring on the physiological progression of the patient’s condition, the education role was deemed to be of equal, and in some cases, more
important. Nurses suggested that, without adequate understanding of the disease, patients were less able to understand the impact or potential complication risks of having poor biomedical levels, such as Hba1c and BP.

All but one of the interviewed nurses discussed the value of communicating to newly diagnosed patients that T2D was a life-long progressive disease. This one nurse explained that she felt patients did not need to know about the progressiveness of T2D as a part of newly diagnosed education, but this could be communicated later on. She placed more importance on first providing education around other self-management principles such as understanding diabetes pathophysiology, diet and lifestyle education. Most interviewed nurses, however, reported that early education around the progressive nature of diabetes and the benefits of regular support and treatment can lead to more realistic expectations for patients around their condition, and avoid the ‘blame’ or ‘despondence’ that may follow if patients are uninformed. This supports McDonald, Tilley and Havstad’s (1999) study, in which nurses explained that patients often lacked insight into the seriousness of T2D at diagnosis, often realising the gravity of the disease only after developing some of the vascular complications, then experiencing remorse about not taking better care of themselves. McDonald, Tilley and Havstad’s (1999) highlighted how it was important for patients to comprehend and accept the serious, progressive nature of diabetes, stating this information was pivotal to enabling patients to self-manage effectively.

In regards to DSME content, Jansink et al. (2010) reported nurses explaining that, although patients generally felt a need to change their lifestyles and behaviours, their lack of insight into the reasons for change and the future effects of these lifestyle modifications showed they had a limited understanding of their disease. It is clear from these studies that to reduce the presence of long-term complications resulting from poor self-management of T2D, these main points of self-management information are important to include in DSME sessions, particularly at diagnosis. This supports the nurses’ views in this study, which suggest that by comprehensively informing patients of these key DSME concepts at time of diagnosis, and by continuing to provide ongoing patient support, it will lead to improved patient self-management of T2D and improved health outcomes.
5.4 The Challenges of Providing DSME

The challenges or barriers nurses perceived to impact on their ability to successfully provide DSME were achieving comprehension of DSME concepts, time constraints, lifestyle and cultural issues, and financial issues. These issues will be discussed below.

5.4.1 Patient Understanding and Comprehension

To achieve good levels of patient understanding around self-management concepts of T2D, the interviewed nurses outlined three underlying issues as being important to address. These included the amount and delivery of information, patients’ willingness to participate, and previous misinformation.

5.5.1.1 Amount and Delivery of Information

Nurses perceived the amount of diabetes information necessary for patients to receive at diagnosis as being substantial, with the main points of DSME highlighted previously in the chapter. Nurses identified that to ensure that the diabetes information was more easily communicated to newly diagnosed patients, the content needed to be divided into sections and delivered over several sessions. This is further discussed in the Time Constraints (5.4.2.1) section of this chapter.

The delivery of DSME is discussed in Jansink et al.’s (2010) study, who highlight that the ‘way’ the education is delivered to patients is just as fundamental as the information content of diabetes education. This research supports these findings, with nurses describing the value of gauging the patient’s level of understanding and delivering diabetes education in response to their patients’ cognitive abilities as being an essential part of providing effective DSME. One nurse described waiting for patients’ ‘light-bulb’ moment and adapting her methods of delivery until that moment was reached.

Pooley et al.’s (2001) research suggests that health-professionals (including practice nurses) recognise the importance of individualising diabetes education and care for their patients. They suggest, however, that the current structure of medical care, along with consultation time constraints, make it difficult to provide patient-focused DSME to patients with diabetes.
The nurses’ experiences in Jansink et al.’s (2010) Netherland based study also identified that the predominant approach to DSME was the traditional medical model, with nurses more often ‘taking over’ rather than empowering patients to self-manage their chronic condition. Jansink et al.’s (2010) findings were similar to Hörnsten et al.’s (2008), who explained that whilst the nurse participants described their patients as individuals and as being “unique with specific needs”, when talking about self-management they described the disease of diabetes as a pathological state, using biomedical measures such as Hba1c levels as the main focus of care rather than providing DSME using a patient-centred approach. The nurses placed more importance on imparting medical knowledge around diabetes self-management than on understanding and incorporating the patients’ ‘lived experience’ knowledge of diabetes into their consultations. The nurses involved also commented that if their patients did not understand the medical knowledge or follow a pre-determined stepwise DSME plan it ‘spoiled’ their consultations (Jansink et al., 2010).

In contrast to the two studies cited above, and like this study’s findings, nurses in Gillibrand, Taylor and Hughes’ (2004) study regarded the emotional demands of the patients’ ‘lived experience’ of diabetes as being important to address and acknowledge, and are correlated with patients with T2D ability to self-manage effectively. It was also found that using holistic principles such as supporting, empowering and working together with patients, is an effective way to achieving mutual self-management goals and ultimately improved patient health outcomes.

5.4.1.2 Willingness to Participate

Whilst the term ‘compliance’ to treatment was not specifically mentioned by the nurses involved in this study, they did, however, discuss patients who did not actively participate in the self-management education and treatment process. Jansink et al. (2010) also found compliance-related challenges in their study, with nurses reporting these as being when patients see a lack of immediate results of the lifestyle changes they have made. When patients demonstrate a lack of discipline for maintaining particular lifestyle and diet modifications which, along with difficult moments such as stressful events, can potentially lead to a relapse into unhealthy behaviour patterns, and ‘compliance’ to a self-management plan may be further reduced. The nurses in this study alluded to similar issues. For example, the nurses spoke of dealing with patients who worked unusual hours and the
challenges of supporting these patients to maintain healthy eating and adhering to treatment regimes. Interestingly the nurses discussing these issues did not use the term ‘non-compliance’. Rather, they spoke of it as an individualised challenge, working with the patients to address the problem by listening to their needs, offering suggested ways to modify diet and treatment regimens to suit their patients’ current lifestyles, and continuing to offer a non-judgemental supportive environment to support their patients’ ongoing educational needs.

Listening and understanding patients’ lived experiences were also considered an important part of providing DSME patient-centred care by patients and health professionals in Pooley et al.’s (2001) study. Patients described how their participation and willingness to self-manage their condition is enhanced when they feel heard and comfortable enough to ask questions about their health. Health professionals also recognised this to be important. However, they identified a lack of available consultation time and DSME resources as barriers to being able to provide quality DSME consultations.

The nurses in this research also discussed the importance of patients feeling listened to and comfortable within DSME consultations, and used terms such as ‘flexibility’ and ‘compromise’ to describe the ways they attempted to overcome barriers such as time constraints, and to find a common ground to involve patients in their own DSME. One nurse described supporting patients by offering an agreed time period for the patients to accept their diagnosis and try their own self-management ideas, regarding diet and exercise, with the view to reassess if mutual goals were not reached. Understanding the patient’s background and level of acceptance of having T2D, and working at their level to achieve shared goals, is described by Jutterström et al. (2012) and Gillibrand, Taylor and Hughes (2004) as the ideal relationship for which to provide DSME to patients with diabetes.

The nurses’ experiences in this study differed somewhat to nurses’ descriptions in other studies. Jansink et al. (2010) reported nurses’ frustrations at what they labelled as ‘patients’ general aversion to change’ in regards to lifestyle and dietary modification suggestions. Woodcock and Kinmonth (2001) suggested that patients’ unwillingness to engage in self-management education may be related to unrealistic suggestions or goals set by nurses. It was suggested that this could be in response to nurses being unwilling or having difficulty deviating their practice from the national guideline parameters, or assuming what patients’ need or what they consider to be important to successfully self-manage their condition.
Many nurses in this study, however, identified using a partnership, patient-centred approach to engage their newly diagnosed patients when providing DSME, therefore the ‘ideal relationship’ as described in Jutterström et al. (2012) and Gillibrand, Taylor and Hughes (2004) seems often to be a reality of practice for the nurses involved in this study.

The term ‘non-responder’ was used by the nurses interviewed to describe the patients who failed to attend their DSME appointments. They were viewed by most nurses as ‘difficult to engage’, with one nurse reporting frustrations with these patients saying that the time and energy she spent following them up could be better used to help those who were willing to participate. She explained that there was a point in time where she gave up trying to re-engage with these patients.

She recognised, however, that these ‘non-responding’ patients, more often than not, end up in hospital as a result of diabetic complications, therefore they do need support. Despite using methods such as cold-calling, text messaging and referral to secondary outreach services, she and other nurses interviewed reported varied success of reaching this ‘non-responding’ population. This concept was not discussed in depth in any of the reviewed literature. However, the term ‘non-compliance’ was used to describe patients who did not engage with treatment options or demonstrate willingness to participate in DSME (Hornsten et al., 2008; Jansink et al., 2010; Jutterström et al., 2012), which is similar to ‘non-responding’ as described of patients in this study.

### 5.4.1.3 Patients Preconceptions or Misinformation

For patients with T2D, misinformation from their peers and/or health professionals, the lack of insight into their disease, along with their levels of understanding of DSME concepts such as lifestyle and diet, are factors also noted by nurses in Jansink et al.’s (2010) study. These can affect the provision of DSME if they are not acknowledged. In this study, newly diagnosed patients were reported by the nurses interviewed, as coming with preconceived ideas surrounding their diabetes. These particularly concerned insulin introduction and management, with many patients associating insulin initiation with negative health outcomes. If these and other myths were dispelled early on, nurses viewed patients to be more open to participating in DSME.
5.4.2 Access to Care

The nurses involved in the study highlighted time constraints, including nursing and patient availability for consultations, cultural and financial issues as presenting challenges for patients with newly diagnosed T2D to access diabetes care and self-management education. These issues are discussed below.

5.4.2.1 Time Constraints

The amount of consultation time and the timing of information are examples of how time is a challenge for nurses delivering DSME to newly diagnosed patients with T2D. The latter is considered by the interviewed nurses as fundamental to ensuring information is delivered in digestible blocks to allow the patients to process the information and formulate questions. The challenge, however, is partly due to the varied funding schemes within the two regions in which the nurses practice. Not all nurses have had the same amount of funded consultation time available to them to provide multiple free or low cost DSME appointments for their patients. The nurses described becoming resourceful to accommodate time constraints, by seeing patients in conjunction with a GP visit, dividing appointments into shorter sessions and across different days, using phone and email follow-up and referring patients to secondary or outreach providers for further specialist diabetes support. These findings were similar to those reported by Livingston and Dunning (2010), Gillibrand, Taylor & Hughes (2004) and Pooley et al. (2001), where the majority of the interviewed nurses reported insufficient consultation time to successfully incorporate the amount of information deemed necessary to communicate to patients for DSME to be effective. Issues other than physical checks, such as education about their condition and available treatments, and addressing patients psychological and emotional needs, were often omitted due to a lack of consultation time, which impacted on nurses’ ability to provide patient-centred DSME. The nurses in Gillibrand, Taylor and Hughes’ (2004) Northwest English study used methods such as shared care-cards and computerised health links to share information amongst the various professionals involved in diabetes health care in attempting to provide a better service. These provisions are different to those used by nurses practicing in NZ.
5.4.2.2 Cultural Issues

Cultural issues were recognised as challenges when providing DSME to newly diagnosed patients, with nurses acknowledging the importance of understanding patients’ different cultural identities and providing appropriate care and support to help patients manage their diabetes within their cultural practices. Nurses described the main population of patients in their clinics who were other than Pakeha identifying as Māori, Pacific Island, Asian and European. The nurses providing DSME to lower socioeconomic areas related having a higher proportion of Māori and Pacific Island patients than those nurses working in more affluent areas.

It was noted that for Māori, and Māori women in particular, it was especially important to include their extended family members in DSME consultations. One nurse described Māori women as more likely to put the needs of their whānau before their own. Some nurses reported involving the patient’s whānau in their care, as it was recognised that diabetes self-management was more effectively achieved at a family level than solely at an individual level. These findings corresponded with those found in Kenealy et al.’s (2004) study, where it was reported that the nurses involved focused on a family-based model of care with Māori and Pacific Island people as this was seen to be an effective method of supporting and working with these patients.

The nurses in this study were aware of the current health disparities in NZ between Māori, and Pacific Island and Pakeha populations, alluding to patients within the Māori and Pacific Island groups as being more likely in the ‘hard-to-reach’ category. Despite identifying this, the nurses described using a holistic health approach to the delivery of DSME, with one nurse highlighting the Treaty of Waitangi principles of protection, partnership and participation to be essential to maintaining an effective partnership with Māori patients. These findings are supported by Durie (2003), who acknowledges the importance for non-Māori health providers to understand Māori perspectives of health and adopt these principles to actively engage with Māori patients to provide effective care.

The concept of cultural engagement is further described by Horsburgh and Lamdin (2004), who note that for health professionals to be culturally prepared they need to understand the Treaty of Waitangi principles, along with the acceptance that, wherever practical, Māori
health organisations should provide for Māori. It is understood however that cultural training is necessary to increase the responsiveness of non-Māori to understand Māori peoples’ cultural needs.

The nurses in this study gave varying reports of cultural education providers, education content and the amount of information included in the cultural training sessions they had attended. One nurse described her practice as being guided by the patient’s individual values, needs and preferences rather than in response to their cultural identity, and although other nurses found cultural training useful, some also alluded to this concept of providing individualised care. This approach is also argued by Kenealy, Eggleton, Robinson and Sheridan (2010) who state,

> Although there is debate about whether culturally tailored interventions are more effective in closing disparities than generic quality improvement processes there is no reason for these two options to be mutually exclusive. For example, if a nurse successfully helps patients set their own health priorities and targets, one would expect that their relevant culture would be intrinsically included. Perhaps it is precisely within a consultation that these two approaches come together (Kenealy et al., 2010, p.260).

Most nurses in the study, however, support the need for cultural training, particularly with regards to Māori, as a way to better understand their cultural needs and attempt to improve their known poor health outcomes. They highlighted the need for diabetes specific cultural training, particularly around Māori patients’ cultural food customs and cultural traditions, saying this would be more beneficial than the general cultural overview they currently attend. Many of the interviewed nurses also stressed the need for education around other cultures especially Asian, as they are seeing increasing numbers of patients from these cultural groups. They felt it important to also be sensitive to their cultural needs in relation to their diabetes education and care.

**5.4.2.3 Financial Issues**

The cost of diabetes care was identified by the interviewed nurses as a challenge they faced when providing DSME to newly diagnosed patients with T2D, and more so for those nurses working in lower socioeconomic areas of Location A and Location B.
Currently in NZ there are inequalities in diabetes health outcomes. The provision of care amongst Māori, Pacific Island and lower socioeconomic populations differs from their Pakeha, European or more affluent counterparts (Joshy & Simmons, 2006). Primary health care interventions such as funded nurse-led diabetes clinics are aimed at reducing these disparities (Cowley, 2010; Kenealy et al., 2004). This supports the nurses’ experiences in this study, whereby those working with Māori and Pacific Island populations described offering reduced cost or free consultations to these patients as being an incentive to encourage attendance. Though funded clinics were described by the nurses involved as reducing the cost of diabetes care, the funding schemes varied between regions. Nurses in both regions identified implementing the ‘get checked’ DAR and ‘care plus’ initiatives. They also described different locally based funding streams.

The cost of medication and appropriate food for patients with low or set incomes (such as benefits or pensions) was also recognised by nurses as affecting their patients’ ability to self-manage their diabetes. These factors are also acknowledged as barriers by nurses involved in Stewart et al.’s (2006) UK based study, who added that, for patients’ with limited incomes, living in poor-housing situations and with family pressures, it was difficult for nurses to introduce change to their patients’ lifestyles and support them in maintaining the change. Nurses’ descriptions of their resourcefulness to help patients reduce the costs of DSME, food and medication, highlights their awareness of the links between patients low socioeconomic status and poor patient health outcomes. One nurse went so far as to pay for one of her patient’s diabetes prescription fee herself in an attempt to reduce this financial barrier. The financial challenge is one that will continue to exist in the future and the nurses in this study, despite governmental changes attempting to reduce the financial barrier, continue to find new ways within their environments to provide low cost DSME to their patients.

5.5 Guidelines

Most of the nurses in this study referred to the New Zealand Guidelines Group (NZGG)/Ministry of Health (MOH) national guidelines for the management for T2D, outlined in the Primary Care Handbook (PCH) (NZGG, 2012). Two nurses did acknowledge not being familiar with the PCH, but were using the computerised DAR tool as part of their DSME practice which is based on the NZGG guidelines. The guidelines, whilst being described by
most nurses as useful in diagnosing T2D, providing DSME and standardising diabetes management amongst health professionals (specifically GPs and nurses), it was said to be just a ‘guide’ to their nursing practice. One nurse, who described referring exclusively to the DAR tool, alluded to practicing in a more checklist-like fashion focusing on meeting the biomedical targets outlined by the guidelines. The reliance on the DAR tool may be due to her lack of confidence, skill and limited experience in providing DSME to newly diagnosed patients, as she described having a strong patient-centred focus in other parts of the interview. Most nurses, however, highlighted how their provision of DSME was individualised to the patient’s needs and achievable goals, such as lifestyle and dietary changes, were established in conjunction with the patient’s self-management abilities.

This differs somewhat to findings in other studies, such as Stewart et al. (2006) and Hornsten et al. (2008) who both reported nurses feeling obliged to cover all topics within the protocol (guidelines) during the time of patient consultation, often failing to address the issues around diabetes self-management considered important by the patients. The guidelines in these studies were described by the nurses to be based on biomedical measures. Quarterly and annual checks of patients’ progress were routine and standardised, leaving little room for individual care. Nurses reported being ethically troubled if they deviated from what was considered the optimal glycaemic targets in the guidelines if it conflicted with the patient’s individual self-management goals. These studies concluded, similar to this study’s findings, that it is more beneficial for nurses to incorporate and support individualised goals in their DSME for patients to maintain effective self-management of their condition, rather than the routine repetition of biomedical diabetes information (Hornsten et al., 2008; Stewart et al., 2006).

5.6 Resources

The nurses interviewed considered it to be particularly important to use specialised diabetes resources to illustrate and aid verbal education when communicating self-management principles to newly diagnosed patients with T2D. The types of resources they used varied amongst medical centres and the regions in which the nurses practiced. Interestingly, all five of the nurses working in the Location B used the same resource folder provided by their Diabetes Trust, describing it as a comprehensive resource. In contrast, only some nurses in Location A used their Diabetic resource folder, with most indicating
they found individual booklets, most commonly, the *Diabetes and Healthy Food Choices* booklet provided by New Zealand Diabetes Society (NZDS), to be the most useful, with one nurse referring to it as her “Bible”.

The most common method used by the interviewed nurses to illustrate the diabetic process, was hand drawn diagrams during consultations with most nurses explaining this to be the most effective way to support their verbal explanations of DSME concepts. The least preferred resource used by the nurses was the internet, with only a few them describing websites as valuable tools to use for patient information. Referrals to diabetes specialist services, outreach programmes and support services were used by nurses in conjunction with consultations, to support patients’ ability to self-manage their diabetes.

Gillibrand, Taylor and Hughes’ (2004) findings were similar, saying that the practice nurses involved in the study used a variety of educational material, mainly to explain the pathological process, lifestyle changes and treatment options necessary for patients to self-manage their diabetes. No specific resources were referred to in the findings; however the nurses recognised a barrier to accessing educational material and a need to further develop resources particularly using technology such as video and computer software. There appears to be limited NZ research around this area, however Lawrenson et al.’s (2010) study explored how patients in the Waikato received their DSME. The use of websites by patients in this study was considered low, despite over 50 diabetes-specific websites being located. Patients indicated that they used the internet cautiously as information content could occasionally be inaccurate. This correlates with the findings in this study, with nurses expressing their unwillingness to use the internet for similar reasons, namely concerns for how it may contribute to patient misinformation.

Other resources that the patients in Lawrenson et al.’s (2010) study used included pamphlets from the NZDS, some which were directly accessed by patients, but it was also acknowledged that these were also most likely given out in primary practices. The medical practice itself, however, was identified as a resource in the study which may have included the use of pamphlets available there.

From this discussion, there appears to be little research on the type and benefit of current resources used for patients by nurses in primary care settings, particularly in NZ, to support the provision of DSME specifically.
5.7 Education and Training

The need for ongoing diabetes specific education and training for PNDSI in primary care has been identified in the literature as essential to providing DSME to patients with T2D, and for detecting early development of diabetes complications (Livingston & Dunning, 2010). Nurses were not asked about what training or education they viewed to be important for the PNDSI role, rather what were the areas of diabetes they wanted further education about.

The areas of continued education identified by the interviewed nurses were all aspects encompassing the management of diabetes, particularly insulin initiation and titration and prescribing education. One nurse suggested establishing a system whereby PNDSIs could have their practice critiqued by peers as she felt many worked in isolation. Having a DNS or a peer evaluate and make suggestions around the delivery and content of the DSME provided to patients would therefore be valuable to developing PNDSIs nursing practice.

The importance of incorporating practical and experiential learning from specialist nurses in the diabetes field was viewed by many of the interviewed nurses as being just as beneficial as engaging in tertiary education. In this study, the support from secondary services in the form of DNSs and diabetes Nurse Practitioners (NPs) was evident, with all nurses referring to this input as invaluable in developing their ability to deliver effective DSME to patients. The practical or ‘on the job’ learning developed from their interactions with these nurse specialists was deemed to be of equal or higher value to further tertiary education. Peters et al.’s (2001) British study also recognised practical experience to be a key element of knowledge development. However, they found that the DNSs involved in their study were reluctant to share their experiential knowledge with their practice nurse counterparts, believing that education should be provided by nursing academics. This was supported by Livingston and Dunning’s (2010) rural Australian study, where practice nurses indicated that they experienced difficulty establishing relationships and working collaboratively with diabetes specialist services. It may be seen from this study that diabetes secondary services in Location B and Location A recognise the value of supporting PNDSI to provide an effective service to patients with T2D and have provided DNS resources in response to this.
The ‘practical experience’ of providing DSME in a DNS and GP supported practice was described by one nurse as being the most beneficial to developing her practice. Having evidence of post-graduate education, however, is what ensures that people, particularly other health professionals, recognise the nurse’s skill level. Kenealy et al. (2004) highlighted that, in NZ, training, was found to be episodic and opportunistic and that, although there are a number of post-graduate diabetes papers and short-courses offered across the country, there was no nationally standardised qualifications for diabetes general practice nursing. This is similar to nurses’ experiences in Australia and Britain (Cowley, 2010; Gillibrand, Taylor & Hughes, 2004; Kenealy et al., 2004; Livingston & Dunning, 2010).

While there appears to be no nationally standardised specialist qualifications for diabetes general practice nursing and no specific scope identified for ‘specialist’ nurses other than the NP role under Nursing Council of New Zealand (NCNZ) scopes of practice, there has been the introduction of DNS accreditation which is nationally endorsed by the DNS section of the New Zealand Nurses’ Organisation (NZNO) and the New Zealand Society for the Study of Diabetes (NZSSD). The DNS accreditation is based on the MidCentral District Health Board (MDHB) developed National Diabetes Nursing Knowledge and Skills Framework (NDNKSF) (MidCentral District Health Board, 2009). These NDNKSF skills linked with the Professional Development and Recognition Programme (PDRP) competencies, clearly outline the scope and educational requirements necessary to be endorsed as a DNS, regardless of whether nurses work within primary or secondary care (see Fig. 1).

Figure 1: NDNKSF Alignment of areas of practice with respective population groups, and post registration education pathways (MidCentral District Health Board, 2009).
The NDNKSF document shows how the level of diabetes nursing practice is related to experiential, clinically based learning and skill development, along with the expectation that nurses will also be engaged in continued clinically relevant academic study, ranging from short courses to Masters or PhD degrees, dependent on the requirements of their role and their personal aspirations (MidCentral District Health Board, 2009).

Although none of the nurses interviewed referred to the NDNKSF or of the DNS accreditation pathway, going by the guidelines shown in Fig.1, and the interviewed nurses descriptions of their practice roles, it can be seen that some nurses are indeed practicing as Generalist Diabetes Nurses, attending short diabetes education courses and are moving towards Diabetes Specialty Nursing practice by engaging in post-graduate diploma courses combined with their practical experiences. Some of the nurses had completed post-graduate education at the time of the interviews. None, however, had completed a diabetes-specific level eight paper which, if guided by the NDNKSF (2009) document, is a necessary requirement towards becoming an accredited DNS.

The NDNKSF (2009) recommends specific levels of educational requirements for the diabetes nursing roles evident in Fig.1 (MidCentral District Health Board, 2009). In attempts to stay current with diabetes management, the nurses in this study attended regular diabetes updates and in-service training sessions. Attendance, however, while encouraged by employers and PHOs, was not mandatory and relied on nurses to opportunistically and voluntarily go to these sessions.

In studies from other countries, nurses outlined funding, study leave, distance, support from specialist services and a lack of recognised diabetes courses to be barriers to participating in ongoing education (Gillibrand, Taylor & Hughes, 2004; Livingston & Dunning, 2010). Few barriers were highlighted by the nurses in this study in regards to accessing diabetes education. Most nurses describing access as being relatively easy. Many nurses lived close to tertiary institutions, had access to online delivery programmes, and described supportive work environments and staff who encouraged them to undertake educational opportunities. Government funding schemes via the Primary Healthcare Organisations (PHO) and District Health Boards (DHB) were also reported as being accessible, supporting nurses to obtain financial support to embark on further study. One nurse explained that she felt the main barrier to undertaking further study was the nurses themselves, indicating
that nurses need to take initiative to undertaking further training, rather than waiting to be ‘spoon-fed’.

The minimal barriers to undertaking further educational opportunities reported by the nurses interviewed has meant that all the nurses had completed some form of further diabetes education. The type and amount of education undertaken, along with the tertiary provider, depended on the nurses perceived educational needs and training recommendations from their DNS/NP mentors. There was no standard qualification for diabetes in general practice nursing noted by these nurses as being essential for them to have to enable them to practice in their current roles, which is supported by Kenealy et al.’s (2004) study.

Results from this research indicate the PNDSI role is still emerging. Therefore it is understandable that the nurses’ views around their own education and training needs varied. As these nurses are becoming more aware of their scope of nursing practice and their ability to provide DSME and diabetes care at a proficient or expert level, as outlined in NCNZ competencies and NDNKSF document, this will no doubt impact on their educational pathways. Peer groups for PNDSI may also be a way of providing supportive environments for these nurses so they can be updated about changes in the diabetes field and also to increase awareness of training and education opportunities that are available to them in their areas of practice.
CHAPTER SIX: CONCLUSION

The discussion chapter reviewed the major findings derived from the research, concluding with the limitations along with the study’s implications to practice and its contribution to the body of nursing-knowledge.

It is apparent that the interviewed nurses’ perceptions of their role providing DSME are variable. However, many of them indicated that the DSME role has evolved to encompass the complex aspects of diabetes education and the care they provided differed from past diabetes primary care nursing roles and that they were rising to the challenges presented to them in this evolving role.

The content and the challenges of providing DSME to newly diagnosed patients with T2D were perceived to be considerable by the nurses involved, which resulted in their becoming resourceful in the use of available funding and time allocations for DSME consultations. Holistic principles such as empowering, supporting and working in partnership with patients were common practice for the nurses interviewed in their attempts to overcome some of the challenges of providing DSME. These included patients’ unwillingness to engage in care and the misinformation or preconceptions about T2D previously held by patients. Nurses were aware of the disparities in health care, particularly for patients who identified as Māori and Pacific Island and having an understanding of cultural practices was viewed by nurses to be important for improving health outcomes for these patients in particular. The findings suggest that access to diabetes specific Māori cultural training and further education around other cultures such as Asian would be beneficial to developing their nursing practice in providing DSME. The costs of medication, appropriate food and GP visits were recognised as impacting on the ability of patients with limited fixed incomes to effectively self-manage their diabetes. Some of the nurses in this study demonstrated a commitment to working with patients to find low cost food and medical review options such as using funded nurse-led clinics and providing education around low-cost healthy food choices to support financially-strained patients’ to self-manage.

Unfortunately, despite the availability of various funding streams aimed at reducing the cost of DSME for patients with T2D in primary healthcare, financial issues will continue to present a challenge to PNDSI in the foreseeable future.
Despite being easily accessible, the level of nurses’ engagement in further professional education was dependent on what individual nurses perceived to be necessary for their own continued education requirements. It was not encouraged or determined by a nationally standardised qualification for diabetes general practice. Possible implications to PNDSI include the implementation of a defined ‘nurse specialist’ scope of practice under the NCNZ increased awareness of the NDNKSF (2009) document and the DNS accreditation, and educational pathways which could potentially benefit PNDSI to provide a more effective service to patients with diabetes in primary health care.

National diabetes management guidelines were considered to be useful to standardise and support nursing practice. The implications for nursing are that, although the guidelines indicate ‘best practice’ for the management of T2D, particularly in relation to the biomedical management, they are only referred to as a ‘guide’ to nursing practice. Nurses should continue to respond to and address the patient’s individual emotional, social and psychological needs and experiences of living with T2D, as well as their physiological needs.

Educational resources used by nurses to illustrate DSME concepts varied amongst medical practices and between regions. The results from this study suggest further research around the content and usefulness of current diabetes educational material may be beneficial to ensure consistency of information for nurses and patients.

In conclusion, the experiences of providing DSME in primary health care as told by ten PNDSI has provided many insights concerning the provision of DSME to newly diagnosed patients with T2D. While the results of this study are limited to PNDSI in two geographically close regions of NZ, and it would no doubt be beneficial to extend the focus to a broader, national level, they have nevertheless provided some helpful answers and insights to the question, ‘what are the challenges for nurses in primary health care providing self-management education to people with newly diagnosed T2D?’

6.1 Limitations of the Research

Reflecting on this study, several limitations were evident in the research, which need to be acknowledged. One limitation is the size of the study. It is limited to a small number of nurses therefore not generalisable to the nursing population. It is also limited to a small geographic area in NZ, Location A and Location B, (and respective health boards), meaning
that the nurses’ perceptions are limited to those specific working environments. It would be beneficial to replicate the study on a wider NZ scale to enhance application at a national level.

Another limitation was that majority of the nurses provided DSME services to urban populations, with only one nurse working in a rural location, meaning that the results of the study are limited to reporting nurses’ experiences of providing DSME in urban settings.

Another possible limitation is the researcher’s position working within the field explored, which may have led to the data being interpreted in a less objective manner. This limitation, however, could also be viewed as an asset to the research process, in that the researcher brings to the project greater insights and understandings from which to interpret the data. To help ensure credibility and trustworthiness two supervisors cross checked the raw data and its interpretation.

6.2 Implications for Future Research

Whilst this study’s findings have added to the body of knowledge, further research areas have been highlighted as a result. These include:

- Conducting a larger, national study. The smaller scale study is useful to nurses in Location A and Location B. It would be interesting and beneficial to nurses nationwide if the study was repeated with more participants and a larger geographic spread.

- A NZ study focusing specifically on nurse and patient perceptions of DSME in primary health care. Evaluating both aspects of DSME could prove beneficial to patient self-management and health outcomes but also helpful to developing the PNDSI role.

- Specific exploration of current educational material such as booklets, websites etc and their use in DSME, particularly in the NZ primary care setting.

6.3 Adding to the Body of Nursing Knowledge

The literature reviewed for this study highlighted several gaps in the understandings around providing DSME to patients with newly diagnosed T2D. These included the need to improve the consistency of PN delivered DSME in primary practice, to explore the efficacy of
guidelines and their integration into practice, and understandings about how PNDSI perceived their role, including challenges to providing DSME. This research was conducted in response to these gaps, and the researcher believes it adds knowledge in the following ways:

- It identified the challenges nurses encounter when providing DSME in primary health care settings within the Location A and Location B areas.
- It outlined strategies nurses use to overcome these challenges to provide effective DSME.
- It highlighted the holistic approach used to facilitate the delivery of DSME, and reflected a partnership approach to managing diabetes.
- It indicated that national guidelines were incorporated and viewed as useful to practice, but the focus of care remained patient-centred in most cases.
- It highlighted that there were no specific education requirements for PNs working in diabetes in primary health care and that training is largely opportunistic and self-directed.
- It indicated that nurses strive to provide culturally appropriate DSME, encompassing Māori cultural values and beliefs, but it also highlighted a need for further diabetes specific cultural training.
REFERENCES


NZGG. (2003). Management of Type 2 Diabetes: Evidence-Based Best Practice Guideline. Wellington, New Zealand: Ministry of Health


**Additional Resources**


APPENDIX A

Information for Research Participants

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<th>Project Title:</th>
<th>Nurse perceptions of the challenges providing self-management education in primary health care to people with newly diagnosed Type 2 diabetes</th>
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<th>To:</th>
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<table>
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<tr>
<th>Researcher(s):</th>
<th>Maia Topp</th>
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<tr>
<th>Affiliation:</th>
<th>EIT Location A</th>
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Description of the research:

The research is aimed at exploring nurse perceptions around the challenges of providing self-management education to people with newly diagnosed Type 2 diabetes. The research is focused on Practice Nurses with Diabetes as a Special Interest, running nurse-led clinics in primary health care. The intentions of this study are to explore current knowledge base, training backgrounds and education content to determine consistency. Also to explore whether current guidelines are incorporated into self-management education and if they are found to be useful in practice. Lastly, to identify perceived patient barriers and how they impact on the
delivery of diabetes self-management care.

What will participating in the research involve?:

The participants involved in this research will be Practice Nurses with Diabetes as a Special Interest, running nurse-led clinics in primary health care.

Semi-structured interviews will be conducted and are expected to take up to one hour duration. With your consent the interviews will take place at a venue chosen by you (participants) where you feel comfortable. The interviews will be audio tape recorded and later transcribed. The aim of the interviews will be to explore nurse perceptions of the challenges providing self-management education to people with newly diagnosed Type 2 diabetes. The general areas which questions are based on include education content, guidelines, knowledge/training and barriers to providing education.

What are the benefits and possible risks to you in participating in this research?

The benefits of participating in this research study are that you will be contributing to the development and understanding of this evolving nursing role. Depending on the findings of the study, strategies, education and training could be designed to support nurses in any areas identified within the study. There are no perceived risks to you participating and you may withdraw at any time.

Your rights:

You do not have to participate in this research if you do not wish to.

- If you are a student at EIT and decide to take part, you can withdraw from the research at any time and this will not affect treatment or assessment in any courses at EIT.
- If you are a patient or under the care of students or staff from EIT, you can withdraw from the research at any time and this will not affect your treatment or assessment in any way.
- Once you have completed the research you have a one month period within which you can withdraw any information collected from you.
- You are welcome to have a support person present (this may be a member of your family/whānau or other person of your choice)
- You may request a summary of the completed research

Confidentiality:

Steps will be taken to ensure confidentiality of any information recorded during the study. Codes will be used to replace your identifying information for storage and analysis. Only the researcher, principal and associate supervisor and the transcriber will have access to the collected raw data. Data will be de-identified prior to transcribing as no names will be asked on the recording. All identifiable information about you will not be made available to any other people without your written consent. The hard copy (paper) data and audio tapes will be stored in a locked box at the researcher’s home. The electronic copies of the data will be stored on a locked (password only) Scan Disk (SD) card held by the researcher. The raw data will destroyed at the completion of the study.

If you wish to participate in this research, or if you wish to know more about it, please contact

<table>
<thead>
<tr>
<th>Contact Person:</th>
<th>Maia Topp</th>
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<tbody>
<tr>
<td>EIT School/Section:</td>
<td>Masterate Research MN9.490</td>
</tr>
<tr>
<td>Work phone #</td>
<td>06 858 7767</td>
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<tr>
<td>Mobile phone #</td>
<td>0272503356</td>
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<tr>
<td>Email address</td>
<td><a href="mailto:peppiattmaia@hotmail.com">peppiattmaia@hotmail.com</a></td>
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<tr>
<td>Supervisor Name(s):</td>
<td>Dr Shona Thompson</td>
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<tr>
<td>Work phone #</td>
<td>06 974 8000ext 6116</td>
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<tr>
<td>Email address</td>
<td><a href="mailto:SThompson@eit.ac.nz">SThompson@eit.ac.nz</a></td>
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<thead>
<tr>
<th>Head of School/Manager:</th>
<th>Rachel Vernon</th>
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<tbody>
<tr>
<td>Work phone #</td>
<td>06 974 8000</td>
</tr>
<tr>
<td>Email address</td>
<td><a href="mailto:rvernon@eit.ac.nz">rvernon@eit.ac.nz</a></td>
</tr>
</tbody>
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For any queries regarding ethical concerns, please contact:

Chair, Research Approvals Committee, EIT. Ph. 974 8000

*This study has been approved by the EIT Ethics Committee, 27th July, 2012, ref: 24/12*
CONSENT FORM

Project Title: Nurse perceptions of the challenges of providing self-management education in primary health care to people with newly diagnosed Type 2 Diabetes.

Researcher(s): Maia Topp

I have read and I understand the Information for Research Participants sheet dated----/----/------ for volunteers taking part in this study. I have had the opportunity to discuss this study and am satisfied with the answers I have been given.

I understand I am able to withdraw all of my information until four weeks after the date of my interview.

I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time and this will in no way affect my future health care / continuing health care / academic progress/ employment.

I understand that my participation in this study is confidential and that no material which could identify me will be used in any reports on this study.

I have had time to consider whether to take part, and know who to contact if I have any questions about the study.

I agree to take part in this research
I consent to my interview audiotaped and later transcribed

☐ Yes ☐ No

I wish to receive a summary of the results

☐ Yes ☐ No

Signed: _______________________________________________

Name: _______________________________________________

Signature of Research Participant’s Support Person (if applicable)

___________________________________________________

Date: ______________________

Witness: ____________________________________________

I/We as researcher(s) undertake to maintain the confidentiality of information gather during the course of this research.

Signed_________________________________________________

Dated______________________

This study has been approved by the EIT Ethics Committee, 27th July, 2012, ref:24/12
APPENDIX C

Semi-structured Questions

Demographical Information
1. Tell me about your nursing background. When were you first registered? Where have you worked? For how long?
2. What is your educational/training background?
3. How long have you been working in your current area?
4. How long have you been working with people with diabetes?
5. What is your role with these patients?
6. What ethnicity are you?
7. How would you describe the patients you see mainly in your practice? What are the age groups, ethnicities and genders of the patients you mainly see?

Education Content (consistency)
1. What are the main challenges you find when providing education and care to newly diagnosed patients with type 2 diabetes?
2. What do you think are the 5 main points of information/messages to get across to these newly diagnosed patients?
3. What resources do you use to help to get this information across to these patients? (pamphlets, websites, booklets, visual aides)

Guidelines
1. Can you tell me about any guidelines around the management of Type 2 diabetes that you use in your practice for newly diagnosed patients?
2. (If yes) Which guidelines do you use? Do you find these useful in your practice? Why do you think these guidelines are useful in your practice? (Or why not depending on their answer)
Training and Knowledge

1. How confident do you feel when you are working with these patients?
2. How prepared do you feel when you are providing education to these patients?
3. Are there any areas that you would like to develop or have more training around?
4. How easy do feel it is for you to access this training? (If yes, why?- if no, why not?)

Barriers to providing education

1. Thinking back to the question around the main challenges to providing education, how do you deal with or manage the challenges that come up when working with these patients?

Do you have any more to add?
APPENDIX D

30 July 2012

Maia Topp
Master of Nursing Student
C/- Faculty of Health Science
EIT Hawke’s Bay

Dear Maia

I am pleased to inform you that your research project “Nurse perceptions of the challenges providing self management education in primary health care to people with newly diagnosed type 2 diabetes” was reviewed by the Research Ethics & Approvals Committee at their meeting held on 27 July 2012, and formally approved for two years.

For clarification and a response back to the Committee, the period that the raw data will be stored?
- **RAD Form – 2.4 Data analysis and storage**: You state the raw data will be stored for five years after completion of the thesis.
- **Information for Research Participants – Confidentiality**: You state the raw data will be destroyed at the completion of the study.

For consideration – Suggest to number the Semi-structured Questions in Appendix A, for easier reference, i.e. Demographical Information 1 to 7, Education Content (consistency) 1 to 3 etc.

You are reminded that should the proposal change in any significant way, then you must inform the Committee.

Please quote the above reference number on all correspondence to the Committee.

Please provide the Committee with a progress report after one year of the project and a brief summary at the conclusion.

The Committee wish you well for the project.

Yours sincerely,

Jeanette Fiield
Secretary – Research Ethics & Approvals Committee

cc: Dr Shona Thompson (Supervisor)

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Hawke’s Bay Campus 501 Gloucester Street, Taradale, Napier, New Zealand P 06 974 8000 F 06 974 8910 E info@eit.ac.nz www.eit.ac.nz
Postal Private Bag 1201, Hawke’s Bay Mail Centre, Napier, 4142, New Zealand
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Postal PO Box 646, Gisborne, 4010, New Zealand
Regional Learning Centres: Central Hawkes Bay, Napier, Hastings, Maraenui, Napier, Raukura, Tokomaru Bay, Wairarapa
Reference Number 24/12

31 August 2012

Maia Topp
Master of Nursing Student
C/- Faculty of Health Science
EIT Hawke’s Bay

Dear Maia

Further to the Committee’s approval of your research project “Nurse perceptions of the challenges providing self management education in primary health care to people with newly diagnosed type 2 diabetes” on 27 July 2012.

Thank you for providing the Committee, clarification requested, and for making the minor changes suggested. A copy of your updated proposal has been received.

You are reminded that should the proposal change in any significant way, then you must inform the Committee.

Please quote the above reference number on all correspondence to the Committee.

Please provide the Committee with a progress report after one year of the project and a brief summary at the conclusion.

The Committee wish you well for the project.

Yours sincerely

[Signature]

Jeanette Fifield
Secretary – Research Ethics & Approvals Committee