Hawke’s Bay Practice Nurses’ Perceptions of the Delivery of Diabetes Care

A thesis presented in partial fulfilment of the requirements for the degree of Master of Nursing

At the Eastern Institute of Technology
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I declare that the work presented in this thesis, is, to the best of my knowledge and belief, original and my own work, except as acknowledged in the text and reference pages.

Signed ................................................................. Date .................................................................
Abstract

This research asked the question, what are Hawke’s Bay practice nurses’ perspectives, experiences and expectations of providing diabetes care in the primary health care setting? This involved interviewing registered nurses working in the primary care setting providing diabetes care to patients in Hawke’s Bay, New Zealand.

Whilst there is a vast amount of literature about models of care for the management of long-term conditions in the primary healthcare setting, much of it does not apply well to the healthcare system or population of New Zealand. There is also much variation regarding the definition and practice of a dedicated diabetes nurse’s role. The literature also explores potential barriers and enablers to diabetes care for both patients and health providers delivering the care, but none is specific to New Zealand nursing.

This research is a qualitative study using face-to-face, semi-structured interviews to obtain rich data from ten registered nurses providing diabetes care in primary care, employed by nine different clinical practices. A general inductive approach was used to analyse the data and identify key themes.

This research is the first in New Zealand to explore the registered nurses’ roles and perceptions of providing diabetes care in primary care. The nurses interviewed described what care they were delivering, the influences on this, their perceived effectiveness of the care they provided and how they measured this. It found much variability in the role, even within this one province. This variability is influenced by a number of factors including: the background experience and confidence of the nurse providing diabetes care; the support provided by the employing practice and tools the practice utilises; and the time allocated to diabetes management in the practice configuration.

The findings of this research have implications for both the primary and secondary healthcare service teams involved in the coordination and delivery of diabetes care in New Zealand. Recommendations include implementing an educational framework for practice nurses providing diabetes care, and developing service guidelines and standards of care to ensure equitable care for all patients with diabetes, regardless of which practice or care provider they attend. The increasing rates of diabetes, and complications that arise from the disease, demands a commitment to the development of advanced nursing practice to improve the delivery of diabetes care across New Zealand.
Keywords: diabetes, nursing, practice nursing, New Zealand, primary care, secondary care, integrated care.
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I love my work and hope my passion for diabetes nursing is reflected in this research.

Thank you to each and every one of you from the bottom of my heart.
# Glossary

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
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<tbody>
<tr>
<td>CNS</td>
<td>Clinical Nurse Specialist</td>
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<tr>
<td>BP</td>
<td>Blood Pressure</td>
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<td>DAR</td>
<td>Diabetes Annual Review</td>
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<tr>
<td>DHB</td>
<td>District Health Board</td>
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<tr>
<td>FTE</td>
<td>Full Time Equivalent</td>
</tr>
<tr>
<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>MDT</td>
<td>Multi-Disciplinary Team</td>
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<tr>
<td>MOH</td>
<td>Ministry of Health</td>
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<tr>
<td>NDNKSF</td>
<td>National Diabetes Nursing Knowledge and Skills Framework</td>
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<tr>
<td>PHO</td>
<td>Primary Health Organisation</td>
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Chapter 1
Introduction

1.1 Introduction

The aim of this research thesis was to obtain a rich description of how practice nurses in the primary healthcare setting in Hawke’s Bay are delivering care to their patients with a diagnosis of diabetes. Specifically, how they perceive their role and the factors that influence their ability to provide care.

This introduction will give a brief overview of diabetes and the current approaches to care delivery across primary and secondary healthcare services in the Hawke’s Bay region. It will also discuss the researcher’s position, along with evidence to support why research into this area is vital in shaping future health care delivery plans. This will be followed by an overview of all the chapters included in this thesis.

1.2 Background

Diabetes has reached epidemic proportion in New Zealand (NZ) over the past decade and is now identified as one of the fastest growing, long-term disease conditions (Ministry of Health [MOH], 2015). The NZ MOH predicts that cases of diabetes will continue to increase at approximately seven percent each year. It was estimated that in 2017, that 246,000 people in NZ had a diagnosis of diabetes (Health Quality & Safety Commission New Zealand [NZ], 2019). More alarmingly, it was estimated that a further 100,000 additional people had undiagnosed diabetes, predominantly Type 2 diabetes. This trend is partially attributed to the rise in obesity rates amongst the NZ population and decreased levels of physical activity (MOH, 2015).

In the Hawke’s Bay region, the number of people with diabetes is approximately 8,000 (Health Quality & Safety Commission New Zealand, 2019). The Quality Standards for Diabetes Care Toolkit (2014c), highlights how Māori in NZ are nearly three times more likely to be diagnosed with diabetes than non-Māori. Specifically, for the population aged 45-65 years, Māori are nine times more likely than non-Māori to die as a result of diabetes and related complications. The potential burden of these statistics has long term impact on the NZ health system and those with this diagnosis (MOH, 2014c). These statistics and the growing incidence in diabetes related
complications, support the investigation and evaluation into how diabetes care is currently being delivered to patients (Aotearoa College of Diabetes Nurses, NZNO, 2018).

1.2.1 Diagnosis of Diabetes

The primary healthcare setting is where the majority of the population in NZ are diagnosed with, and commenced on treatment for diabetes (MOH, 2016b; New Zealand Guidelines Group, 2012). Therefore, practice nurses in the primary care teams play a pivotal role in the diabetes care service continuum. A diagnosis of diabetes for a patient is made based on the result of an HbA1c blood test. The NZ diagnosis guideline currently followed states:

\[
\begin{align*}
\text{HbA1c <40mmol/mol} & = \text{Non-diabetic} \\
\text{HbA1c 41-49mmol/mol} & = \text{Pre-diabetic} \\
\text{HbA1c >50mmol/mol} & = \text{Diabetic}
\end{align*}
\]

(NZ Guidelines Group, 2012).

If a patient has an HbA1c of >50mmol/mol and is symptomatic of elevated blood glucose levels a diagnosis of diabetes is made. If a patient has an HbA1c of >50mmol/mol and is asymptomatic of elevated blood glucose levels a repeat HbA1c test is recommended in three to six months from the first test (New Zealand Guidelines Group, 2012). The second HbA1c of >50mmol/mol then confirms a diagnosis of diabetes. Following diagnosis, diabetes control and the patients’ response to treatment can also be monitored and reported using the HbA1c test. Depending on individual treatment and blood sugar levels, the HbA1c can be reported as ‘at target’ or ‘above target’. Target HbA1c is the term used to identify an important goal in the treatment of diabetes as it directly correlates with a patient’s risk of developing long-term complications from diabetes. Funding for diabetes care in Hawke’s Bay is based on diabetes diagnosis and the patient then attending their primary care provider for a Diabetes Annual Review (DAR). Regardless of how effectively their diabetes is being managed (whether it is at or below target or not) funding is delivered to the primary care provider. Effective care of a patient diagnosed with diabetes therefore resembles a complexity of variables as diabetes is potentially only one of multiple long-term conditions the patient may have. It therefore, requires skill and technique to achieve optimal outcomes, and there is no provider requirement to meet a measurable standard to obtain funding.
1.2.2 Impact of the Complications of Diabetes

The impact of the long-term complications of diabetes is significant to the NZ population. These include poor oral health including gum disease, cardiovascular outcomes, diabetic nephropathy, diabetic neuropathy, and diabetic retinopathy. Screening for these complications as part of routine diabetes care is important as symptoms are not present until the late stages of the complications, and then the damage is usually irreversible (MOH, 2015). The development of diabetes related complications has been identified as a major contributor to health inequalities in this country including lower life expectancy. This is especially noted in specific groups including Māori and Pacific people (Aotearoa College of Diabetes Nurses, NZNO, 2018). Early detection and referral to specialist services for the assessment and management of diabetes related complications is a quality care standard set by the Quality Standards for Diabetes Care Toolkit (MOH, 2014c).

Providing diabetes care in the primary healthcare setting specific to the needs of the population is an essential element among a number of others required to be fulfilled by practice nurses. All of the complications of diabetes discussed above can be prevented or the progression reduced when effective diabetes care is being delivered (MOH, 2014c). This is also significant as people with a diagnosis of diabetes are more likely to require admission to hospital as a direct result of the complications of diabetes outlined above. Those people of Māori or Pacific descent with diabetes have significantly longer hospital admissions than other ethnic groups (Health Quality and Safety Commission NZ, 2019).

1.2.3 Approach to Diabetes Care in Hawke’s Bay.

In Hawke’s Bay, the region in which this research took place, there are a number of practices in which Diabetes Clinical Nurse Specialists (CNS’s) are working alongside primary care teams to support practices to manage patients with diabetes. This model started being implemented in 2012. This approach to the delivery of diabetes management in the primary care setting was initiated six years ago but has not, however, been formally evaluated. There are a number of perspectives that would need to be obtained to complete an overall review of the initiative but, for the purpose of this research, the focus is on the practice nurses providing diabetes care, and their perspectives, experiences and expectations regarding the current model of care provided through their practice.
The ‘Living Well with Diabetes Plan’ was published in NZ in 2015 by the MOH. This plan sets out clear guidelines for District Health Boards (DHBs) and primary healthcare services, to outline standards, guide funding, and design and deliver care to their population with a diagnosis of diabetes. This plan states that to improve equity of health outcomes for the NZ population with diabetes, health service delivery should be aimed at: increasing health literacy; ensuring fair access to high quality treatment; employing systems to identify and remove inequalities; monitoring and treating comorbidities and complications of diabetes; ensuring services recognise the social impacts on people’s health, and working towards a better understanding of these to provide suitable resources for people (MOH, 2015).

There has been a move for long-term conditions, including diabetes, to be primarily managed by the primary healthcare team, with support from secondary specialist services as required. This movement was imbedded in policies guiding and driving healthcare delivery and began with the NZ Health strategy in 2001, revised version 2016 (Minister of Health, 2016) evolved to documents including Living well with diabetes, 2015-2020 (MOH, 2015). In NZ, as in many other countries, diabetes care is being provided by practice nurses in the primary healthcare setting (Rea et al., 2007). Primary care health funding has also been developed in NZ to incentivise enrolment with the development of funding initiatives for people with chronic disease diagnoses. This was to encourage and enable better access to healthcare for people with a diagnosis such as diabetes. The NZ Health Strategy Future Direction (2016) emphasises that the health system requires a skilled workforce and resources. The strategy also aims to achieve equitable access specifically for disadvantaged groups (MOH, 2016a). However, there remains much work to be done in this area as the rates of complications from diabetes alone continue to climb, putting a significant burden on both the health sector and the community (MOH, 2015). Investigating the perspectives and experiences of those responsible for delivering care is an important step in identifying some of the barriers to care and ways care should be improved.

In 2011, an opinion paper summarised the impact of the integrated care model in NZ, including the change to diabetes management being led by primary care teams (Cumming, 2011). This review acknowledged the failure of integrating planning and funding, indicating that few changes had been implemented that impacted on improving service delivery. The literature available acknowledges gaps in care delivery, standards and measures in diabetes care in NZ (Cumming, 2011). The National Diabetes Nursing Knowledge and Skills Framework (NDNKSF) (Aotearoa College of Diabetes Nurses, NZNO, 2018) identified that there is a significant gap between diabetes standards of care and the care that is being delivered in NZ and that: “current
national patient clinical indicator data demonstrates that diabetes care could be significantly improved” (Aotearoa College of Diabetes Nurses, NZNO, 2018 p. 7). There is also no standardised national approach to managing or evaluating the impact of diabetes care, resulting in differences in practice patterns and service delivery between DHBs in NZ. Formally investigating practice nurses’ perceptions of the diabetes care they are providing would be a start to assessing how the Hawke’s Bay region of NZ is delivering integrated diabetes care, including the tools and measures that are being implemented to guide delivery, and evaluate standards of practice.

Nursing has the potential to address many of the identified gaps in diabetes care in NZ. Heale and Riek Buckley (2015) acknowledged that there was little global understanding regarding the role of an advanced practice nurse, as well as a wide variation in definitions and what credentials are required to practice in such roles. Their research confirmed wide global variation in role definitions and requirements related to advanced nursing practice. They discussed the negative impacts on care delivery when nurses are not recognised for their potential to deliver high standards of patient care. They found that this had a direct effect on increasing the workloads of other health professionals and delayed treatment for patients. The nursing role of providing care to patients has evolved into specialties. These specialties are defined by select knowledge, skills and competency frameworks (Finnell, Thomas, Nehring, McLoughlin & Bickford, 2015).

Health Workforce NZ conducted a diabetes service review in 2011. This identified deficiencies in workforce planning with respect to the needs of the population. Specific to nursing, it noted that many of the nurses providing diabetes care were in the “latter part of their career” (MOH, 2014c p. 10). The review also highlighted the absence of planning and training for the future primary care workforce delivering diabetes care. NZ has a specific framework that specifies nurses are key providers of diabetes care and education to patients. The NDNKSF (Aotearoa College of Diabetes Nurses, NZNO, 2018) was first published in 2009, with the aim of preparing nurses to deliver quality diabetes care to an acknowledged standard across all sectors of healthcare delivery (Aotearoa College of Diabetes Nurses, NZNO, 2018). This document has since been reviewed and was updated in 2018. Exploring the current practices, approaches, and influences of care delivery is a key step in planning the future of diabetes care delivery for both primary and secondary health service teams.
1.3 Researcher’s Interest

My clinical role is that of Diabetes CNS, and I work as part of a secondary healthcare team that also works with primary care nurses. I am interested in the approach to diabetes treatment and care that is being practiced in this region and how we can improve care to patients. To my knowledge there have not been, nor are there any plans to, measure or evaluate the current diabetes care delivery. In the literature I explored prior to this study, there was a paucity of research that demonstrated the effectiveness of the current model of diabetes care in our region.

I was unable to find any research about this specific to either Hawke’s Bay or NZ. The DNKSF was one document I discovered that could potentially be used to support diabetes care delivery by practice nurses. This then led to a new set of questions. Working as a diabetes CNS supporting a number of practices and practice nurses to deliver diabetes care to patients in the Hawke’s Bay region, why was I not utilising this resource to its potential - as an integrated tool in my practice?

In light of these questions arising, I decided that research into the area of practice nurses delivering diabetes care was the first step toward a better understanding of how this group was providing care and their perceptions of it. As this had not been done at a regional level, it seemed like a good place to start. Gaining insight by looking at the perceptions, experiences and expectations of practice nurses is an important step in being able to identify gaps in service structures and diabetes care delivery.

1.4 Research Aims and Objectives

The aim of my study is to explore practice nurses’ perspectives, experiences, and expectations of providing diabetes care in the primary healthcare setting.

The objectives therefore are to:

1. Understand the views of practice nurses providing diabetes care.

2. Explore the barriers to providing effective diabetes care.

3. Discuss how the findings could contribute to the future planning of diabetes care and delivery to patients.
1.4 Overview of Thesis

Chapter 1: Introduction

This chapter introduces the background of the research topic including how the research question was generated. It introduces the history of how diabetes care has evolved in New Zealand, and the Hawke’s Bay region with reference to influential health policy, and research. It concludes by outlining the research question and the aims.

Chapter 2: Review of the Literature

This chapter critically analyses and critiques the current literature that has been published in regard to this research topic. The literature was found through extensive searches from the year 2000 up to now. The broad period for inclusion was set due to New Zealand based research being conducted in the early 2000’s, particularly relevant to this research. The research has been separated into categories and discussed under main headings.

Chapter 3: The Research Process

The methodology followed to conduct this research is thoroughly described in chapter three. This includes the processes used and the rationale for the adoption of these. Qualitative research was identified as the best approach for this research based on the aim to obtain rich, in-depth data from the practice nurses interviewed. Face-to-face interviews were chosen, and conducted up to the point in which data saturation had been deemed to have been reached. Following this, thematic analysis of the data using a general inductive approach was employed to establish themes and analyse the findings. The recruitment process to obtain participants is outlined here. This chapter also acknowledges the benefits and potential influences impacting on the credibility of this research, outlining how these were identified and addressed.

Chapter 4: Findings

Three main themes were established following analysis of the data. These were: the role of the practice nurse providing diabetes care; perceptions of effective care; and influences on ability to provide care. The diversity of definition within the role of the practice nurses was identified. The nurses provided their perceptions of the care they were providing including the measures
used to frame their perceptions. They also described the main influences on their ability to provide diabetes care. These included support from their employer, members of the wider MDT, diabetes CNS, drug companies, resources, time, patients, demographic, workload, engagement, and confidence.

**Chapter 5: Discussion**

This chapter discusses the main findings of the research. These themes are discussed with reference and regard to the literature. This is important as it forms the picture of how the key recommendations and conclusions of this research have been drawn, and why this is so important to planning future service structure and diabetes care delivery. It highlights the key issues from the nurses’ perspectives that need addressing, and how future care may be shaped to improve patient outcomes. Included in this chapter are my reflections of the research process and the potential limitations of this research.

**Chapter 6: Summary and Conclusions**

The final chapter of this thesis summarises the research with the aim of providing the reader with a comprehensive overview of the implications and recommendations that have been discussed and drawn from the findings and discussion sections. Many of the recommendations can be utilised by both primary and secondary diabetes teams and may be able to be utilised by other specialties planning care and management of long-term conditions. Some of the recommendations of this may be able to be employed promptly by service sectors, and the impact of this will enhance diabetes care delivery and outcomes. Recommendations for future research have also been discussed.

**1.5 Conclusion**

The number of people being diagnosed with diabetes in New Zealand continues to increase. There are significant publications outlining the potential impacts of this for both the population and healthcare providers, yet it is acknowledged that gaps exist and there are differing approaches to care delivery, including the need for a review and discussions to standardise care based on frameworks and best practice guidelines. Understanding the perceptions of nurses delivering care currently is the main objective of this research.
This chapter has introduced this research and provided an overview of the thesis. The following chapter will now explore relevant research, critically analysing the current literature available in relation to the research topic.
Chapter 2

Literature Review

2.1 Introduction

The purpose of this literature review is to investigate and critically examine the current literature relevant to the research topic. This literature review will focus on research conducted from the year 2000 onwards. It will critique 21 studies including two systematic reviews. Throughout these studies will also be the integration of other relevant literature. The aim of this literature review is to provide the reader with insight into the history of how diabetes care has evolved, the influences on the current approach to diabetes care and management in NZ today.

2.2 Approach to Literature Review

Terms used for the literature search included: diabetes; primary care; nursing diabetes; diabetes nurse; diabetes models of care. These were then combined with key words such as: chronic disease management; NZ; experiences; and perspective. The databases searched included Google Scholar, ProQuest, Cochrane library, PubMed and Medline. These databases were continually searched throughout the research process to ensure all current literature was included. Research within the last five years was initially searched. This was then expanded to include historical relevant research undertaken in NZ and globally to establish the history and evolution of diabetes care delivery.

Six studies were identified that evaluated integrated care models between primary and secondary care. Ten studies explored nurses’ and other health disciplines perspectives on barriers to providing effective diabetes care, and five explore the measures of diabetes management, including a recent study which explored how to measure primary care providers readiness or capacity to provide diabetes care. The main themes and gaps in the literature will be discussed, identifying the rationale for this, and other research which could contribute to the knowledge in this field.
2.3 Integrated Care Models and the Nursing Role Within These

There is much published research investigating and supporting primary care management of long-term conditions, including diabetes. This research is best summarized by a systematic review of 41 randomised control trials (RCTs) evaluating the processes of providing diabetes care or patient outcomes (Renders et al., 2001). The review included studies of interventions from both medical and nursing teams internationally. It reported that post-graduate education was a factor identified in almost all of the studies and an essential factor for up-skilling health professionals in diabetes management. The authors found nurses were commonly identified as the key liaison between the patient and the physicians, providing a key role in patient outcomes. They concluded that, when diabetes care was organised, structured, and delivered by teams, the care process was improved, and this was measured by the positive impact on patient health outcomes.

Gucciardi, Espin, Morganti and Dorado’s (2016) research explored a collaborative care diabetes model in Canada. This urban-based research involved eleven primary care practices. Data was collected over a five-year period through interviews, debriefing sessions and reflective journals of 18 diabetes educators and 16 primary care physicians. From content analysis of the data, Gucciardi et al. (2016) identified four major themes relating to the challenges, strategies and benefits identified during a transition into interprofessional collaboration between the diabetes educators and primary care physicians. These themes including: negotiating space; place; and role; fostering working relationships; performing collectively; and enhancing knowledge exchange. The authors emphasized the value of effective communication and the development of mutual respect in enhancing the relationship within the collaborative care model (Gucciardi et al., 2016). The results indicated that, despite challenges in transitioning into this model of care, there were a number of advantages in this approach which included greater knowledge acquisition, more effective co-management of care and more reinforcing of messages to patients. One of the conclusions drawn by the researchers was the importance of a common understanding between health care professionals of each other’s roles and practice scopes. This was done through service planning with other professionals, clearly outlining roles and responsibilities. This led to improved effectiveness in the working relationships within the team. Where this process was not done well, underuse and misuse of team members was apparent.

Browne, Speight, Martin and Gilfillan’s (2016) Australian research also aimed to evaluate the impact of an integrated model, called The Integrated Diabetes Education and Assessment
Service (IDEAS), for care of patients with Type 2 diabetes. This research aimed to build an evidence base for the implementation of an integrated care model. Teams of healthcare professionals were formed to coordinate care to reduce service fragmentation, with the philosophy of patient centred care utilising a variety of funding streams. This study included a randomized control trial and a cross-sectional study which evaluated the impact of the IDEAS model compared with usual hospital outpatient care. Positive outcomes were drawn for patients who were able to access the IDEAS model. These patients perceived they had received a higher quality level of diabetes care compared to those who had received standard care, making specific comments about the benefits of consistent advice and improved access to care. Despite these patients’ perceptions, the intervention did not show improvement in glycaemic control or a reduction in complications for those in the IDEAS group. The follow-up period was for a limited time of only six months. This study sought only patient feedback to evaluate the care model. To enhance the validity of the findings further separate research into healthcare providers perspectives of the IDEAS model of diabetes care delivery could provide useful information for future care delivery and service planning.

Australian researchers Mitchell et al. (2015), published a systematic review of care models researched specifically integrating the primary and secondary healthcare teams. This review consisted of ten studies. Though not specifically targeted at diabetes care the majority of studies were stated to be based on integrated diabetes care models. The themes identified that were common throughout all of the studies reviewed, as influencing collaborative primary-secondary care models were: teamwork between disciplines; communication; guidelines or pathways outlining the roles and responsibilities within the shared care model; education for health professionals; service accessibility for patients; and how the model would be funded. Through this, the researchers concluded that the impact on clinical outcomes for patients was limited, stating that further research on integrated care models should be designed to investigate specifically what attributes increase the effectiveness of the model based on measured clinical outcomes. Diabetes management is currently delivered through integrated care in Hawke’s Bay similar to many models in this review.

Another study in Canada explored the nurse - Multi Disciplinary Team (MDT) collaboration in primary care diabetes management (Taylor, Oberle, Crutcher & Norton, 2005). This small, pilot study involved 40 patients with Type 2 diabetes who were randomly assigned to either an intervention or a standard care group. The intervention involved home visits from the practice nurse, and consultation with an exercise specialist and a nutritionist in addition to “usual care”.
Data collection involved the evaluation of clinical markers and interviews with the patients over a three-month period. The study reported no statistically significant findings. However, small positive trends were noted in decreased HbA1c and Blood Pressure, and reports of improved body function, vitality and energy. Patients also reported feeling empowered post the intervention. Though the purpose of this study was to determine how many participants would be useful to recruit for a larger study, it affirmed that research in this area would be beneficial for evaluating how differences in service delivery providing diabetes care to patients can evolve and be evaluated in the future.

Finnell, Thomas, Nehring, McLoughlin and Bickford (2015) published a paper discussing “Best Practices for Developing Specialty Nursing Scope and Standards of Practice”. The purpose of the paper was to assist specialty nurses ‘creating or revising’ their specialist scope, and how to identify and set their practice standards. The nurses involved in this research were nurses in primary care roles providing diabetes care and management to patients may be practicing at different levels, although employed to do the ‘same job’. Acknowledging this and listening to the practice nurses' perspectives of their role title, history and development will be an important aspect to consider alongside the care delivery. Role specialization within the nursing profession is discussed as being important to the profession because it leads to recognition of diversity in professional contributions (Finnell et al., 2015).

2.4 Barriers to Providing Effective Diabetes Care

Lillis, Swan, Haar, and Simmons (2008) undertook research in Waikato, NZ, to explore differences between primary and secondary health care professionals in their perceptions of barriers to good diabetes care. This research surveyed nurses and general practitioners, both in primary and secondary care settings, with response rates of 70% (nurses) and 71% (GPs) respectively. General practitioners and nurses from the Waikato region of NZ were invited to participate. The surveys identified differences between views of the healthcare professionals providing diabetes care in the primary healthcare setting compared to the secondary healthcare setting. Primary teams identified lack of motivation, lack of self-belief, financial issues, lack of government funding, lack of public knowledge about diabetes, and lack of symptoms of the disease as barriers to care. In contrast, professionals in secondary care reported appointment systems, inappropriate cultural messages, lack of community-based providers, increasing numbers of people being diagnosed with diabetes and unhelpful health professionals as the
barriers (Lillis et al., 2008). Health professionals in the primary care sector indicated that they felt the diabetes care they were providing was ineffective and inappropriate. One major difference between the primary and secondary care groups’ responses was that secondary care teams were better at reporting perceived barriers of care to the researchers. These included staffing levels, systems of booking inappropriate cultural messages, insufficient community-based care, large workloads and patients’ previous unsatisfactory experiences with health professionals. This research highlighted that the health care professionals across primary and secondary healthcare services surveyed had significant concerns regarding the delivery of diabetes care to their patient population, and acknowledged that “tailored solutions” (p. 51) would be needed to address these, including ways to foster integrated and unified healthcare delivery across sectors. This research identified a number of important findings that would be useful to explore in more detail through qualitative enquiry, specifically individual diabetes education, and individual and community programs that focus on motivation and lifestyle changes to improve health outcomes.

Jennings (2010) identified barriers to providing diabetes care to patients in the primary healthcare setting, and sought to evaluate the impacts of planned, effective diabetes care on both practices and patients. She focused on the potential impact of having a practice nurse with a specialist interest in diabetes, comparing three primary care practices in Birmingham, each with differing approaches. Practice one had a proactive practice nurse and GP that followed no diabetes care guidelines. Practice two had no structured routine care, an inexperienced practice nurse and no GP leader for diabetes. Practice three had no healthcare professional taking a lead role in diabetes care, and a history of poor record keeping including having patients on their records who had left the practice and incorrect coding techniques for diabetes diagnoses. Jennings (2010) found that recruitment of a practice nurse with a specific interest in diabetes had a profound effect on the diabetes care being delivered to patients and on their health outcomes. An interesting finding of the research was that, even after the practice nurse with the specialist interest in diabetes had left the practice, the improvements in control of the disease in patients with diabetes continued, due the education and confidence that had been instilled in the remaining healthcare team. This indicates that, through investment into diabetes nurse training and resources, there may be long term benefits for patients with diabetes. The findings of this study are important for understanding the impact of specialist diabetes nurses; however, this was a small study with only three participants and therefore the findings are not generalizable. A larger sample group in this research would have provided a better understanding of the true barriers.
Jutterström, Hälgren Graneheim, Isaksson, and Hörnsten (2012) explored diabetes specialty nurses based in Northern Sweden about their perceptions of what constitutes “good care” of Type 2 diabetes through qualitative descriptive research. They conducted three focus group interviews with 21 experienced diabetes specialty nurses recruited through convenience sampling. The qualitative data was analysed using content analysis. Jutterström et al. (2012) identified four themes describing ideal versus real conditions for providing Type 2 diabetes care. These themes were: diabetes counselling built on empowerment versus governance; diabetes management built on comprehensive versus biomedical views; diabetes organization built on nurse-led versus physician-led care; and diabetes policies built on quality versus inequality. The authors concluded that conflicting paradigms, relationships of power and departmentalising work, influence the potential to deliver ideal diabetes care that is satisfactory for both diabetes specialty nurses and patients. The nurses perceived patient centred care as very important and believed they were patient centred in their approach. However, they also acknowledged a number of barriers to patient-centred care including: not having enough time to spend with individual patients; not training specifically on patient centred care; and not providing opportunities for discussion and reflection of their practice. Ensuring clear understanding of team member roles was recommended to enhance collaboration of care delivery. This included following competencies and guidelines for acknowledging knowledge and skills and joint education for healthcare professionals.

There has been one NZ survey, undertaken in South Auckland by Kenealy et al. (2004), that explored practice nurses’ roles, attitudes and concerns specific to diabetes. This longitudinal study compared data from 1999 with that collected in 1990 through a questionnaire consisting of closed and open-ended questions. This research established that increased numbers of practice nurses were undertaking postgraduate diabetes training, however, more nurses were also wanting to do further training but were not supported to do this. The study also found that, although the number of patients with diabetes was increasing, there were not the corresponding increases in time for practice nurses to allocate to this group. This study has interesting findings; however, many may no longer be relevant to today’s nursing population given the evolution of advanced nursing roles and nurse prescribing. My research therefore could be viewed as an up-dated evaluation of the evolution of diabetes care provided by practice nurses, making comparisons with the findings three decades prior which illustrated practice nurse roles, attitudes and concerns at that time.
The ability of practice nurses to provide quality diabetes care in Australia was researched by Hollis, Glaister and Lapsley (2014). Practice nurses in a rural area of New South Wales were surveyed using a cross-sectional questionnaire to identify the extent of knowledge in those providing diabetes care. Surveys were completed by 29 practice nurses (57% of the convenience sample). The survey tested knowledge of pathophysiology, glucose monitoring, dietary advice and medication management amongst the practice nurses. Hollis et al. (2014) concluded that there was a need to enhance the knowledge of and increase training for these nurses. This study has a number of limitations. For one, a postal survey asking nurses to self-report levels of knowledge may not be the best way to measure knowledge and skill. The results also do not help to identify the level of support provided to the practice nurses and how they believed they could enhance their care delivery. Qualitative research may be able to explore these issues in more detail.

Nam, Chesla, Stotts, Kroon, and Janson (2011) investigated how health care providers can influence patient care based on their “attitude, beliefs, and knowledge about diabetes” (Nam et al., 2011, p. 1), through a literature review of 80 articles describing barriers to diabetes management. Diabetes was recognised as ‘hard’ to manage, and many nurses become frustrated when treating the disease due to lack of patient improvements in results, which was considered a barrier to effective primary care treatment. Nam et al. (2011) acknowledged that the clinician’s influence on patients’ perception is determined by the clinician’s communication skills, and an integrated system of care. The researchers conclude that contributing patient factors included adherence to treatment regimes, beliefs, attitudes, knowledge, ethnicity/culture, language, financial resources, co-morbidities and social support. Clinician factors included failing to follow treatment guidelines, beliefs, attitudes, knowledge, patient-clinician interactions and communication, and the health care system. This research further supports the need for investigation into the experiences, perspectives and expectations of practice nurses providing care to specific populations as it may identify gaps in knowledge and collaborative processes between healthcare sectors.

In a Swedish study, Boström, Isaksson, Lundman, Sjölander, and Hörnsten (2012) aimed to explore diabetes specialist nurses’ perceptions of their professional role in diabetes care. Twenty-nine diabetes nurse specialists working in 23 primary health care centers in northern Sweden participated in exploratory focus group interviews. The results found that the diabetes specialist nurses described their roles as expert, fosterer, executive, leader and role model. They reported feeling uninformed, fragmented, resigned, time constrained and self-reproachful.
Böstrom et al. (2012) concluded that role ambiguity felt amongst the nurses may result in negative clinical outcomes, including compromised patient-centered care and empowerment. Although this study raised a number of professional issues for nurses it did not explore what they believed to be effective care for their patients.

In another Swedish study, Edwall, Danielson and Öhrn (2009) explored the meaning of a consultation with a diabetes nurse specialist from the patients’ perspective. Narrative interviews were conducted with 20 purposefully sampled patients with Type 2 diabetes. The data collected was then analysed and interpreted using a phenomenological hermeneutic method. This study found that the patients’ experiences with the diabetes nurse specialist became the basis for future health encounters and dealing with their chronic condition. The authors suggested that, during consultations, professionals have to consider the potential emotional factors that diabetes can mean to a patient and emphasise the need to listen to the patient experiences and perceptions. Recognising and understanding patients’ levels of disease progression, and any related emotional stress were important conclusions made by the researchers. Although this study was small and not based on the NZ population, the findings may have some relevance and provide valuable practice suggestions.

In Australia, Boyle and Drury (2014) explored patient perspectives of diabetes care delivered by practice nurses. This small study of ten patients was based on qualitative interviews. This research identified that patients perceived the nursing role as a tool to assist them with the goal of self-managing their diabetes. However, in this study, patients also identified that they were not clear on the specific role of the nurse which therefore impacted on their ability to actively engage in consultations. The importance of role definition is an area to be further explored from the nurses’ perspective. Combining research from a patient’s perspective with that of health professionals, such as practice nurses providing diabetes care, gives greater insight into both sides of the patient-provider relationship. This information can be used to align care to population needs which is essential for moving forward improving future diabetes care.

Wilcox et al.’s (2007) research was based on data obtained from semi-structured interviews with 19 primary care physicians or GPs (General Practitioners) in the USA. Interview data was analysed both qualitatively and quantitatively. The researchers concluded that collaborative care occurred when the physician or GP (General Practitioner) was confident with the time, skills and knowledge the practice nurse had focused on diabetes care. They reportedly referred patients to practice nurses to assist with the management of non-medical issues impacting on
the patients’ healthcare, such as their ability to afford or obtain medication, or their health literacy. Wilcox et al. (2007) acknowledged the importance of the physician supporting the practice nurse in the role of delivering diabetes care, as an essential component of successful care delivery. This study does raise an important point to consider in exploring the perspectives of nurses in NZ, as each practice may have differing levels of GP support that may in turn affect the care they deliver.

2.5 Measures of Diabetes Management.

Glasgow et al. (2004) published their research, a Randomised Control Trial (RCT) involving 868 patients and 52 primary care providers from in Colorado, USA. The intervention consisted of a computer-assisted, patient-centred intervention to evaluate two measures related to diabetes care outcomes. These were measured and evaluated based on the number of recommended laboratory screenings met, and the results of these, and the number of patient-centred care activities that were completed, including foot examinations and referral to dieticians. Glasgow et al.’s research supports intervention to standardise care and the implementation of guidelines. However, barriers to interventions, such as the competing demands on nursing time of other long-term conditions, and demands on time generally, were acknowledged as being significant to the long-term success. The researchers concluded that there is very little clinical trial data published globally to evaluate interventions, and this makes policy making and clinical planning difficult. Therefore, acknowledging the gaps in patient care that exist between practices, and understanding the capacity of those healthcare professionals, such as practice nurses in this region, will help to gain valuable insight on the diabetes care they are providing.

In a more recent study, Weeks, Polello, Hansen, Keeney, and Conrad (2013) sought to measure the capacity of providers to deliver care with the Diabetes Care Coordination Readiness Assessment Tool (DCCRA) developed in the USA. The purpose of this tool was to assess primary care practices readiness and their current capacity to provide diabetes care to their patients. The research tool DCCRA was implemented and data collected was from 39 primary care practices. The researchers concluded that care co-ordination and patient centred care were key aspects of the effectiveness of diabetes care delivery in the primary care system. The DCCRA provided practices with a tool to measure their gaps in care, including their capacity for service co-ordination. Although this tool would need to be specifically designed to fit the healthcare system of each country, and therefore could not simply be replicated for use in NZ, the value of
evaluation and the data obtained can be acknowledged as useful, particularly in regard to recognition of capacity.

In the United States of America (USA), research undertaken by Sher and Lipman (2015) also aimed to understand the way diabetes educators were working to engage with their patients through the National Practice Survey (NPS). Diabetes educators included a number of healthcare professionals in this research although 50% of them were nurses. The research was conducted through a survey of 54 questions. The questions were focused on gathering information about the educator, the patients they were seeing and the programs they were using to deliver education. It was sent to 21,975 participants and 4855 educators responded. Diabetes care in USA is centred on Diabetes Self-Management Education (DSME). This program is designed to educate and engage patients to self-manage their diabetes and enhance health outcomes. This research was aimed specifically to evaluate the educators work delivering DSME. This research discussed how the role of the diabetes educators is directly influenced by healthcare systems and structures. It acknowledged that the largest area of patient engagement in the program was monitoring through blood tests and screening for complications. The authors found that patients were not engaging with educators when first diagnosed. They concluded that the reason for this may be linked to the funding structure of care, as patients with more complex healthcare needs move from a ‘fee for service’ to ‘pay for performance’ regime to enhance earlier engagement when complications are not yet present. Though highlighting interesting points, due to significant differences in the structure of healthcare delivery between NZ and the USA this research is not relevant in the NZ context.

One of the key measures of effective diabetes care is the achievement of good glycaemic control. HbA1c has been used in multiple studies included in this literature review to evaluate effectiveness of care (Browne et al., 2015; Taylor et al., 2005; Jennings, 2010; Höuweling, et al., 2011; Watts & Lucatorto, 2014; Mitchell, et al., 2015). Chan et al.’s (2009) study aimed to identify common factors in patients who had well controlled diabetes, defined by an HbA1c of <7%. Participants were from seventeen countries and included 11,799 patients with Type 1 or Type 2 diabetes and 937 physicians. The study found that influences of effective care included: access to specialist care; obesity and being able to self-adjust insulin doses; diabetes educator training; monitoring blood glucose independently; and self-adjusting insulin doses, acknowledging that there was considerable variation between regions in these findings, emphasizing the importance of care being tailored to specific population needs. The researchers concluded the importance of hasty diagnosis, early treatment and education leading to self-
management. Exploring nurses’ perceptions of how to best measure the effectiveness of their care and the barriers to this are important areas that need exploration in practice nurses.

Understanding both patient- and provider perceived barriers to diabetes care delivery in the primary healthcare setting was published by Peyrot et al. (2005). This cross-sectional survey using either face to face or telephone interviews with both providers and patients, was conducted across thirteen countries including Asia, Australia, Europe and North America. The study included 5104 patients with Type 1 or Type 2 diabetes, and 3827 providers, including both physicians and nurses. The research concluded that patients and providers recognised the same barriers to care and management. Psychosocial problems were also reported as common amongst patients that have a diagnosis of diabetes and this directly affected their ability to self-manage. Though this barrier was recognized by participants, they reported resources to manage the recognized barriers such as skill, time and referral options were not available to them. As discussed previously (Weeks et al., 2013), assessment and evaluation of services from both patient and provider perspectives are essential in assessing the gaps in care standards. Understanding what influences practice nurses’ ability to provide effective diabetes care in Hawke’s Bay will be useful to inform changes in future policy development and service delivery.

2.6 Conclusion

The main findings from the various research articles included in this review are that diabetes care managed by teams of healthcare professionals in the primary healthcare setting leads to better patient outcomes. The studies included in this review identified the various approaches to diabetes care delivery internationally, the factors that influence the ability to provide diabetes care, the practice nurse’s role within the team providing diabetes care and the importance of diabetes care provided by practice nurses in influencing positive patient outcomes. Although targeted approaches and treatment interventions to diabetes care through trials have been evaluated above, these are not necessarily interventions based on the needs of the NZ population. Exploring the influences impacting on care delivery may help in beginning to understand and address certain aspects of care. This literature review identified that no NZ research has explored practice nurses’ perspectives of their role in providing diabetes care. The need to explore practice nurses’ perspectives is essential as they are identified as the key link in integrating healthcare between the patients and other specialists in the diabetes care team. The
goal of this research, therefore, is to obtain an understanding of the practice nurses’ perspectives, including their experiences and expectations of how they are delivering diabetes care to patients within the Hawke’s Bay region of NZ.
3.1 Introduction

The purpose of this chapter is to provide a comprehensive overview of the research design and processes used in this study. The rationale for using qualitative methodology will be outlined, followed by an explanation of the process by which the participants were recruited, including the use of purposeful sampling. The process of recruiting participants will be described, followed by the method of data collection and the concept of data saturation. My position as an insider in this research and the significance of this will also be discussed. The approach to analysing the data through both thematic and general inductive methods will be described along with the ethical considerations related to the research. Finally, I will outline the process of writing up the research findings, including discussion of the trustworthiness of this study before a final summary of the chapter.

3.2 Theory and Rationale- The Qualitative Study Design

The study design I chose is based on the qualitative research approach. Qualitative research is useful to health researchers as it aims to explore an area of practice in depth, with the view to explain why it is how it is, and provide insights into real world experiences and perspectives (Schneider, Elliot, LoBiondo-Wood & Harber, 2003). It can provide completely different knowledge from that obtained through quantitative research methods. However, the two approaches can be complementary to one another (Braun & Clarke, 2014). Qualitative descriptive research was chosen to answer the research question, ‘What are practices nurses’ perspectives, experiences and expectations of providing diabetes care in the primary healthcare setting?’, as it allowed me to obtain and explore in depth the nurses’ perspectives, beliefs and experiences as they described them.

Qualitative research examines human experiences subjectively reporting on these descriptively rather than by using a statistical analysis. “It is associated with naturalistic enquiry which explores the complex experience of human beings” (Moxham, 2012 as cited in Ingham-Broomfeild, 2015, p. 35). Qualitative research has had an important influence on nursing practice as it has contributed to the development of evidence-based practice guidelines based
on the investigation of true human experiences. This is therefore a valuable tool shaping nurses’ judgement and clinical decision-making processes. Qualitative descriptive research sets out to explore an observational question, based on a specific topic, viewing reality as a multidimensional experience shaped by human experience (Ingham-Broomfeild, 2015). This was therefore considered the most appropriate design on which to base my research as it enabled the nurses to relate their experiences and perspectives of providing diabetes care to patients in the primary healthcare setting. The qualitative approach utilised in-depth, one-on-one, face-to-face interviews with practice nurses. These will be discussed in more depth later in this chapter.

3.3 The Participant Sampling Process

This research required purposive sampling or judgement sampling to recruit participants. This is defined as, “the deliberate choice of a participant due to the qualities the participant possesses” (Etikan, Musa, & Alkassim, 2015, p. 2). This was an important consideration as the research aimed to enhance the understanding of a specific topic based on knowledge already formed. This approach to sampling is non-randomised, neither requiring a statistical formula, nor a certain number of participants. The researcher decides what needs to be investigated on the topic chosen and then finds the group of people who are most likely to provide the best information about this. “It is typically used in qualitative research to identify and select the information-rich cases…This involves identification and selection of individuals or groups of individuals that are proficient and well-informed with a phenomenon of interest” (Etikan, Musa, & Alkassim, 2015, p. 2).

The sample group was defined as any registered nurse working in the primary healthcare setting providing diabetes care to patients in Hawke’s Bay. This group was identified through a register of practicing nurses held by the Hawke’s Bay PHO (HBPHO), and included all nurses in the Hawke’s Bay DHB defined area working for a primary care health provider. As I had existing knowledge of some nurses in the sample population, the identification of potential participants was through third party recruiting to minimise bias. McDermid, Peters, Jackson and Daly (2014), acknowledge the limited literature available outlining the issues of recruiting colleagues or peers. They caution that researchers should consider coercion, where participants may feel pressured or have no choice about whether to participate or not, and this can occur when there is a pre-existing relationship between potential participants and the researcher. The significance of this will be explained later in this chapter in the discussion on ‘Insider Research’.
The study participants were the nurses from the sample group who responded to an invitation to participate and volunteered, giving their informed consent.

3.4 Accessing Participants

To obtain my sample group I approached the Hawke’s Bay Primary Health Organisation (HBPHO), who sent an email on my behalf to all practice nurses on the distribution list register (see Appendix I). I was assured that this was a current and up to date list of all practice nurse in the Hawke’s Bay region and contained approximately 201 names. The invitation included an attached information sheet and consent form for volunteers to complete (see Appendix II and III). The potential participants were invited to contact me by either email or phone to discuss the research and ask any questions they had about it. The signed informed consent was completed prior to the interview being undertaken. This gave participants further time to consider their participation and ensured they were fully informed prior to consenting to participate. I originally planned for a reminder email to be sent to recruit more participants, however, due to the number of nurses that expressed their interest (thirteen) in the first two weeks following the initial email, this was not required.

3.5 The Data Collection Process

Thirteen nurses contacted the researcher and consented to take part in the research. Providing those participating in my research with information to ensure they had a choice to participate or not, obtaining informed consent, ensuring confidentiality of information and giving the participants assurance regarding how the information they provided would be used at the conclusion of the research, were important steps in the process of ensuring validity of this qualitative research (McDermid et al., 2014).

An appropriate time and place to conduct the interview was negotiated with each of them. All interviews were conducted face to face in either the participant’s workplace or at an agreed upon private address. Just prior to the start of each interview the participants were reassured that their confidentiality would be maintained, and I explained how this would be ensured throughout the research process, as well as their rights as outlined in the information sheet. Participants were also given the opportunity to ask any further questions. The interviews were
conducted between July and October 2018. The average time taken for the interviews was approximately 45 minutes.

As qualitative research methodologies do not stipulate how many participants are required, the concept of data saturation was employed to determine the number of interviews undertaken. This is defined as the point where the researcher feels reasonably confident that no new information is being collected (Ando, Cousins & Young, 2014). Throughout the interview stage of the research, preliminary analysis of each interview was done directly afterwards and this, in discussion with my supervisors, was an important step in identifying data saturation. Ando, Cousins, and Young (2014) provide the rationale and approach to guide data saturation for thematic analysis. They indicate that this is an important concept to consider as it can impact on the validity of the research- especially if not all of the potential participants are included in the interview process.

Data saturation was reached after eight participants had been interviewed, however, to ensure diverse geographical representation of the Hawke’s Bay area, two further participants were purposively interviewed. Therefore, ten interviews were conducted in total. The three nurses who volunteered but who were subsequently not interviewed were contacted, informed that data saturation had been reached, and thanked for their willingness to participate.

3.6 Data Collection Tool

The data for this research was collected via individual, semi-structured, face-to-face, audio-taped interviews. This method allows the researcher to “produce rich narrative data and can enable researchers to elicit information, experiences, feelings, opinions and attitudes of participants” (McDermid et al., 2014, p. 30). It is acknowledged that the best data is gathered through this process when the researcher and participant interact and form joint meanings (McDermid et al., 2014). Individual rather than group interviews are also noted to enhance the reporting of personal experiences, which is an essential element for this research, helping to ensure rich data is obtained, and responses clarified throughout the interview process. Qualitative research interviews are usually based on semi-structured questions. This technique enables the researcher to gather data involving people’s stories with a focus on meanings, emotions, experiences and relationships (Rossetto, 2014). It also gives the researcher the ability to actively listen to responses and probe for deeper explanation from the participant as required. This, therefore, allows depth in the discussion. It also allows for flexibility in the
interviews and therefore may assist in enhancing data quality (Rossetto, 2014). The semi-structured interview format allowed for clarification of the participants responses, and gave the ability to ask questions in an order which encouraged flow of topics and themes being raised.

Face-to-face interviews were chosen over telephone interviews as the participants could be relatively easily accessed in a small geographical area. Irvine, Drew and Sainsbury (2013), recognise that face-to-face contact in a one-on-one interview aids the development of rapport between the researcher and participant and therefore can be an important facilitator of obtaining rich data in qualitative research.

A set of pre-prepared interview questions were formulated (Appendix IV). The initial questions asked about the background of the participants, their current role and title. The following nine questions aimed to obtain information about the participants’ nursing practice that had been identified as current gaps in the literature through the literature review. Included also were two ‘Likert Scale’ questions designed as prompts for interview discussion based on the participants’ responses. One scale related to nurses’ confidence providing diabetes care and the other to how they would rate the effectiveness of the care they are providing. Nemeto and Beglar (2014), define a Likert Scale as a “psychometric scale that has multiple categories from which respondents’ choose to indicate their opinions, attitudes or feelings about a particular issue (p. 2).

Prior to conducting the interviews, the interview questions were trialed with a colleague who was a practice nurse but not otherwise involved in the research. Following this, some of the wording of the questions was further refined to ensure they were clear. The questions themselves were not changed. This process also gave an indication of how long each interview would take to conduct.

As stated above, the interviews were audio-recorded on an iphone, then later transcribed. Notes were also made during the interviews to obtain clarification from the participant as required, and to use in comparison to the transcribed manuscripts. I was aware during the interviews that I needed to ensure that the participants felt comfortable and ‘listened to’, for rapport to be built to aid their ability to answer the questions openly and willingly to obtain the richest data possible. However, I was also aware that through, the process of building rapport I needed to be professional. This meant being aware of my own thoughts and values and not entering or acknowledging these with the participants. Participants were encouraged to
elaborate on the thoughts and ideas that they were discussing, clarifying them as the interviews proceeded (Mc Dermid, et al., 2014; Adams, 2010).

**Insider Research**

As discussed previously, I am a diabetes Clinical Nurse Specialist working directly with some of the eligible participants in this research. Therefore, I acknowledge I am an ‘insider’ with a particular interest in and passion for the work in this area. I have discussed the ways that I attempted to minimise the potential for this to impact on the research finding in the sections above.

Throughout the literature there has been much debate around the advantages and disadvantages of ‘insider’ and ‘outsider’ research. Corbin, Dwyer and Buckle (2009), as cited in McDermid, et al. (2014) argue, based on the findings of multiple studies, that research is never done completely by an ‘insider’ or an ‘outsider’. They suggest the existence of a continuum between these, and state they are not complete opposites. “The key component is not one of insider or outsider status, but an ability to be open, honest, authentic, interested and insightful about your role in shaping interpretations and research findings, and wholly committed to accurately and adequately representing the participants’ experiences” (Corbin, Dwyer & Buckle, 2009, as cited in McDermid, et al., 2013, p. 29). However, they acknowledge it is essential to remain aware of the potential challenges when conducting research that involves peers and colleagues as participants. This discussion centres around maintaining clear boundaries. One of the major disadvantages of interviewing peers and colleagues is recognized as being that participants may assume that the researcher already knows the answers to the questions being asked, and vice versa, the researcher may have presumptions about how the participants will respond to questions. Both of these situations therefore potentially impacting on the quality of data obtained in the research.

Throughout my research I have employed a number of methods to reduce the impact of the potential influences outlined above. McDermid, et al. (2014) discuss four issues that can be managed throughout the research process: boundaries; trust and rapport; the use of self-disclosure; and maintaining confidentiality and privacy. Throughout the research process I have recorded my own views and beliefs and reflected on these regularly. This concept is referred to as the ‘reflexivity of the researcher’, and it is defined as the degree to which the researcher makes personal beliefs and values available to those critiquing the research report. This allows readers to have their own opinions regarding the influence of the researcher and how this may
have influenced the interpretation of the findings and results (Lub, 2015; Noble & Smith, 2015; Berger, 2015).

My supervisors have also reviewed my raw data at regular meetings throughout the research process. Regular discussions regarding the raw data and the analysis of this were held and support from my supervisors given to the analysis process and findings from the interview data. Reflexivity of the researcher is said to ensure quality research (McDermid et al., 2014). Understanding my role and being critically aware of the influences this may have on the research may have impacted positively in reverse of the perceived negativity. McDermid et al. (2014), acknowledge ‘improved quality’ and more ‘insightful findings’ through this process. Reflexivity is the reflection of the researcher of their own thoughts. The thoughts involved in conducting qualitative research include the researcher’s preconceptions and their relationship with the participants involved in the research, journaling these and discussing them with my supervisors, and reflective analysis regularly throughout the research process have all helped ensure their potential impact on this project have been addressed to the best of my ability (Berger, 2015).

Another important consideration is that I am employed by a different organisation from the participants, therefore this separates the working environments of the researcher and participants and there are no power dynamics between us. Trust and rapport were enhanced by ensuring the participants’ identities were protected at all times. The participants were aware that the information they gave, though confidential, was exclusively for the use of the research project and would not affect their job or role. Being aware of these and planning throughout the research process to ensure the potential impacts were identified and strategies were in place to minimize them has enhanced the credibility of this research. The recommendations discussed above were followed throughout the course of this research.

Berger (2015) also recognises the potential for the relationship between this researcher and participants to distort research findings. Though these points may be seen to have negative implications on my research there are also positive impacts of insider research. These have been identified as being able to obtain authentic information that is of rich deep quality (McDermid, Peters, Jackson & Daly, 2013).

Researcher bias is another aspect to be acknowledged with this research method. Historical criticism regarding reliability and objectivity with regards to qualitative research methods historically has led to the establishment and evolution of strict criteria and standard development (Lub, 2015). Validity is defined by Lub (2015, p. 2), as “the degree to which the
indicators or variables of a research concept are made measurable, accurately represent that concept”. To reduce the risk of this bias, raw data and findings were discussed with my supervisors to minimise the risk of researcher misinterpretation. This was a way of cross-checking how the data was being interpreted, thus reducing the risk of researcher bias. A clear audit trail and accurate record keeping of these processes was maintained and kept as evidence of data consistency and transparency (Nobel & Smith, 2015).

McDermid et al. (2014) acknowledge the lack of literature available to address the potential issues that may arise when recruiting peers or colleagues into research. However, they do state the main issue to be aware of and avoid is ‘coercion’, and the participants feeling like they have no choice but to take part in the research. The methods discussed above were employed to address this risk.

3.6 Qualitative Data Analysis

3.6.1 Thematic Analysis

Thematic analysis was used to analyse the data collected and to present themes based on the findings. The key characteristics that thematic analysis provides are coding the evolution of themes and sub themes out of the data set (Vaismoradi, Jones, Turunen & Snelgrove, 2016). This was assisted by an inductive approach. The inductive approach guided examination and comparison to assess the raw data gathered and to formulate common themes and categories that emerged from it (Zhang & Wildemuth, 2016). This came from reading the interview transcripts and listening to the recorded information for clarification as required. Thematic analysis is cited in Braun and Clarke (2014), as an exceptionally useful method to use in nursing and health science research. It translates rich real-world experiences into themes. This is information that cannot be obtained through quantitative research (Braun & Clarke, 2014).

3.6.2 Qualitative Data Analysis- A General Inductive Approach

The main objective of using the inductive approach to analyse the research data was to identify ‘frequent, significant or dominant’ themes from raw data from interviews, ensuring their emergence without the restraints that other structured methodologies impose. Through the use of the inductive approach and subsequent development of clear themes, an auditable trail
will be formed, and this will impact positively, enhancing the credibility of the research (Thomas & Harden, 2008).

The coding of raw data begins at the point of transcription of the manuscripts, followed by reading these combined with notes taken by the researcher throughout each interview. Identification of meanings within the data is a process involving a number of procedures. Thomas (2006, p. 241) sets this out in five stages:

1. Preparing the data that has been collected in the interviews- transcription, (Multiple pages of text).
2. In depth reading of the transcribed text, (Multiple sections identified).
3. Identification of categories or themes emerging from the transcribed text, (30-40 categories).
4. Overlapping the coding and un-coded text, (15-20 categories).
5. Continual revision of the categories and refinement of these, (3 to 8 categories).

The above outlined process ultimately aims to create a small number of summarized categories. The final themes are those that the researcher considers the most important in relation to the outlined objectives of the research. Thomas (2006) concludes that if more than eight themes are present following the coding process, the inductive method is incomplete. At this point further refinement is necessary through possibly combing themes and further consideration of the importance of each. How these procedures were followed in respect to my research are outlined below.

**Preparation of Raw Data Files**

This is the first step involved in analyzing data using the general inductive approach. Preparation of the raw data started with transcription of the verbatim interviews from verbal to written format. The layout of these included ensuring the font was legible, clear and easy to read. The researcher’s dialogue was transcribed in italic font and the participants in ‘normal or standard’ font. Large space margins were utilized to write analysis notes.

Transcription from verbatim to written form was initially started by the researcher who completed the first two interview recordings. However, due to time constraints, this process
was outsourced to a professional transcribing service under written contract including a confidentiality agreement (see Appendix V), to complete the remaining eight. All of the transcriptions were listened to multiple times by the researcher and their accuracy ensured. Alterations were made as required until the final transcript of each interview was confirmed as accurate. This process gave me an in depth understanding of the raw data that had been collected. Printed versions of the transcripts were made, and a backup electronic file and verbal recording of all interviews are held on the researcher’s personal laptop. Names and identifying details were not included on these files.

**Close Reading of the Texts**

The transcribed interviews were read, combined with notes taken and checked against the recordings a number of times. This was a process that initiated the development of broad themes and ideas from within the data. I started by writing each theme on a ‘post-it note’ and sticking these on a large blank wall.

**Creation of Categories**

The categories emerged from the close, in-depth reading of the raw data transcriptions. The prominent or main themes were identified from consideration of the aims of the research. These were recorded on post-it notes which were arranged and re-arranged into patterns until the categories were refined and seemed plausible. This phase involved further multiple readings of the transcripts to analyse the meanings of the participants’ responses to the interview questions. The main themes were then established, and each recorded on a separate piece of colored card. Subthemes were grouped under these using the post-it notes. The interviews were labeled using a number from 1 to 10 and the pages of each transcript were also numbered. This ensured that data could be easily traced.

**Overlapping coding and un-coded text**

Through the processes above it became apparent that some of the sub-themes identified could fit into and be discussed under more than one major category. At this point, refocusing on the
specific aims of this research helped to determine where and which subthemes were the best fit in relation to this. The themes were continually assessed for suitability throughout the process of writing up the research findings.

3.7 Ethics

Ethics approval for the research was obtained from the Eastern Institute of Technology Research Ethics and Approvals Committee in June 2018 (see Appendix VI). As the research involved consenting adult participants, the key ethical issues to consider concerned assuring I had their fully informed consent, and maintaining their confidentiality and anonymity.

Participants were invited to participate in this research study. They had the right to choose to participate or not. The confidentiality of the participants was maintained throughout the research and the participants will not be able to be identified from the answers they give during data collection. This is important, as the sample are all practice nurses in a relatively small region therefore may know each other both personally and professionally.

The information sheet the participants received included the following information: They had the right to withdraw from the research at any time up to data analysis stage, the purpose of the research, including how it may impact on future diabetes care regionally and their practice. It also stipulated they have opportunity to contact the researcher and discuss any questions they may have regarding the research or their participation. Prior to the interviews taking place the above points were again reiterated and any questions the participants had were answered (see Appendix II and III).

Potential cultural implications in regard to this research were considered, and a copy of my research proposal was sent to the Māori Health Unit at the Hawke’s Bay District Health Board. I acknowledged that participants involved in this research may identify as being of Māori heritage. I acknowledge my obligations under The Treaty of Waitangi to conduct this research in a culturally appropriate manner.

Interviewing participants that I potentially worked alongside in a team was another ethical consideration of conducting this research. Having differing bodies of employment addressed the potential power status influence, along with the strategies outlined in the ‘Insider Research’ section. Through the identification of issues McDermid et al. (2014), conclude that the potential benefits of research outweigh the risks. Through the process of reflection being aware of my
own beliefs and values was an important tool in conducting this research. My personal perspectives, experience and status as an ‘insider’ in this research recorded throughout reflection will be evident in the discussion section of this thesis.

3.8 Writing up the findings

The main themes drawn from the thematic analysis of the raw data collected are discussed in depth in the following chapter. Williams and Irurita (1998), as cited in Thomas (2006), outline a sequence of three procedures that are key to reporting research findings using the general inductive approach. These are:

1. Labeling each category.
2. Providing a description of the authors’ interpretation of what they believe is the meaning of the category.
3. Providing quotes taken from the raw text to expand on the meaning of the category, and describe the text use to code that category.

Quotes used from the interview manuscripts of raw data are used throughout the reporting of the findings. These support the practice nurses’ perceptions, feelings and experiences. In some cases, the researcher edited these quotes to ensure none of the participants could be made identifiable through the information reported. To protect identification through gender I have mostly referred to the participants as ‘they’ or ‘their’, or have used the pronoun ‘she’ for all participants.

3.9 Trustworthiness of the Study

Tong, Sainsbury and Craig (2007) set out a consolidated criteria tool for reporting qualitative research. This was developed from the review of existing literature as a checklist for researchers to ensure a comprehensive process has been followed (See Appendix VII). The reporting of data was grouped into three domains:

a. Research team and reflexivity
b. Study design
c. Data analysis and reporting

This checklist has been used in the research process, and the ways in which each has been addressed is outlined throughout the discussion above (see Appendix VII).

The general inductive approach used to analyse data is a method that provides researchers with a framework that, when adhered to, ultimately leads to enhanced and trustworthiness of research. It provides an auditable trail of how the researcher has analysed the raw data collected and presented it as findings. Using direct quotes from the data collected in presenting the findings assists in conveying transparency and is part of the audit trail.

The broad criteria for which qualitative research is judged credible is based on the categories of logical consistency throughout the research process that links the theoretical reference, research question, method of data collection, and the analysis of the data (Twining, Heller, Nussbaum & Tsai, 2017). The credibility or faithfulness of the data is best judged by the participants involved in the research or members of a larger group that have sound academic knowledge of the researched area. This has been addressed in this research by analysis of raw data being independently conducted by myself and then my research supervisors, with discussion, comparison and clarification of the analysis interpretations being discussed in depth until consensus reached that the data was being faithfully portrayed.

3.10 Conclusion

The methods used to conduct this research has been described above. To ensure a rich, in-depth account of the participants’ perspectives, a qualitative research approach was undertaken. The EIT Research Approvals Committee granted approval for this research to be conducted.

The ten participants who volunteered to participate in this research were obtained through the Hawke’s Bay PHO practice nurses register. The use of purposive sampling ensured that this group was suitable to provide the information that was sought. Face-to-face interviews were conducted with the participants. These interviews were conducted using a set of semi-structured, pre-prepared questions developed to fulfill the research aims.
Transcription of the data collected was carried out, followed by data analysis using a general inductive approach. This aided the formation of main categories, followed by sub-themes derived from the raw data manuscripts. The following chapter will outline these in discussion of the findings of this research.
Chapter 4
Research Findings

4.1 Introduction

This chapter outlines the findings of the undertaken research. These have been derived from the raw-data gathered throughout the ten semi-structured interviews of registered nurses working in primary care, delivering diabetes care in Hawke’s Bay. The findings have been divided into three sections. The first section is an overview of the role of practice nurses providing diabetes care and includes a summary of participant information data obtained through the interviews. This includes their nursing experience and their current role within their practice. This provides the reader with useful background information to understand the differences in the roles and other attributes such as the background experience of the nurses that influence their care delivery. The second section focuses on the assessment and perceptions of effective practice. The third section describes what practice nurses perceive to be the factors that influence their ability to deliver diabetes care. A general inductive approach to thematic analysis was used to derive the findings from the interviews (Thomas & Harden, 2008). Themes are listed under the three main headings, a summary of each has been provided and quotes from the interviews have been included to support the findings.

4.2 The Role of the Practice Nurse Providing Diabetes Care

The role of the practice nurses interviewed varied widely and was influenced by a number of factors that will be discussed in this section. Lack of consistency, structure and definition are evident through their various role titles and ways of practice, and these influence their perceptions of effective care.

The nurses were from a range of primary care practices across Hawke’s Bay, from Waipukurau at the southern end of Hawke’s Bay to Wairoa at the northern end. Their practices represented a number of different demographic and suburban areas. The nurses interviewed represented nine different primary care practices, with two of the nurses working at the same practice.
Nine of the ten nurses interviewed had been nursing for twenty years or more, the tenth had been nursing for fifteen years. The length of time they had been practicing in their current position ranged from six to twenty-eight years.

Two of the nurses discussed the importance of workforce development and the sharing of knowledge with other nurses in the practice. They acknowledged the importance of collegial relationships and the benefits of working within a team for a sustained period to build rapport, trust and increase confidence between colleagues. They explained that their practices had no systems in place to foster the knowledge and training of younger nurses encouraging them to step into diabetes roles within the practice as appropriate. As Nurse 1 said:

There is no point just a few having the knowledge, we are all slightly older...We need the younger ones here (Nurse 1).

Nurses believed that the length of time spent in a role was a key component to building diabetes knowledge. They discussed the practical knowledge they had gained through current and past collegial influences, short courses, and specialist service support in their practices. There was not one common theme amongst the nurses regarding the best way to acquire knowledge. Some saw the benefits of working with the diabetes service, as commented by Nurse 4:

Now that we are working alongside the hospital it has been huge and getting our confidence up. So that you know they [GP’s] will come to us and ask anything and if we don’t know we feel confident that we have got somewhere we can ask [diabetes specialist service] (Nurse 4).

Two of the nurses discussed previously working with a GP who had a special interest in diabetes management. They acknowledged the value of this mentorship specific to diabetes and how they continue to utilise the knowledge they gained from this. Nurse 2 explained:

...[GP] she has been quite a mentor for me...that was a step up and I really enjoyed that so some of the things I have learnt from that I have been able to carry on here as well (Nurse 2).

Of the ten nurses interviewed, three had undertaken formal postgraduate study. Two had completed a post graduate diploma, and one a post graduate certificate. One was considering
continuing further study to obtain her Master of Nursing degree. All three of these nurses had completed a specialist diabetes paper as part of their postgraduate study. Two of the nurses who had not done any formal post graduate study at the time of the interview said they would be interested in doing so in the future. The remaining five nurses were very clear about having no desire to do any further academic study. The majority of nurses who had not done any post graduate education made comments suggesting that, although they saw the benefits in further study for advancing practice, there was no financial incentive to do so or to advance their role within practice nursing. Nurse 9 said:

*It would be good to be able to be able to change people’s drugs, but I might have to do papers for that and I’m not going to… I don’t have to do that, there is no financial incentive offered with that* (Nurse 9).

The majority felt well supported by their practice to upskill and enhance their knowledge and develop their roles through local courses and conferences. Nurse 6, who did not hold a diabetes specific title, acknowledged that although some skills had been taught at these courses, they were often handed over to the diabetes specialists in the practice. Nurse 6 said:

*I have been taught it several times over but we just don’t do it enough, they go to the diabetes nurse to do that, and I think it’s probably best that it stays that way because it’s consistent and I just wouldn’t be doing it enough unless I was doing it in a supported diabetes role* (Nurse 6).

No nurses had followed a clear process or pathway to develop their role in diabetes or had been employed in a role specific to diabetes. On the contrary, some implied their role eventuated by default, as Nurse 5 explained:

*I don’t know what my role title is here, I do a nurse led clinic for diabetes… and no one else has got any interest in diabetes here* (Nurse 5).

Others, like Nurse 7, gained a title because she had started to do diabetes-related tasks such as insulin starts. She said: “I do all of the insulin starts, so I am what they call the champion” (Nurse 7).
Only one of the nurses felt her role title was relevant to the level of post graduate education achieved.

*I would probably consider myself the nurse with a special interest because I think once I have got the diploma and it says yes this is what you do I might start thinking of myself as a clinical nurse specialist (Nurse 8).*

In contrast, Nurse 8 refuted this title of Clinical Nurse Specialist because she didn’t feel qualified for it. She explained:

*I get introduced as the clinical nurse specialist which I refuse to [For diabetes] which I’m not, I refuse to acknowledge [that], but there we go (Nurse 8).*

Other nurses, however, explained how the title was used in their practice to identify someone with an interest in diabetes. Five of the ten nurses indicated that they had an underlying interest or passion for diabetes and colleagues had encouraged them to apply, or: “put their hand up for the role” (Nurse 9).

The words: “self-evolved” (Nurse 2), were used by some of the nurses when answering the question about how they came to take a lead in diabetes care within their practice. Others, such as Nurse 7, discussed the need for one of the practice nursing team to take on the role: “Probably because I enjoyed that work and somebody needed to do it” (Nurse 7).

Individual nurses also described advanced practice roles and taking on additional responsibilities to meet the needs of the increasing diabetes population: “Basically, diabetes is largely managed by nurses here” (Nurse 10).

Of the nine practices represented, seven have established standing order polices that the nurses work under, allowing them to titrate insulin doses and then discuss this with and have it signed off by a GP within a given timeframe. There was no consistency reported across the interviews between the titles of the nurses and their ability to utilise standing orders. This seemed to depend on how the practice operated rather than on the skills levels of the nurses. For example, one nurse, who held the title of ‘diabetes nurse champion’ within their practice, did not have access to standing orders, whereas in another practice where no nurse had a specialist diabetes title, all practice nurses had access to standing orders.
The number of patients with a diagnosis of diabetes in each of the practices the nurses represented ranged from 250 to over 500. There appeared to be no relationship between the number of diabetic patients and the number of hours allocated to diabetes care. The number of diabetes nurses in practices ranged from one to a larger team of four including a practice nurse champion and three supporting practice nurses with a specialist interest in diabetes.

In seven practices, all practice nurses were conducting Diabetes Annual Reviews (DARs), with potentially all general practice nurses in these practices providing some degree of diabetes care. In these cases, the diabetes champion was consulted and assigned any ‘diabetes related issues to address’ from the general practice nurses. In contrast, another practice had a team of four practice nurses completing DARs. These nurses included one nurse champion and three nurses with a specialist interest. These nurses then managed their own diabetes workload depending on the outcome of each DAR. Some practices, however, had only one nurse who held their diabetes specialist title conducting DARs. Nurses mentioned that many of their nurse colleagues were reluctant to complete the DARs, as they lacked confidence in their ability to complete them. Nurse 5 explained:

"Most people [GP’s] go ‘good [Nurse] does the diabetes and I will leave it to her’ and they don’t feel confident enough to do that (Nurse 5)."

It was obvious that there was a broad knowledge base in basic diabetes management and care amongst the nurses interviewed. This was evident in the range of responses to some questions. Some indicated that they saw DARs as a: “tick box exercise” (Nurse 7), while others were analysing the results of the DAR, highlighting red flags and discussing these with both the patient and relevant specialist healthcare professional as indicated.

All nurses acknowledged the role they played in educating patients regarding their diagnosis, and that assessing patients’ diabetes status through the DAR scheme was standard or routine practice in their role, independent of their title and responsibility to deliver diabetes care in their practice. Nurse 6 described how her practice’s approach to completing a DAR, emphasising that the nurses were given no specific education to be able to provide this care.

"So, all of the practice nurses do the diabetes check with little to no education pretty much and we are just told to follow through the advanced form that is on MedTech. And we
have a prompt to talk about diet, exercise- it’s all on the form, checking their feet, make sure they have had their retinal screening, talk about possible changes, so we start with the diet, what do you eat, is there any improvement that can be made here, and that sort of thing, exercise- are they mobile? Can they make any improvements to that?... Have they had any hypo’s? How did they manage their hypo’s? (Nurse 6).

These findings clearly illustrate the inconsistency that exists in the roles, titles, and expectations of the practice nurses providing diabetes care.

4.3 Perceptions of Effective Care

The practice nurses interviewed described a number of ways in which they evaluated the effectiveness of their role in providing diabetes care to patients including both formal and informal methods. The nurses as individuals, their journeys and growth into their roles, are themes that emerged from descriptions of their practice. The following will describe the ways nurses measured their care as effective, and what the nurses perceived to be effective practice.

4.3.1 Measures

The nurses described a variety of ways used to measure the effectiveness of their diabetes care. Predominantly this was through patients’ blood test measurement of HbA1c, patient confidence to self-manage their diabetes, and patient engagement with their service (i.e. appointment attendance).

HbA1c

All of nurses used HbA1c to provide an indication of the effectiveness of the care provided to a patient, looking for improvements in this and achieving target levels. The HbA1c was acknowledged as an effective measure but some nurses were quick to follow up with comments that it should not be used in isolation, such as Nurse 2 who said:

I did have a 74% improvement over 2 years in Hba1c which was pretty good considering that some were really difficult... I suppose this is several fold... as you could say if their Hba1c in 3 months has improved [their care has been effective], but it is also that patient confidence [to manage their condition] (Nurse 2).
In contrast, however, one nurse stated that she felt that the HbA1c measurement was done as more of a ‘tick box’ exercise, meaning just to complete the task for the sake of it, to measure effectiveness and gain funding rather than valuing the importance of it for the patient’s experience of care. Nurse 2 continued:

*You like to see they have had their annual diabetes check as that is what the PHO like, to count out numbers, so we are trying to not tick the boxes although the bosses want the boxes ticked, but you know ultimately you want that patient experience to be positive for them so that they have understood things, so they can confidently manage their condition (Nurse 2).*

**Preventing Complications**

Effective care of a patient was perceived by one nurse to be the absence of the development of diabetic complications. Nurse 7 made comments about how the care provided for patients with diabetes was based on the need to deal with complications as they arose, rather than on the need to base care on their prevention.

*They have got no protein spill into their urine, their eyes are good and we would have a number of people who are like that…. So I feel it’s more reactive stuff. It’s not much proactive (Nurse 7).*

**Engagement, Compliance, and Access to Services**

The majority of nurses described their assessment of their patient as having the knowledge, confidence and ability to self-manage their diabetes as being a measure of the effectiveness of the care they provided. For example, Nurse 7 answered the question saying: “*They have a good understanding of their diabetes*” (Nurse 7).

The nurses identified the difference between ideal care they felt they should be providing and the care that was realistic and which potentially impacted on their patients’ ability to ultimately self-manage their diabetes in the future. Being realistic with their expectations and non-judgemental, especially when it came to dietary and lifestyle measures to help manage their diabetes, was a consistent message.
You have got be a bit more relaxed about it, you have got to be at their level otherwise you are just putting your values and thoughts onto them and they are, like, well I don’t live like that (Nurse 1).

Other nurses believed their care was effective if patients engaged with the practice and attended scheduled appointments. Three nurses reported actively seeking feedback from their patients to measure the effectiveness of their diabetes care delivery and services. These nurses then aimed to change the service structure and their care delivery to fit patient needs. In contrast, many nurses frequently referred to the patient population as being the reason why their care was not effective, namely that poor engagement and HbA1c measures above target were due to patient factors rather than the nurse’s care delivery. As Nurse 9 said:

Remember we have an awful lot of non-compliant [patients]... I can cross the ones off that there is no point ringing (Nurse 9).

By comparison, compliant patients were often seen as more worthwhile and rewarding to the nurses: “A compliant patient is a wonderful patient. It makes you feel good” (Nurse 4).

Another way some of the nurses described measuring their care effectiveness was by assessing how they responded to treatment, such as the initiation of medication. Nurse 8 spoke of her experience of starting patients on medication and the positive effects this has on the patients’ health and wellbeing, enhancing their quality of life. Nurse 8 explained:

My definition of effective care is when they come back and they are smiling and they feel better... [such as] started on oral medication or insulin, anything that makes them feel like the fog has disappeared (Nurse 8).

Others discussed other challenges that their patients faced, making their diabetes less of a priority. These included factors out of the healthcare provider’s control, such as socio-economic stressors.

We are 96% high needs population here which is extraordinarily high. I think 92% of that identify as Māori and some Pacific and other ones so diabetes is fairly low on their priority list (Nurse 2).
One of the nurses was specific in describing her perception that the ideal diabetes care may need to be delivered in two distinctly different ways, depending on the needs of the patient. Nurse 2 said:

> I think that so many providers are in the same position. They feel like they have their set up for the patients that are engaging and come on board and then they are trying with the other ones, but they almost need two service deliveries. One like a wraparound service for the really high needs people that are not engaging well and then one geared towards that people that want to [engage] (Nurse 2).

None of the nurses discussed their obligations of care specific to Māori as appropriate under the Treaty of Waitangi. Instead, some tended to make judgements about diabetes within the Māori population and about Māori as patients. For example, Nurse 9 said:

> Well that is the patient that declines care ... Someone has the view that diabetes for Māori is a badge of honour and it is just something that you are meant to have and accepting it as a disease is a really difficult thing and they don’t...that is a huge factor (Nurse 9).

However, some nurses felt frustrated by not being able to provide more individualised care for patients who had elevated HbA1c levels and were not meeting targets. They felt strongly that providing the same care regardless of outcome was less effective, although many struggled to deal with what is viewed as patient non-compliance. Nurse 4 said:

> Well I think it’s maybe accessibility for some. For some I think they just don’t want to know about it and, I don’t know, there are these young ones that are, we have some really high risk patients that are just like sitting time bombs and I don’t know what the answer is (Nurse 4).

Though there are some shared perceptions of how the nurses attempt to measure the effectiveness of the diabetes care they are providing to their patients, there are also distinct variations identified.
4.4 Influences on Ability to Provide Effective Care

The following themes describe the key issues that the nurses reported influenced their ability to provide effective care to patients diagnosed with diabetes.

4.4.1 Support

Employer
All nurses discussed the strong influence of the management team under which they worked, or their employer, on their ability to provide care, particularly regarding the amount of time the nurses had allocated to deliver diabetes care. All stated that they felt they were supported to provide diabetes care through access to ongoing education and training via short study courses and were able to attend local short courses or education updates on a variety of current topics relevant to diabetes care and management. However, Nurse 5 said:

...Getting to the diabetes nurse champions meetings which are held in the evenings at 5.30 or 5.45pm over in Hastings sometimes is not easy... [they are valuable] you can ask questions and you know what everyone else is doing (Nurse 5).

A few of the nurses commented that they were the only nurse in their practice specialising in diabetes care delivery. They utilised the regional education and development sessions as opportunities for good case reviews and discussion and would find value in doing this more frequently.

Multi-Disciplinary Team (MDT)
The nurses discussed how, having a team that included nurses, GPs and other colleagues such as pharmacists, influencing their ability to provide diabetes care in the practice. Nurses acknowledged working alongside GPs over time and this was an important way of building trust and confidence in ability and skills. It also fostered their learning and development and ultimately meant that patients were receiving consistent messages about their diabetes, resulting in increased patient confidence in the primary care team.

The relationships with our GP’s are really good and with our peers, like, I feel like we have got a real collegial (Nurse 4).
However, some nurses felt their GP colleagues relied on them for advice regarding diabetes management and some of the nurses reported frequently being asked for their advice. The nurses that described this experience had been in their current practice positions for the longest, such as Nurse 5 who said:

They [GP’s] quite depend on me, they are quite happy for me to do, they let me see the people (Nurse 5).

This was more common for nurses who had a high turnover of GPs working within the practice. A few of these nurses felt frustrated regarding different approaches to diabetes management by GPs. This criticism was more often directed at overseas trained GPs and concerned inconsistencies in treatment approaches, drug choices and aggressiveness of treatment of diabetes. One nurse described the importance of needing to have a collegial team to address this.

We have got quite a lot of young GP’s. Some of the American ones (pause) they do things a little differently, so we have some quite good collegial talks about things (Nurse 2).

Many of these nurses felt that inconsistent or different approaches within the care team was affecting their patients care and engagement. They spoke of the differences in treatment plans, and how the patients’ experiences of inconsistent care impacted negatively on their health. For example, Nurse 7 said:

One of the things that we have to address with diabetes care is that a lot of the doctors have different ways of dealing with the medications, like, you know, some will be quite aggressive...if you start them off on too high a dose of metformin or gliclazide or whatever, and things go wrong with the patient, they think that... they just don’t buy into it at all (Nurse 7).

Some nurses who worked as part of an established MDT valued the importance of discussing their management plan with their GP colleagues and the opportunity for case review for critiquing clinical practice.
It allows us to titrate the insulin and then task the Dr what you have done and why... we can take any concerns back to our clinical committee and they help us with the standing order (Nurse 1).

Secondary Care Clinical Nurse Specialist Support

Some of the nurses worked in practices where the secondary care Diabetes CNS worked closely with the practice nurse, holding planned collaborative clinics and reviews, whereas others referred patients or only made contact as required. More than half of nurses had structured fortnightly scheduled contact with a CNS. Some nurses also valued the ability to contact the CNS if they had any issues arise between clinics.

It’s been really interesting watching how we have- the whole practice has grown with the start of the clinical nurse specialist. I would be devastated if they took that away from us (Nurse 4).

The majority of nurses receiving diabetes CNS support in their practice stated that this was the most valuable resource they could utilise in their role to increase their confidence. They acknowledged that, through the CNS support the whole practice team had grown in their confidence to manage their patients with a diagnosis of diabetes. The nurses who had regular CNS contact described the value of this, including how their patients benefit from the level of care they are consequently able to provide.

I have learnt from the [diabetes CNS’s] because we can relate it [the learning] to practical incidences...I love that [diabetes CNS] comes here and talk to us every fortnight, I think that is lovely having case reviews. I think that is extremely helpful (Nurse 1).

They felt that the GPs’ also effectively utilised the CNS resource through the increased knowledge and confidence of the practice nurses. Respect for the practice nurses from medical colleagues was reported by two of the nurses interviewed and both of them stated that they thought this had come from having a diabetes CNS working alongside them to develop their knowledge and skills.
4.4.2 Lack of influence in care delivery

Nurses discussed feeling frustrated at not being influential or included in the planning of service delivery. They saw nurses as being able to provide a key way to improve quality of care delivery but did not feel they were valued in this role. Nurse 7 said:

*I know what needs to be done but it takes more than me to do it, so it’s about doing these quality improvements ... if you invest in the value of nurses being able to deliver a lot of that stuff then you know I do believe that you are going to improve the quality* (Nurse 7).

The nurses acknowledged that many of the practices were private businesses and that this delivery model was perhaps not as concerned with patient outcomes as it was with making profit. Nurse 7 continued:

*I sometimes think they just think it’s like a conveyor belt, push, push, push and general practice is a little bit of a mish mash of, well it’s public funding then there is the private ownership and ours is owned by a big [corporation] (Nurse 7).*

Nurses felt frustrated that, although they were being held responsible for diabetes care delivery, they were not included in discussions about how to deliver or structure this care. A number of nurses described some of their own, personal ideas and suggestions about how service delivery could be improved to better enhance the care of the patients. They believed strongly that developing service models that decreased costs to patients, and allowed for more nursing time with patients, would improve quality of care and outcomes. For example:

*A lot of our people can’t afford it and that’s one of the things, as we are in [suburb], you just want to remove that barrier even if it’s just for a short time and they can get some idea [of the care available] (Nurse 7).*

The structure of delivery was commonly referred to as being a barrier to effective care. Nurses believed they needed new service plans to meet the needs of patients. They wanted more input into how funding was utilised, when clinics were offered, and the time given to planning and implementing care. Most described the inadequate system of routine three monthly recalls for patients. A few of the practice nurses stated they felt that this process needed to be
individualised as they felt the recall process was often either too frequent for some, or too spaced out for others. One practice nurse reported diabetes recall being:

At the doctor’s discretion. She continued, There is not much consistency. Like people are either over-tested or under-tested quite frequently that can be seen here, depending on the doctors we have got, we have both extremes here (Nurse 6).

4.4.3 Time

All nurses felt that lack of time was a barrier to their providing effective diabetes care. Some nurses were highly aware of the increased prevalence of diabetes in their practices and their inability to spend quality time with all the patients. Others acknowledged diabetes care was only one part of their larger role as a general practice nurse in the practice. All nurses stated that they believed more time could be allocated to spend on diabetes care and management. One of the practice nurses had gone as far as researching what are the recommended Full Time Equivalent (FTE) hours that should be allocated to the role, based on the number of patients in the practice with a diagnosis of diabetes. She explained:

I went to [a] diabetes conference, I asked a lot of people [about] the numbers of patients they had with diabetes and hours they were allocated, and it seemed to be for every one hundred patients with diabetes you need four hours per week…so for my four hundred patients I should have two full days. I have been pushing that button thinking my half day doesn’t cut the mustard (Nurse 2).

Of these responses, most of the nurses reported not having a formal allocation of time in their week for diabetes care. They just deal with patients as required.

It’s a matter of having to really. Sometimes you will book them in when you are working in other areas to come and see you (Nurse 3).

The remaining few nurses ranged from having one half day allocation to two full days per week dedicated to diabetes. Nurses believed that if they had more time allocated to providing diabetes care they would be able to plan, deliver and provide support for patients between appointments, and chase those not attending routine appointments. Time to provide well
planned care that is tailored to the needs of the individual patient was discussed by many of the nurses as being the major barrier to efficient diabetes care delivery. As Nurse 1 concluded:

*More flexibility with our appointments...it’s by time and GP availability as well. I would love to go more into the evenings as I think that would be more helpful for a lot of our patients (Nurse 1).*

### 4.4.4 Nurses’ Confidence

The majority of the nurses believed their confidence to provide adequate diabetes care was lowered due to their lack of experiences with diabetes management. Other nurses described feeling less confident with care of patients with Type 1 diabetes, children with diabetes, and patients on pumps. Nurse 2 explained:

*I don’t think I am an expert; I don’t know much about pumps and we only have a few Type 1’s which are adults, I think there are a couple of kids that I think that you guys still certainly see them, they pop in and out. Type 2’s are my comfort zone (Nurse 2).*

A few of the nurses described their lack of confidence with starting patients on insulin as this was not something they were expected to do in their usual practice. Many identified the strategies they had in place to address areas in which they lacked confidence, including recourses that could be utilised by the nurses to enhance their confidence. They specifically discussed their working experience and years in their position. One of the nurses admitted to: “losing sleep worrying about patients” (Nurse 4), when she first started in the role, but was now more confident, predominantly as a result of working with the diabetes nurse specialists.

### 4.4.5 Lack of Individualised Care

Three of the nine practices represented by the interviewed nurses offered flexible clinic times for their patients, aiming to provide more convenient appointment times for patients to attend. The nurses interviewed from these practices reported that they were involved with the implementation of this strategy. One of the practices offered a late-night clinic on a Thursday evening, which was reported to be popular. The nurses indicated that offering more flexibility, including weekend appointments, would possibly increase their ability to deliver diabetes care as patients would not need to take time away from work and this would help improve their care.
Other nurses acknowledged that there are a number of socio-economic factors influencing patients’ ability to attend clinics and they thought that their clinics did not meet the needs of these patients, ultimately having an effect on the patient’s ability to self-manage their diabetes. Nurse 4 reported:

*There are those ones that we can’t reach, that we just can’t get. And you know sometimes it is not necessarily that they are non-compliant but they have got jobs, that they can’t get in with an 8 to 5 clinic. They would like a weekend [appointment], you know and you just don’t fit their needs really (Nurse 4).*

Being able to identify this barrier, yet not having the resources available to assist their patients in removing them, was perceived by the nurses as a barrier to providing effective diabetes care.

### 4.4.6 Patients

**Nurse-Patient Relationship**

A strong relationship between the nurse delivering diabetes care in and the patient receiving it was a key theme the practice nurses identified as influencing the effective delivery of their care. The key aspect that most of the nurses referred to here was that the patient needed to gain confidence in the nurse’s ability and build trust. The nurses commented that, despite not always being able to treat a patient to reach the desired target HbA1c level, the key was to establish confidence, rapport and trust so that over time this could be worked on. Nurses described keeping an: “open-door” (Nurse 8) for patients, and the importance of opportunistic care to help build trust and confidence over time.

*It’s making relationships with these people so that they trust you to do this sort of thing really I think (Nurse 3).*

A few of the nurses also discussed the importance of the patient’s relationship with their family members, especially those living in the same house, and also the relationship the family had with the practice nurse. Family confidence and trust in the healthcare provider was discussed as an important factor influencing the nurses’ ability to provide diabetes care. Due to the impact of lifestyle on the patient with a diagnosis of diabetes, nurses reported the importance of engaging the whole family. Inviting patients to bring a support person to their appointments was a point that two nurses suggested as being useful for building the confidence and trust in
the patient-family-nurse relationship: “It’s amazing the opportunity for better intervention is with the child and the whole family [are involved]” (Nurse 7).

Health Literacy
A number of nurses interviewed discussed their patients’ health literacy as being a factor influencing their ability to deliver diabetes care. This was commonly discussed in the context of their practice populations being: “high needs” (Nurse 7). The nurses discussed health literacy as something that is not necessarily well addressed for their patients. Nurse 2 suggested:

But it’s very hard to help patients to understand, sometimes, with diabetes, as it’s a long time before they feel unwell...it’s quite difficult to find that key or that motivator to take on board the information that you are trying to share with them (Nurse 2).

Not being able to cater and provide diabetes care for patients with varying degrees of health literacy was an important factor acknowledged as impacting on the nurses’ ability to provide effective diabetes care.

4.5 Conclusion
As outlined above, the findings from the interviews show there are multiple factors that influence practice nurses’ perceptions of delivering diabetes care. These factors are all significant and can have inter-related effects. Although the details and importance of each factor may differ amongst the nurses, all of the influences combine to build an overall picture of their perceptions and the impact that these have on their everyday practice and ultimately patient health outcomes. The following chapter will examine the key findings discussed above in more detail.
Chapter 5
Discussion

5.1 Introduction

This chapter will discuss the dominant themes identified in the findings and examine them in context of the relevant literature. All of the themes discussed paint a clear picture of an overall lack of consistency and structure within the planning and delivery of diabetes care to patients across both primary and secondary healthcare services. They are discussed separately but all combine to illustrate fragmented and inconsistent diabetes care for patients in the Hawke’s Bay region. To begin, the first theme discussed is the perceptions of the practice nurses’ role in providing diabetes care, including their title and definition within their respective practices. Secondly, the nurses’ perceptions of what constitutes effective diabetes care will be discussed. This includes the measures used to evaluate effective care, models of diabetes care delivery, and issues regarding patient influence on their care. The last theme focuses on key factors the nurses perceive to influence their ability to provide diabetes care. These include their employers, MDT, time, and the nurses’ confidence. The potential implications of these findings for the practice nurse delivering diabetes care will be discussed for each theme.

5.2 Perceptions of the role of the practice nurse providing diabetes care.

The practice nurse role in providing diabetes care to patients in the primary health care setting has evolved over the past decade as the number of people diagnosed with diabetes in New Zealand has continued to grow (MOH, 2015). This research has identified large variability in the configuration of practices, responsibilities, roles and titles of primary care nurses and therefore the delivery of diabetes care.

It was evident throughout the interviews that the role of providing diabetes care lacked clarity, and there was no structured approach to what the role should include, how to measure effective care and how to monitor this. This inconsistency and lack of clarity has implications for the role of the practice nurses providing diabetes care and the quality of care they can provide. The absence of defined roles and consistency of practice in diabetes care may lead to inequities of care and can be viewed as a serious shortcoming for nursing care. The NDNKSF (Aotearoa
College of Diabetes Nurses, NZNO, 2018) was developed in 2009 and updated in 2018 and aimed to standardise diabetes care and enhance patient outcomes. This framework identifies practice nurses as the “key providers of diabetes clinical care and education” (Aotearoa College of Diabetes Nurses, NZNO, 2018, p. 4). Despite this, none of the nurses interviewed in this research acknowledged or referenced this framework. The NDNKSF (Aotearoa College of Diabetes Nurses, NZNO, 2018) was developed as a tool in NZ “to assist Registered Nurses to evidence that they are competent to provide the required care and education for the person with diabetes and related co-morbidities, regardless of their practice setting” (Aotearoa College of Diabetes Nurses, NZNO, 2018, p. 6). This framework is specific to NZ legislation and nursing competencies and it has been developed to complement these competencies. This research did not specifically assess the barriers to the utilisation of this tool, it merely identified it is not being utilised. Future research in this area exploring the barriers to its use would be useful.

Gucciardi et al. (2016) state that completely understanding one’s own role and the roles of others is essential to provide effective care to patients. When this role definition is not established team members are not utilised to their potential and the misuse of professional skills is a result, ultimately decreasing care value and effectiveness. Jennings (2010) evaluated the impact that a practice nurse with a special interest in diabetes can have on the role and the care provided. Jennings found that, as a result of role definition, the wider practice staff were more empowered to provide diabetes care (Jennings, 2010). Heale and Buckley (2015) also acknowledge that globally there is a lack of understanding and regulation of advanced practice nursing roles and identified variance in education requirements and regulation and scope of practice. In Jennings’ (2010) study, nurses in advanced roles identified a number of common themes that they felt prevented them practicing to full potential. These included the under-representation of a nursing voice in health policy development, the differences in financial remuneration for writing prescriptions for patients, the lack of title protection, lack of regulation, and the supervision requirement. A number of these themes also emerged in the findings of this research. The frustrations verbalised by some of the nurses, as they described their lack of input into the structure of the diabetes care they are providing, may be a direct consequence of the lack of role definition and disparity in titles. Their titles as practice nurses may directly shape their perceptions of the care they are delivering and the factors that are influencing it. Other studies, including those focused on diabetes, have found that care delivered by nurses compared to doctors may produce similar if not slightly better health outcomes for patients (Laurent et al., 2019). This highlights the need for role and title definition
by the utilisation of a framework to guide nurses to assess and advance their practice and for organisations to recognise the importance of developing advancing nursing roles.

The importance of the primary healthcare team providing long term condition management, including diabetes care (Hollis et al., 2014), has been recognised and is a concept that has been adopted and utilised in NZ and globally. The practice nursing role is crucial in this care delivery as nurses are the largest employed profession in the team and are required to meet the demand of the increasing diabetes population. The delivery of diabetes care by primary care has been evaluated by many countries, however, much of the research is based on the evaluation of patient outcomes, not provider outcomes (Gucciardi et al., 2016; Browne et al., 2016; Sher & Lipman, 2015). Lack of clarity of nursing roles may also result in lack of understanding from the wider multi-disciplinary team. Therefore, the importance of role definition for nurses, based on a recognised and robust framework, is essential at the delivery of care level as it impacts on team collaboration (Jutterström et al., 2012; Gucciardi et al., 2016).

Nurses have the potential to make a significant long-term impact on the health outcome of their patients by establishing a therapeutic partnership with them (Aotearoa College of Diabetes Nurses, NZNO, 2018). Some of the biggest influences on the nurses’ ability to succeed in their roles are based on them having a recognised fundamental knowledge of diabetes, being competent to perform in their role and having confidence to provide diabetes care (Aotearoa College of Diabetes Nurses, NZNO, 2018). Without formal assessment of individual nurse’s knowledge and skills and a clear professional pathway, the ability of the nurses to know what is required and to be confident in their role in providing patient-centred diabetes care can be compromised (Jutterström et al., 2012). In this study the nurses’ perceptions of their roles were individualised and all based on different influencing factors as outlined in the findings.

The nurses in this research had varying roles. They believed this influenced how their role was viewed and utilised by other team members. For example, some nurses planned and implemented care and treatment regimes using GP support as a sign off, whereas others had no influence in this aspect of care and their role was to complete diabetes reviews and provide patients with basic education. The NDNSF advises that, following formal assessment of the knowledge and skills, a practice nurse has an assessed level of knowledge regarding diabetes. These are “All Nurses, Proficient, and Specialist” (Aotearoa College of Diabetes Nurses, NZNO, 2018, p. 10). With regards to the titles the participants held, there was no clear rationale for why they were given a particular title, and many felt, instead, that they were there only because
there was a vacant position. The formal recruitment of nurses to provide diabetes care, delivered by practice nurses based on specific education, knowledge and skills, was not evidenced in the findings. Also, very few of the nurses interviewed described plans for undertaking formal education in the future or developments to progress to expert level. These findings suggest that there may be limited development of practice nurses moving into advanced roles due to the lack of support and formal pathways. This was also found in research conducted by Hollis, Glaister and Lapsley (2014), who identified the importance of enhancing knowledge and skills, and providing formal diabetes training for nurses in the primary care setting delivering diabetes care. Formalising education for practice nurses may better enable them to provide improved diabetes care encouraging patient self-management, a national health priority in NZ (MOH, 2016b). A lack of structure in health services and insufficient ways to measure care quality of care have been found to contribute to ineffective care delivery (McHugh et al., 2011). These authors challenged health professionals to employ quality assurance measures in their practice and to make these their own responsibility.

The importance of collegial support and mentoring for empowering skills and knowledge was a key finding in this research. Gucciardi et al. (2016) outlined the advantages for healthcare professionals of delivering care as part of an integrated team. These included the enhanced learning and knowledge for health professionals as well as the benefits of effective co-management of care and consistency of messages to patients. Wilcox et al. (2007) acknowledged the importance of the support practice nurses receive from GPs, recognising it as being an essential component of successful diabetes care delivery.

5.3 Perceptions of effective diabetes care.

5.3.1 Measures

All of the nurses used the measure of HbA1c and the DAR to measure the effectiveness of their care. None of the nurses identified the prevention of long term complications from diabetes as a measure of the effectiveness of care. The nurses were all responsible for carrying out Diabetes Annual Reviews (DARs) for patients with diabetes. Completion of DARS is an important aspect of how primary care providers obtain funding from the PHO for their diabetes care. In Hawke’s Bay, funding is given on the completion of DARs, and is not dependent on the outcome (in this case, for example, on improvement or target HbA1c), nor is the outcome of care measured (Kenealy et al., 2012). Many of the nurses perceived the process of completing DARs for their
patients as a ‘tick box’ exercise. Much research to date has found the benefit of funding linked to patient outcomes and quality of care rather than data collection (such as DARs) (McHugh et al., 2011; Forbes, Marchand, Doran & Peckham, 2017; McClellan et al., 2014). Kenealy et al. (2012) conducted research to examine if the DAR process lead to improvement in patient clinical measures in NZ. The research found that, although there were improvements in clinical measures including HbA1c, BP and lipids over time, these improvements were likely to be independent of the DAR. The researchers concluded that the current system of paying primary care practices to complete the DAR may not be the ideal for promoting improvements in clinical measures, and suggested that, if practices were provided with payment for making changes in clinical management and achieving clinical goals, the DAR may have improved clinical value. In comparison, however, a recent systematic review of effectiveness of pay for performance based framework only found modest improvement in diabetes care (Forbes et al., 2017) There appears to have been no recent research to evaluate if such changes in funding structure would be beneficial in either Hawke’s Bay or other parts of NZ, and future research may explore this to help understand what models of care are more beneficial to patient outcomes. This research established that the DAR system remains in place unchanged from 2012 when Kenealy et al. explored its potential impact on improving clinical outcomes for patients. The findings of this research indicate that for some nurses the DAR is a ‘tick box exercise’ to ensure the practice receives funding for care provided. This care is not necessarily based on if the patient achieves measured clinical outcomes.

5.3.2 Models of care delivery

This research highlights the considerable variation in the care services patients have access to, which appear to depend on the primary care practice in which they are enrolled, even within the same PHO and region. This is evident through the nurses’ descriptions of the resources they have access to in their roles, and the structure of the practice in which they are employed. The nurses participating in this research acknowledged specifically that diabetes care was only one role of many that they were expected to fill. There were no formal tools identified by the nurses that they could use to determine how much time should be dedicated to providing diabetes care. This research found time allocated to diabetes care and planning was undefined and allocated differently by each practice. It suggests there is no consistency between the number of patients with a diagnosis of diabetes and the time given to the nurses to provide care, or for the structure or support necessary. It appears there is no literature available to support or refute the use of a framework or tool to calculate these decisions for practice managers and those responsible for planning care.
Collaborative and integrated models of care are aimed at improving health outcomes for patients with diabetes through improving access to services, improving patients’ ability to self-manage their diabetes, and improving support. Cumming (2011) however, evaluated integrated care in NZ and, rather than finding co-ordinated, smooth and continuous care, instead found “highly fragmented, poorly co-ordinated services” (Cumming, 2011, p. 1). The nurses interviewed for this research also demonstrated marked variation regarding the interactions they had with the regional specialist service, including Diabetes CNSs. Currently, the support offered to primary care teams by the specialist service in Hawke’s Bay is undefined and practices are able to use this as they require. This ranged from phone contact as required, to nurses having regular weekly contact with a diabetes CNS, including case review time, and formal CNS clinics offered to patients in the primary care practice. Again, these differences appear to have no direct correlation to any attributes of either the practice, the primary care nurse delivering diabetes care or the patient population. The participants who had regular contact with a CNS described the benefits of this, specifically related to improved patient care and increased knowledge and skills of the primary care diabetes team, including nurses and GPs. This model of integrated care between primary and secondary healthcare sectors has been supported by the literature (Mitchell et al., 2015), however, recent formal evaluation of the model specific to the area of Hawkes’ Bay has not being conducted. This also illustrates the potential variation in care delivery standards for the patients accessing care, including reduced access to those nurses in rural settings as was one of the findings of this research. Cumming (2011) discussed integrated care in NZ, acknowledging at the time of her research that there was a significant need to foster integration of care for patients between primary and secondary care services. Having diabetes CNS support in primary care in this region has been a step towards integrated care. Advances in technology may assist in improving secondary care support and accessibility for rural practice nurses. Wright and Honey (2016) explored the experiences of nurses in rural NZ using this technology. They identified that nurses utilising this technology achieved more timely and accessible care for patients and increased access to specialist support.

5.3.3 Cultural Issues

The findings of this research suggest that diabetes care is delivered differently for different ethnic groups, particularly Māori, by the primary care nurses raising issues of cultural competence and providing culturally safe care. Some participants discussed Māori patients as less compliant, so therefore they were not meeting targets of care. These nurses perceived this had nothing to do with their delivery of care but, instead, was the fault of the patient. It is well
acknowledged that there are disparities in access to care and health outcomes, including shortened life expectancy for Māori people in New Zealand (Aotearoa College of Diabetes Nurses, NZNO, 2018). The Quality Standards for Diabetes Toolkit (2014c) states that Māori people are three times more likely to develop diabetes than non-Māori populations, and death rates from diabetes and related complications are nine times higher for Māori. Health equity is at the forefront of the health obligations set out in the Treaty of Waitangi, and cultural competence is a requirement that all nurses must continue to develop and illustrate within their practice throughout their careers (MOH, 2014c). These findings suggest these obligations are not being met and this is an area that requires further research and urgent attention. There are a number of guiding documents in New Zealand that aim to help design and deliver diabetes care specific to populations in a culturally safe manner, including: The NZ Health Strategy (2016); The Living Well with Diabetes Plan (2015); The Māori Health Strategy (2014b); ‘Ala Mo‘ui’ Pathways to Pacific Health and Wellbeing (2014a), and The Quality Standards for Diabetes care toolkit (2014c). Came, Cornes and McCreanor (2018) examined NZ public health policy published between 2006 and 2016, focusing on how The Treaty of Waitangi was represented in policies. They found that only twelve out of 49 public health strategies and plans published between 2000 and 2016 referred to The Treaty of Waitangi. The main documents that guide services and practice nurses delivering diabetes care to patients in NZ, including the Living Well with Diabetes Plan (2015) and corresponding Toolkit (2014c), do not address the obligations of the Treaty of Waitangi. Ensuring diabetes documents align with Treaty of Waitangi obligations may be one of the first steps required in strengthening the cultural competence of practice nurses and the wider health workforce, to ensure care is delivered in a culturally competent manner and health inequalities and disparities are reduced.

5.4 Factors perceived to influence care.

There were a number of key factors the nurses described in their interviews that had an influence on their ability to deliver effective diabetes care. Time was a key factor, and the majority of nurses voiced frustration of not having enough time to provide effective care. Other factors included the structure of the practice and role as perceived by colleagues, patient influences, and the nurses’ own confidence. These factors were all described by the nurses as directly affecting their role and their ability to fulfil it, therefore they are important considerations to discuss. Specific to NZ, Lillis et al. (2008) acknowledged that health care professionals in the primary care sector felt the diabetes care they were providing was
ineffective and inappropriate. Some similar themes have been identified in this research regarding barriers to providing effective care.

5.4.1 Time

Time was identified as an important barrier to providing effective care by some of the nurses. They spoke of not being able to follow-up people to review blood sugar levels, titrate insulin doses or try to contact people who did not actively seek their assistance or attend regular appointments. Nurses also acknowledged that more complex patients needed more time spent with them and this needed to be individualised to each patient. The nurses believed that if they had more time, and flexibility around time, they would be able to provide more effective care to patients. Aotearoa College of Diabetes Nurses, NZNO (2018) acknowledges the long-term nature of diabetes and importance of having developing an effective therapeutic relationship. This approach therefore is dependent upon the nurse having adequate time to provide the care required. Enhancing and planning care to the best of the nurses’ ability, and with confidence, may assist with the perceived time barrier for the practice nurses. Weeks et al.’s (2013) evaluation of the DCCRA tool, to measure the capacity that healthcare providers have to deliver diabetes care to patients, as discussed in the literature review, may be an example of how a service evaluation may be useful in formally identifying the impact that insufficient time allocation has on diabetes care co-ordination and practice nurses ability to provide effective diabetes care to patients. Kenealy et al. (2004), some years ago, also reported the issue of time as a barrier for nurses providing diabetes care in NZ in the 1990’s. These researchers acknowledged that, when this research was conducted, relevant health statistics were indicating that the number of patients with diabetes was increasing. However, there was no corresponding increase in the allocation of hours within their practices. There appears to be a need for the identification of how time is best allocated to provide diabetes care to patients based on individual patients need. It is recommended that this is investigated further and evaluated by future research.

5.4.2 Patient Influence

The ability of the nurse to provide effective diabetes care was perceived by the nurses to be influenced by a number of patient factors including their engagement with the service, health literacy and own perceptions of what having diabetes meant. The nurses interviewed in this research emphasised that they perceived the effectiveness of diabetes care they were providing
was largely shaped by the patient. Many separated their patients into two main categories, labelling them ‘compliant’ or ‘non-compliant’. The nurses implied that this was due to the individual patient, not the service they were receiving. Some nurses discussed how the way they were delivering diabetes care may not be suitable for everyone needing to access diabetes care in their practices, and that there was a need for more individualised care to meet the needs of those who were employed or did not have access to reliable transportation. Some nurses also voiced their frustration at having identified this issue but not being able to address it or have input into care delivery systems employed by their practice to influence change. Patient self-care has been acknowledged as having many benefits for both the patient and the healthcare system (MOH, 2016b). Although NZ health legislation guides supporting patients to self-manage long-term conditions (MOH, 2016b), population-based research specific to population groups and ethnicities would potentially provide better understanding of how care models can be better and more culturally appropriate.

Although the health literacy of patients was identified as a perceived important influence on diabetes care, no nurse discussed doing a formal assessment of health literacy as part of their approach to delivering diabetes care. Health literacy is defined as “the degree to which someone has the capacity to obtain, communicate, process, and understand basic health information and services to make appropriate health decisions” (Centres for Disease Control and Prevention [CDC], 2016, as cited in Watts, Stevenson & Adams, 2017, p. 25). Watts, Stevenson and Adams (2017) concluded from their research, that it was important for nurses delivering diabetes care to acknowledge, address, and customise care to their patients assessed ability and health literacy level. They recommended the use of tools for assessment and delivery of care aimed at increasing quality of life and enhancing patient care outcomes, specifically through lowering the risks of hypoglycaemia and hospital admissions due to ineffective care delivery. Utilising tools to assess health literacy and guide care delivery should be considered by nurses as a way to individualise diabetes care and guide care delivery.

5.4.3 Confidence

The nurses interviewed felt that, overall, they were confident to provide effective diabetes care. They felt confident in establishing and building trust in the nurse-patient relationship. Many of the nurses attributed their current level of confidence as being due to the number of years they had been nursing. Others described the past and present collegial influences and the knowledge that they had built through teaching and mentoring helped their confidence. Many of the nurses referred to the presence and support of the diabetes nurse specialist in their practice, and how
this had contributed to their learning and confidence. Many of the nurses also identified areas of their practice where they lacked confidence, particularly with patients with Type 1 diabetes, caring for patients on pumps and children. Overall the nurses described their confidence as highest when delivering care to patients with Type 2 diabetes and this is likely due to these being the majority of patients in their care. The MOH (2015) estimates that approximately 90% of people who have a diagnosis of diabetes in NZ have Type 2 diabetes. Hollis, Glaister and Lapsley (2014) explored practice nurses’ knowledge and skills in Australia and identified that practice nurses were lacking knowledge in areas, impacting on their ability to provide effective care to their patients. These researchers recommended structured education to increase confidence providing care. O’Neill (2014) also highlighted the need to educate practice nurses based on a specific competency framework to standardise care for patients. This research acknowledges the variance of diabetes care being provided by practice nurses in the United Kingdom. O’Neill (2014) concluded that increasing skill and knowledge correlated positively with increasing confidence of the practice nurses. The implementation of a framework for knowledge and skill recognition and development through structured education would be useful to help identify and address the areas of care in which the nurses lack confidence. This would be an important consideration for practice management, as increasing nurses’ confidence levels ultimately influences their ability to provide effective diabetes care. It would also help to standardise knowledge and skills, both of which may contribute to better diabetes care for patients.

5.5 Reflection

Reflection on one’s nursing practice is a process critical to clarify perspectives and enhance personal growth. My position as an ‘insider’ in this research project has highlighted the importance and significance of this, as I have continually reflected throughout this project. I will describe to the reader my journey of reflection, the techniques used, and how the issues that arose were addressed in regards to my own nursing practice.

Through acknowledging my position as an ‘insider’ in this research I have outlined specific ways in which the reliability and validity of my research findings were ensured. Remaining transparent throughout the research process was a key objective. The methods I have used to ensure these include reviewing of raw data, cross checking of the themes with my supervisors, and following the general inductive approach to data analysis to ensure a transparent process.
Initially I was concerned, as some of the nurses who expressed an interest in participating in this research were part of the diabetes team within practices I regularly visited and provided clinical support. I discussed this with my supervisors and ensured any concerns I had around this were addressed. I ensured all of the participants of the processes I was employing to maintain the anonymity and confidentiality. I didn’t want the nurses to feel they couldn’t say what they wanted to in the interviews in fear of the existing relationship. I found that this research process has enhanced my confidence and added validity to my role supporting practice nurses in the primary healthcare setting.

There were a number of hurdles that I came to throughout the process of this research. This is the first research project I have undertaken and with that I found it difficult to sit down with nurses and ask them the interview questions. Part of this was the unknown of how they may respond to my interview questions.

To prepare myself for this I piloted the interview questions with my colleagues and a nursing friend. This certainly helped. Taking notes throughout the interviews, even though they were audio recorded, helped me relax and feel less nervous. These notes were helpful in the transcription process. Some of the interview questions I asked the participants elicited answers directly regarding the value of my role, and I had to be prepared for the nurses honest opinions of this. I was continually referring back to my aim for this research to understand and evaluate how diabetes care is being delivered within the Hawkes’ Bay region and how the practice nurses are delivering care to their patients diagnosed with diabetes based on the resources available to them and differing practice structures.

Although the general inductive approach to data analysis, described and outlined in the Chapter Three was followed, there were still a lot of sub themes from my research that I found difficult to put under one theme. This is identified as a potential issue in this method and the outlined processes for the occurrence of this were followed until the subthemes were clear. There was overlapping in these, especially around the difference between the nurses’ perceptions of effective diabetes care and the factors that influenced care. Going through this with my supervisors and rewording some of my theme headings as well as clearly defining them in my head specifically what I meant by these, was helpful. This was particularly beneficial in differentiating between the nurses role and title. Initially these were considered similar however interpretation of the themes identified these had very different meanings. I continually returned to my aims and objectives of this research to help me with this aspect also.
Throughout this research I have kept a record of my journey. This assisted with clarifying of my position within the research and also kept my focus on the aims and objectives I had planned to achieve. I was aware that my role gave me some insights, as well as preconceived ideas, about what I might find out from the nurses, however, due to having no previous working experience in delivering care in the primary healthcare setting I also learnt a lot from the nurses. The planned the questions influenced the information I obtained in the interviews. However, I also included the opportunity for the nurses to discuss anything else with me at the end. Just over half of the nurses chose to do this and some used this as another opportunity to reiterate and reinforce what they had already told be me. I am confident that overall, being an ‘insider’ in this research has been an advantage and any potential negative effects have been addressed. I believe that my perspective has added to the depth of the findings and validity of the research.

I was aware that my professional relationship with some of the participants could impact on their response to some of the questions and I did not want to lead participants into answering the questions how they thought I would want them to - I wanted their own perspective, expectation and experience of providing diabetes care. One of the biggest realities I have been faced with in this research is the lack of structure and variance in diabetes care that the patients have available depending on where they are enrolled to receive primary healthcare services. It has evoked further questions regarding my role. It has been influential in providing me with insight into my own service structure and practice, asking questions regarding the diabetes nurse role definition.

I feel that conducting this research has got me asking more questions than it has provided answers. It has looked into one aspect of diabetes care in the Hawke’s Bay region but more is required. Though diabetes care provided by primary care teams is not a new concept, an understanding of processes and their variability within this region remains acknowledged but poorly understood. How secondary healthcare services influence this is also touched on but not well investigated in this research. I feel it has been incredibly valuable and a privilege to investigate diabetes care delivery from the practice nurses perspective in Hawke’s Bay. Their voices and opinions are essential to their role development, and a valuable part of influencing patient health outcomes. I hope this research may contribute to formal recognition of their knowledge and expertise, and provide a grounds for supporting future role development. This will be beneficial for both the nurses and the patients.
5.6 Conclusion

Practice nurses providing diabetes care in Hawke’s Bay have varying perceptions of their role. This is influenced by a number of factors including their title, education and employment setting, as well as how their colleagues perceive them. Formal recognition of the nursing role within the primary care diabetes care team is essential, and potentially impacts on both the nurses’ perceptions of the effectiveness of care they are providing and the influences on care. As discussed, support for the implementation of a framework to recognise and develop the role of the practice nurse providing diabetes care could also enhance patient health outcomes. There are no easy solutions for the issues discussed in this chapter. Many of them are a result of multiple influences of the healthcare system on the nurses role and ability to provide care. This discussion has considered the findings of this research, with reference to the literature, and their implications for the practice nurse providing diabetes care. To ensure patients are receiving a recognised standard and quality of diabetes care there are a number of issues that need to be addressed. This will potentially help decrease the burden of diabetes related complications on both individual patients and the healthcare system. The implications and recommendations will be expanded on in the following chapter.
Chapter 6
Conclusion

This research is the first to focus on the perspectives of practice nurses delivering diabetes care to patients in the primary healthcare setting within the geographical area of the Hawke’s Bay region of NZ. It reports the perceptions of these nurses, including their experiences of delivering care, and the influences that both facilitate and are barriers to that care. These practice nurses are representative of the largest group of health care professionals responsible for delivering diabetes care to patients. Their perspectives have implications for healthcare services at both a primary and secondary care level, and health services policy and planning. This chapter will conclude the key findings and issues identified, the literature of relevance, the rationale for undertaking this research, and the processes followed. Following this, the key implications for providing diabetes care will be discussed along with recommendations for future research.

Using a qualitative approach to the research involving semi-structured interviews, I was able to gather detailed descriptions of perceptions, experiences and expectations from a range of practice nurses providing diabetes care in Hawke’s Bay. The nurses were interviewed individually, face-to-face, over a four month period in 2018. This research provided rich data which was analysed for themes and these findings were then discussed in the context of current literature. My role as an ‘insider’ in this research has enhanced my ability to analyse the findings and discuss them in the current context. This process has also assisted in my own personal reflection and perceptions of my role and practice. As outlined, care was taken throughout the research process to ensure transparency, and through this consideration I believe the validity and reliability of this research has been enhanced.

6.1 Implications for Nursing Practice

6.1.1 Role

The findings of this research clearly illustrate the diversity and lack of commonality and structure in both the titles and roles of practice nurses providing diabetes care in Hawke’s Bay. This may be due to the history of how the role of the practice nurse providing diabetes care has evolved out of immediate need, rather from policy or deliberate planning, implementation and
recruitment. The literature emphasises the benefits and importance of clear role definition for all members of the care team when providing a model of integrated care for long term condition management. The range of care delivery practices and role structures was evident, and depended on many factors such as the nurse’s experience and education, and the support of her employer, GP(s) and other multidisciplinary colleagues such as the specialist service diabetes Clinical Nurse Specialists. Geography also had an impact, with nurses practicing in areas furthest from the secondary care base describing different factors influencing their role. The lack of a structured framework in use to provide role definition for practice nurses was also a key finding of this research. Both the literature and the findings of this research indicate the importance of clear role definition for nurses, with added benefits for diabetes care teams and patients. The utilisation of a framework could give nurses clear role definition based on an assessment of their existing knowledge and skills and also provide a clear pathway for developing their role in the future. This would include advanced nursing roles and the potential impact of nurse prescribing within primary care teams. The positive implications of utilising a framework such as the NDNKSF (Aotearoa College of Diabetes Nurses, NZNO, 2018) specifically developed for use in the NZ healthcare setting, would address this.

6.1.2 Effective Care

There is an urgent need to provide structured, measurable care to patients to ensure standards are met and equitable care is being delivered to meet the needs of the population and ensure the best health outcomes are being achieved for all. This begins with addressing a number of key issues identified by the nurses interviewed in this research. These relate to the wider healthcare service, including the secondary healthcare sector providing support to primary care teams to deliver diabetes care. This relationship should also be acknowledged and considered, to guide specific changes to enhance practice and support integration of services.

The diversity of nurses’ perceptions of what constituted effective care was illustrated in the findings. The only measure reported by all of the nurses interviewed was HbA1c. However, many described this as having limited value when used in isolation, and the dangers of this, describing how the other measures required consideration also. HbA1c and the prevention of complications were the quantifiable measures described by the nurses, and many used these to collate practice data specific to their patient population. Patient engagement, compliance, and access to services were acknowledged as measures that they felt they had little control over,
and were more difficult to measure in terms of evaluating the effectiveness of care. These were therefore considered less important. Obtaining funding for providing patients with a DAR was a specific aspect of diabetes care the nurses described. They acknowledged this as a key task within their role as a practice nurse but many perceived it as a ‘tick box exercise’. The review of this funding system and consideration of making care an outcome driven measured objective may improve care standards for patients. Meeting specific targets for patients based on the level of diabetes care they require may be an incentive for primary care teams to not only evaluate patient’s diabetes care through ‘ticking boxes’ but instead achieving other measured outcomes.

The literature review clearly supports the concept that long term diabetes care is best delivered to patients by their primary healthcare team. The way the nurses have described their perceptions of effective care clearly illustrate that this model has the potential to work effectively where it is well supported, and meeting the needs of individual patients. The impact of the diabetes care practice nurses is currently not formally measured within healthcare auditing. Thorough auditing and tracking of patients, including both their diabetes management and complication screening, identification and management, are recommended ways to assess care effectiveness.

Many of the interviewed nurses specifically described Māori patients as being non-compliant and not engaged with the service. They typically described this in the context of perceiving it to be a patient factor, not a service factor or related to their own practice delivery. Though acknowledging how they addressed issues for some, this was specific to a small number of individual nurse’s decisions to attempt to meet the needs of their patients. The results of this research indicate that patients may receive different levels of care depending on where they are enrolled. This also highlighted the importance of ongoing cultural competence and cultural awareness to ensure patients have access to care that is appropriate, safe and meeting a measured standard, based on their values and beliefs. Also to ensure the key principles of governing policy including The Treaty of Waitangi are being met. Although already included in the nursing education curriculum, this research suggests a deficit in nursing practice in this area, and highlights the need for more ongoing education and development in cultural safety and competence. Some nurses believed they themselves had little influence on their ability to tailor services to better suit the needs of patients, as they were not involved in service development or planning. However, many also believed that the patient was a more significant “barrier” to effective care, as they did not fit into the current system of care delivery. Tailoring the delivery
of services to meet patients’ needs, particularly in high needs communities, for example with mobile and after hour services, could enhance care delivery for patients. However, the nurses working in these areas still may require a greater understanding of the socio-economic factors influencing patients’ ability to access care.

6.1.3 Influences

The lack of time to provide care was acknowledged by the nurses as a major influence in their ability to provide care. Lack of time also impacting on the structure of care with many needing to ‘make time’ for their patients. The development of a tool to standardise time allocation would also provide practice nurses with structure to develop and enhance their knowledge and skills. Investment of both primary and secondary care teams would be valuable in this, to standardise care and ensure role definition and the responsibilities of service sectors are identified and able to be measured. This would ultimately lead to better structure of diabetes care delivery, ensuring patients had equal access to services regardless of their primary care provider or geographical location.

The variable levels of support and different resources utilised by the practice nurses was clearly identified in the research findings. The nurses described a range of influences that had impacted on building their knowledge and skills and, ultimately, their confidence and ability to provide diabetes care. These are currently undefined and unmeasured. There is no framework to guide education for practice nurses to a measurable standard. The relationships the practice nurses have with Specialist Services and Diabetes CNS’s were key issues identified by the nurses interviewed. Through the integrated care model, individual practices have access to diabetes CNSs to support their practice, however, this is utilised at the discretion of each practice, resulting in an unstructured approach that varies considerably across the region. This ultimately influences the access patients have to specialist care teams, resulting in fragmented and inconsistent care. In order to ensure equity of care, it is recommended that there be standards of care specific to diabetes management, including the requirement of a collaborative service, with clearly defined roles and responsibilities of all team members. Utilising the NDNKSF (Aotearoa College of Diabetes Nurses, NZNO, 2018) would identify gaps in knowledge of the practice nurses so that education and professional development could be provided to strengthen and enhance knowledge in specific areas.
A number of themes were described by the nurses as influencing their ability to provide diabetes care. These included support, lack of influence in care delivery, time, confidence, lack of individualised care, and their patients. These factors described by the nurses varied depending on their experience, role and responsibility, employer and patient demographic.

The lack of a specific way of providing care for those patients that they identified as not receiving effective care was evident. The nurses described the factors that they perceived to influence this. These included mainly social influences impacting on the patients inability to prioritise their own health, and their health literacy. Although influences were identified by the nurses, there were no specific or targeted resources identified that could assist both providers or patients to address them, apart from an increase in time allocation for diabetic patients. However, without thorough investigation, through a formal measure into the barriers preventing patients from engaging with their primary healthcare team to effectively manage their diabetes, it would be difficult to provide targeted resources. Patient feedback and individual care planning are two practices that would assist with this, and the consideration of an appropriate way to implement these are required to plan the future model of diabetes care delivery.

This research has captured the vast knowledge and experience of nurses providing diabetes care in the primary healthcare setting. The participants shared their experiences and a number of ways they believed their services could be improved. However, their lack of involvement in service planning meant they had little or no control over this. Their knowledge of their patients and the needs of the population to whom they are delivering care are all valuable to future service planning. Therefore it is recommended that involving practice nurses in this process is an important consideration for the future.

6.2 Future Research

It would be of interest to obtain the perspectives of other members of the diabetes care team, such as GPs and CNSs, and also the patients’ perspectives of the diabetes care they receive. This would allow for better understanding and an overview of all areas involved. Exploring how diabetes care delivery could be better standardised and evaluated across a small region like Hawke’s Bay would also be useful and would help to ensure equal patient access to care provided at the highest standard. This may also include the development or implementation of tools and frameworks to measure care outcomes. Future research may also explore what
culturally appropriate services would better meet the needs of Māori and Pacific patients and how best we can tailor services to improve care delivery and outcomes for these groups.

This research has provided fundamental knowledge specific to how practice nurses delivering diabetes care perceive their role, the effectiveness of their diabetes care, and the influences on the care they are delivering. Although it is specific to diabetes, the recommendation may be valuable for the planning and care delivery to patients with other long-term conditions. A number of recommendations have been drawn from this research, that may help to improve the delivery and effectiveness of diabetes care in Hawke’s Bay and NZ. With the projected increase in diabetes and its complications, it is important that we improve current practice in order to enhance nursing care and develop future services that improve care delivery, patient outcomes and equity of care to those most at risk.

Although this research is focussed on the care delivery for patients who have a diagnosis of diabetes, the importance of ensuring time and planning are dedicated to planning care for the population at risk of developing diabetes in the future should also not be disregarded.
References


Hollis, M., Glaister, K., & Anne Lapsley, J. (2014). Do practice nurses have the knowledge to provide diabetes self-management education? *Contemporary Nurse, 46*(2), 234-241.


DOI: http://10.1177/0145721715599268


INVITATION TO PRACTICE NURSE’S.
HAWKES BAY, NEW ZEALAND

Invitation to participate in the masters nursing research thesis titled:
“Hawke’s Bay practice nurses’ perceptions of the delivery of diabetes care”

Dear Practice Nurse,

I am conducting interviews as part of a research study to increase our understanding of how diabetes care is being delivered in our region. As a practice nurse providing this care, you are in an ideal position to provide valuable first-hand information from your own perspective.

The interview takes around one hour. I am simply trying to capture your thoughts and perspectives on your everyday practice providing diabetes care. The broad questions I am hoping to answer through the interview process are: what factors contribute to the effective delivery of diabetes care for practice nurses? What are the barriers? What recommendations can be made that contribute to the future planning and delivery of diabetes care across both primary and secondary healthcare teams?

Your responses to the questions will be kept confidential. Each interview will be assigned a number code to help ensure that personal identifiers are not revealed during the analysis and write-up of findings. There is no compensation for participating in this study. However, your participation will be a valuable addition to our research and findings assessing current practice and contributing to planning future diabetes care delivery in the Hawke’s Bay region.

If you are willing to participate please suggest a day and time that suits you and I’ll do my best to be available. If you have any questions please do not hesitate to ask.

Thank you so much,

Eve Natusch
Hi I’m Eve,

I am a diabetes Clinical Nurse Specialist based at the Hawke’s Bay Hospital. I love diabetes nursing and working with both healthcare teams and clients in the primary health care setting. I admire your work. I really hope this research will shape future care planning and delivery to our population with diabetes here in Hawke’s Bay. Thank you so much for considering taking the time to participate in this research, it is truly appreciated.

Eve
Appendix II

Information for Research Participants

Date: 14.05.2018

Project Title: Hawke’s Bay practice nurses’ perceptions of the delivery of diabetes care.

To:

Researcher(s): Eve Natusch

Affiliation: Diabetes clinical nurse specialist, HBDHB. EIT Master of Nursing student.

Description of the research:

Research Question
“What are Hawke’s Bay practice nurses experiences, expectations and perceptions of providing diabetes management in the primary health care setting”.

Aims of Study
The aims of the study are to explore practice nurses’ perspectives and experiences of providing diabetes care in the primary health care setting.

Purpose of Study
To understand the perceptions of practice nurses in providing diabetes care.
To identify the barriers to providing effective diabetes care delivery for primary health care nurses.
To contribute to the future planning of diabetes care and delivery to patients across both primary and secondary healthcare teams.
What will participating in the research involve?

Your participation in this research will involve being interviewed by the researcher at a pre-arranged time and location. The researcher will have a set of pre-prepared interview questions. With your consent, the interview will be electronically recorded on both an electronic recording device and transcribing pen ‘live scribe, echo smart pen’. The researcher may also take notes during the interview. It is estimated the interview will take approximately one hour.

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

This proposed research would be the first to explore practice nurses’ experiences of delivering diabetes care in Hawke’s Bay. This is significant given the known incidence of diabetes in the population of Hawke’s Bay and is the first step in understanding how we better support primary care to deliver effective diabetes management. This research may contribute to improving future service delivery.

There have been no significant risks identified to participants taking part in this research.

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.
- Once you have completed the research you have a two 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/whanau or other person of your choice).
- You may request a summary of the completed research.
Confidentiality:
The confidentiality of the information you provide will be maintained at all times. It will be anonymised and stored on password protected devices. Each participant will be identified by a letter or pseudonym.
Information about you will not be made available to any other people without your written consent. Data will be collected during the interview by the researcher, using a recording device and the recording will be downloaded onto the researcher’s personal laptop via USB. It will be fully transcribed and collated by the researcher using Microsoft Office Word processing and saved to the researcher’s laptop. You will not be able to be identifiable by your responses and all data recorded will be stored at the researcher’s place of work securely in a file which will be destroyed appropriately after five years.

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>Eve Natusch</th>
</tr>
</thead>
<tbody>
<tr>
<td>EIT School/Section</td>
<td>EIT Master of Illnursing student.</td>
</tr>
<tr>
<td>Work phone #</td>
<td>06 8734806 ext 5854</td>
</tr>
<tr>
<td>Mobile phone #</td>
<td>027 5418612</td>
</tr>
<tr>
<td>Email address</td>
<td><a href="mailto:eve.natusch@hbdhb.govt.nz">eve.natusch@hbdhb.govt.nz</a></td>
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</tbody>
</table>

| Supervisor Name(s):     | Shona Thompson  |
| (if applicable)         | Rachael Walker |
| Work phone #            | 06 8301443 ext 4443 |
|                          | 06 8301205 ext 5205 |
| Email address           | SThompson@eit.ac.nz RWalker@eit.ac.nz |

| Head of School/Manager  | Jennifer Roberts |
| Work phone #            | 06 8301480 ext 5480 |
| Email address           | JRoberts@eit.ac.nz |

For any queries regarding ethical concerns, please contact:
Chair, Research Approvals Committee, EIT. Ph. 974 8000
Appendix III

Research Consent Form

Project Title: Hawkes Bay practice nurses’ perceptions of the delivery of diabetes care.

Researcher(s): Eve Natusch.

I have read and I understand the information for Research Participants sheet dated 18/05/2018 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 10.09.2018.

I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the testing at any time and this will in no way affect my future 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:

<table>
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<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>I consent to my interview/activity being videotaped/audiotaped</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I wish to receive a summary of the results</td>
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</table>

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 gathered during the course of this research.

Signed:  ______________________

Dated:  _________________

This study has been approved by the EIT ethics committee on 25.05.2018 Reference # P618/04
Appendix IV

Interview questions:

1. Introduction. Please tell me a bit about yourself and your current practice nurse role.
   Specifically:
   - How many years have you been nursing?
     □ 0-5 years  □ 5-10 years  □ 10-20 years  □ 20 years +
   - How long have you been in your current position?
     □ 0-5 years  □ 5-10 years  □ 10-20 years  □ 20 years +
   - Have you done any post graduate study? If yes have you done any diabetes papers?
     □ Yes □ No
     Paper Name: ____________________________
     Education Provider: ________________________
   - What is your role title managing diabetes in the practice?
     □ Practice Nurse champion
     □ Diabetes resource nurse
     □ Practice nurse with a special interest
     □ General practice nurse
     □ Other: please state ____________________________
   - Do you know how many clients is you practice have a diagnosis of diabetes?
     □ Unknown
     □ 0-250
     □ 250-500
     □ 500+
     - What contact do you have with these clients? scheduled time allowance per week. (Please tick more than one response as appropriate, provide time in hours):
       □ Scheduling clinic time. Time: ___________ hours.
       □ Telephone review time. Time: ___________ hours.
       □ Chart review time. Time: ___________ hours.
       □ Case reviews. Time: ___________ hours.
   - Any other time allocated within the practice configuration to undertake care planning/auditing of care delivery for clients with diabetes?
     □ No other time.
     □ Scheduled time: ___________ hours.
     Activities eg. Audits:
     ____________________________________________________________
2. Can you tell me about how you became the diabetes nurse in your practice. Prompts: did you volunteer, were you asked?

3. Can you tell me about the support you receive in your role?

4. Has your knowledge and skills in providing diabetes care grown since you have been in this role? Please explain how or how not?

5. How do you assess the effectiveness of the diabetes care you are providing?

6. What do you feel are the biggest factors that influence your ability to do this role?

7. What resources do you utilise when you have a question regarding diabetes care?

8. How effective do you think clients with diabetes are being managed in your practice on a scale of 0-9 - 0 being not effectively 9 being very effectively:
   1 2 3 4 5 6 7 8 9 (circle)
   Please explain why you gave this score:

9. Can you please provide one example of what you consider to be ‘effective diabetes care’?

10. Can you please provide one example of what you consider to be ‘ineffective diabetes care’?

11. On a scale of 1-9, 1 being ‘no confidence’, 9 being ‘very confident’, how would you rate your confidence to provide quality diabetes care:
    1 2 3 4 5 6 7 8 9 (circle)
    Please explain why you gave this score:

12. Do you have any other comments or issues you would like to discuss?
Appendix V

TRANSCRIBER’S CONFIDENTIALITY AGREEMENT

For Research Project:

"Hawke’s Bay practice nurses’ perceptions of the delivery of diabetes care"

I Mandy Cotter (Full Name - printed) agree to transcribe the recordings provided to me.

I agree to keep confidential all the information provided to me.

I will not make any copies of the transcripts or keep any record of them, other than those required for the above named project.

Signature: [Signature] Date: 23.9.18.
Appendix VI

Our Ref: PG18/04

25 May 2018

Eve Natusch
Master of Nursing
EIT

Dear Eve,

Thank you for your application for your research project “Hawkes Bay practice nurses’ perceptions of the delivery of diabetes care.”

I am pleased to inform you that your research proposal was approved by the Research and Ethics Approval Committee at their meeting held on 25 May 2018.

You are reminded that should the proposal change in any significant way, you must inform the Committee. Please quote the above reference number on all correspondence to the Committee. Please send all correspondence to REACapprovals@eit.ac.nz.

The Committee wishes you well for the project.

Yours sincerely,

Jeanette Milfield
Secretary - Research Ethics & Approvals Committee
### COREQ Checklist

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Interview/facilitator</td>
<td>EN</td>
</tr>
<tr>
<td>2</td>
<td>Credentials</td>
<td>EN (RN, BN, PG Dip)</td>
</tr>
<tr>
<td>3</td>
<td>Occupation</td>
<td>EN (Clinical Nurse Specialist, Diabetes)</td>
</tr>
<tr>
<td>4</td>
<td>Gender</td>
<td>EN (Female)</td>
</tr>
<tr>
<td>5</td>
<td>Experience and training</td>
<td>EN has no experience in conducting qualitative research.</td>
</tr>
<tr>
<td>6</td>
<td>Relationship established</td>
<td>Some participants were known to EN.</td>
</tr>
<tr>
<td>7</td>
<td>Participant knowledge of the interviewer</td>
<td>EN is a Diabetes Clinical Nurse Specialist currently undertaking her Master of Nursing degree.</td>
</tr>
<tr>
<td>8</td>
<td>Interviewer characteristics</td>
<td>EN is a Diabetes Clinical Nurse Specialist with a special interest in diabetes care delivery, management across healthcare sectors, and patient education and outcomes.</td>
</tr>
</tbody>
</table>

#### Study design

| 9   | Theoretical framework                     | Qualitative Research guided by general inductive approach.            |
| 10  | Sampling                                  | Purpose.                                                              |
| 11  | Method of approach                        | Face to face.                                                         |
| 12  | Sample size                               | All practice nurses in the Hawkes Bay Region.                         |
| 13  | Non-participation                         | N = 3. Not required as data saturation reached.                       |
| 14  | Setting of data collection                | Nurses home or workplace.                                             |
| 15  | Presence of non-participants              | Transcriber (See Appendix Y).                                         |
| 16  | Description of sample                     | Practice Nurses in the Hawkes Bay region.                              |
| 17  | Interview guide                           | Attached (See Appendix IV), plot tested.                              |
| 18  | Repeat interviews                         | Nil.                                                                  |
| 19  | Audio/visual recording                    | Interviews were audio recorded.                                       |
| 20  | Field notes                               | EN recorded field notes.                                              |
| 21  | Duration                                  | 30 minutes to 50 minutes                                              |
| 22  | Data saturation                           | Yes.                                                                  |
| 23  | Transcripts returned                      | No.                                                                   |

#### Analysis and findings

| 24  | Number of data coders                     | ENR/WIST.                                                             |
| 25  | Description of the coding tree            | No.                                                                   |
| 26  | Derivation of themes                      | Inductively derived from data.                                       |
| 27  | Software                                  | Microsoft Word.                                                      |
| 28  | Participant checking                      | No.                                                                   |
| 29  | Quotations presented                      | Yes.                                                                 |
| 30  | Data and findings consistent              | Quotations provided to illustrate each theme.                        |
| 31  | Clarity of major themes                   | Yes.                                                                 |
| 32  | Clarity of minor themes                   | Yes.                                                                 |