A qualitative exploration of patient experiences of diabetic care provided by general practice nurses in an Australian urban general practice setting

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This thesis is presented in partial fulfilment of the requirements for the degree of Masters of Nursing Research

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2013
ABSTRACT

This research explores patient experiences of Type 2 Diabetes Mellitus (T2DM) care delivered by general practice nurses in a West Australian urban general practice setting.

Type 2 diabetes mellitus (T2DM) accounts for 87% of the Australian adult population with diabetes and 60% of the disease burden. It has a significant impact on an individual’s life. National health reform has sought to address the increasing prevalence of T2DM with its subsequent demand on general practice health service delivery. Part of this restructuring has facilitated the increased participation of general practice nurses (GPNs) in managing patients with diabetes. Current diabetic management in general practice is focused on clinical indicators related to glycosylated haemoglobin (HbA1c), lipids and blood pressure. However, the complexity of diabetic care and its heavy reliance on individual self-management can be very challenging for individuals and health care providers. Despite ongoing reform efforts to address the growing demand of this complex health condition health outcomes are not improving and individuals with diabetes remain frustrated with the care provided.

The aim of this study was to explore the participants’ experiences of T2DM care as part of their diabetes management at their general practice. A qualitative interpretive study design using semi-structured face-to-face interviews was selected as the most effective way to explore the research topic.

Purposeful sampling was used to invite participants to contribute to this study. Following consultation the general practitioner invited patients to participate. 10 patients from the general practice contributed to this study.

Transcripts of the interviews were analysed using Braun and Clarke’s (2006) inductive coding thematic analysis process. This process facilitated the identification of five main themes that described the participants’ experiences of GPN T2DM care: Feelings related to diagnosis, Challenge of living with T2DM, Perceptions and expectations of the GPN role, Knowledge and Confidence in the system. The first two themes incorporated participants’ personal experience of diagnosis and living with T2DM. The remaining three themes captured the
participants’ experiences of receiving GPN care for their condition.

Key findings reflect the participants’ ongoing challenges in managing their condition effectively and additional stress when unable to meet this challenge successfully. While participants described their satisfaction for the additional support and relaxed environment of GPN T2DM consultations they experienced this role as primarily gathering clinical information to be passed onto the follow up GP consultation. They could not describe the GPN role beyond these clinical assessments identifying a need for additional advice, information and probing questions. Findings suggest that the current model of GPN T2DM consultation needs to be reviewed to meet individual needs as well as clinical assessment effectively.
ACKNOWLEDGMENTS

I wish to acknowledge my supervisors Associate Professor Rosemary Saunders and Associate Professor Vicki Drury, for their continual clear guidance and endless patience throughout this entire project, sincere thanks.

Acknowledgement is given to the doctors, general practice nurses, receptionists and practice manager of the general practice where the research was undertaken. Their enthusiasm and continual support was instrumental in encouraging me on my research journey, recruiting patients into the study and facilitating an appropriate environment in which to collate data.

Many thanks are extended to the participants for taking the time out of their Saturday mornings to contribute to this study.

Many thanks are also extended to Michael Azariadis for his invaluable assistance and guidance in all matters related to managing my data using NVivo software and his insightful workshops on academic writing.

Many thanks to Doctor Christina Houen for her time and support in proof reading the final thesis.

Sincere thanks to Juan, Conor and Alejandro for their ongoing support, encouragement and patience throughout my study.
I declare that this thesis is my own work and that no part of it has been submitted for a degree or diploma at this or any other university and that to my knowledge and belief, it does not contain any materials previously published or written by another person where due reference is not made in the text.
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<tr>
<td>ACoC</td>
<td>Annual Cycle of Care</td>
</tr>
<tr>
<td>APNA</td>
<td>Australian Practice Nurse Association</td>
</tr>
<tr>
<td>BEACH</td>
<td>Bettering the Evaluation and Care of Health</td>
</tr>
<tr>
<td>BMI</td>
<td>Body Mass Index</td>
</tr>
<tr>
<td>CCM</td>
<td>Chronic Care Management</td>
</tr>
<tr>
<td>CDE</td>
<td>Credentialised Diabetes Educator</td>
</tr>
<tr>
<td>CDM</td>
<td>Chronic Disease Management</td>
</tr>
<tr>
<td>DAWN</td>
<td>Diabetes Attitudes Wishes and Needs</td>
</tr>
<tr>
<td>DCCT</td>
<td>The Diabetes Control and Complications Trials</td>
</tr>
<tr>
<td>EN</td>
<td>Enrolled Nurse</td>
</tr>
<tr>
<td>EPC</td>
<td>Enhance Primary Care</td>
</tr>
<tr>
<td>GP</td>
<td>General Practitioner</td>
</tr>
<tr>
<td>GPMP</td>
<td>General Practice Management Plan</td>
</tr>
<tr>
<td>HbA1c</td>
<td>Glycosylated haemoglobin</td>
</tr>
<tr>
<td>HP</td>
<td>Health Professional</td>
</tr>
<tr>
<td>MBS</td>
<td>Medicare Benefits Schedule</td>
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<td>NCDS</td>
<td>National Chronic Disease Strategy</td>
</tr>
<tr>
<td>NHA</td>
<td>National Health Agreement</td>
</tr>
<tr>
<td>NiGPI</td>
<td>Nursing in General Practice Initiative</td>
</tr>
<tr>
<td>NP</td>
<td>Nurse Practitioner</td>
</tr>
<tr>
<td>PIP</td>
<td>Practice Incentive Program</td>
</tr>
<tr>
<td>GPN</td>
<td>General Practice nurse</td>
</tr>
<tr>
<td>PNIP</td>
<td>General Practice Nurse Incentive Program</td>
</tr>
<tr>
<td>PHC</td>
<td>Primary Health Care</td>
</tr>
<tr>
<td>RACGP</td>
<td>Royal Australian College of General Practitioners</td>
</tr>
<tr>
<td>RN</td>
<td>Registered Nurse</td>
</tr>
<tr>
<td>SIP</td>
<td>Service Incentive Program</td>
</tr>
<tr>
<td>SMBG</td>
<td>Self Monitoring of Blood Glucose</td>
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<tr>
<td>TCA</td>
<td>Team Care Arrangements</td>
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<td>Type 2 Diabetes Mellitus</td>
</tr>
<tr>
<td>T1DM</td>
<td>Type 1 Diabetes Mellitus</td>
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<td>UKPDS</td>
<td>United Kingdom Prospective Diabetes Study</td>
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Chapter 1 Introduction

Introduction

The aim of this qualitative research was to explore participants’ experiences of type 2 diabetes mellitus (T2DM) GPN care as part of their diabetes management with their general practitioner (GP). The project was carried out in one urban general practice located in Perth Western Australia. This research builds on other qualitative and quantitative studies of diabetes and chronic disease management in general practice settings. This chapter defines diabetes and provides an overview of the types of diabetes. It describes the background and context of the study in terms of: the international and national prevalence of diabetes; the burden of diabetes on the community; health service provision and the impact on individuals; health care and general practice diabetes health care provision; and the role of the general practice nurse in general practice diabetic management.

Diabetes

Diabetes is a metabolic disease resulting in insufficient production or inadequate body use of the hormone insulin. Insulin, produced in the pancreas, metabolises (breaks down) carbohydrates and fat as an energy source, and stores the end product, glucose, as glycogen. It is produced at a proportional rate to ensure excess sugar, which can be toxic to the body, is removed from the blood. In diabetes, the body is not able to convert sugar from foods into energy, resulting in high blood levels of sugar or hyperglycemia. If undetected, or poorly controlled, hyperglycemia can have serious debilitating effects, such as increased risk of heart disease or stroke, peripheral neuropathy, limb amputation, blindness and kidney failure. The following section will briefly describe the different types of diabetes: Type 1 diabetes mellitus (T1DM) Type 2 diabetes mellitus (T2DM) and gestational diabetes, and their community impact.

Although the exact cause of T1DM is unknown, it is an autoimmune disorder causing destruction of the insulin producing cells (beta cells) of the pancreas.
T1DM, the body's deficient insulin production is a fatal disorder unless the patient has a daily treatment of insulin replacement. Currently people with T1DM must replace insulin in the body through injection on a regular daily basis.\textsuperscript{16} Although T1DM can occur at any age, it is more typically seen early, and is the most common form of childhood diabetes.\textsuperscript{17} Diabetes type 1 constitutes 10\% of all diabetes in Australia.\textsuperscript{18,19}

In T2DM, although the pancreas is producing insulin, it is not producing enough to meet the body's requirements, therefore it is ineffective.\textsuperscript{2} Although there is a genetic element to this type of diabetes, its cause is also largely attributed to lifestyle factors.\textsuperscript{20} There are a number of factors that can increase a person's risk of getting T2DM, such as: age (risk increases with age), excess body weight, poor diet, smoking, limited exercise, and high blood pressure. Up to 60\% of T2DM can be prevented if lifestyle factors such as these are effectively addressed.\textsuperscript{2} T2DM used to be referred to as maturity onset diabetes, as it was largely observed in the older population, however, in recent times more and more young people are developing this form of diabetes, that it is now being diagnosed in children.\textsuperscript{2} Nationally and internationally, T2DM is the most common form of diabetes. It makes up more than 85\% of the total number of people with diabetes in Australia.\textsuperscript{17} Obesity is one of the main risk factors for T2DM.\textsuperscript{21} Sixty percent of the burden of T2DM is due to obesity, coupled with limited physical activity.\textsuperscript{22} Recent statistics indicate that overall the number of overweight and obese adults in Australia has increased from 55\% in 2001-02 to 61.8\% in 2010-11, leaving Australia as one of the most overweight developed nations.\textsuperscript{21-23}

Pregnant women have an increased demand for insulin, with about 3-4\% of pregnant women developing gestational diabetes or diabetes during pregnancy. Although the blood glucose usually returns to normal once the baby is born, some women go on to develop T2DM later in life.\textsuperscript{2} Furthermore, individuals who have impaired glucose tolerance and impaired fasting glucose have higher than normal blood glucose levels, although they are not high enough to be called diabetes.\textsuperscript{2} However, there is evidence to suggest that people with pre-diabetes are at a higher risk of developing T2DM.
Background and context

National and international prevalence of diabetes

Diabetes mellitus (or diabetes) is the fastest growing disease in human history.\textsuperscript{18,19} It is a non-curable, serious, non-communicable chronic disease that has significant impact on the quality of life of individuals and their families, physically, socially and economically, and consumes large proportions of health service resources.\textsuperscript{16,24} It is one of the most challenging issues faced by public health authorities worldwide.\textsuperscript{15,17,25} Diabetes, with its associated high morbidity and mortality rate, is also the most common chronic disease in Australia, and one of the most challenging public health problems in the 21\textsuperscript{st} century.\textsuperscript{15,26} If undetected or poorly controlled, diabetes can have serious debilitating effects on the individual, such as increased risk of heart disease or stroke, peripheral neuropathy, limb amputation, blindness and kidney failure.\textsuperscript{16}

Chronic disease is a disease of long duration (at least more than three months) and slow progression, which is usually complex in nature, has multiple associated risk factors, and contributes to disability and premature death.\textsuperscript{27,28} In the 21\textsuperscript{st} century, chronic disease has been the dominant health concern, due to factors such as: demographic changes; an older population, with increased prevalence related to aged 65 years and older and life style changes; increased exposure to tobacco smoking; high risk alcohol use; physical inactivity; poor diet and nutrition; excess weight and high blood pressure and cholesterol.\textsuperscript{29} Globally, prevalence of diabetes mellitus (type 1 and type 2) in 2010 was estimated to be 285 million people or 6.4\% of the world adult population. This number is expected to rise to 438 million or 7.8\% of adult population by 2030.\textsuperscript{30} Internationally, 90\% of people with diabetes have T2DM.\textsuperscript{16} In the last decade the United States has seen a dramatic rise in the prevalence of this form of diabetes.\textsuperscript{31} The Australian community has also experienced a significant rise in T2DM, rising from 1.1\% in 2000 to 3.5\% in 2007. The recent 2010 AusDiab study indicates that 7.5 \% of Australian adults (25 years and older) have diabetes mellitus, and of these, 85\%-90\% have T2DM.\textsuperscript{31} While T1DM has remained relatively stable, an additional 16.3\% of the Australian adult population have impaired glucose tolerance and therefore are at an increased risk of developing T2DM.\textsuperscript{1,15} The prevalence of T2DM is predicted to rise by 10\% between 2008 and 2013.\textsuperscript{17} The prevalence rises remarkably, within the age group less than 35 years of age at 0.3\%, to 14\%-16\%
over 65 years of age. Every day in Australia, approximately 275 adults are diagnosed with diabetes. In Western Australia (WA), approximately 30 people are diagnosed daily with this condition. Table 1-1 gives a description of the rates of diabetes in WA for male and females within specific age groups and sex for persons aged 16 years and older. The statistics show that the prevalence of diabetes increases significantly for both sexes within the age groups 55 years and above. Also that 5.7% of persons of 16 years and over have diabetes, indicating that 90759 of West Australian adults had diabetes at that time.

Table 1-1 Prevalence of Reported Diabetes WA: HWSS Jan 2006-June 2007

<table>
<thead>
<tr>
<th>Males</th>
<th>Females</th>
<th>Persons</th>
<th>Estimated Population</th>
<th>Number Interviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 to 44 years</td>
<td>1.1</td>
<td>3.1</td>
<td>2.1</td>
<td>17634</td>
</tr>
<tr>
<td>45 to 54 years</td>
<td>5.3</td>
<td>5.7</td>
<td>5.5</td>
<td>15655</td>
</tr>
<tr>
<td>55 to 64 years</td>
<td>12.3</td>
<td>7.5</td>
<td>10.0</td>
<td>21188</td>
</tr>
<tr>
<td>65 to 74 years</td>
<td>18.0</td>
<td>13.8</td>
<td>15.5</td>
<td>21737</td>
</tr>
<tr>
<td>75 &amp; over years</td>
<td>18.0</td>
<td>15.0</td>
<td>14.9</td>
<td>14545</td>
</tr>
<tr>
<td>16 &amp; over years</td>
<td>5.5</td>
<td>5.9</td>
<td>5.7</td>
<td>90759</td>
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</tbody>
</table>

In Table 1-2, the Ausdiab results suggest that there is a marked increase in specific prevalence of diabetes in the older age groups of Australians in general as compared to West Australians, indicating that prevalence rose to 15%-20% for both male and female. Rates of diabetes in the older age group for West Australians are similar to the rest of Australia in both sexes, however there is are slightly lower rates in the 65-74 age groups.

Table 1-2 Ausdiab Age and Gender

<table>
<thead>
<tr>
<th></th>
<th>35-44</th>
<th>45-54</th>
<th>55-64</th>
<th>65-74</th>
<th>75+</th>
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<tr>
<td>WA Males</td>
<td>3.7</td>
<td>5.3</td>
<td>15.8</td>
<td>13.4</td>
<td>25.0</td>
</tr>
<tr>
<td>WA Females</td>
<td>1.7</td>
<td>4.6</td>
<td>8.5</td>
<td>14.1</td>
<td>17.3</td>
</tr>
<tr>
<td>Aust Males</td>
<td>2.6</td>
<td>6.8</td>
<td>16.1</td>
<td>21.6</td>
<td>22.4</td>
</tr>
<tr>
<td>Aust Females</td>
<td>2.3</td>
<td>5.5</td>
<td>9.9</td>
<td>16.1</td>
<td>24.5</td>
</tr>
</tbody>
</table>

Survey population numbers: WA : N = 1561, Australia: N = 11,247

Table 1-2 Ausdiab Age and Gender

In Western Australia, there is an increase in the proportion of people with diabetes within low socioeconomic groups. In 2008, in the most disadvantaged classified
areas, 8.0% of people were diagnosed with diabetes, compared to 5.3% of people from the least disadvantaged areas. Diabetes hospitalisation rates for Western Australian people from the most disadvantaged areas in the period 2005-2007 were 2.4 times higher and occurred in people three years younger than for people from disadvantaged areas. Furthermore, diabetes-related deaths were 3.1 times higher for people from the most disadvantaged areas, in comparison to people from the least disadvantaged areas.

People living in rural and remote regions in Western Australia (WA) have a higher risk of developing diabetes. Diabetes hospitalisation rates in the period 2005–2007 for rural and remote regions were 1.2 and 2.1 times higher respectively than for those living in the Perth metropolitan area. Diabetes-related deaths also increased in relation to the remoteness of geographic area. People from regional and rural areas were 1.4 and 3.4 times more likely, respectively, to die from diabetes than people from major city areas. The Australian Institute of health and welfare (AIHW) classification for Rural Remote and Metropolitan areas (RRMA) in Australia was developed in 1994. The classification of an area was based on population numbers and index of remoteness. The index of remoteness uses distance factors related to urban centres containing a population of 10,000 or more. Table 1-3 outlines the seven categories within this classification system, describing three main areas as metropolitan, rural and remote, which are then further classified according to distance from capital cities and population size.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Category</th>
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<tbody>
<tr>
<td>Metropolitan zone</td>
<td>M1</td>
</tr>
<tr>
<td></td>
<td>M2</td>
</tr>
<tr>
<td>Rural zone</td>
<td>R1</td>
</tr>
<tr>
<td></td>
<td>R2</td>
</tr>
<tr>
<td></td>
<td>R3</td>
</tr>
<tr>
<td>Remote zone</td>
<td>Rem1</td>
</tr>
<tr>
<td></td>
<td>Rem2</td>
</tr>
</tbody>
</table>

Table 1-3 Structure for Rural, Remote and Metropolitan Area (RRMA) Classification
Although beyond the scope of this study, it is important to note that diabetes is recognised in Australia as one of the most common chronic diseases in children. Australia has the 7th highest prevalence and 6th highest incidence of T1DM in children 0-14 years of age. In 2010, 31,300 young Australians (0-30 years of age) were registered with the National Diabetes Services Scheme (NDSS), and 79% of those registered had T1DM. The proportion of persons with T2DM rises with age, occurring in 557 people aged 12–18, 1,411 aged 19–24, and 3,938 aged 25–30. In addition, diabetes has serious implications for Aboriginal and Torres Strait Islander people; after adjustment for age, this group is almost four times more likely to develop diabetes than are non-Indigenous people.

Aboriginal people often develop type 2 diabetes at a younger age, and in some remote communities prevalence can be as high as 30% (WA model). Death rates for diabetes are six times higher for Aboriginal males and thirteen times higher for Aboriginal females than for non-Aboriginal people. Figure 1-1 shows that the age-adjusted rate of hospitalisation for diabetes (Aboriginal and Non-Aboriginal Age Standardisation Rate) per 100,000 persons is seventeen times higher for Aboriginal females and ten times higher for Aboriginal males than for non-Aboriginal people. This is a significant health issue for Aboriginal people, causing high rates of cardiovascular disease, renal failure, and loss of vision.

![Figure 1–1 Diabetes WA Hospitalisation Rates](image-url)
Burden of diabetes

T2DM places a large financial burden on people who have this condition, and on their families and the health care system.\textsuperscript{40,42} It is estimated that global expenditure on diabetes will rise from 418 billion International Dollars (ID) in 2010 to 561 billion ID in 2030.\textsuperscript{30} In addition to these financial burdens, it also imposes large economic burdens, due to loss of productivity in the work place therefore reduced economic growth.\textsuperscript{30} In Australia, the total financial burden of T2DM is estimated to be $1.1 billion, and accounts for 5% of the total disease burden, compared with cardiovascular disease, the most expensive disease group in terms of direct health expenditure at $5.5 billion or 11% of total allocated health care expenditure in 2000-2001.\textsuperscript{2,43}

As well as the financial and productivity impact of T2DM, there can be a profound effect on a person’s physical and mental well-being. T2DM can increase a person’s risk of blindness, amputation or coronary heart disease, and impact on family and social situations by limiting their social interaction with the community in general, and causing loss of or limited employment and increased demand for health services.\textsuperscript{2} Diabetes is the 6\textsuperscript{th} leading cause of death in Australia.\textsuperscript{44,45} People with diabetes and pre-diabetes have twice the risk of death due to a cardiovascular event than have people with blood glucose within normal range.\textsuperscript{17,46} Sixty-five per cent of all cardiovascular deaths occur in people with diabetes or pre-diabetes.\textsuperscript{17} Diabetes also has a very high level of morbidity; 13\% of Australians with diabetes have significant nerve damage to the lower limbs, and it is the most common cause of non-traumatic lower limb amputation.\textsuperscript{17,18} Fifteen per cent of the diabetic population have diabetic retinopathy, which is the leading cause of blindness in people over 60 years of age. It is also the leading cause of end stage renal failure and the most common cause for commencing dialysis.\textsuperscript{18} In 2007-08, 52\% of preventable hospitalisation was due to diabetes complications.\textsuperscript{4}

Hospitalisation rates for people with diabetes are very high. The percentage of admissions associated with diabetic complications almost doubled following diagnosis, and overall admission rates higher than for the general public.\textsuperscript{42} A pilot study measuring health outcomes in a general practice population of patients with
T2DM indicated that the percentage of admissions for diabetic-related complications compared with general admissions was almost double following diagnosis. In addition, within the 10 years post-diagnosis, almost 80% of patients had been admitted to hospital at least once.

In addition to the physical impact of this chronic condition, 41% of people with diabetes report additional stress, anxiety and depression in trying to cope with their condition on a daily basis. The onset of complications can exacerbate this psychological impact, and effect on personal independence and self-care, as well as increasing the likelihood of requiring a carer. To prevent or minimise complications, blood glucose levels (BGL) must be maintained within as close to normal range (4.0–7.8mmol/L.) as possible to significantly reduce the long-term consequences of poorly controlled BGLs which has a significant physical impact on the individual. Nonetheless, while diabetes has serious impacts on a person’s quality of life, approximately 60% of T2DM can be prevented through good blood glucose control by maintaining a healthy lifestyle, and this can significantly reduce the complications associated with diabetes.

**Economic, physical, psychological and social Impact of diabetes**

T2DM is a chronic condition that requires substantial input from the individual in order to manage their care or self-care effectively on a daily basis. Self-care or self-management is defined as the individuals and or their families taking responsibility for their health care, in terms of improving health and preventing and or managing an illness. This self-care can be carried out independently or in collaboration with health professionals. Self-care, while complex, is important to effectively manage T2DM, as the individual, not the health care professional, makes the most important choices, which can affect health outcomes. However, T2DM self-management places heavy responsibility on individuals to manage their own condition, requiring them to make constant decisions and actions in relation to Self-Monitoring Blood Glucose (SMBG), medication intake, diet and physical activity.
The key to effective self-management and preventing complications of T2DM is to maintain daily clinical indicators, such as blood glucose levels, lipids (fats) and blood pressure within limits as determined by the General Practitioner (GP) in consultation with each person’s identified needs. The addition of pharmacological agents is often required, coupled with ongoing assessment by the general practice team as a means to support the individual in monitoring and controlling hyperglycaemia (high blood glucose level), lipids and blood pressure effectively. As well as these clinical parameters, the individual must take on the daily tasks such as SMBG and making decisions regarding dietary intake, physical activities and medication administration to maintain clinical parameters within safe limits.

The introduction of home glucose monitoring in the 1980s and use of glycosylated hemoglobin (HbA1c) as an indicator of metabolic control has enabled a shift of care management from the health professional to the individual. The Diabetes Control and Complication Trial (DCCT) (1983-1993) and the United Kingdom Prospective Diabetes Study (UKPDS) (1977-1997) indicated that control of blood glucose levels in T1DM and T2DM could significantly prevent or slow microvascular complications such as nephropathy, retinopathy and neuropathy. The UKPDS, in a large prospective randomised clinical trial of patients with T2DM, showed that effective control of blood glucose levels can significantly reduce microvascular complications; for instance, a reduction of HbA1c of 1% can bring about a 35% reduction in risk of microvascular complications. It can also reduce morbidity and mortality which is associated with chronic complications. T2DM is a lifelong condition, and due to the relative complexity of effective self-management on a daily basis, individuals with T2DM need relevant education to assist them to make appropriate decisions regarding dietary intake, physical exercise and medication management. A 2007 longitudinal study in Scotland into SMBG and patient perspectives indicated that while there is no conclusive evidence of the association between SMBG and improved glycaemic control in patients with T2DM, ongoing health professional support is crucial for individual understanding, education and self-care support.

Although most people learn to adjust their lifestyle with T2DM, many people remain anxious and concerned when faced with this life-long condition and its ongoing
possible complications. In addition, the diabetic patient is required to manage daily aspects of care adjustment, such as coping with bouts of illness and hypo/hyperglycaemia. Nonetheless, there is clear evidence that ongoing support through effective health care delivery can lead to improved glycaemic control, reduced complications and avoidable hospitalisations. However, evidence also indicates that finding a balance between individual and health provider expectations of care is often difficult to achieve. Although self-management or self-care practices are considered essential to effective T2DM individual outcomes, people have different ways of coping and managing their illness. Research indicates that while patient outcomes are improving, quality care for chronic diabetes is still suboptimal in terms of best practice clinical indicators. Ongoing research suggests the importance of defining goals and barriers in assisting people to successfully manage their condition to achieve better health outcomes.

National primary health care and diabetes management

In order to address the increase in chronic disease including T2DM, The Australian Health Ministers’ Advisory Council (2002-2003) agreed to the development of a national strategic policy for chronic disease prevention and care. This policy provided a broad framework and set of principles on how care can be delivered through evidenced-based, coordinated care across a range of settings promoting self-management. The policy had two elements, a National Chronic Disease Strategy (NCDS), a principal framework to improve care and prevention in chronic disease, and the National Service Improvement Frameworks, covering the five national health priority areas of asthma, cancer, diabetes, heart and arthritis. In 1996 the Federal Government recognised diabetes as the 5th National Health Priority Area, acknowledging the personal impact and high public financial burden of the disease. The National Service Improvement Framework for Diabetes aimed to provide a more person-centered, equitable, cohesive and affordable health care for all Australians. In addition it specifically aimed to improve prevention and management, limit complications, reduce hospitalisation, and reduce variations in care across services and people.

Subsequent collaborative efforts between Federal, State and Territory governments aimed to ensure ongoing support of individuals in managing their
T2DM, by providing widely available access to a broad range of information and education services from health professionals, media, pharmacies and specific organisations such as Diabetes Australia and the National Diabetes Services Scheme (NDSS). The NDSS was established in 1987 and is administered by Diabetes Australia. It facilitates access to products and services related to SMBG and urine testing, and national clinical practice guidelines to support high quality evidence-based care in general practice and secondary health service delivery. Nonetheless, despite being identified as a chronic disease and the development of T2DM policy reform in 2012, T2DM was still recognized as a major public health issue in Australia.

Global and national T2DM clinical guidelines outline the need for increased community awareness and prevention, early detection and diagnosis and optimal initial and long-term management of complications. In general, type T2DM is predominantly managed in the community by the patient in collaboration with their primary health care service centre. In Australia, health care provision for the management of T2DM occurs mainly in general practice, where it is estimated that on average people with this condition visit their GP 10.5 times each year. General practice in Australia is described as the front line of health care. As part of the Australian Health care system, general practice consists of mainly private medical practices providing universal un-referred health services to individuals, families and communities. This service aims to provide comprehensive, coordinated and continual healthcare. These independent health care providers are remunerated through the federal government Medicare Benefit Scheme (MBS) and patient fees. A GP is a registered medical practitioner who is qualified to practice in a general practice setting. The Australian Medicare system is a publicly funded universal health scheme where health services such as those rendered by a general practitioner are reimbursed to the public. More than 90% of Australians visit their GP every year. Of these visits there has been an increase of 40% in non-differentiated diabetes mellitus presentations between 2001-2002 and 2010 and 2011.

Primary health care (PHC) is seen both as the first contact individuals make with the health service sector, as well as providing accessible ongoing, holistic
community-based health service.\textsuperscript{24} In the Australian health care system, general practice is the largest group providing PHC services to the community.\textsuperscript{3} In order to address the growing burden of chronic disease effectively, PHC management has broadened its focus from the traditional emphasis on improving management and cure to include awareness, prevention and detection to meet the growing challenge of effective diabetes care provision.\textsuperscript{24}

A contributing factor to building local general practice capacity to meet the growing T2DM trend in the community was to develop an appropriate care delivery system.\textsuperscript{3} The Enhanced Primary Care (EPC) package was introduced in 1999 to improve prevention and care coordination, an initiative that aligns with the Chronic Care Model (CCM) element of Delivery System Design.\textsuperscript{68} In 2001 the Federal Government Practice Incentive Program (PIP) was introduced to support better care of chronic conditions such as T2DM in general practice. In 2005 new Medicare items for Chronic Disease Management (CDM) and Team care Arrangements (TCA) aimed to streamline care planning and facilitate multidisciplinary care.\textsuperscript{68} These reform strategies recognised general practice nurses (GPNs) as invaluable members of the practice team in establishing, managing and implementing comprehensive, systematic diabetic care, working collaboratively with GPs to provide effective and efficient care.\textsuperscript{6,69,70}

\textbf{Australian general practice nurses and diabetic management}

An Australian general practice nurse refers to a nurse employed in a general practice setting.\textsuperscript{69} This nurse can be a Registered General Nurse (RGN) (with either a hospital-based diploma or a degree), an Enrolled Nurse (EN) (with either a certificate or advanced diploma) or a Nurse Practitioner (NP) (with a degree in nursing plus a post-graduate Nurse Practitioner degree).\textsuperscript{70-72} All general practice nurses need to hold current registration with Australian Health Practitioner Regulation Agency (APHRA) to practice under the Australian State and Territory Nurses Act.\textsuperscript{73,74} The general role description of the general practice nurse encompasses provision of clinical care, management of clinical care systems and collaborative practice.\textsuperscript{74,75,70,76} It is acknowledged that GPNs contribute to patient
knowledge and assist patients to adhere to their health plans and achieve positive health outcomes.\textsuperscript{27}

The significant rise in the prevalence and burden of T2DM in Australia and internationally, with the associated increase in community-based care needs, are placing increasing pressure on the health system in general and specifically general practice. To respond effectively to this growing health demand, Australian national health care reform, including changes to the delivery-system design and the development of multidisciplinary teams, has led to the increased role of general practice nurses (GPNs) in chronic disease management.\textsuperscript{61,77} Part of this reform policy aimed to maximise the role of GPNs and recognise the importance of this role in areas such as chronic disease management and T2DM.\textsuperscript{64,68-70} In 2001-2002 the Australian Federal Government provided funding through the Practice Incentive Program (PIP) to support general practice primary health care delivery.\textsuperscript{78} The Nursing in General Practice Initiative (NIGPI) was a four year funding initiative aimed to support eligible general practices to employ general practice nurses to relieve workforce pressure on GPs, improve community access, improve quality and integration of care, and improve prevention and chronic disease management.\textsuperscript{64,71,78-80} An evaluation of the NIGPI 2001-2005 found that through a gradual uptake of GPNs there was a 30-40\% increase in the number of eligible GP practices. In order to be eligible to receive PIP incentive payments, general practices must meet designated PIP criteria; for example: registered with PIP in recognised target areas; and rural and remote or urban workforce shortages of general practice nurses.\textsuperscript{79} Its general conclusions from the study found that there was overall support for GPNs and that their role made significant contributions in areas such as positive impact on management of chronic disease through recall systems, and that education reduced workforce pressure on the GPs and raised the profile of GPN roles.

Traditionally, funding for general practice service delivery was only available to medical practitioners; however, with the introduction of this new scheme, GPs could bill for services provided by GPNs, such as: immunisation (item number 10993); wound care (item number 10996); pap smears in rural areas (item number 10998 and 10999); Chronic Disease Management and Enhanced Primary Care
Items (item numbers 721, 723, 732), assisting with patient assessment needs identification and arranging services (item number 10997). These NIGPI financial arrangements were consolidated under the new Practice Nurse Incentive Program (PNIP) effective from the 1st of January 2012. Largely in response to these Australian Federal Government funding initiatives, general practice nurse involvement with diabetes management in general practice has increased from 1.5 per 100 problem contacts (2005-2006) to 3.5 per 100 problem contacts (2012-2011).

A large proportion of diabetes care now takes place in the community, much of it delivered by general practice nurses. GPNs working in this specialised field need to have the skills, knowledge and attitude to provide safe practice and are responsible and accountable for their own actions and decisions. Extensive research in the United Kingdom has shown that suitably trained nurses can provide T2DM care effectively. Initial research and study outcomes are positive for GPN roles in caring for patients with chronic needs, indicating a relatively good patient satisfaction level with the care provided.

In Australia, the minimum level requirement for health professionals to perform as diabetes educator is completion of a post-graduate certificate in a diabetes education-related field of study. Whilst most Australian GPNs would be unlikely to require the level of specialised diabetes educator within their role, it is recognised that GPNs can become involved in the diabetes 6 monthly revision with an annual review, by providing introductory information on healthy eating principles, the benefits of exercise and weight control, and the importance of regular review of individual risk factors and personal health goals. GPNs’ roles and diabetic models of care vary considerably across general practices, with a flexibility that allows practices to best meet the needs of their patient population.

Current models of diabetes care are shaped by factors such as general practice structure, business nature and employment arrangements, GPN qualifications and community needs. If diabetes care is to be delivered effectively through general practice, there is a need for key workers such as GPNs and diabetes specialist nurses who have both the skill and time to address patient’s needs within a
consulting environment that respects the patient’s own concerns. However, the role of the Australian GPN is still evolving, and there is a need to ensure that this evolving role continues to meet patient needs and expectations effectively. Findings of two Australian studies involving 276 participants in total identified that the role of the general practice nurse is still confusing to some consumers, especially those who have had limited contact with this form of general practice health service provision.

**Position of researcher**

The researcher is an RGN with 10 years’ extensive experience in cardiothoracic and emergency nursing, and experience in rural and remote nursing practice in Australia. The researcher is currently employed as a GPN by the practice where the research was conducted, and has worked in this role at this practice since November 2010. The researcher took the necessary steps to ensure that the core ethical principles of human research were maintained, in view of the pre-existing relationships between participants and researcher, or between participants and others involved in facilitating or implementing the research project. None of the patients who received diabetic care from the researcher have been included in the research.

**Significance of the research**

This research is significant because of the increasing community needs for T2DM care and the expanding role of the GPN in meeting this need. The Royal Australian General Practitioner General Practice Nurse Guide for Diabetes Management (2010) identifies that GPNs demonstrate the ability to support individuals to acquire and apply knowledge, and build their confidence and appropriate skills to manage their patients' condition on a daily basis. It outlines that during consultation, general practice nurses can support individuals to develop and apply knowledge build self-confidence and use the relevant skills to manage their condition effectively.
T2DM is in epidemic proportions in Australia. National health care reform has facilitated an increase in the role played by GPNs in working in collaboration with GPs as part of the multidisciplinary health care team required to support positive health outcomes for individual’s with T2DM. However, in comparison to comparable international primary health care general practice nurses’ roles in the UK and NZ, the role of the GPN in Australia continues to have a relatively low professional profile.

Based on an extensive literature review, while there is growing evidence of the impact of GPNs on chronic disease management, there is little understanding of the patient's perspective of the GPN role on their diabetes management. A 2004 Australian study of patient perceptions of general practice quality care for chronic conditions identified the need to review the role of GPNs in maximising patient support.

This research provides rich insights into the perceptions and experiences of participants who are receiving diabetic care from a GPN in collaboration with the GP in one general practice in Western Australia. It is anticipated that the outcomes of this qualitative research will contribute to the growing understanding of patient expectations and knowledge of the GPNs’ role in their diabetic care. It is anticipated that this new understanding will contribute to the recognised need for informed GPN diabetic care provision and enhanced patient care outcomes.

**Overview of the methodology, methods and findings**

The aim of this research is to gain understanding of the participants’ experience of GPN T2DM care. To achieve this aim, qualitative research within an interpretive framework was selected as the most appropriate methodology to investigate the research question. The research was carried out in one general practice in Western Australia. Following ethical approval, the participants were selected through purposive sampling.

Data were generated through in-depth one-to-one semi-structured interviews. Interviews were conducted until no new information or themes emerged from the
information provided by the participants. Following 10 interviews, all the interviews were transcribed to facilitate analysis. Data were analysed using Braun and Clarke’s six-step thematic analysis guide for qualitative data analysis. This analytic process enabled a rich description of the entire data set of participants’ meanings and how they defined their experiences of GPN T2DM consultations.

The findings from this study provide insight into the participants’ experiences of living with T2DM, and their experiences of GPN T2DM care. Two themes emerged related to the participants’ experiences of living with T2DM: 1) feelings related to diagnosis, 2) the challenges of living with T2DM. Three themes emerged in the participants’ experiences of GPN T2D care: 1) perceptions and expectations of the general practice nurse role; 2) knowledge; and 3) confidence.

**Outline of the thesis**

This thesis is presented in six chapters. Chapter one introduced diabetes in general, and the economic, physical, psychological and social impact of this chronic condition. It described patient management of their T2DM, and primary health care strategies used to support patients in this management. It considered the aim of the research and methods used to explore the topic. It also discussed the significance of the research in light of current needs and past research outcomes, and it outlined the context and setting of the project and the methodology used to explore the topic. Chapter two provides a synthesis of the elements that initiated the study. Accordingly, the synthesis includes: relevant definitions; patient perception of the role of general practice nurses in general practice; general practice models of care; and general practice guidelines for the role of the general practice nurses managing patients with T2DM in general practice settings. Chapter three describes the research design and methods used in the study. Chapter four presents and describes the research findings. In chapter five, the research findings are discussed in the context of the research question, and relevant previous research, strengths and limitations are considered as well as recommendations for further studies. The final conclusion summarises the thesis,
describes its contribution to current research and discussion of the role of GPNs in T2DM management, and makes recommendations for future research.

Chapter summary

In this introductory chapter, the research was placed within the context of contemporary general practice nursing and general practice management of T2DM. Diabetes as a chronic disease was defined and the economic, physical, psychological and social impact of this chronic condition briefly considered. Patient management of T2DM and primary health care strategies used to support patients in this management were also discussed. The aim of the research and methods used to explore the topic were reviewed and the significance of the research in light of current needs and past research outcomes considered. In addition the context and setting of the project and the methodology used to explore the topic were outlined. The following chapter presents a review of the literature, providing an overarching understanding of the issues and problems that impact this area of research.
Chapter 2 Literature Review

Introduction

Prior to conducting the research, an extensive review of the literature was undertaken to examine the current understanding of diabetic patients’ experiences of GPN care in general practice settings. This review took into consideration the individual impact of diabetes, patient perceptions of GPN care, national primary health care models of chronic care and diabetes management, and the role of the GPN. The review focused on general practice nurses and diabetes management on a national and international level to ensure that the key aspects of the research were fully investigated. However, due to the limited Australian based research in this focused area it also included an examination of broader general practice nurse care delivery and patient perceptions. An initial literature research was undertaken using MEDLINE, Science Direct, Wiley Online Library, CINAHL Plus, PubMed and EBSCO. The search terms used were key search words, including type 2 diabetes, and terms related to ‘patient experiences’, ‘consumer perspectives’, ‘self-management’, ‘diet’, ‘exercise,’ ‘blood glucose management’, ‘general practice’ and ‘general practice nurse’. There was no restriction on dates of publication or language, however only articles written in English language were accessed.

Individual impact of diabetes

T2DM has a significant impact on individuals and health systems worldwide.\(^\text{16}\) Results from the Diabetes Control and Complications Trial (DCCT) and the UK Prospective Diabetes Study (UKPDS) established that high blood glucose levels are the major cause of micro-vascular disorders (nerve and kidney damage and vision impairment) and to a lesser extent, of macro-vascular complications (heart disease, stroke and peripheral vascular disease, which can lead to amputation).\(^\text{53}\) Adjusting to life following the diagnosis of T2DM can be a difficult journey for some people. Initial personal reactions and interpretation of the diagnoses vary between individuals. A 2008 qualitative study exploring people’s experiences of living with and managing diabetes acknowledged the struggle that people may face when
identifying with their diagnoses. The study showed that the initial personal reaction to diagnoses varies among individuals from fear or guilt to viewing it as good in terms of making adjustments to adapt to a healthier lifestyle.

In 1998, a Canadian ethnographic meta-analysis of comparable qualitative studies of people with T1DM and T2DM identified that individuals need to maintain a balance between control of their bodies and understanding their own body’s response to the condition, and working collaboratively with support networks. Findings revealed that the decision to move from a dependent role on their HP (health practitioner) to active control was often a result of a sense of not being listened to by HPs. Central to achieving this balance is the person’s decision to take ‘control’. In 2004 an Australian qualitative study of 119 adult diabetics (116 with T2DM) explored individuals’ experience of their day-to-day involvement of living with diabetes. This research identified the central aspect of control and the difficult task faced by individuals when trying to achieve a sense of ‘being in control’ of themselves and the disease. Both Paterson (1998) and Broom (2004) identified the need to look at the individual and the personal strategies used to manage their diabetes to achieve more effective outcomes. Broom’s (2004) Australian study highlighted the degree of difficulty people faced when trying to ‘make sense of the disorder’ created by this chronic condition, which seemed to be a constant struggle. This study also found that individuals struggle with identity once diagnosed with T2DM, and when talking about their diabetes related behaviour, often used terminology that referred to their activities as if they were behaving or a misbehaving child. Here the researchers note that the language used in relation to diabetes, both by health professionals in terms of ‘control’, and patients in terms of disobedient children, can serve to undermine an individual already trying to deal with managing a complex, chronic medical condition.

The two main aims of diabetic care are to control the body’s blood glucose levels and to minimise diabetic complications. Central to achieving these goals is the individual’s ability to self-manage their condition on a daily basis through daily SMBG, dietary intake and exercise. Due to the complex and chronic nature of this non-curable condition, individuals are also required to attend ongoing health care from an HP, usually their GP, as well as additional scheduled specialist
appointments when required. In 1995 Anderson et al. (1995) conducted a randomised control trial to determine if participation in a patient empowerment program would improve psychosocial self-efficacy and attitudes to diabetes as well as reduce blood glucose levels. The study found that the intervention group had significant control of their HbA1c, and there was a significant difference in self-efficacy between the intervention and control group in areas of goal setting, obtaining support and making decisions. The study also observed that as much of 95% of diabetes care was carried out by the individual and their family. The intervention found that patient empowerment is an effective approach in patient education when addressing the psychosocial aspects of living with diabetes.

Bandura (1997) introduced the concept of self-efficacy within social cognitive theory. People with low self-efficacy shy away from difficult tasks, have low aspirations and weak commitment to goals. When confronted with perceived difficult tasks, they focus on the obstacles and adverse outcomes, compared to people with high efficacy, who will set challenging goals and be committed to achieving these goals. Bandura (1997) noted that self-efficacy beliefs are influenced by personal/cognitive beliefs, behaviour and environment. The significance of self-management programs in diabetic care is related to a person’s confidence in their ability to follow a self-care plan. Self-efficacy is a person’s perception of their ability to reach a goal, and while health professionals can influence some of the associated influencing aspects, such as diabetes-related knowledge and physical skills, they cannot influence other aspects such as age, gender or severity of disease.

Ongoing research into improving diabetes care notes that the more active individuals are in managing their own condition, the more likely they are to have better health outcomes. Several large clinical trials have reported that the key to minimising the complications associated with T2DM is good control of the glycaemic index. Changes in life style measures, such as reduced body weight, increased physical activity, eating a healthy diet and no smoking, can help prevent complications associated with T2DM. In Australia up to 60% of the burden of T2DM could be reduced if individuals adopted suggested life style
changes successfully. However, high proportions of patients remain poorly controlled, which creates a major public health problem.

Olshansky’s (2008) qualitative study exploring people’s experiences of living with and managing diabetes found that people struggled with their identity in terms of being a diabetic person, and successfully managing life style changes. Findings showed that people with diabetes often considered adapting to life style change in key aspects such as diet and exercise ‘different from’ normal, yet paradoxically these are also recommended healthy life style strategies for people without diabetes. Although maintaining a healthy diet and regular exercise are key to improved health outcomes for people with T2DM, an extensive qualitative cross-sectional study in Jordan using a random sample of 917 patients found that only a small percentage of people with T2DM adhered to diet and physical activity changes. The findings showed a statistical significance for not adhering to a plan prescribed by a dietician. In view of these findings, this study recommends ongoing education to encourage more exercise and adherence to diet, especially in cases of poor glycaemic control.

In 2010, a cross-sectional study of 577 T2DM participants in Australia found that access to health care teams is integral to the success of self-management or self-care, and patients often see their GP as central in the overall management of their diabetes. These findings are consistent with other findings indicating that maintaining continuity of care is closely associated with improved health outcomes and better quality care delivery. However, T2DM is recognised as one of the most challenging chronic diseases in terms of self-management, due to the associated multi-behavioral changes and psychological adjustments it demands. While self-care calls for more active patient involvement in managing their chronic condition, an extensive 4-year observational study in the United States involving 2191 participants found that 69% of participants wanted to leave the majority of the decision-making to their general practitioner, with the odds for preferring an active role decreasing with age and disease severity, and increasing with level of education. Thorne and Patterson’s (2001) analysis of qualitative research into the development of self-care decision-making expertise in adults with long standing T1DM found that learning to manage the condition effectively occurs over a long
period of time, and individuals will require varying support along the way. Sigurdartottir’s (2004) literature review to explore self-care in diabetes and present a model of factors affecting self-care found that strengthening self-efficacy is beneficial to self-care outcomes, but recognised the need for ongoing research exploring individual experiences of self-care to enhance HP support.

**Australian national primary health care and diabetes care**

National priority actions for diabetes care comprise reducing risk, early diagnosis, providing best care and support during the early stages, offering best long term care and supporting acute episodes. International and national research indicates that health services with a focus on primary health care (PHC) are more efficient, with better health outcomes. PHC is recognised as the cornerstone of Australian health services. General practice is where individuals with diabetes receive the majority of their care. In line with other developed countries such as Great Britain and New Zealand, the Australian PHC sector has undergone significant reform over the last decade. The 2005 NCDS aimed to provide a national policy to improve chronic disease prevention and outcomes across Australia. The associated National Services Improvement Frameworks were developed to provide more person centred, flexible, coordinated care. The 2005 Diabetes National Services Improvement Framework identifies national priority actions for change in primary health care services to reduce risk and enable the best acute, early and long-term care and support of individuals with diabetes. Between 2007-08 diabetes complications accounted for 52% of potentially preventable hospitalisation. Furthermore, it was noted that 24.7% of the adult population were obese, a significant risk factor for diabetes, compared to 18.7% in 1995. In view of this continuing decline in chronic disease outcomes, in 2008 the National Health Agreement (NHA) between the Commonwealth and state and territory governments aimed to further improve primary health service outcomes through a number of key issues, including better management of chronic conditions.

Australian primary health care is delivered nationally through a mix of Commonwealth, state and territory government funding and public and private
service delivery. Commonwealth funding through Medicare rebates provides the largest financial support of this health service system. Medicare was introduced in 1984 to provide accessible free or low cost medical care to all Australians. The Federal Government department of Health and Ageing developed policy for the Medicare program, including the Medicare Benefits Scheme (MBS). In 2010-11 Medicare processed 319.1 million services, with 16.3 billion dollars in Medicare benefits. It is estimated that if health policy remains the same, spending will increase from 3.8% of GDP in 2006-07 to 7.3% in 2046-47.

As the fastest growing chronic disease in Australia, with an alarming associated increase in incidence in the community, T1DM, and predominantly T2DM, represent a huge challenge to PHC service delivery. More than half of GP consultations comprise of people with chronic disease. Between 2001-02 and 2010-11 there has been a significant increase in GP management of chronic conditions (49.3 per 100 encounters to 53.1 per hundred encounters) with patient encounters for diabetes increasing by 40% (1.6 million more diabetes contacts). Furthermore, this burden of diabetes is expected to rise from 5% in 2003 to 9% in 2023, mainly due to the alarming increase in obesity. This substantial rise in disease burden is correlated with a considerable financial increase, where the cost of managing diabetes in the community is expected to increase by 520 per cent between 2002-2003 and 2032-33.

In response to this growing community need, PHC management has broadened its focus to include awareness, prevention and detection to meet the growing challenge of effective diabetes care provision. Research indicates that effective prevention (primary and secondary) can successfully decelerate the increase of T2DM in the community, and have a subsequent effect on the socio-economic impact of this disease. Primary prevention aims to prevent the development of the condition through life style changes and improved diet and exercise, while secondary prevention aims to stop the development of complications through regular review and close monitoring of the condition. To support ongoing quality improvement of this broader focus on primary health provision, the Chronic Care Model (CCM) provides a theoretical basis for understanding the complexities and required elements when managing chronic disease.
Figure 2-4 displays the CCM as developed in the USA, which is the most widely used model in the care of people with chronic conditions.\textsuperscript{68,107} It provides a theoretical framework for understanding the role of the different elements required to provide effective care for people with chronic disease.\textsuperscript{3,68} The CCM illustrates the need for interaction between informed patients and proactive health professionals to enable improved functional and clinical outcomes for the patient.\textsuperscript{108} The overall aim of the model is to develop well-informed patients and a health service equipped to support them.\textsuperscript{68} The model as shown in Figure 2-1 outlines six components for improving care for people with diabetes: organisation of health care, self-management support, delivery system design, decision support, clinical information, and community resources.\textsuperscript{27,68}

![The Chronic Care Model](image)

**Improved Outcomes**

*Figure 2–1 The Chronic Care Model; Source: MacColl Institute\textsuperscript{109}*

Table 2.1 provides an explanation of each component, with examples of how the components can be applied in practice. The Chronic Care Model has shown good outcomes for patients with diabetes; functional and clinical outcomes following application of the CCM include a decrease in HbA1c and smoking.\textsuperscript{68,107}
### Table 2-1 Essential Elements of the Chronic Care Model

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<th>Model Components</th>
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<td>Health System Organisation of Healthcare</td>
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<td>Decision Support</td>
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<tr>
<td>Delivery System Design</td>
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<tr>
<td>Clinical Information Systems</td>
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<tr>
<td>Community Resources and Policies</td>
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</table>

1. Visible support of improvements provided by senior leadership
2. Incentives for care providers
3. Educational resources, skills training and psychosocial support provided to patients to assist them in managing their care
4. Wide dissemination of practice guidelines
5. Education and specialist support provide to healthcare team
6. Planned visits and sustained follow-up
7. Clearly define roles of healthcare team
8. Surveillance system that provides alerts, recall and follow-up information
9. Identification of relevant patient subgroups requiring proactive care
10. Identify effective programs and encourage appropriate participation
11. Referral to relevant community-based services

However, as PHC has expanded to include increased awareness and health promotion, there have been calls for the Expanded Chronic Care Model (ECCM) to enhance the care model’s ability to address high quality service provision as well as to incorporate population health promotion that is aimed at identifying risk behaviours and environmental conditions of individuals and population groups.

In 2011, the Federal Government introduced the National Health Reform policy, which aimed to streamline all health service delivery, including GP and PHC, to meet the ongoing demands of the aging population, increased rates of chronic and preventable disease, and rising health care costs in general. This policy aimed to enable a stronger, more flexible approach to the treatment and management of people with diabetes. In July 2012, the three year Diabetes Care Project was
developed to test new approaches to a more flexible, coordinated approach to diabetes management in general practice settings. At the end of the trial, the program will be evaluated for improved patient and practitioner experiences, flexibility of care delivery and cost effectiveness.

Though, health policy reform and related strategies have been put in place to address the issue of complex chronic diseases such as diabetes, they do not necessarily translate into positive outcomes for the individual. Despite diabetes being a recognised national health priority since 1996, between 1996 and 2006 the prevalence of diabetes has doubled within the community. Ongoing reform is working towards providing patient-centred approaches to improve patient outcomes. However, despite these reforms in primary care delivery, patients and medical staff still perceive that there is poor chronic disease care, and while studies in the Australian population are limited, there is evidence that in many instances, the quality of care does not meet acceptable standards of practice. These deficiencies in care delivery are specifically evident in studies of T2DM research, which indicates the need, in view of persistent poor quality care outcomes, to focus on identifying patient diabetic needs, so that care providers can ensure that primary health care services policy development has the capacity to effectively address the needs of individuals and enable better health outcome.

**Diabetic management in Australian general practice the role of the general practice nurse**

In recent years, general practice management of diabetes has shifted to a patient-centered approach which places the person with diabetes and his or her family at the centre of the care model, working in collaboration with health care professionals. In addition, general practice health system delivery is moving from a focus on acute episodic care to a more comprehensive, multiservice provision of models of diabetic care. This shift in delivery system design has led to the adoption of multidisciplinary general practice teams, consisting of GP, GPN, dieticians, pharmacists, opticians, endocrinologist and podiatrist, all working in collaboration with the patient.
To ensure the sustainability of this primary health care service and effectively address emerging community health needs, the Australian Federal Government introduced changes to the way MBS funding is allocated to support general practice.\(^4\) In 1998, PIP was introduced to provide a flexible, cost-effective means of government support to general practice, to enable quality care and continuing improvements, and to enhance capacity and improved access and health outcomes for patients.\(^4,114\) To access PIP, general practices need to be accredited or have applied for accreditation against the RACGP *Standards for general practices*, and must remain accredited for ongoing eligibility.\(^4\) In 2001, as part of this program, the diabetes initiative was introduced; its purpose was to encourage practices to provide earlier diagnosis and effective management of people with diabetes through GP coordinated Annual Cycles of Care (ACoC).\(^114\) Figure 2-2 displays the MBS funding requirements for the Annual Diabetes Cycle of Care, outlining the complexity of this care, which involves 6 and 12 monthly reviews and development of individual general practice care plans, as well as team care arrangements as required.\(^6\)

![Figure 2-2 Required Annual Cycle of care (ACoC)\(^{115}\)](image)

Table 2.2 outlines The Service Incentive Payment (SIP) paid to the GP for each ACoC completed. GPs working in accredited practices with the Practice Incentive Program (PIP) in place will be able to claim a payment if they meet the requirements such as 6 monthly blood pressure and feet examination as well as yearly review of self-care, exercise and diet.
Blood pressure: every 6 months  
Ht/wt/waist (BMI): every 6 months  
Feet exam: every 6 months  
Glycaemic control (HbA1c): once every year  
Blood lipids: once every year  
Mycroalbuminuria: once every year  
Eye exam: at least every 2 years  
Smoking: review once a year  
Healthy eating plan: review once a year  
Physical activity: review once a year  
Self care education: review once a year  
Medications: review once a year  

Table 2-2 Requirements for the Service Incentive Program (SIP) Cycle

As noted, Australian primary health care delivery in general practice has undergone substantial changes to meet the rising challenges of T2DM in the community. Some of these changes, such as the introduction of the multidisciplinary care team, have shown positive effects on health practitioner (HP) behaviour and some patient outcomes, particularly for diabetes, hypertension and lipid disorders. GPNs are playing an increasing role as part of this multidisciplinary team, especially in the approach to chronic disease care. However, the 2008 nursing in Primary Health Care Round Table report notes that the current context of practice nursing in primary health care is inefficient and unsustainable. Subsequent ongoing professional practice debate regarding the role of advanced GPNs continues in the interest of enhancing primary health care delivery for the Australian community.

A GPN is a RGN or an EN (RN Division 1 and Division 2) who is employed by a general practice. The majority of GPNs are RGNs are working part time, in medium to large general practices. In a 2004 national Australian phone survey of 222 GPNs it was found that 84.7% of the GPNs were RGNs, 34.2% had no formal post basic qualifications, 11% had postgraduate diplomas/certificates and 2% had masters degrees, while 94.9% had some form of professional development in the recent 2 years. Practice nursing is widely accepted internationally in primary health care delivery with New Zealand and The United Kingdom being the closest parallel to the Australian context. However, in comparison with Australia, GPNs in
New Zealand and the United Kingdom have more defined roles; it has been regarded as a nursing speciality in United Kingdom since 1966, and New Zealand since 1970.\textsuperscript{71} In the UK, Sweden and the Netherlands, the GPN role is well developed and largely supported by postgraduate and masters level training.\textsuperscript{61}

In Australia the role of GPNs has been traditionally regarded as a part time job that accommodates family commitments as opposed to a career pathway; consequently it has been slow to develop and remains less clearly defined.\textsuperscript{71,75,120} Traditionally the Australian GPN role was limited to assisting with some GP tasks and receptionist duties, and was largely unrecognised and undervalued in terms of Federal Government funding initiatives.\textsuperscript{81} Driven by community and general practice needs, the 2001 Federal Government NiGP aimed to increase GPN employment in general practice settings to relieve workforce pressure on GPs, improve access, quality and integration of care, and improve prevention and chronic disease management.\textsuperscript{71,121} While the result of this Federal Government initiative has been largely successful (almost 60% of general practices now employ at least 1 GPN), general practice nurse models of care have yet to be clearly defined.\textsuperscript{89,122}

Kelleher et al.’s (2007) general practice policy review found that a wide variations in GPN models of care throughout Australia, from the traditional one of task delegation to more independent practice in areas such as chronic disease management.\textsuperscript{89} Implied in the Australian Government’s NiGP is the substitution model. Under this model of care, GPNs undertake a series of tasks delegated by the general practitioner, with no expansion of scope of practice beyond this division.\textsuperscript{89} Alternatively, the collaborative model of care is reflected in the new Chronic Disease Medicare (CDM) items.\textsuperscript{89} In this system, the GPN is recognised as a member of the team in the Team Care Arrangements (TCA), where they work with a degree of supervision from the employing GP, under the assumption that the GPN is an autonomous health care provider who can manage an episode of care. This collaborative, professional, autonomous model of nursing care is also reflected in the Nursing in General Practice Competency Standards, where standards indicate that nurses are responsible for their own competency and adherence to professional practice.\textsuperscript{3,70,89} This variation in models of general
practice nursing care also extends to general practice settings, where general practice nurse models of care differ according to local needs, practice demands and individual skill.\textsuperscript{64}

In addition to a variety of GPN models of care, evidence suggests that there are a wide variety of GPN roles.\textsuperscript{75,123} In 2004, GPNs were recognised as having four roles: administration, clinical care, integration and practice management.\textsuperscript{6,75} In 2009 a national cross-sectional and longitudinal study of general practice nurse activities collated data from 25 practices in rural and metropolitan locations for a period for one year.\textsuperscript{124} Table 2.3 outlines the six identified key roles of the general practice nurse and gives an outline of the characteristics of each role.

<table>
<thead>
<tr>
<th>Role</th>
<th>Characteristic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient carer</td>
<td>Clinical care, advocacy and nurture</td>
</tr>
<tr>
<td>Organiser</td>
<td>Clinical care, practice management and services</td>
</tr>
<tr>
<td>Problem solver</td>
<td>Scanning, observing and rapid response strategies</td>
</tr>
<tr>
<td>Quality controller</td>
<td>Compliance with quality, safety and risk management</td>
</tr>
<tr>
<td>Educator</td>
<td>Patients, other nurses, GPs and other practice staff</td>
</tr>
<tr>
<td>Agent of connectivity</td>
<td>Agents of connectedness between different disciplines within the practice;</td>
</tr>
<tr>
<td></td>
<td>balancing patient needs within the team</td>
</tr>
</tbody>
</table>

\textit{Table 2-3 The Six Roles of the General Practice Nurse}\textsuperscript{125}

The description of the GPN roles is intended to facilitate the expansion of the scope of practice in the areas of problem solver, educator and agent of connectivity.\textsuperscript{126} While six roles have been identified, it is recognised that GPNs perform these roles interchangeably. Particular emphasis has been placed on the role of connectivity, where GPNs are seen as a link between the general practice other health services and community resources.\textsuperscript{126} GPNs are recognised as highly mobile, flexible and spontaneous members of the practice team, providing intangible support to the practice’s capacity to deliver holistic care.\textsuperscript{5} The research also noted that some aspects of the GPN role such as education are often underestimated, as GPNs often provide education together with clinical care. The role of GPN as agent of connectivity was first articulated through this research, as
it identified that GPNs form a vital link between all practice disciplines as well as between the practice and the community. The RACGP integrated these six roles into their GPN guide to the team approach to diabetes management in general practice, noting that these key roles contributed significantly to patient health outcomes, enabling resilient general practices.6

Despite this diversity in the models of care and roles, GPNs are now recognised core members of general practice multidisciplinary teams who are fundamental to enable improved health outcomes in chronic disease management.74 Chronic diabetic care in general practice is supported by a series of MBS funding items that support initial assessment, care planning and goal setting with the individual, GP and GPN.7 GPMPs (Medicare item number 721) are planned care documents incorporating the patient treatment goals and achievements, which are developed by the general practitioner in collaboration with the patient.7 TCAs (Medicare item number 732) are an expansion to the GPMP and facilitate access to elected allied health workers who provide additional care as required.7 The general practice nurse can support the GP in coordinating the GPMPs/TCAs with the individual.6,127 Through this system the GPN can identify and organise appropriate referral to allied health services such as diabetes educator, podiatrist, dietitian, psychologist and exercise physiologist. As diabetes is a chronic condition, it is essential that appropriate follow up is organised for improved outcomes of care. This process is further facilitated through the coordination and review of GPMP and/or TCA (MBS item 723) and ongoing review of this program between the individuals, GP and GPN (item 1099).7,70

In addition to supporting the individual and the GP in coordinating an individualised plan for ongoing diabetic management, GPNs may also be involved in the the six monthly and yearly diabetic assessment.6,7 The RACGP and Diabetes Australia clinical guidelines for management of type 2 diabetes in general practice (2011/2012) state that there is a minimum level of care required in the quarterly and yearly nursing review.7 Figures 2.3 and 2.4 identify the areas required and these include both a clinical assessment and health education focus, and areas for the nurse and patient to identify that will be the focus of the GP consultation. The annual review is more comprehensive, as it addresses additional items such as
discussion on medication, immunisation, care plan review and outside support from recognised agencies such as the NDSS. In the research general practice setting, the allocated time for consultation and template for the six monthly and annual T2DM review remains the same.

<table>
<thead>
<tr>
<th>Ask about:</th>
<th>Smoking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nutrition</td>
</tr>
<tr>
<td></td>
<td>Alcohol intake</td>
</tr>
<tr>
<td></td>
<td>How much exercise and how often</td>
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<td></td>
<td>Any problems with medication</td>
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<table>
<thead>
<tr>
<th>Check:</th>
<th>Weight/waist</th>
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<tr>
<td></td>
<td>Height (children and adolescents)</td>
</tr>
<tr>
<td></td>
<td>Blood pressure</td>
</tr>
<tr>
<td></td>
<td>Feet examination without shoes, if new symptoms or at risk (eg: neuropathy ± peripheral vascular disease)</td>
</tr>
</tbody>
</table>

| Review:          | Goals with patient to identify specific areas of focus for doctor consultation |

**Figure 2–3 Quarterly Nursing Review for General Practice Nurse Diabetes Care**

<table>
<thead>
<tr>
<th>Ask about:</th>
<th>Smoking</th>
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<tbody>
<tr>
<td></td>
<td>Nutrition (last contact with dietitian or diabetes educator)</td>
</tr>
<tr>
<td></td>
<td>Alcohol intake</td>
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<tr>
<td></td>
<td>How much exercise and how often</td>
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<tr>
<td></td>
<td>Any problems with medication</td>
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<tr>
<td></td>
<td>Any changes in medication (by doctor/pharmacist or patient)</td>
</tr>
<tr>
<td></td>
<td>Chest pain</td>
</tr>
<tr>
<td></td>
<td>Vision (when last checked)</td>
</tr>
<tr>
<td></td>
<td>Any foot discomfort</td>
</tr>
<tr>
<td></td>
<td>When was last podiatry and dental check</td>
</tr>
<tr>
<td></td>
<td>Immunisations (include Flu and Pneumovax)</td>
</tr>
<tr>
<td></td>
<td>Family history and update</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Check:</th>
<th>Weight/waist</th>
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<tr>
<td></td>
<td>Height (children and adolescents)</td>
</tr>
<tr>
<td></td>
<td>Blood pressure</td>
</tr>
<tr>
<td></td>
<td>Feet examination: without shoes, pulses, monofilament check</td>
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<tr>
<td></td>
<td>Blood glucose at examination</td>
</tr>
<tr>
<td></td>
<td>Urinalysis</td>
</tr>
<tr>
<td></td>
<td>Visual acuity</td>
</tr>
</tbody>
</table>

| Review:          | Goals with patient to identify specific areas of focus for doctor consultation |
|                  | Last care plan to identify timely referrals |

| Check:           | Registration with NDSS/membership of State or Territory Diabetes Organisation |

**Figure 2–4 Annual Nursing Review for General Practice Nurse Diabetes Care**
This general practice diabetic model of care supporting a patient centred, planned, comprehensive, multidisciplinary care approach is successful in meeting community health needs in terms of isolated episodes; however, it is less successful in meeting the long-term needs of people with complex conditions such as diabetes. For example, the 2000 *Diabetes Prevalence and Management Report* indicated that only 19% of eligible diabetic patients had seen a diabetic educator, which is essential to ongoing quality care in the previous 12 months. Reddy et al.'s (2010) Australian-based study which involved a convenience sample of seven general practices in metropolitan and rural areas aimed to identify treatment gaps for patients with T2DM. Findings from the study revealed that the provision of patient clinical results, for example, HbA1c, blood pressure and lipid profile, together with the use of GPMPs and TCAs, may not be enough to change patient outcomes. Outcomes of The Diabetes MILES--Australia (management and impact for long-term empowerment and success) (2012) indicate that diabetes in general has a negative impact on a person’s quality of life, and there is a recognised need to develop a better understanding of the social, psychological and emotional impact of this disease. Findings from this study identified that for patients to truly engage in their own self-care, they need to have a sense of true ownership. Research has found that effective communication and collaboration between the patient and the health practitioner are essential to empowering patients to self-manage their T2DM effectively.

Unfortunately, in the clinical setting, HPs and patients more often assume traditional roles, thus the patients feel disempowered. There is an identified need for ongoing research to help identify personal values that will assist people with diabetes to successfully engage with diabetic treatment recommended by health professionals. An extensive observational study in Holland in 2010 involving 3096 participants from 24 diabetic care networks found that while adherence to clinical guidelines provides more satisfactory patient experiences, improved technical care does not equate with improved inter-personal care. The researchers called for the measurement of both aspects of care when evaluating care delivery, especially when evaluating chronic disease programs such as diabetes.
The 2008 round table report on nursing in primary health care acknowledged that Australian models of primary health care delivery needed a greater interprofessional understanding of the roles of health care professionals.\textsuperscript{118} This report advocated that the current primary health care service is not effectively meeting community needs and is not sustainable. Research by Pullen (2009), exploring the perceptions of interprofessional relationships, teamwork and collaborative patient care in New Zealand primary care practice, found that fee-for-service task-based components discourage a collaborative approach to health service delivery.\textsuperscript{134} Moreover that a bulk funding approach was more consistent with effective teamwork and collaboration.\textsuperscript{134,135} New models of general practice nurse care are currently under debate, such as the nurse-led clinics, which are reporting good primary health care outcomes.\textsuperscript{118} A nurse-led chronic disease clinic provides additional support and strategies to patients to help manage their condition.\textsuperscript{136} The definition of an Australian nurse-led clinic is one in which patient care is coordinated by nursing staff supported by the general practice team.\textsuperscript{137} These clinics are normally run by specialist nurses, for example, diabetes or asthma educators, during general practice times, so that patients can access the GP and the GPN. Findings from Bhattacharya et al.'s (2007) audit of satisfaction of care in nurse-led diabetes clinics in the United Kingdom found that nurse-led clinics added great value to diabetes service provision, and have the potential to have a significant positive impact on patient clinical metabolic outcomes.\textsuperscript{138} There is limited evidence of the effectiveness of the Australian GPN models of care.\textsuperscript{83} Nurse-led clinics are evolving as a model of GPN care to address the increasing community burden of chronic disease and the need for effective complex medical care.\textsuperscript{83} An interim report of a prospective randomised Australian trial by Eley et al. (2008) of a collaborative model of patients with T2DM and Cardiovascular Disease (CVD) indicated that there is a variation in patients undertaking self-management roles and in their degree of involvement and self-responsibility, and notes that this ongoing research will inform further expansion of the GPN role within a collaborative role model of care.
Patient perception of general practice nurses' role in supporting their diabetes self-management

The Australian GPN role as part of the multidisciplinary primary health care team in general practice is evolving in response to a recognised need to develop an understanding of patients’ perceptions of this role and its implications for general practice activity. A clear understanding of HP roles is essential in the effective management of T2DM, which requires the involvement of a range of health disciplines including GPNs to comprehensively address patient health needs. A 2002 study by the National Steering Committee on Nursing in General Practice involved 170 participants to explore the consumer perspective of general practice nurses through a series of focus group discussions. This study found that, in general, consumers are not fully aware of or do not understand the scope of nursing in general practice. While it found that consumers believed GPNs could undertake activities that would free up the GP time, they could not articulate specific nursing skills, due in part to their limited experiences of GPN activity. An additional 2002 study in New South Wales looked at patient perceptions of chronic care in general practice settings. This study of 76 consumers showed that participants viewed the GPN’s role as important for them in terms of obtaining information and some care delivery.

A 2002 a national Australian explorative study of 170 participants on ‘Consumer Perceptions of Nursing and Nurses in General Practice’ found that consumers view the GP as the HP who will diagnose and deal with the medical issues, while they see the nurse as having more caring and supportive characteristics. This study identified the apparent need to increase public awareness of general practice care provision, facilitators and providers. A 2005 cross-sectional study of the perception of the GPN T2DM care role and the GPN role as defined by general practice T2DM clinical guidelines in Queensland involved 672 respondents; 603 reported that T2DM found gaps in the current care provision service. This study’s findings described noticeable gaps between care provision and individual expectation and experiences, especially in areas of management and lifestyle.
Effective self-management strategies are pivotal to achieving positive T2DM health outcomes, yet research outcomes have indicated that there are often discrepancies between HP expectations and a person’s skills, knowledge and outcomes in managing their condition. In terms of clinical practice, these discrepancies, such as in relation to weight loss and blood glucose goals, are important, as the potential for misunderstanding can have a significant impact on individual diabetic care health outcomes. In a 1998 study of 54 individuals with T2DM who were part of a larger study of education and weight reduction indications, researchers looked at the congruency between patient and provider expectations in relation to treatment goals and specific goals of weight loss and SMBG. This study found that there were incongruities between physician and patient expectations when establishing goals were due to miscommunication and health practitioner assumptions about the patient’s knowledge and skills. The study identified the importance of letting patients explain what their understandings are before trying to establish goals. A 2005 cross-sectional study of 686 adults with T2DM in the USA also found that knowledge alone of individual HbA1c was not enough to facilitate increased confidence and the motivation required for improved self-management.

Establishing common goals and understandings between the HP and the patient is essential in T2DM, because research into self-management and patient involvement in their health care indicates that the more active the individual is in managing their own condition, the more likely they are to have better health outcomes. Yet one of the biggest challenges for individuals with T2DM is to be able to manage their condition effectively, and one of the biggest challenges for HP is to provide effective care. A 2010 qualitative study of adult diabetes mellitus management perceptions conducted face-to-face interviews with 44 adults from a Mid-West Internal Medicine Clinic in the United States, and found that differences between patients’ self-management priorities and health practitioner priorities may contribute to the frustration felt by both practitioner and patient and subsequent [poor?] health outcomes. This study noted that individuals found it difficult to understand the relationship between their self-care and the expectations of the health care practice, and recommended additional studies in this area. In addition, data from an extensive longitudinal study in the United States in 1990 found that
not all individuals are the same, therefore it cannot be assumed that everyone will
want the same level of active involvement in their care.\textsuperscript{14} A later study in 2008 used
the Diabetes Semantic Differential Scale (DSDS) and the diabetes care profile
(DCP) to measure and identify differences in the perception of diabetes between
the patient and provider (doctor or nurse).\textsuperscript{143} This study found that patient and
provider perceptions of diabetes differ, and that health providers should not make
assumptions about a patient’s understanding of their condition, or assume that they
understand advice and instruction. Additionally, a qualitative study of 40 newly
diagnosed T2DM patients found that health practitioners need to ensure that
patients have a clear understanding of their diagnosis, which was crucial to their
confidence in making effective life style changes.\textsuperscript{144}

A 1998 study by Kinmonth et al. of patients’ perceptions of diabetic care noted the
emergence of the importance of practice nurses in supporting patients with
diabetes, and found that the GPN scored as high as the GP in terms of knowledge
about the condition, information, access and communication skills.\textsuperscript{145} Ongoing
review of the GPN role in Australia is focusing on the community acceptability of
this role. Hegney et al. (2004), in a review of Australian studies, identified the
ongoing confusion over the role of the general practice nurse. Findings also
identified consumers’ concerns that GPN may act as a gatekeeper, limiting patient
access and choice regarding seeing the GPN or GP.\textsuperscript{84} However, patients would be
satisfied with only visiting the GPN if they felt that this practitioner could address
their needs effectively. The consumer perceptions of nursing and nurses in general
practice (2002) report finds that the general practitioner is the key broker in
bringing about the necessary changes in the nature and scope of the GPN care
provision.\textsuperscript{139} Endorsement by the GP was recognised as a powerful strategy for the
acceptance of current and expanded roles of GPN activity.

\textbf{Chapter summary}

There are several points related to the individual impact of diabetes, health service
delivery and the general practice nurse that can be considered from this literature
review. First diabetes has a significant physical, social and lifelong impact on an
individual’s life. Second general practice as the front line of diabetes management has undergone significant reform to meet the growing challenge of managing this condition effectively. Third driven by a combination of a growing community and general practice need the role of the general practice nurse has expanded to assist general practices to meet this growing need effectively.

Research reviewed here has identified that although general practice policy has incorporated the expanded role of the general practice nurse in an effort to meet the growing community T2DM needs there is much to be learned of the impact of the GPN role expansion and patient T2DM outcomes. While GP diabetes model of care is meeting some patient clinical outcomes several studies have revealed that these reforms are not meeting patients’ long term psychosocial needs effectively. Furthermore while general practice nurse quarterly and annual diabetes care reviews have been clearly delineated in GP diabetes management guidelines the expanded role of the general practice nurse and the implementation of these guidelines in practice settings is not clearly defined. This confusion is also expressed by the community. While Infante’s (2004) qualitative of patients’ of chronic disease care in GP noted the value nurses held in this setting specific aspects of care were not identified. Furthermore ongoing community consultation has identified consumer confusion regarding the specific role of the nurse in this health service environment.

This research will contribute to the growing body of knowledge of the GPN T2DM role and patients’ perception and experiences of care provision. The following chapter presents the research question and objectives. The methodology and methods used to research these questions will be discussed, in addition to the ethical considerations when carrying out this research. The position of the research is considered, and any limitations to this project are outlined.
Chapter 3 Research Methodology

Introduction

As described in chapter one, the aim of the research is to explore patients’ experiences of GPN T2DM care. This chapter describes the methodological framework of the research and justifies the chosen methodological approach. It describes the research aims and questions as well as the author’s background and personal reflection. It defines the context and participants in the research and provides an explanation of the data collection process in four sections: sample selection, recruitment of participants, study sample and interview process. It describes the data analysis process and addresses the trustworthiness and ethical considerations respectively.

Research approach

Interpretive approach

A paradigm is a general perspective or overarching system of beliefs about the nature of the world and directs the way a researcher will observe or carry out research. While conducting research, the choice of a paradigm is directed by the research question. As this research centers on gaining an understanding of the participants’ experiences of T2DM GPN, an interpretive approach is considered most appropriate. An interpretive paradigm aims to understand the personal experiences and interpretations of a phenomenon from the perspective of the participants. It seeks to understand human action and experiences while generating accounts of their meaning.

Interpretive research is philosophically aligned with naturalistic ontology. In naturalistic inquiry, realities are intangible and socially constructed, and their form and content depend on individual experience and construction. This inquiry approach holistically studies multiple constructions of realities, where the knower and known interact, and theory emerges from the data. Multiple realities are said to exist due to the varied versions of reality, which are individually and socially
constructed. The main objective of interpretive research is the individual and group experiences of their reality. Interpretive researchers reject the claim of an objective description of reality, arguing that descriptions are always influenced by our cultural, gendered, linguistic and ideological understanding of reality. It assumes that reality is socially constructed, therefore the researcher and the study participant facilitate a collaborative construction of a meaningful reality. It focuses on understanding the complexity of human sense-making as the situation emerges, therefore attempts to understand the phenomena through the meaning that people attach to them.

Epistemologically, interpretive research acknowledges the relationship between the researcher and the participant and what is being explored, where the goal is a deep, self-reflective engagement of the phenomena. Therefore research characteristics include natural settings, qualitative methods, purposive sampling, inductive analysis, and tentative application of findings. The interpretive paradigm was selected for this research to gain an understanding of the participants’ experiences of general practice nurse T2DM care. This study is concerned with uncovering the participants’ multiple interpretations of T2DM care through their ongoing general practice nurse consultations. This understanding is important in view of the growing burden and impact of T2DM in the community, the increasing role of the GPN in T2DM care, and the evolving role and models of GPN’s diabetes care.

**Qualitative approach**

Since an interpretive paradigm was chosen to understand the participants’ experiences of GPN T2DM care, a qualitative approach was selected as the most appropriate to data collection. In qualitative research, meanings are located within context and time and emerge from the research process. Qualitative research centers on the way the participants made sense of, and attach meaning to, their experiences, and aims to address questions concerned with developing an understanding of the meaning and experience dimensions of humans’ lives and social worlds.
Qualitative research breaks with the traditional health-related quantitative methodological approach, as it does not focus on the production of objective and reproducible data, but is concerned with meaning, and how it informs subjective understanding. Where quantitative research primarily concerns itself with techniques and instruments of obtaining data in hypothesis testing, qualitative research is concerned with the meaning of experience, language and symbols. The theoretical underpinning of qualitative research is the understanding of meaning as a constantly constructed experience revealed through a particular interpretive framework, where the researcher’s own subjectivity informs the interpretation of data and subsequent findings. This view is contrary to the quantitative dualist ontology which treats subject and object as two separate entities with an objective reality and the assumption that language is a mirror of this reality. Qualitative research seeks to discover the meanings that participants attach to their behaviour, how they interpret situations, and what their perspectives are on particular issues. This research approach enables the researcher to describe, explore and generate meaning within a particular context in order to gain greater understanding of the phenomenon, by acknowledging the contextual and constructed nature of human experiences as well as allowing for shared realities.

Although there are a variety of approaches to qualitative research, they are united in their phenomenological base, which stipulates that person and world are inextricably related though lived experience of the world. It aims to enrich understanding of human experience, where the emphasis is on the context of behaviour and experiences are understood from the perspective of everyday people and events. Its underpinning ontological stance is that reality is constructed and resides in the realm of the individual, resulting in a subjective and multiple view of reality. Its epistemological position is that knowledge is gained though minimising the distance between the researcher and the participant to facilitate a better understanding of the lived view of the participants. It is conducted from an experience perspective, in that the researcher does not start with concepts determined a priori or start out with dependent or independent variables, but rather seeks to produce an understanding of the phenomena.
Research Questions and Aims

The aim of the research was to describe the participants’ experiences of diabetic care provided by general practice nurses as part of the general practice diabetes management plan. The research questions were:

- What is the experience of being diagnosed with T2DM?
- How do general practice patients with T2DM experience care from practice nurses?

The aim of this research was to explore participant perspectives of GPNs’ T2DM care in terms of:

- Individual impact of diabetes.
- Individual perspectives of practice nurse diabetes management
- Identifying some of the beneficial aspects of practice nurse care
- Identifying areas of care for future needs
- Exploring experiences of length of consultation time
- Exploring experiences of care from different GPNs.

The interview questions to explore the participants’ experiences were:

1. Tell me your experiences of general living with diabetes?
2. How long have you received diabetic management from practice nurses as part of the diabetic management plan?
3. Tell me about your experiences of having practice nurses involved with your diabetic management.
4. Can you tell me about the effect practice nurses have on how you manage your diabetes?
5. Can you tell me some of the benefits of having practice nurses as part of your diabetic management plan?
6. Can you describe some other areas of your diabetic care where you believe practice nurses could be involved? Or more involved?
7. Do you think you have enough time with the practice nurse?
8. Can you tell me your ideas about how you could improve the care you receive?

9. What are your thoughts on care provided by difference practice nurses or by the same practice nurse?

In keeping with the analytical framework of interpretive description, the researcher carried out an extensive literature review of the current knowledge and understanding of the phenomenon. This review provided an initial understanding of T2DM care in general practice, the role of the general practice nurse, models of GPN T2DM care, and current understandings of patient perspectives and expectations of general practice nurse care. However, while analyses of the data were carried out with this understanding in mind, it did not direct the research findings.

The author's background and personal reflection

As the author I am a registered general nurse with twenty years' experience in a variety of nursing areas. I qualified with a hospital-based diploma in Ireland and after completing one year as a registered general nurse in a large metropolitan hospital coronary care unit, I decided to travel and expand my nursing experiences and develop my love of languages. I worked for periods of approximately of two to three years in a variety of countries Switzerland, France, the United States, and Australia. While I have worked in a variety of nursing fields, my main focus was in the area of high care, such as cardiothoracic and general intensive care, coronary care, and the emergency department. During this time, while expanding my practical general nursing experience, I converted my hospital-based diploma into an Australian university degree through a one-year conversion program. In 1999 I went to work in Argentina for 2 years. On application to work in the cardiac unit of a large hospital in Buenos Aires I was instead invited to teach English to the medical profession to enable overseas conference presentations. Due to this experience I decided to expand my interest in the field of languages and teaching, gaining a graduate diploma in education (adult and tertiary) and a graduate diploma in arts (language studies) from two Australian universities.
On returning to Australia I went to live in remote communities, working part time as a registered general nurse. It was through this experience that I gained valuable insight into the link between health care and people’s lives. As I worked in close contact in a small community, I noticed that while people can nod their head in agreement in the clinical setting, once home they often do the opposite. I saw this gap between health provider expectations and individual actions occur on numerous occasions for a multitude of reasons, such as misunderstanding, or patients’ inability to fit the expectations and information of hospital or clinic staff into existing lifestyle and or demands.

While working in remote Australia, I had an opportunity to work as a program manager, developing a rural and remote training package for health professionals. Initially a one-year program, it grew into a four-year program. Over those four years I was responsible for coordinating a national steering committee through the initial pilot program of training material and then a pilot run of the training package, including the evaluation and publication of outcomes. Through this process, I gained experience in: applying for and obtaining grants to enable the project to proceed; working with an executive committee in developing the idea of the research study; identifying suitable contexts for the study; applying for ethical clearance in diverse rural and remote regions in three different states; engaging and recruiting participants; conducting pilot training programs facilitating data collection based on interviews and pre- and post-training learning outcomes; and enabling the final production of the material and research outcomes.

Once this program was developed, I had an opportunity to work at a general practice in my local area. While working here, I noticed that the practice nurses were involved with a great variety of patient activities, including carrying out diabetes-related consultations. On one occasion, I noticed that one of the patients had been eating a packed of lollies while waiting for their diabetes consultation with their practice nurse. Through my previous experience of working as a remote area nurse in close contact with the people and their home life, I began to question what these consultations meant to the patients. I wanted to gain more insight into their
experiences of the consultation and what that meant to them in terms of their everyday living with this condition.

When I enrolled in the Masters In Nursing Research, I had the opportunity to investigate this situation in a formal research study. Through my previous experience of working with a research team to develop, carry out and evaluate a program, I had confidence that I would be able to use the postgraduate program to help me carry out this research effectively.

**Context and Participants in the Research**

This research was conducted in a general practice setting located in an established residential suburb in Perth, Western Australia. The general practice is currently registered for accreditation with The Royal Australian College of General Practitioners (RACGP) standards for general practice. Table 3-1 shows that there are a total of 4120 persons living in this urban area, with approximately equal percentages of male and female.

<table>
<thead>
<tr>
<th>Person Characteristics</th>
<th>Region WA</th>
<th>% of total persons in the region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Persons</td>
<td>4,120</td>
<td>-</td>
</tr>
<tr>
<td>Male</td>
<td>1,985</td>
<td>48.20%</td>
</tr>
<tr>
<td>Female</td>
<td>2,135</td>
<td>51.80%</td>
</tr>
<tr>
<td>Indigenous persons (comprises Aboriginal and Torres Strait Islander)</td>
<td>33</td>
<td>0.80%</td>
</tr>
</tbody>
</table>

**Table 3-1 Person Characteristics Research Area**

Table 3-2 shows that the largest proportion of the population is aged 25-54 years, representing 41.9% of the population, with the next largest 55-64 years at 11.7%. 
<table>
<thead>
<tr>
<th>Age</th>
<th>Region WA</th>
<th>% of total person in the region</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>221</td>
<td>5.40%</td>
</tr>
<tr>
<td>May-14</td>
<td>440</td>
<td>10.70%</td>
</tr>
<tr>
<td>15-24</td>
<td>434</td>
<td>10.50%</td>
</tr>
<tr>
<td>25-54</td>
<td>1,725</td>
<td>41.90%</td>
</tr>
<tr>
<td>55-64</td>
<td>481</td>
<td>11.70%</td>
</tr>
<tr>
<td>65 years and over</td>
<td>818</td>
<td>19.90%</td>
</tr>
</tbody>
</table>

**Table 3-2 Age Research Area**

Table 3-3 outlines the labour workforce for the region, with 57.9% of the labour workforce in full time employment and 31.4% and 4.7% part time and unemployed respectively.

<table>
<thead>
<tr>
<th>Labour force (population aged 15 years and over)</th>
<th>Region WA</th>
<th>% of persons in the labour workforce in the region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total labour force (includes employed and unemployed persons)</td>
<td>1989</td>
<td></td>
</tr>
<tr>
<td>Employed full time</td>
<td>1100</td>
<td>57.90%</td>
</tr>
<tr>
<td>Employed part time</td>
<td>596</td>
<td>31.40%</td>
</tr>
<tr>
<td>Employed away from work</td>
<td>62</td>
<td>3.30%</td>
</tr>
<tr>
<td>Employed hours not stated</td>
<td>52</td>
<td>2.70%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>89</td>
<td>4.70%</td>
</tr>
<tr>
<td>Not in workforce</td>
<td>1,329</td>
<td>-</td>
</tr>
</tbody>
</table>

**Table 3-3 Labour Force Research Area**
Table 3-4 describes the employment sectors of the community, with the majority of the labour workforce in professional employment at 30.1%, and 28% in trade or administration work.\textsuperscript{162}

<table>
<thead>
<tr>
<th>Occupation</th>
<th>(Employed persons aged 15 years and over)</th>
<th>Region WA</th>
<th>% of employed persons aged 15 years and over in Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professionals</td>
<td>545</td>
<td>30.10%</td>
<td></td>
</tr>
<tr>
<td>Technicians and Trades Workers</td>
<td>254</td>
<td>14.00%</td>
<td></td>
</tr>
<tr>
<td>Clerical and Administrative Workers</td>
<td>254</td>
<td>14.00%</td>
<td></td>
</tr>
<tr>
<td>Laborers</td>
<td>175</td>
<td>9.70%</td>
<td></td>
</tr>
<tr>
<td>Managers</td>
<td>168</td>
<td>9.30%</td>
<td></td>
</tr>
<tr>
<td>Sales Workers</td>
<td>167</td>
<td>9.20%</td>
<td></td>
</tr>
<tr>
<td>Community and Personal Service</td>
<td>149</td>
<td>8.20%</td>
<td></td>
</tr>
<tr>
<td>Workers Machinery Operators and Drivers</td>
<td>79</td>
<td>4.40%</td>
<td></td>
</tr>
</tbody>
</table>

Table 3-4 Occupation Research Area\textsuperscript{164}

The practice was established in 1995, with five general practitioners and two part-time general practice nurses (one full time equivalent). It has steadily grown over the years, and in 2012 it employed eleven general practitioners and six part-time general practice nurses (total three full-time equivalent). All general practice nurses are RNs.

There is currently no Credentialled Diabetes Educator (CDE) working at the practice. CDE is a registered trademark that is a status given to a person that has demonstrated expertise and experience in diabetes education and professional development. To become a recognised CDE, candidates must comply with the required eligibility criteria and meet specific criteria as outlined by the Australian
Diabetes Educators Association (ADEA). Credentialled Diabetes Educators must have a professional health care qualification and have completed a post-graduate certificate in diabetes education and care that has been accredited by the ADEA.

Four of the GPNs in the study have completed the Australian General practice nurses Association (AGPNA) online diabetes management in primary care course, and the remaining two are completing it. This course is designed to provide GPNs with updated or increased knowledge of diabetes and diabetes management. The course consists of seven modules on diabetes prevention, lifestyle, medications, acute and chronic complications, self-monitoring and team care. All patients who are diagnosed with T1DM or T2DM are referred onto a specialist CDE located at various external sites throughout the Perth region. Access to this service is facilitated through their respective General Practice Management Plans (GPMP). Patients are referred by the GPN to a CDE in their local area on first diagnosis and as needed as determined through ongoing T2DM reviews.

The practice hours are Monday to Friday 0800-1900 and Saturday 0830-1200. The practice has a total patient cohort of 17,216. The total population for the suburb is approximately 4,119 as per the 2006 Australian census. The practice has a significant proportion of patients from outside the local urban district. Many of the patients initially transferred to this practice when the general practitioners relocated to form their own general practice. There are currently 421 active patients with a diagnosis of T1DM and T2DM at the general practice, but the practice manager was unable to extract data to obtain the specific number for T2DM only patients, as there is currently no recoding keeping process in place that facilitates this form of data extraction.

T2DM management is coordinated by the GP and supported by the GPN. The GPN is responsible for contacting patients through an established recall reminder system for six (6) monthly and yearly T2DM reviews. Patients make their appointment to see their GP and are automatically allocated a 15-minute consultation with the general practice nurse prior to their GP appointment. The GPN is responsible for coordinating the patient appointments. The general
practitioners and the practice manager determined the GPN 15 minute T2DM consultation time. The general practitioners, in collaboration with one of the former general practice nurses who is a credentialed diabetes educator, developed the consultation template.

This practice-specific template is used by all the GPNs while conducting a T2DM consultation, with the document located in the individual electronic file. The GPN T2DM consultation includes: a clinical assessment; blood pressure, height, weight, body mass index (BMI); visual acuity and foot review; a review of the optometrist and podiatrist appointment schedules; and a discussion of dietary and exercise activity and personal goals (Appendix 4). The review is carried out using the general practice specific diabetes template that is accessed through the patient’s electronic file under the practice templates. This complete template is then reviewed by the GP during the follow-up consultation.

**Study sample**

This research project involved ten patients from the general practice who had been identified and invited by their GP to participate in the study. Four males and six females, ages ranging from 48-79 years, participated in the research. Participants came from diverse cultural backgrounds. Six participants were born in Australia and four from overseas moved to Australia as adults. Eight of the participants were married and two single. Two of the participants were diagnosed with T2DM during their working life, one participant is a housewife, and all the remainder participants were diagnosed after retirement. Table 3-5 summarises the demographic profile of the participants. In terms of education, all participants had completed primary level schooling, with three achieving university level education. Only two participants had primary level education only and the remaining five participants have various amounts of high school attendance.
<table>
<thead>
<tr>
<th>Participant #</th>
<th>Age</th>
<th>Sex</th>
<th>Country of origin</th>
<th>Education</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>74</td>
<td>Male</td>
<td>Australia</td>
<td>University</td>
<td>Retired</td>
</tr>
<tr>
<td>2</td>
<td>75</td>
<td>Female</td>
<td>United Kingdom</td>
<td>College</td>
<td>Retired</td>
</tr>
<tr>
<td>3</td>
<td>48</td>
<td>Female</td>
<td>United States of America</td>
<td>Some College</td>
<td>Housewife</td>
</tr>
<tr>
<td>4</td>
<td>61</td>
<td>Female</td>
<td>Australia</td>
<td>High School</td>
<td>Retired</td>
</tr>
<tr>
<td>5</td>
<td>76</td>
<td>Female</td>
<td>Croatia</td>
<td>5th Grade</td>
<td>Retired</td>
</tr>
<tr>
<td>6</td>
<td>76</td>
<td>Female</td>
<td>Australia</td>
<td>Left at 14 yrs of age</td>
<td>Retired</td>
</tr>
<tr>
<td>7</td>
<td>73</td>
<td>Male</td>
<td>Ireland</td>
<td>University</td>
<td>Retired</td>
</tr>
<tr>
<td>8</td>
<td>74</td>
<td>Female</td>
<td>Australia</td>
<td>2nd Year High school</td>
<td>Retired</td>
</tr>
<tr>
<td>9</td>
<td>62</td>
<td>Male</td>
<td>Australia</td>
<td>University</td>
<td>Retired</td>
</tr>
<tr>
<td>10</td>
<td>79</td>
<td>Male</td>
<td>Australia</td>
<td>6th Grade</td>
<td>Retired</td>
</tr>
</tbody>
</table>

Table 3-5 Characteristics of Participants

Data Collection

Sample selection

In research, sampling is the process of selecting a portion of the population that represents the entire population to draw conclusions about populations from the samples. However, in qualitative research, the focus of interest is the experiences of the phenomenon in a particular context, not its distribution in the population in general. The focus is on describing, understanding and clarifying human experiences, and therefore requires the collection of a series of intense and saturated descriptions of the phenomenon under investigation. As the unit of analysis in this research was the participants’ experience of T2DM GPN care, participants were invited to take part in this research, because they could provide substantial contributions to filling out the structure and character of this phenomenon. Subsequent findings from this study provide a rich understanding of
features that make up the experience, not the variances between individual participants’ experiences.

To ensure that the data collected was sufficiently rich to clarify the experience of T2DM GPN care, this research used purposive sampling, a non-probability selective process that involves the conscious selection of participants from whom the researcher could learn about the phenomenon. To be included in the study, participants were required to meet the following criteria:

- Aged over 35 years of age
- Has a diagnosis of diabetes
- Has a diabetic management plan involving the practice nurse

The inclusion criteria involved patients aged 35 years and older. This study acknowledges that T2DM is rising in the younger age groups. However, prevalence of T2DM for people aged 35 years and younger is relatively small at 0.3% and T2DM is more typically diagnosed in people aged 40 years or older. Subsequently, the researcher felt that an inclusion criteria of aged 35 years and older facilitated capture of a younger age group yet acknowledge that the predominate target group would be 40 years and older. For ethical reasons, patients who had previous care from the researcher in her role as a general practice nurse at the practice were not included in this study. Additionally, as the study collection method was face-to-face interviews asking the participants to recount their experiences, non-English speaking people and people with a cognitive impairment, an intellectual disability or a mental illness as determined by the GP were not included in this study, due to the potential for miscommunication or inability to convey meaning effectively. This group of potential participants were excluded from participation, as it was felt that they would not be able to either adequately reflect on their experiences and/or verbally describe it in a way that would be fully understood by the researcher.

Recruitment of participants

The recruited participants came from one general practice where the active recruitment process took place. Prior to recruitment the researcher met with the general practice manager to ask permission to carry out the research. Once
permission was obtained the researcher met with the general practice manager, the general practitioners and general practice nurses to discuss the research and answer any questions. The GPNs, GPs and practice manager were very excited, helpful and supportive of the study; for example, to enhance the recruitment process, the GPs suggested that the GPNs could alert the GPs when potential patients presented to the practice. The researcher explained the criteria for including participants into the study and why it would not be suitable for some people to participate, as outlined in the sample selection process. They agreed with these criteria and were given a written information sheet to take away with them. The researcher also explained the recruitment process and gave her contact details should they have additional questions or issues.

The general practice GPs identified and invited patients, at the end of a consultation, to participate in the study. On invitation the GP gave each person a copy of the PIF and PCF to take home and read (Appendix 1 & 2). The GP advised the participants that if they were interested in partaking in the study they would need to follow up with the researcher through the contacts provided in the PIF. This recruitment process went well over the first four weeks, then slowed down with no calls of interest. The researcher contacted the GPs again and was notified that they had been busy and had forgotten on occasion to invite people. However, over the following four weeks following this contact, there was renewed interest. On contact with the researcher, the participants had an opportunity to discuss the study and have all their questions answered. Once all questions were answered and they agreed to participate in the study, a date and time was set for the interview.

Qualitative research does not aim to establish statistical significance, therefore the number of subjects did not determine sampling. Although there is no overall criteria to determine sample size in qualitative research, 8-15 participants is acknowledged as a suitable number to achieve richness of data. While there is no predetermined sample size during the data collection process, sample size can be considered sufficient when 'data saturation' occurs, that is, where the interviewer is not gathering any new information. After conducting eight interviews, it was clear that no new data was being generated in relation to the research topic, and the
research had reached a point of data saturation where no new information was forthcoming. An additional two interviews were carried out and when no new information was identified it was confirmed that saturation had been reached.

The interview process

The purpose of qualitative data is to provide evidence that characterises the experiences. Interviews and observations are often viewed as the most effective methods to describe certain patterns of behaviour, by accessing the motives, beliefs and attitudes that lie behind them and make actions meaningful. While interviews or focus group are common methods of data collection in qualitative health research, interview is one of the most used methods in social research and is increasingly used in nursing research. Where focus groups facilitate and make use of group interactions in exploring the phenomena, this research selected individual interviews as a more appropriate method to explore the topic. It was anticipated that the individual, face-to-face, personal, semi-structured interview would enable the researcher to gain greater insight into social and personal matters, and that such insights may have been prevented by group interviews, which require more group interaction as a means of exploring topics such as personal health issues or struggles in dealing with their day to day care.

Qualitative interviews differ from other interviews, in that they aim to be more flexible, without prior assumptions, whilst elucidating the meaning of lived experience. The aim of the interview is not to produce objective data but to contribute to a body of knowledge based on the meaning that lived experiences hold for the interviewee. The narrative from the interview forms the basis of the qualitative data, where the participants’ rich description of their experience enables the researcher to identify the main themes of the topic in question. While all interviews are used to get to know the interviewee better, the purpose of the knowing varies; for example, some research will test a hypothesis, while other will explore meaning to gain understanding. Interviews can be conducted in different formats, such as; unstructured (informal conversations with no formal questions guide and open topic range), semi-structured (partially constructed questions guide direct ‘conversation’ to meet research objectives) or structured (a list of set questions answered in the specific order). The face-to-face interview
provided a more personally sensitive atmosphere to explore the participants’ personal views, experience and understanding of the GPN T2DM care.

The interviews were held in a private room at the general practice. All interviews were held on a Saturday morning to ensure that a suitable private room was available. The room was organised with chairs, water and a table to the side, where the recording device was placed to capture the information but at the same time not a dominant feature in the room. A second recording device was placed in a separate area of the room in case of malfunction. All participants were thanked for their interest in the study and advised that their contribution and time was highly valued. The interview process was explained as well as the expected time frame of approximately 40-45 minutes. They were advised that the aim of the interview was for them to recount their experiences and the questions asked were a guide, with no right or wrong answers. Prior to commencing, written consent was obtained. The participants signed the Participant Consent Form (PCF) and were given a copy to take with them. Participants were then asked if they had any questions to ask before starting the interview. This preliminary process gave the researcher and the participant time to have informal conversation for example, how long it took them to get to the practice, the weather, plans for the day etc. to create an informal casual setting. After answering any questions that the participants posed, the researcher asked permission to commence the interview.

The questions were designed so that the interview started with more general questions related to personal experience and living with T2DM, and progressed to the more specific related to T2DM GPN care. For example, the first question, ‘Tell me your experiences of general living with diabetes?’ prompted the participants to recount in lengthy detail their experiences of diagnosis and living with T2DM (Appendix 3). As the interview progressed, the questions became focused on potentially more sensitive areas, such as specific questions related to receiving care from different GPNs who reflected the current model of care at the general practice research setting. A challenge during the interviews was having a clear understanding of the participants’ meaning, and generated rich interview data. During the interviews, when the researcher was unsure of responses, additional probing questions were asked to clarify understanding. For example, with question
‘tell me about the effect practice nurses have on how you manage your diabetes?’ the researcher repeated the participants’ words ‘basic things’ to encourage further exploration of its meaning in their experience:

Participant 4: *Um… well to me she’s am… she’s certainly …well I’ll put it this way I understand a lot about the different types of food and all that now if you have somebody that doesn’t understand so much about it say somebody who is just started having diabetes she should be explaining a lot more… Am… each time I am going well each time they do…they bring out the plate explain and I say yes that’s what I eat basically what they are showing me on the plate I would eat and she would say ah well that’s fine but what about the sweets. But well I don’t have sweets its just a thing that…. If she explained a bit more about, a bit more reasons why you shouldn’t drink or reasons why you shouldn’t smoke now I don’t smoke myself but get more involved a little bit more in all the aspects of diabetes instead of just explaining the basic things about it.*

Researcher: *and the basic things means…..*

Participant 4: *well the basic things are when she comes out with that plate and how much do you drink. Am…she’s like am…that’s virtually it but if they got a bit more involved in it and cause if somebody asked them well what is the main reason why you shouldn’t smoke right what is the main reason why you shouldn’t drink too much but occasionally you have a drink or am… if you have a drink like if you have a mixed drink what is the best one to have it with right…am… now the one a couple of weeks ago she told me she said you could try club zero so yeah I have gone onto club zero but I still haven’t been well I have got the club zero but I still haven’t got into the drinking bit. Because I am a person who well if I don’t want to drink I won’t drink.*

(Female participant 4)

Once the interview was complete the researcher thanked the participant. All interviews lasted approximately 30- 40 minutes each.

**Data Analysis**

Qualitative data analysis is a process of reviewing, interpreting and making sense
of or explaining the phenomena under study.\textsuperscript{148} It is an ongoing iterative process where the data are constantly reviewed in order to provide the best concepts and themes that describe the experiences as accurately as possible.\textsuperscript{148} Braun and Clarke’s thematic analysis process was used to explore the data for emerging themes linked to the research question.\textsuperscript{11} This well-defined approach was used to identify, analyse and report patterns (themes) within the transcripts (data). While this approach enabled a rich description of the transcripts through the identification, analysis and reporting of themes within the data it also facilitated a well-defined description of what the process is and how it is carried out. The analysis process facilitated a systematic approach to interpreting the data effectively. The researcher analysed the interview transcripts for key themes using NUD*IST NVivo 10 software to assist with data management.\textsuperscript{170} The supervisors also reviewed the analysed data and identification of the themes.

The researcher transcribed all the interviews. During this stage the researcher was able to get an overall impression of the information, as well as personal meaning from individual transcripts. Through the process of reading and re-reading the material the researcher explored the transcripts inductively. A process of ‘inductive reasoning’ throughout this stage of analysis enabled ideas to be generated from the data.\textsuperscript{153} Inductive reasoning is a process whereby the researcher uses specific data elements to explain and interpret the phenomena.\textsuperscript{153} The data corpus (all transcripts) was read and re-read several times as well as listened to, to ensure accuracy of the transcriptions. Each transcript was read and re-read with labels added to specific data. During this stage the researcher began to break the material into more manageable chunks of information, identifying elements of the data that related to the research question, and began to code features as relevant. Working systematically through all the material, the researcher identified interesting aspects of the data that could form the basis of repeated patterns (themes).\textsuperscript{11} This process of coding was guided by the research question and objectives.\textsuperscript{93,171}

Table 3-6 gives a broad example of the coding process in relation to the Theme ‘Challenge of living with T2DM’. This theme was selected as the most effective way of describing the participants’ experiences of diagnosis and living with T2DM. All the material related to the initial question, ‘Tell me your experiences of generally
living with diabetes?’ From the material the researcher highlighted aspects of the transcripts that described various impacts of the condition and how they deal with them; for example, ‘shopping’, ‘rheumatoid arthritis’, ‘but once again I don’t believe’, and ‘control’ were coded for ‘Managing food’, ‘Losing ability to manage’, ‘Personal Belief’ and ‘Keeping control’ respectively. All the data in relation to living with the condition on a daily basis was highlighted and coded, with ongoing coding taking place to ensure no codes had been missed.

<table>
<thead>
<tr>
<th>Data Extract</th>
<th>Coded for</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yeah all my books to read and how to read and am…and my little diabetic slip that I take with me when I go shopping (Female participant 6)</td>
<td>Managing food</td>
</tr>
<tr>
<td>I’ve got rheumatoid arthritis and its my bloody feet so I can’t walk very much because its quite painful therefore I guess I can’t lose weight and I think I could be creeping up a little bit (Male participant 10)</td>
<td>Losing ability to manage</td>
</tr>
<tr>
<td>I have been just recently for the first time to Um… the podiatrist but once again I don’t believe I really need to do that except a bit of spit and polish on me to nails so… (Male participant 1)</td>
<td>Personal belief</td>
</tr>
<tr>
<td>I seem to progress alright I try to keep away from sugars and fats but when I o out that’s when I go crazy when I see nice cakes or sweets (laugh) but otherwise I am alright I keep… I try to keep control of it (Female participant 5)</td>
<td>Keeping Control</td>
</tr>
</tbody>
</table>

Table 3-6 Coding Process

The next step in the process involved a deeper level of interpretation, where the researcher looked for relationships between the selected coded data. The list of sub-themes was reviewed in relation to the research question, and where possible similar sub-themes were combined to form main themes representing the participants’ experiences. The original data were re-examined regularly for information relating to each theme to ensure that all data were considered effectively.

Table 3-7 outlines the process of searching for themes through coding: amalgamating similar codes into sub-themes, then further amalgamation of sub-themes into a main theme representing the participants’ experiences related to the area of discussion. For example, in response to the open question ‘Tell me your experiences of diagnosis and living with T2DM’ Initial coding of the transcripts saw key words such as ‘shopping’, ‘rheumatoid arthritis’, ‘but once again I don’t believe’, and ‘control’ were coded for ‘Managing food’, ‘Losing ability to manage’, ‘Personal Belief’ and ‘Keeping control’. On further reading and interpretation of the
transcripts the researcher combined these individual codes related to a similar experience from across the data set. Combined codes were collected under sub-themes representing the diverse experiences of the participants. For example, ‘Managing food’ and ‘Watching what you eat’ were combined under the sub theme ‘Diet’, ‘Losing ability to manage’ and ‘Getting older’ were combined under ‘Co-morbidity and aging’, and ‘Personal belief’ and ‘Disagree with recommended practice’ were combined under the sub-theme ‘Personal negotiation’. Additional re-reading of all the transcripts and listening to the recordings enabled a broader review of these sub-themes, facilitating their further amalgamation under the main theme ‘Challenge of living with T2DM’. The researcher combined the sub-themes, ‘Diet’, ‘Co-morbidity and aging’ and ‘Personal negotiation’ under the broader theme ‘Challenge of living with T2DM’ representing the participants’ overall description of experiences and living with T2DM.

<table>
<thead>
<tr>
<th>Data Extract</th>
<th>Coded for</th>
<th>Sub Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>and my little diabetic slip that I take with me when I go shopping (Female participant 6)</td>
<td>Managing food</td>
<td>Diet</td>
</tr>
<tr>
<td>its just you watch your diet and you don’t over eat (Female participant 8)</td>
<td>Watching what you eat</td>
<td></td>
</tr>
<tr>
<td>I’ve got rheumatoid arthritis and its my bloody feet so I can’t walk very much (Male participant 10)</td>
<td>Loosing ability to manage</td>
<td>Co Morbidity and aging</td>
</tr>
<tr>
<td>I guess under control as much as I can with exercise as well ... but as you get a bit older you find that OK you can’t do what you used to be able to do (Male participant 9)</td>
<td>Getting older</td>
<td></td>
</tr>
<tr>
<td>I have been just recently for the first time to am... the podiatrist but once again I don’t believe I really need to do that... (Male participant 1)</td>
<td>Personal belief</td>
<td>Personal negotiation</td>
</tr>
<tr>
<td>In the little booklet morning lunch and dinner and then I thought Oh yes right I don’t think so (Female participant 2)</td>
<td>Disagree with HP advice</td>
<td></td>
</tr>
</tbody>
</table>

Table 3-7 Coding, Sub-themes and Themes

Once data were collated into a thematic map, Figure 3-1 was developed, showing the identified five themes with subthemes. This form of data display provides an overall picture of the data, identifying the sub-themes and five main themes. This mind map enabled the researcher to have an overall grasp of the whole picture to facilitate answers to the broader question of what is happening in this setting.
Figure 3–1 Initial Thematic Map Showing 8 Main Themes

**Trustworthiness**

In qualitative interpretive research, trustworthiness is considered in terms of positivistic criteria for internal and external validity, reliability and objectivity. Guba (1981) considers four criteria to be employed to ensure truth value, applicability, consistency and neutrality in qualitative research. Credibility (internal validity) refers to the confidence the reader has that the findings are true; transferability enables comparison with other contexts; dependability enables replication of the study through in-depth description; and conformability reduces investigator bias.

**Credibility**

To maintain the scientific standard of the research, the researcher carried out a number of strategies to enhance the rigour of the study. Padgett (2004) outlines six strategies for enhancing study rigour: prolonged engagement, triangulation, peer
debriefing and support, member checking, negative case analysis and auditing.\(^{155}\) This study used three of these strategies.

**Prolonged engagement:** the participants were invited to participate in the research by their general practitioner. For ethical purposes, no participants that had received diabetes type 2 care from the researcher in her role as general practice nurse was included in the study. Participants first contacted the researcher to inquire and verbally consent to participation in the study. Participants were informed that they were under no obligation to participate in the study and could withdraw at any time with no obligation. Prior to conducting the research, participants were given time to ask questions and clarify points in the days leading up to the interview as well as immediately before the interview commenced. Written consent was obtained before the interview, and participants were advised that they could ask questions and or stop the interview at any stage. It was anticipated that this open and ongoing communication process would contribute to the development of a trusting relationship where participants felt at ease to give a full account of their experience of general practice nurse type 2 diabetes mellitus care.

**Analytic triangulation** was carried out between the researcher and her two university supervisors. Once transcribed, all interview data were read and re-read numerous times with initial coding and subsequent recoding and development of themes carried out through ongoing dialogue before confirming the final themes.

**Peer debriefing:** Granheim (2003) and Alfred (2009) note peer debriefing as a means of ensuring the credibility of qualitative research studies. The researcher had continual support from her supervisors through ongoing meetings with feedback and further questions. This support facilitated the researcher’s development of ideas and recognition of her own biases and preferences, as well as ensuring consistency in the data collection processes.\(^{175,176}\) All stages of the research project — design planning, sampling, data collection methods and analysis decisions were carried out by the research student in collaboration with her two university supervisors. Regular contact via email, phone and face-to-face meeting were held to ensure that at each stage, the research process and outcomes were valid and acceptable.\(^{153}\)
Naturalistic inquiry in small settings does not always lend itself to generalisations, for example, in purely descriptive studies.\textsuperscript{177} While this study did not intend to make generalisations about the study outcomes, it aimed to present a clear interpretive description of the phenomena in a way that could inform further practice, through explicit acknowledgment of the sample selection, data collection and data analysis.\textsuperscript{149}

**Transferability**
It is not the intention of this study to generalise findings to other contexts but to provide a deep awareness of the phenomenon. However, the researcher has provided a sufficient rich description of the research context, its participants, processes and findings, to enable the reader to have a good understanding of the setting.

**Dependability**
The study has been described in detail to enable readers to appraise the research process and analysis and to assess the consistency of the findings with the data collected. The research has provided a detailed description of the data collected and of how themes originated and decisions was made through the study.

**Confirmability**
The researcher believes that other researchers would have arrived at the same understanding had they conducted the same research using the same participants, contexts and level of rapport.

**Ethical considerations**
Appropriate ethical approval to conduct this research was provided by the University of Western Australian Human Research Ethics Committee. On receipt of ethical approval the researcher met with the general practice manager and general practice directors and obtained permission to carry out research at the general practice. The GP invited selected sample patients to participate in the study following a consultation. On invitation they were provided with a Participant Information Form and a Participant Consent Form (Appendix 1 & 2). If the participants wanted to join in the study they contacted the researcher and once all
questions were answered a convenient time was organised for the interview to occur. The researcher obtained informed written consent prior to proceeding with the research, and conducting the face-to-face interviews. A copy of this consent was given to the participants.

The researcher worked in the general practice setting as a general practice nurse. To remove a possible power relationship, no participants that had received care from the researcher in her role as a GPN in the research practice were invited to participate in this study.

Data were collected from the participants in a non-threatening manner. As the phenomenon under investigation is the participant’s experiences of receiving diabetic care from a general practice nurse, as anticipated, no issues raised during the data gathering processes in the interview caused distressing memories or strong emotions for the participants. The participants were informed that their privacy and confidentiality would be maintained at all times. To maintain this anonymity, all data collected, including taped interviews and written transcripts were numerically labelled. For example, Interview 1 participant is identified as Participant 1 only.

Audio files were downloaded and transcript copies were made for use during the analysis stage, but kept in a locked place, and encrypted and password protected to maintain the security and integrity of the information. On completion of the project, the verbal interviews and transcripts copies were deleted from the computer folder. One clean copy of the transcribed tapes is stored in a locked area at the University of Western Australia’s School of Population Health.

**Chapter summary**

This chapter stated the aims and objectives of this research project. It considered the significance of the research in terms of current GPN involvement in T2DM in general practice. It provided justification for situating the study in an interpretive paradigm of inquiry and for using semi-structured individual interview process for data collection. It has described the study participants and the study context. It has provided details of the data collection process and the use of thematic analysis to
enable a clear and concise yet flexible approach to analysing the data. It has considered the steps taken to ensure the trustworthiness of this descriptive, exploratory research project, and the ethical approval that was granted to enable the project to proceed. The next chapter will consider the findings of the research and present all themes that were identified through the analysis process.
Chapter 4 Findings

Introduction

This chapter presents the findings of the interviews with ten participants who describe their experiences of T2DM care from a GPN in the research setting. The key themes that emerged from an analysis of the interview data were listed. Participants’ characteristics are described, followed by a full description of the five identified themes and associated sub-themes, with relevant extracts from the data set to support the findings.

Participant profile

Table 4-1 outlines information given by the participants in the face-to-face interviews in relation to their date of diagnosis and self-reported complications, in answer to the initial questions of the interview aimed at gathering demographic data. Two participants stated that they had known diabetes-related complications. All other participants stated that they had no known complications of the condition. During the interviews the participants made reference to other personal health issues, and whether they used diet alone or in combination with prescribed pharmacological agents (oral and or insulin) to help them keep their BSLs within target range.

<table>
<thead>
<tr>
<th>Participant #</th>
<th>Self-reported Diagnoses Date</th>
<th>Self-reported management</th>
<th>Self-reported T2DM related complications</th>
<th>Self-reported other health issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2005</td>
<td>Diet/ Oral medication</td>
<td>Nil known</td>
<td>Hypertension/Cardiac</td>
</tr>
<tr>
<td>2</td>
<td>2012</td>
<td>Diet</td>
<td>Nil known</td>
<td>On Warfarin</td>
</tr>
<tr>
<td>3</td>
<td>1990</td>
<td>Diet/ Insulin</td>
<td>Nil known</td>
<td>Nil stated</td>
</tr>
<tr>
<td>4</td>
<td>2002</td>
<td>Diet/ Oral medication</td>
<td>Nil known</td>
<td>Depression</td>
</tr>
<tr>
<td>5</td>
<td>2004</td>
<td>Diet/ Oral medication</td>
<td>Nil known</td>
<td>Hypertension</td>
</tr>
<tr>
<td>6</td>
<td>2011</td>
<td>Diet</td>
<td>Nil known</td>
<td>On Warfarin/INR</td>
</tr>
<tr>
<td>7</td>
<td>2000</td>
<td>Diet/ Oral medication</td>
<td>Nil known</td>
<td>Cardiac</td>
</tr>
<tr>
<td>8</td>
<td>1998</td>
<td>Diet/ Oral medication</td>
<td>Retinopathy</td>
<td>T2DM Family History/ Arthritis</td>
</tr>
<tr>
<td>9</td>
<td>1989</td>
<td>Diet</td>
<td>Nil known</td>
<td>Crohns Disease/ Prostate</td>
</tr>
<tr>
<td>10</td>
<td>1997</td>
<td>Diet</td>
<td>Declining feeling in feet</td>
<td>Rheumatoid Arthritis/ Depression</td>
</tr>
</tbody>
</table>

Table 4-1 Self-Reported Diagnosis-Related Complications & Other Health Issues
Participants’ experiences of GPNs’ T2DM care

The overarching aim of this study was to describe the participants’ experiences of GPNs’ T2DM care in terms of: individual impact of diabetes, individual perspectives of practice nurse diabetes management, acknowledging some of the beneficial aspects of practice nurse care, acknowledging areas of care for future needs, exploring experiences of length of consultation time and exploring experiences of care from different GPNs.

Five key themes emerged from an analysis of the transcribed interview data describing the participants’ experiences of GPNs’ T2DM care, as illustrated in Figure 4-1 below. These themes are; a) feelings related to diagnosis, b) challenge of living with T2DM, c) perceptions and expectations of the GPN, d) knowledge e) confidence in the system. The participants described these themes to varying degrees and the researcher considered them essential in understanding the participants’ experiences of the phenomena.

![Figure 4–1 Final Thematic Map Showing 8 Main Themes](image-url)
While the following section will discuss each theme separately, with extracts from the narrative transcripts to support the findings, the themes can be contradictory and in some cases overlap, therefore each theme should be considered in relation to the others, rather than as individual concepts. For example, in Theme 1, feelings related to diagnosis, participant 10 expressed ‘frustration’ at losing his ability to exercise, which overlaps with Theme 2, challenge of living with T2DM, where he describes how ‘it is getting harder’ as he has ‘lost my exercise and I am getting older’.

**Feelings related to diagnosis**

All the participants talked at length about their experiences when diagnosed. The main aspect of these accounts was the predominant aspect of the individual emotional response to diagnosis. Through their detailed accounts, the participants described a variety of strong emotional feelings that they felt when diagnosed. The description of their emotional responses varied from initial disbelief and shock, to attributing more importance to a concurrent illness, to believing that it may be a positive thing in their lives. In all cases participants talked at length about their diagnosis, what it meant to them at the time and then went onto describe in detail how they lived with their condition. Two sub-themes, *negative feelings* and *less significant* were identified across the data set that adequately describes this main theme. These sub-themes illustrated how their feelings regarding their diagnosis impacted on their daily lives and how these impacted on their adaption through positive self-management strategies.

**Negative feelings**

The findings from the study illustrated that the majority of the participants described predominantly negative feelings when first hearing they had T2DM. These negative feelings incorporated a range of strong emotions described by the participants to illustrate their individual reaction to diagnosis. Stress and denial were strong negative feelings that participants described when diagnosed. One participant described a level of stress associated with the knowledge of having to live with this condition for the rest of their lives. One participant described being in denial of
having to accept that they would have to alter their current life to accommodate this condition. They described an overall feeling of not wanting to have to cope, to have to be checking things or alter their current life style for the rest of their lives. From their descriptions, these feelings were the same for the participants whether diagnosed early or late in life.

‘I was upset absolutely very upset and very stressed because I just felt that it was you know when you get to the age that I am you think to yourself I want a nice peaceful and happy life and get on with it I don’t want to have to check this and what’s it that so that’s why it sort of just upset me a bit.’ (Female participant 2 -diagnosed in her 60’s)

‘you know probably the first year is more denial you know just accepting the fact that I was going to have this disease the rest of my life and going to the diabetic classes and the nutritionist all that education…’ (Female participant 3 -diagnosed in her 30’s)

In addition to stress and denial, three participants described how they did not expect to be diagnosed with the condition. They did not expect to be told they had diabetes because they did not feel as if they had the condition. They tried to rationalise the diagnosis through understanding that it may be due to being overweight as a child or that there was a family history of the condition.

Participant: ‘Well when I first found out that I was diagnosed with it um…(pause) I was shocked.
Interviewer: Why?
Participant …Aah it was a thing that I wasn’t expecting.. it was a thing that I wasn’t expecting and the other thing was that because at that time I knew that I was adopted but I didn’t know who my mother was and if there was um… illness in the family or anybody that had diabetes.’ (Female participant 4)

‘I was surprised because I hadn’t even thought much about it but I’ve never been skinny in school I was fat little kid at school.’ (Male participant 10)
This surprise can be due to the fact that diabetes is a chronic condition that does not always have associated recognisable physical symptoms. Diagnosis often occurs through routine health assessments on blood tests, which illustrates the insidious nature of this condition. One participant gave a clear description of how diabetes can be symptomless and it was through a chance test that they discovered that their BSLs were higher than the expected ranges. This participant was having dinner at their brother-in-law’s house who, had diabetes and was checking his own blood glucose (sugar). He suggested checking hers at the same time and it was this test that alerted them to the fact that her blood glucose was high.

‘Then well… as it started I went to my brother-in-law for tea one night and he’s got one of those …blood sugar [blood glucose] things…and he said to me gee your blood’s too high you had better go and see you doctor in the morning…otherwise I felt good.’ (Female participant 5)

This often apparently symptomless nature of the disease was also illustrated through one participant’s account of their ongoing frustration with having to explain to their family why they had to make certain life style changes. They did not look like they had diabetes, so people found it hard to accept that they had this condition. This participant expressed frustration at having to repeatedly explain to people why they needed to make certain life style changes, explaining that diabetes is a condition, which does not always have visible symptoms.

‘It was hard because my husband… you know he didn’t believe because it’s a thing that you don’t see on the outside as it’s a thing on the inside of you and that frustrated me I could say yeah I have got diabetes and someone would look at you and “you don’t look as if you have got diabetes”… I have said to people well you could have an illness yourself but something that doesn’t show on the outside… I just found it hard to explaining to people that I had it.’ (Female participant 4)
Another strong emotion expressed by the participants was fear. Participants described feeling afraid when diagnosed with this condition. Their fear was attributed to their previous experiences of seeing other people living with this condition. The fear expressed was related to the potential complications that they saw, such as amputation, or having to adapt to a seemingly stricter or restricted lifestyle, due to perceived diet restrictions as they had seen happen to other friends or family who also had T2DM. The participants' lived experiences of seeing other people struggle with this condition and its potential complications frightened them as they thought that they too would live this experience.

‘It frightened me because…cause I said to doctor (GPS name) am I going to have it my feet cut off and he said “no” because I have got a friend…’ (Female participant 6)

‘…straight away I started to think oh you know I’ll never eat again. So (laughing) that’s about the biggest effect that I worried about when I was told straight away.’ (Male participant 9)

The psychological impact of negative feelings on diagnosis was described as so strong it prevented some participants from taking in any new information related to the condition during their initial consultation with GPNs. This impact has a direct effect on GPN consultation outcomes, where participants described being overwhelmed due to underlying concerns and not truly listening to or understanding what the GPN is saying. Their concerns regarding the perceived impact of having this condition prevented them from engaging with the GPN during the consultations. One participant that was newly diagnosed acknowledged that just coming to terms with the condition they were so overwhelmed with it all that they did not take in most of what went on during their initial GPN consultation. They described a feeling that they are already struggling to come to terms with having this lifelong condition and were not psychologically ready to take in what was being talked about during the consultation time.

‘It just that it was a bit overwhelming and I think I just didn’t take it in… most of it in this is why I worried a bit …it…it just sort of went over my head a bit. Which is a bit of a shame…’(Female participant 2)
Another participant, who described how the psychological challenge of negative feelings of denial of their diagnosis of T2DM persisted for five years post-diagnosis, also expressed this overwhelming feeling. During all this time, they explained, they had attended numerous GPN consultations as well as allied health follow up, such as a nutritionist, yet through self-denial they did not really take any of their advice on board. They did not change their diet or alter their life style because they did not want to accept that they had diabetes. They also acknowledged that the diagnosis and expected changes were overwhelming for them. This participant said that even though they had the educational and health provider support, this was not enough to help them adjust effectively.

‘you know probably the first year is more denial you know, just accepting the fact that I was going to have this disease the rest of my life and going to the diabetic classes and the nutritionist, all that education… all at one time was a bit overwhelming and then you know them telling you have to change all those things and… So you know it took me five years to really get established to figure out what I really needed do so and I had one really great doctor that was patient and you know told me you just have to fix this you are going to lose a foot and all the bad things that are going to happen to you, which scared me enough to… So the first five years taking the pills I struggled a lot because I didn’t really change my diet’ (Female participant 3)

This participant went on to describe how, because of their ongoing personal denial of the condition, they struggled to adapt to the required life style changes, ,until they eventually opened up to accepting the condition. They attributed this to one doctor who had scared them into change through reinforcing the potential complications such as limb amputation. It was fear of damage such as losing a limb that some participants admitted had pushed them to make the necessary changes to maintain the BSLs within target ranges.

The clear negative feelings expressed by the participants were largely related to the unknown, or what they thought the condition was and how it would impact on their lives. Even when participants described that they had health professional,
initial educational and allied health support, they said they were so overwhelmed with the diagnosis that they were not psychologically ready to take on the role of self-managing their T2DM.

Conversely, while the majority of participants describe negative feelings of shock, feeling overwhelmed and denying their T2DM diagnosis, one participant described how they interpreted the diagnosis in a relatively positive light. They saw it as an opportunity for them to live a healthier life. They described their self-recognised commitment to looking after their health, and they believed this commitment enabled them to adopt an approach to their daily living that incorporated recommended T2DM strategies, such as dietary modifications. Ironically this participant also described earlier how the initial diagnosis scared them as they had seen a relative having to adopt what they described as a ‘strict’ diet. When diagnosed they recalled this experiences and thought that they would not be able to eat again. However despite this initial fear, they also considered their current lifestyle and embraced the diagnoses as an opportunity for them to adopt a healthier lifestyle.

‘probably in some ways it’s been a good thing because I think it’s improved my health because I know that I was you know eating drinking and just doing all the wrong things in life in that respect.’ (Male participant 9)

This participant attributed their positive approach to diagnosis and adapting their lifestyle to their commitment to face a challenge and meet it head on. They explained that they felt that they were able to make the required changes because of their personal ability to accept that something needs to be done and then to commit to doing whatever it takes to meet the challenge effectively. This reaction to diagnosis differs significantly from the other participant quoted above, who described living in denial and making no changes for five years, demonstrating the individual nature of the response to diagnosis.

‘I am a sort of person that is you know you stick to the rules ah… and you do everything 110% so that’s how I started and so yeah and just and that’s
what I’m saying I was one day I was that and the next day I went cold turkey…” (Male participant 9)

While the participants’ descriptions of the experiences of adjusting to life post-diagnosis acknowledge that people come to terms with living with T2DM, they also highlight the importance of ensuring that individuals have a true understanding of the condition and the current approaches to managing this condition effectively. Participants described that once they had more knowledge about the condition and had time to accept the diagnosis they were able to put it in perspective. While they had trouble coming to terms with having to live with this life-long condition, they said that with time they realised that it was not a life-threatening condition and that it was possible to adapt to living with it effectively.

‘I realised it wasn’t so traumatic and so as I said I remember back to when you just had to cut everything off but I wasn’t … um… I realise it wasn’t the end of the world for me (laughing).’ (Male Participant 9)

‘I’d say (Cough) where it would effect you is the fact that you are conscious of it ah… but without letting it ah...get you down you don’t want to sort of Oh my I’ve got diabetes I’m going to die…no you are not going to die …pause…not yet (Laughing).’ (Male participant 1)

‘…as it’s not as threatening obviously as my lumpectomy was at one stage you get to sort of think about things like that and ah... that was one thing that (doctor’s name) and I think (nurse’s name) mentioned perhaps it is not life threatening…. unless you’d like to make it that way of course.’ (Female participant 2)

Less significant

Less significant is a sub-theme that identifies narrative data describing the participants’ feelings related to diagnosis in the presence of other unrelated health issues. While only two of the participants specifically noted that they had other health issues occurring at the same time as the T2DM diagnosis, this sub-theme was considered significant because it reinforces the insidious nature of the
condition as described by many of the participants. Two of the participants acknowledged that at the time of diagnosis, they prioritised other concurrent health issues over their T2DM, because of their perceived greater impact on their lives. The participants explained how the nature of the other health issues had a greater social or physical impact on their lives. This more pressing health issue then took priority over the T2DM diagnosis, as their T2DM was asymptomatic when diagnosed.

‘...but I was still going when I was diagnosed...I’d just been diagnosed with the Crohns as well so I was still working through that more than the diabetes actually so....ah... the diabetes was secondary to a degree...Cause the Crohns was more ... debilitating I guess, you know it was more sort of I found it more ... more issues with Crohns I mean with Crohns there you had issues of ah... socialising and those sort of things whereas with diabetes yeah you still socialise but you just don’t probably wouldn’t eat yeah that sort of things that things that you used to have so I was still working with the Crohns scenarios so there both came at the same time so the diabetes was secondary in thought worrying about it I didn’t worry about it at all.’ (Male participant 9)

These two participants described how they prioritised their health management towards the symptoms of the non-related health issue. T2DM became something else that they had but did not actively manage, as it was not considered important enough. One participant clearly described how they had significant cardiac issues and worried more about that then their diabetes. They went on to state that it was their cardiac specialist who indicated that their diabetes could pose a bigger problem than their cardiac issues.

‘I had a heart attack...my cardiologist and he ordered immediate surgery for me cause I was clagged up...’ ...of course I have more to worry about than diabetes even though it’s you know my cardiologist told me it won’t be your heart that will kill you it will be your bloody diabetes’ (Male participant 7)
Challenge of living with T2DM

All participants described in great detail how they lived with T2DM. This theme illustrates the participants’ descriptions of managing their condition on a day-to-day basis. From their detailed accounts it was clear that managing the condition effectively required a high level of personal awareness and engagement that presented a private individual challenge. To effectively address this broad complex theme three sub-themes: *life style change*, *personal understanding and negotiation* and *loss of control*, were identified as demonstrating the participants’ understanding of the impact of T2DM and its management and how they incorporated this into their daily life.

**Life style change**

*Life style change* describes the participants’ frequent reference to areas of their life such as dietary awareness and monitoring their blood glucose on a daily basis in order to maintain BGLs within specified parameters. The participants’ individual descriptions of how they manage the condition all expressed that it requires a significant life style change. They all discussed in detail how they have had to adopt new approaches to their diet, become aware of and conduct their own blood glucose level tests, be aware of the impact of food and medication on their blood glucose levels, and understand the need to balance diet to keep their blood glucose within expected target ranges. They talked at length of how they are aware of their blood glucose and the types of food that increase their BSLs. They described how they needed to be constantly watching what they are eating because they know that certain foods would increase their blood glucose levels. They described how they became aware of signs of low blood glucose levels, and how they carried around food that would bring their level up to within target range.

‘…*always keeping an eye on how my sugar levels does and what foods that I would have.*’ (Female participant 4)

‘*Well it’s automatic I have to do it I have to watch it you see cause I have got my jelly beans and my muesli bar I… I ah… I know what sort of meals are likely to be… so now if I am going to have a fairly simple meal I don’t have as much insulin.*’ (Male participant 10)
They also described how they were able to balance their meals for example; they could eat a particular type of meal if they knew that high levels of exercise, which would help maintain BSLs within target range and therefore not affect them, would follow this up. They explained how they would be aware if they had been misbehaving or over-indulging through eating the ‘wrong’ foods. Through these references it was apparent that the participants do not always choose to eat the ‘right’ food and they acknowledged that there are times when they choose to eat foods that they know will put their blood glucose levels above the expected target ranges:

‘If I go out and load up a whole bunch of carbohydrates [and] I don’t burn them all off then your sugars go through the roof.’ (Male participant 9)

‘Well sometimes when I get up in the morning and ah… I don’t want to get up and I find that my sugars are very high when I do a blood test so it’s something I’ve done wrong the day before (laughing), eating too much sweet stuff or been out and indulged you know and so I know well next time I do that I won’t have as much…’ (Female participant 8)

They described how they had to make lifestyle choices and changed their lifestyle to manage their T2DM effectively. They described how they have become aware of not only the food they eat but also the impact of other aspects of lifestyle such as alcohol intake and its impact on their blood glucose level.

‘It’s made me … aware of the types of foods …my lifestyle did change …quite a bit um… cause I was (coughing) always keeping an eye on how my sugar levels does and what foods that I would have …I cut down on my drinking…’ (Female participant 4)

‘I won’t have as much you know cause I’m not a drinker so it’s not the alcohol…so yeah so it’s only what I eat…’ (Female participant 8)

One participant described how they first learned to manage their diet from a
dietician as recommended by their GP. However they went on to state that they struggled with managing these life style changes over time. They explained that after five years of managing their diet they were not managing this effectively. They went back to see a dietician which they acknowledged help them a lot as they found the whole thing confusing.

‘they sent me to a dietician (GPs name)...to a dietician and that helped me a lot, I went about five years ago and ah… two years ago she sent me again to the dietician and that helps me a lot because I know what I am doing otherwise I get all confused.’ (Female participant 5)

This participant description gives some insight into the challenge people face in managing the diet effectively and how follow up support can be required.

**Personal understanding and negotiation**

The sub theme *personal understanding* illustrates the participants’ descriptions of how they manipulated personal strategies to manage their condition on a daily basis. Through the interviews, participants described at length the personal strategies used to meet the daily demands of effectively managing their T2DM. They talked about their individual approaches and personal negotiation of balancing (for example) health provider recommended dietary and medication advice with their own personally identified needs. This self-manipulation of management ranged from the occasional break from recommended dietary intake, for example, eating biscuits when with friends, to personal requests to go on a particular medication due to their past experience. In these instances the participants described how they used their understanding of the management of their condition and/or their personal experience to influence the management of their care.

‘but no it’s just you watch your diet and you don’t over eat and you do all these yeah I do have binges occasionally but...(laughing) yeah so...’ (Female participant 8)
‘I’m going out tomorrow and take some friends and stuff out tomorrow I am going to pick up half a dozen bee stings and I’m gonna sit there with a milk arrowroot biscuit so…(laughing).’ (Male participant 9)

‘Yes it’s running at 7 that’s what I am saying with the with the because ah… (GP’s name) took me off well (pause) Oh let me rephrase that I took meself off the Diabex XR since my GP I had at the time and then when I came here (name) put me on the glycoside…’ (Male participant 1)

‘ when I first found out I had diabetes I went on Glucophage five years I tried that and it was totally unsuccessful so because with my pregnancy I had used insulin I knew I could control it so I just said forget it so they put me back on and from then on I have had good control.’ (Female participant 3)

Personal experiences with self-managing their condition gave the participants the confidence to alter it. However, contradiction was also apparent in the participants’ description of their experiences in manipulating diet and medication. One participant described how they had struggled with initial diagnosis and acknowledged that they had not adjusted their diet in the initial stages post-diagnosis. In this case the individual explains how they did not alter their diet when first diagnosed and then went on to describe how they struggled with the tablets (Glucophage). The struggle is understandable as T2DM is primarily managed through diet, so if there is not an initial attempt to alter the diet it further complicates the use of medication and may be why the participant believed the use of a stronger medication at a later stage, in this case insulin, was more effective.

‘So the first five years taking the pills I struggled a lot because I didn’t really change my diet I probably ate more because of the effects of the diabetes the pills didn’t work because I wasn’t doing what I s… what I was supposed to…’ (Female Participant 3: diagnosed at age 22 –22 years ago)

Participants also described how they made personal choices as to whether they
attended ongoing allied health support or not. Two participants explained that they had not gone to see the podiatrist as recommended, as they did not really believe that it was what they needed at this time. Although they recognised that other people may require this service, they did not see that it was significant to their needs. Despite describing how they had recently visited a podiatrist for the first time, although they had been diagnosed in 2005, participant 1 remained unconvinced that this was necessarily to their benefit at this point in time. Participant 9, diagnosed in 1989, also stated that they did not consider a regular check-up with the podiatrist as important for their self-care.

‘Oh yeah yeah they offer that like it’s the same as I’ve I have been just recently for the first time to the...the podiatrist but once again I don’t believe I really need to do that except a bit of spit and polish on me toe nails so because there was nothing to say again there has been nothing out of the ordinary with the whole lot so.... maybe ... I do know that there are cases of.. you know bad cases.. of diabetes with people guys that I know myself like you know that are um….which are far worse than what I am.’ (Male participant 1)

‘OK you go and see Dr so and so or go and see such and such a person. I mean I don’t see a podiatrist which I should do...’ (Male participant 9)

These descriptions illustrate how participants use their understanding of the condition to implement personal strategies to self-manage their care. They also illustrate how the participants may not have fully understood the significance of prevention in contributing to positive health outcomes in T2DM management. Regular eye and foot check-ups are suggested through best practice approach to T2DM care, which is based on evidence of prevention of potential complications that may have minimal initial symptomatic impact. The participants describe how when they are not experiencing problems they do not see the reason to see specific specialists such as the recommended podiatrist or ophthalmologist. These participants’ description of their personal choice of visiting specialists based on perceived needs relates to the insidious nature of T2DM, where physical symptoms can be a sign of late stage development of the condition.
Paradoxically, both participants acknowledged that some people might require allied health support. Participant 1 explained that they are aware of people worse off who need to see the podiatrist. Participant 9 explained later in their interview how they saw an optometrist regularly as they wore glasses. In further explanation they noted that people who do not wear glasses might not have the benefit of regular check-ups.

‘I mean I have an optometrist (pointing to glasses) and an eye specialist and all these sort of people that I go and see any way but I should imagine that there are possibly some people that don’t do that so they miss out on all the tests.’ (Male participant 9)

**Loss of control**

When participants described the strategies they used to keep the blood glucose levels within target ranges, they referred to their blood glucose levels, or used the term ‘control’ to indicate how they were going with self-managing their condition. The term ‘control’ indicated that they were managing it effectively.

‘Oh yeah and over the years I have had to change my life style completely just, just so I can control it.’ (Female participant 3)

‘Well I only eat no well I try to eat no sugar no fat but I try not to have salt but my husband you know when I turn my back he puts it in the soup (Laughing) but that’s about it really… yeah…. that’s how I control it…just with the diet…’ (Female participant 5)

The final sub theme, *loss of control* demonstrates the participants’ self-recognised struggle when they could no long implement their developed strategies to maintain this ‘control’ of their blood glucose levels. In particular, participants’ who had lived longer with the condition described that they felt that managing their T2DM was getting harder as they got older or as they developed other health issues. They described how other unrelated health issues developed later in life contributed to their increasing inability to keep their BSLs within expected ranges. Exercise was
the main strategy that they described as being unable to use due to other health issues such as arthritis:

‘I’ve got rheumatoid arthritis and it’s in my bloody feet so I can’t walk very much because it’s quite painful so therefore I guess you can’t lose weight and I think I could be creeping up a little bit like I sort of was static for a while and I think I might be putting a little bit of weight on and I guess well it’s bloody painful to walk around so I can’t really do much exercise and that’s that’s complicating the diabetes or the diabetes is complicating that I don’t know which way it is.’ (Male participant 10)

‘well I have arthritis in the spine so there are times when I can’t do exercise I suppose I could if I like but if I’ve got pain I could put up with the pain but I don’t.’ (Female participant 8)

Another participant described how they previously walked a lot, and they attributed this exercise to their ability to manage their condition more effectively. They described how this exercise helped them reduce their need for some pharmacological support to maintain the BSLs within target range. All was going well until they lost this strategy. The impact of other identified health issues had a compounding effect on the loss of their ability to control their T2DM. They described the subsequent psychological impact of these factors, which then dominated everything. They became depressed and this depression stopped them from doing anything.

‘so I ended up walking for an hour and a half three times a day and my diabetes went (whistle ) down so he took me off my needle and said I didn’t need it any more and he prescribed metformin and something else ah…. then I kept getting crook with my heart and that brought on the depression which I’ve still got and when you’re depressed you know you don’t feel like doing any bloody thing you know…’ (Male participant 7)

Aging was another factor that participants described as contributing to their inability to manage their conditions as effectively as before. Participants made reference to
the fact that they were getting older, and aging made the personal challenge of managing the condition on a daily bases a lot harder. Aging was also described as a barrier to the individual ability to exercise therefore they could no long implement one of the key strategies to maintain their BSLs within target ranges.

‘… but some days I am battling… it’s getting harder because because its getting because I’m not exercising because I haven’t I have lost one of my controls one of my major controls I have lost it you see I have lost my exercise and I am getting older and… I am 80 in April and I’ve worked hard since I was 14 years old physically hard in the early days so there is a lot of wear and tear here with the arthritis side but ah yeah so that’s you know it’s a lot of things going against it…’ (Male participant 10)

‘…as you get a bit older things change … as I said with diet you try to keep it fairly strict but find that … also keep a lot of it my …um… diabetes I guess under control as much as I can with exercise as well so I try to you know get a bit of a jog in you know each day or something like that … but as you get a bit older you find that OK you can’t do what you used to be able to do.’ (Male participant 9)

From these descriptions, the participants explained how all was well for a long time but now other health issues, age, and subsequent less exercise has made it harder for them to regain the level of BSL control that they had previously attained.

Perceptions and expectations of the general practice nurse role
Theme 3 moves on from the participants’ description of T2DM and its direct impact on their lives to illustrating the participants’ broad description of their experiences of general practice nurses’ T2DM care. During the interviews it was noted that while the participants were very fluent in describing their personal experiences with self-managing their condition, they did not have the same level of fluency when describing the GPN role in supporting them with this management. Beyond their description of the GPN role in taking clinical data such as blood pressure, height and weight, they struggled to describe the GPN activities in any great detail. Nonetheless, while the overall narrative was a lot less detailed by comparison,
three sub-themes were selected as appropriate in illustrating their experiences of the general practice nurse role in their T2DM care: *extension of the general practitioner, additional support and relaxed environment.*

**Extension of the general practitioner**

The sub theme, *extension of the general practitioner*, illustrates the narrative evidence that describes the participants’ perception of the GPN as someone who is there to help the GP in their role. All the participants experienced the GPN as a health professional whose main role was to help out the busy GP. They described the GPN T2DM consultant as someone who is there to carry out a series of set tasks before the patient then went on to see their GP. These tasks were clearly identified by the participants, as they listed a series of clinical assessments such as blood pressure, height and weight, which the GPN would carry out at each consultation. While these checks are important for evaluating the participants’ current health status, they dominated the participants’ description of the GPN’s role. They listed off the checks then noted that once completed they went on to see their GP.

‘…she sits me on a chair and then she takes my blood pressure and she looks at ah…my feet and ah….she she you know pricks me with a needle and makes sure everything is all right and she tests my water and my blood pressure and ah…my eyes and … that’s about it…then I go and see the doctor’. (Female participant 5)

‘…well all I can see is the nurse goes through previews the … does a little check like you know what do you call that thing that they do the thing on your knee the reflexes….and your the height your weight your BMI ….um…so you know really reviews everything that from that blood and…. then you go and see the GP.’ (Male participant 1)

They described this task of gathering clinical checks as a significant part of their ongoing care. They experienced the GPN consultation as one who is required to review certain information and make sure that this information is collated in readiness for the follow-up GP consultation. The participants’ description of the
GPN role is of someone who is there to collect information and pass this information onto the doctor, and as such, they interpreted the GPN role as an extension of the GP role. Analysis of all the transcripts identified that the GPN role was primarily experienced as someone who is there to gather all their clinical information and pass this onto their GP for their follow-up consultation.

‘Well I suppose …the way I see the nurse is there is to review all of your current results and ah…check out how you are today compared to 6 months ago … and… (pause) relay all that you know feed all that information back to your GP so …. um…(pause)’ (Male participant 1)

‘I think in general she is more of a collector of information even though she probably has as much knowledge as a doctor so…’ (Female participant 3)

‘…it’s … well what it is to me is an extension of the doctor to do the checks and then report to the doctor and then he says yeah or nay as to as to your results puts all the … the… blood tests and stuff to get… puts it all together and goes yeah you’re doing great or nay you’ve got to do better or whatever …’ (Male participant 9)

In order to explore the GPN role beyond gathering clinical data, the researcher asked the participants to retell their experiences of GPN care beyond the described gathering of clinical observations. In this description, participants were not as fluent in recounting the GPN role and struggled to identify any specific role beyond gathering the described clinical data. While all the participants showed an appreciation for GPN consultation time, they could not describe the GPN role beyond gathering basic clinical information for their GP. It was clear that beyond clinical assessment the participants had difficulty describing the GPN role.

The researcher was interested in exploring this aspect of the GPN role in more detail. The researcher wanted to be sure that the GPN consultation was not just collecting clinical details as described, as the practice’s specific template also identified life-style and management as focus points for theses consultations (Appendix 4). To facilitate this exploration the researcher asked additional probing
questions to gain a deeper understanding of what this consultation meant to them, in terms of assisting them in the ongoing self-management of their T2DM. Despite this probing, the participants did not describe any of the extended role of the GPN in terms of advice regarding life style and self-management in any detail.

Interviewer: ‘Well on that, what do you expect the nurse should do? What is your expectation of what the nurse should do when you go and see them?’
Participant: ‘It’s am… well what it is to me is an extension of the doctor to do the checks and then report to the doctor and then he says yeah or nay as to as to your results puts all the … the… the… blood test s and stuff … puts it all together and goes yeah you’re doing great or nay you’ve got to do better or whatever… so but as I’ve said I’ll be quite honest I don’t know what the brief is for a practice like this you know what are they … are they just doing the checks to see where you’re at and what you’re doing or is it to educate and I don’t know that it is to educate.’ (Male participant 9)

Interviewer: ‘So what is your experience when you see the nurse? I suppose what I am trying to find is what do you think the nurse is there for, or what do you get out of it as part of your management of your diabetes?’
Participant: ‘Well I suppose …the way I see the nurse is there is to review all of your current results and ah…check out how you are today compared to 6 months ago … and… (pause)relay all that you know feed all that Information back to your GP so…(pause)’ (Male participant 1)

While the participants were not as fluent in their description of the GPN beyond the clinical tasks, with additional probing questions some participants did make reference to aspects of the GPN consultation involving questions about diet or management which seemed to correlate to the developed practice template. However, when the research tried to get the participants to explain this aspect of the assessment in more detail, they described their experiences as more a situation where these aspects of the care are referred to but not developed in any great detail. They described that they felt that the consultation could expand more in this aspect of their care, by explaining more and providing more information:
Participant: ‘they bring out the plate explain and I say yes that’s what I eat basically what they are showing me on the plate I would eat and she would say ah well that’s fine but what about the sweets. But well I don’t have sweets it’s just a thing that…. If she explained a bit more about a bit more reasons why you shouldn’t drink or reasons why you shouldn’t smoke now I don’t smoke myself but get more involved a little bit more in all the aspects of diabetes instead of just explaining the basic things about it….’

Interviewer: ‘and the basic things means…’

Participant ‘well the basic things are when she comes out with that plate and how much do you drink …she’s like…that’s virtually it but if they got a bit more involved in it…’ (Female participant 4)

Additional support

While the participants did not readily describe the extended GPN role beyond the clinical checks, they did describe the experience of the GPN consultation in a positive way. The sub-theme additional support was attributed to the narrative data that described the participants’ experiences of the GPN consultations in terms of supporting them to manage their condition. They described how they experienced the consultations as supportive and a means of validating their concerns. While the GPN is experienced as an extension of the GP, the responses describe a positive experience of professional health care in a health service sector where the participants experienced the GPs to be under additional pressure due to a lack of time. They felt that the GPN was in a position to alleviate some of the pressure on their GP and in this sense their care was valued and appreciated by the participants.

‘Um (laughing) cause you know it’s it’s hard because if she wasn’t there I would just think Oh well that would just happen with the doctor so I think it’s just relieving some of that time and pressure that the doctor is having to deal with … So it think it just gives you more time being listened to and validated by having that nurse where the doctor may not have time to do that.’

(Female participant 3)
They described the GPN consultations as beneficial, as they have the added advantage of having their health assessed from the perspective of different health professional standpoints, as well as having two health professionals involved in their care. One participant clearly described their experience of GPN care as giving a different perspective of their care. They experienced this as positive, as they believed that they had the added benefit of the professional viewpoints of their care of two health professionals. They described how the GPN and the GP have different training, and this is what gave them the additional benefit of the combined care. They valued the comfort and support that this additional consultation gave them. Just being there and taking an interest in their care was in itself a benefit.

‘Yes I mean she has a different training she has a different way of thought …she is only thinking about the diabetes part and the test so you know it’s better to get a cross section of of of checking you out buts it’s really lets say comforting to know that where you stand in the situation that’s…’ (Male participant 10)

‘They can take an interest in you that’s what I think they take an interest in you’ (Female participant 6)

Participants particularly appreciated having this extra support, as they were getting older. This point is significant in view of the previously identified issue in the theme of the challenge of living with T2DM, when the participants’ perceived age is a barrier when trying to maintain their BSL within expected ranges. The GPN role was described as important in helping them self-manage their condition, as they were getting older and they sometimes felt their concerns were overlooked. As they got older they appreciated that there was someone else there looking out for their care, which again highlights the personal challenge of self-managing T2DM. Seeing the GPN provided them with sufficient additional support to be able to continue self-management; they described the additional confidence that they got from this added interest in their care:

‘I think it is it puts your mind at rest as you are getting older and you know the least worry you’ve got the better and they keep ah...you know
you...you’re going well your averages are good so you...you must be doing the right thing type of thing and you don’t feel as though oh, should I be doing something different or.... ‘. (Female participant 8)

‘I just found that yeah you feel like you are getting attention and the coverage and you are being kept on track to do these things and you don’t have to think about it too much that’s the main thing you don’t have to think about you are doing the right thing you’re doing the wrong thing so yeah…’ (Male participant 9)

**Relaxed environment**

While the first two sub-themes of this theme, perceptions and expectations of the GPN role and activities, the third sub-theme, relaxed environment, describes the atmosphere experienced by the participants during the GPN consultation. They acknowledged feeling relaxed and welcome in a consultation atmosphere in which they felt they could be more casual. This can be particularly important for individuals on first diagnosis, when, as illustrated in the theme feelings related to diagnosis, participants described this time as being a particularly stressful time in their lives. Participant 2 clearly described being overwhelmed with the diagnosis, and admitted that they did not take in much information during the initial GPN consultation. However, this relaxed environment was described as a contributing factor in assisting them to calm down and feel a bit better when trying to come to terms with this new diagnosis.

‘... oh I wasn’t so overwhelmed obviously oh no definitely no she is … she is a very calming person and ah… you know we can have a joke if you want to so…no that is all right.... so good.’ (Female participant 2- recently diagnosed)

The participants acknowledged that this relaxing, non-formal atmosphere was conducive to enabling the patients and health provider to get to know one another on a more personal level. One participant specifically noted that there was a need for informal conversation that would help people feel more relaxed and create an
atmosphere where people felt they could discuss anything without any barriers. Another participant described how this environment facilitated more relaxed conversation. This participant described feeling comfortable in the situation, which would certainly be conducive to discussing aspects of care such as goals and barriers to achieving set goals:

‘Yes something like that yes you know or how busy you are well you know so normal not very important chit chat but it helps breaks down the barriers too you know?’ (Male participant 10)

‘…and apart from that I think because if you just want to have talk to the nurse about something and not to the doctor... it makes you feel well me it makes you feel, well me it makes me feel a lot more comfortable.’ (Female participant 4)

This view of the GPN consultation is important, because the extended role of the GPN is to engage patients and help them play a more active role in self-managing their condition. One participant described the potential for this role to be particularly helpful to keep people motivated in maintaining positive self-management strategies. They explained that the additional GPN consultation support would be of particular benefit to people who are less involved in their own self-care. They explained their experience of knowing they were coming for their health review helped motivate them to maintain effective self-management. They perceived the GPN consultation as a positive experience, keeping them motivated, for example, to adhere to diet, explaining that when they have an upcoming appointment they know they will blood tests, which will show that they have higher BSLs then the expected target ranges. This action in itself was sufficient to motivate them to keep actively involved in their own self-care, This participant went on to explain that in view of this experience, they could see the potential benefit of the GPN consultation for other less motivated individuals:

‘I feel its very much for people who don’t do … their own checks and balances and you’re gonna have people I mean I’ve got acquaintances that yes they’re diabetics type 2 and yeah they eat everything that’s wrong they
do everything that’s wrong and …… gee you know cause I also do a bit of voluntary work around the aged care homes and I see ah… I’ve got one gentleman at the moment who is diabetic very over weight lost both his legs and am… he’s on dialysis two days a week and skin ulcers… and he’s 82 but you sort of go it’s a huge deterrent and you know you sort of go I don’t want that I just want to keel over and die but I don’t want to be like that… so I guess you’ve gotta have the clinics cover that those people who aren't doing the right things you know and checking up and as I said it’s great for me because it is you know I go to get a piece of cake and I go ‘Oh no I’ve got some tests coming up in a couple of weeks.’ (Male participant 9)

This view of the GPN consultation of motivating people less actively involved in their own self care overlaps with the sub theme of additional support; on this subject, two participants explain that when you get older it’s nice to have someone else take an interest in your care. Knowing the GPN is taking an interest not only provides individual support but motivates them to maintain a level of self involvement in their care.

Knowledge
This theme illustrates the participants’ descriptions of living with diabetes as well as their replies to the semi-structured interview question 14, which seeks participant understanding of how their GPN consultation could be further enhanced to meet their needs (Appendix 4). This theme includes two sub-themes: initial and ongoing.

Initial
This subtheme describes the participants’ detailed accounts of what the diagnosis of T2DM meant to them and how they gained the knowledge to manage it on a daily basis. In the interviews all the participants gave detailed accounts of how they manipulated their diet, exercise and/or medication to manage their condition. Through these descriptions they explained that while it was not always easy they were able to more or less self-manage their care. The researcher was interested in understanding where they gained the knowledge of the type of diet required, what exercise was needed and the medication used. Through further probing questions, the participants explained that they obtained their initial information from the GP
and or GPN. This initial information was verbal and supported by a lot of written material, for example diabetes brochures that were handed to them at the same time. However, they explained that in this initial stage of diagnosis they found this process confronting. They said that they felt as if there was too much information in one go, as well as, additional written information that they were expected to read and follow up on in their own time. Significantly, the participants described how they took the written information home and either struggled to read through it or put it aside and did not read it at all.

‘Well I think this is what doc gave me (getting all paper work out of her bag)…actually all these booklets, managing my diabetes, my feet, and diabetes, exercises you know all those sort of things and…. (sigh) oh all right OK that is what I got from the doctor and of course when I got the …machine of the sugar test I got a whole lot more. I haven’t read those either…’

(Female participant 2 recently diagnosed)

‘…we’d go to those different [places] for dietary [advice] you know and you’d get stacks of literature (laughing), leave it there and I threw it all out.’ (Male participant 9 diagnosed 1989)

‘…when I first got diabetes a whole lot of that wasn’t explained it was just basically ah here’s the paper have a look.’ (Female participant 4 diagnosed 2002)

One recently diagnosed participant clearly stated that following their experience they believe that less information on the initial consultation would be have been better for them. This sense of information overload overlaps with the theme of feelings related to diagnosis; on this subject, this participant described being overwhelmed with their diagnosis and subsequently explained that they did not take in a lot of the information from the initial GPN consultation. They went on to explain that when they reflected on this consultation, less information would have been more beneficial in their case.
'I think for myself, I don’t know about anybody else, obviously I think it probably would have been better because I would have you know perhaps if they had told me ‘just be a little bit careful with your diet.’” (Female participant 2 recently diagnosed)

In addition to receiving a lot of information on diagnosis, many of the participants described how they went on to attend T2DM learning programs in local community groups. Participants explained that it was through attendance at these programs that they received the bulk of their information to help them to self-manage their condition effectively. They regarded these courses as very helpful in teaching them what to do, for example, what foods to eat on a daily basis. The participants described how they used this information to help them manage their condition on a daily basis, for example, while out shopping. Five of the participants had attended these specific courses and spoke very highly of them.

‘At (names centre) they have a clinic there well I don’t know if it is still going but they was going last year and she… I went through oh about 7 weeks with her about once a week… there was quite a few of us in the same class… and that helped me a lot she told me you know what bread to get and what meats to get and sausages and all that kind of stuff…yeah.’ (Female participant 5)

‘… I started the first once I was diagnosed I went to the centre in (names centre), in (named location) and there was a male nurse there who was…there he used to take 4 or 5 people in a group and basically yeah teach you how to test and all these sort of things test for with the needles and things like that… and how to use the strips and then we used to go off he’d take us on…jaunts you know ah…in groups and there’s different lectures going around the city and we’d go to those different [ones] for dietary you know and you’d get stacks of literature (laughing) leave it there and I threw it all out…’ (Male participant 9)

‘Yeah all my books to read and how to eat and … and my little diabetic slip that I take with me when I go shopping…”(Female participant 6)
**Ongoing**

The second sub-theme, *ongoing*, was developed from the participants’ description of how they managed their condition over time. Once again the researcher asked additional probing questions to have a clear understanding of the participants’ knowledge over time. They described that as time went by they found that they needed additional information support, for example regarding diet to help them keep their BSLs within target ranges. They described how they received this information support from a variety of sources, for example, through their general practitioner's referrals to allied health services, through their personal search online for designated diabetic services, or through community based services such as the library.

*Ongoing* overlaps with the sub-theme *life style change* under the theme *challenge of living with T2DM*. In *life style change* participant 5 described that they required additional support to manage their diet effectively five years after their first visit to a dietician. Other participants describe how over time they recognised the need for more advice and information, in particular related to diet. They admitted to finding that managing the condition was confusing, and it was this confusion or quest for greater understanding of their condition that drove them to seek additional information.

‘two years ago she sent me again to the dietician and that helps me a lot because then I know what I am doing otherwise I get all confused.’ (Female participant 5)

..well when I go on to the site lately I've been going through everything you can get wrong with you when you have got diabetes...and it's made me understand a lot more…This is the diabetes site itself. I mean I think there is I think there’s about 3 different sites that you can go on but it you go on the ... diabetes.gov I think it is you can go down the whole lot and go onto each one.... (Female participant 4)
‘Oh I just go to the libraries or even off the internet some you know you can’t believe everything off the internet that’s the trouble so you go and try to back it up so long as you read who wrote it its not too bad …’ (Male participant 9)

Further exploration of this area of acquiring knowledge/information was facilitated through the semi-structured interview questions *Exploring all aspects of practice nurse diabetic care* (Appendix 3.) In describing areas that the participants felt could enhance their experiences of the GPN consultation, they suggested that the GPN could be more involved in the ongoing explanation, or providing advice in areas such as smoking, or as required to meet individual needs. This was an aspect of the consultation that they had difficulty describing in any great detail. Perhaps this aspect of the consultation does not get as much focus as the clearly described clinical assessment. This might explain why the participants could not expand in any great detail on their experiences of the GPN consultation in terms of addressing aspects of life style and management, as per the GPN T2DM consultation developed for the practice (Appendix 4). Some participants clearly identified the need for more explanation in terms of smoking, drinking, and advice on diet in general.

‘If she explained a bit more about a bit more reasons why you shouldn’t drink or reasons why you shouldn’t smoke now.’ (Female participant 5)

‘if they had just one nurse all the time and had a bit more time with her and them explaining more things for… for any body who has got diabetes because there is bound to be questions that people are going to ask…’ (Female participant 4)

‘I guess possibly they could say you know they could…give more advice perhaps whether they can or they can’t is an issue…to be honest I don’t know what the brief is for a practice like this you know what are they … are they just doing the checks to see where you’re at and what you’re doing or is it to educate and I don’t know that it is to educate… just ask a few some leading questions how is the cooking going.’ (Male participant 9)
Through this part of the interviews, the participants described how they would go through a GPN consultation and not necessarily ask a lot of questions. Participants reflected on the point of enhancing their experience of GPN care, and went on to describe how they felt that the GPN could be more active in getting people to open up more during the consultations, in order to clearly identify underlying personal concerns in the light of their own experiences. There were suggestions for providing specific information/education sessions or using interview techniques that encourage patients to ask more questions. Others suggested that the GPN should ask the patients more leading or probing questions to get them to open up more, and where relevant, address issues that the patients may not bring up voluntarily for whatever reason.

‘She is talking to me be about different things this and that but I never think to say to her how am I going is it bad have I got this or this going to happen to me no I never think to ask her that.’ (Female participant 6)

‘No probably just because of me I mean everybody else who comes along might ask questions I don’t know or I might think I know it all and I don’t…I don’t know I just don’t tend to… to ask those questions so….I probably think it’s not necessarily the right forum to do it yet if it was one of those things where its …Come along for an information day or something…. then you might….’ (Male participant 9)

‘Well just ask a few leading questions [like] how is the cooking going…How is your exercise going? And then listen to what you say listen to the answer don’t just accept OK…question a bit interrogate them.’ (Male participant 10)

The narratives from this section of the semi-structured interviews revealed some overlap with theme 3, perceptions and expectations of the practice nurse role; on this subject, the participants were less fluent in describing the GPN role beyond collecting clinical information related to blood pressure etc. and passing it onto their GP for their follow-up consultation. The participants once again describe the
central role of the GPN as collecting this clinical data, but at the same time recount that there is a space here for the GPN to expand their role in terms of providing more information, for example, related to diet and cooking or probing patients to identify underlying issues. This again returns to the point that clinical checks are seen as the focus of the GPN consultation, and the remaining life style and management aspects, despite being described by the participants as also being important, do not get the same amount of attention.

‘I guess possibly they could say you know they could...give more advice perhaps whether they can or they can’t is an issue...to be honest I don’t know what the brief is for a practice like this you know what are they ... are they just doing the checks to see where you’re at and what you’re doing or is it to educate and I don’t know that it is to educate... just ask a few some leading questions [like] how is the cooking going.’ (Male participant 9)

‘...this is what I think the nurses should do more of is they should get all your basic readings you’ve got all that but then sit down and find out if there is anything else that the person might not think is very important and might not think is not worth bothering with but sometimes it’s the beginning of something isn’t it and they don’t say it until its too late.’ (Male participant 10)

Confidence in the system
This theme describes the participants’ accounts of the type of GPN care received as defined through the more focused semi-structured interview questions in Exploring all aspects of the practice nurse diabetic care (Appendix 3). Three sub-themes were identified that illustrated the participants' experiences of this broad theme; structured care, continuity of care and length of GPN consultation time.

Interpersonal structured care
Interpersonal structured care includes the participants’ descriptions of the individual value they placed on interpersonal care between health professional and the participants as well as a consistent approach to how the care was delivered. Prior to attending the research general practice, some of the participants described that they had not been satisfied with their general practice service, so they looked
around for other practices that they felt met their needs. Once they found a specific practice they moved there and went on to describe that once they had experienced the care in the practice and were satisfied that this care met their needs they recommended it to other family members and or friends. The participants emphasised the importance of them having a good personal rapport with their GP as well as liking a particular approach to care. They described how they did not just move to another practice as it was nearer but they looked around until they found a practice that met their perceived needs. Having a good interpersonal relationship with the GP was described as just as important as receiving what they perceived as good care. The primary focus here was the GP relationship.

‘Well I did try a few practices before and unfortunately the Doctors were not very personable like here (Doctors name) is just wonderful but yeah… I just didn’t like them.’ (Female participant 3)

‘And I came here I’d done a ring around I couldn’t have met a nicer bloke that (doctor’s name) Hmm fantastic… I got my wife to come down here as she was dissatisfied with up there she was treated like a number you know and ah then she met… oh whats her name (name).’ (Male participant 1)

‘… my husband is a diabetic as well …. and he has only just joined this surgery he hasn’t been to see the nurse or anything yet because I convinced him to come here because of the nursing facilitates cause his doctor doesn’t have a diabetic clinic…so it’s come back here.’ (Female participant 8)

In addition to the importance of interpersonal care, the participants explained that they valued the structure of care that had a designated diabetes review and follow-up system in place. They believed the care provided was an improvement when comparing to their other experiences of T2DM in different general practice settings. They displayed an appreciation for the regular nature of the reviews when comparing this care approach to their experiences in other general practice settings with different systems in place.
'The last doctor I might have seen the nurse about... in the diabetic clinic about once a year instead I have my 6 months’ blood test here... but it wasn’t a regular thing you know it was ”ah you haven’t been for 18 months ah well better do one you know” (laughing) and... so you know. I’m just quite happy coming here.’ (Female participant 8)

This sub-theme interpersonal structured care overlaps with the sub theme relaxed environment of theme 3, perception and expectation of the GPN role, where participants described the relaxed atmosphere experienced during the GPN consultation. Good interpersonal relationships are highly valued by the participants, therefore the prior descriptions of the GPN consultation as comfortable, calming and relaxed are also conducive to developing good interpersonal relationships.

’Yes something like that yes you know or how busy you are well you know so normal not very important chit chat but it helps breaks down the barriers too you know?’ (Male participant 10)

’it makes you feel well me it makes you feel, well me it makes me feel a lot more comfortable’ (Female participant 4)

In addition, the participants’ described the potential of the GPN consultation to motivate people who are less active in their self-management. The link between these two sub-themes can be seen where regular reviews through a structured approach to care can facilitate, for example, appropriate follow up through ophthalmology where individuals with T2DM would otherwise not attend if they had no perceived issues with their eyes. This is a particularly significant perspective in view of the insidious nature of this T2DM and the development of associated complications.

’Sohaving the nurses do the checks and having the practice do the checks then you know something might be picked up and the person can now be sent off.’ (Male participant 9)

Continuity of care
To explore the impact of having different GPNs involved in their care, as occurs in the research general practice setting under the practice-specific policy, participants were asked how they felt about care provided by different practice nurses or the same practice nurse. Six participants did not mind what nurse they had for their consultations, for a variety of reasons, for instance, they all did the same tests. This understanding and acceptance of care from different practice nurses overlaps with the sub theme extension of the GP’s role, under theme 3, perceptions and expectations of the GPN role; on this subject, the GPN role was experienced primarily as someone who gathered clinical data to facilitate the follow-up GP consultation. If the GPNs are just collecting clinical data then in the participant’s experience it does not matter who they see.

‘Cause they do the same test what the other one does so it doesn’t worry me who I see.’ (Female participant 5)

However, if the GPNs expanded more into the role of providing more advice or asking more probing questions, as suggested by the participants, this may or may not impact on their perception of care provision. Two participants indirectly addressed this aspect of future care, stating that seeing the same GPN at each consultation was not significant to them, as they experienced the GPN as a trained health care professional and as such the training was fundamentally the same for all the GPNs. In addition, the GPN T2DM consultations were not held frequently, therefore, there was limited time for them to develop a close relationship that would impact on the consultation outcomes.

‘Well I don’t come to see a nurse very often so she is not going to get to know me all that much so I don’t think it makes much difference as long as she is as competently trained as the next one I can’t see what…’ (Male participant 10)

‘I know personally I would like to see the same nurse…. but on saying that there is always a but…that nurse does not get to know me cause you only see her twice a year, they see… they see 100 people you know so there is no way in the world ah… sure they might maybe I remember you from 6
months ago you know so really the need to see the same nurse all the time is irrelevant to me so...because they all trained and they are all there to do the same job and ah...’ (Male participant 1)

One participant explained that in the long term it didn’t matter who they saw as they experienced the GPN consultation as only ticking boxes of the clinical test and not going into any great depth in assessment. Therefore different GPNs would not impact on the outcome, as they were all carrying out the same test.

‘Well as I said... I don’t think it makes much difference seeing different nurses or the same ones because to me it’s just tick the boxes so yeah...check feet check this check your eyesight check the height.’ (Male participant 9)

On the other hand, while the participants felt confident that GPNs were trained health professionals competent to deliver effective care, some participants did express a desire to see the same nurse, as they felt this would be preferable in view of the ongoing nature of the care. The significance of having the same practice nurse was further emphasised through the participants’ description of their experiences of having different people giving different advice on the same question. This highlights the significance of having sufficiently trained GPNs, as that would diminish the variance in advice when all health professionals are trained through the same process.

‘It would be more personable. It would be just like going to your doctor you wouldn’t [want] a new doctor every time you go because you’d be staring over every time so...so yeah the one-on-one relationship is... to me is important when you are dealing with a life-long disease.’ (Female participant 3)

‘I would prefer that same nurse as they seem to have different opinions each one seems to have different opinions on it they might have read the same thing about it but they all have different opinions on the questions you ask.’ (Female participant 4)
‘I’d like the same nurse because I don’t have to explain things to them again over and over again so it’s a matter of knowing (names GP nurse) she cranks up the computer and you know gets the last copy of your blood test takes me into the wee room across there where...we chat for a bit and then do...’ (Male participant 7)

During some of the conversations regarding seeing the same or different practice nurses as part of their care, some participants stated that on occasion they don’t need to see the GP. When this was further explored the participants explained that they only felt the need to see the GP when then have specific medical issues or when they feel that they are physically not feeling very well.

Participant: I don’t think I need the doctor as much.
Researcher: Hm, why not?
Participant: Only to tell me whether I’m going raving awful or I am doing well or… and the usual check ups that one has after blood tests and other tests…the more serious side of it shall we say. (Female participant 2)

Only one participant had previous experience with a nurse-only, rural, community-based diabetes program. They described this program of weekly reviews as the ‘best of care’ (male participant 7) and talked extensively about the program, where they had one hour with the nurse, with talks and physical checks. When comparing the two programs the participant described how the other program was excellent but if they had not experienced this other program they would be happy with the current GP and GPN reviews:

‘I can...so ah... as I said if I hadn’t met (name of nurse in Kalgoorlie) I wouldn’t you know I’d be very more than happy with the service here put it that way.’ (Male participant 7)

Another participant clearly stated that the GPN and the GP have to work together. They described their experiences of this care as complementary, where the GPN consultation complemented the GP consultation. However, when they clarified their
description, they described the GPN consultation as a series of ‘measurements’ which, when done in isolation, was not considered important enough for the participant. This explanation links to participants’ experience of the GPN consultation as gathering clinical information for the follow up GP consultation:

‘they are a complement, they are a necessary parts of the one I firmly believe that’s good, that’s why I go along with the nurse because I think it’s that the way it should work, but just to come and see a nurse just take a few measurements, put it on the file, no a waste a time.’ (Male participant 10)

However, this participant explained that they went regularly to a separate diabetes review program run by the local hospital. They explained that three nurses ran this program. In this situation they did not have a problem with receiving ongoing care from different nurses, as they were confident in their approach, due to the nurses’ experience in dealing with patients with diabetes.

‘But the three of them all do questions and because there are probably very experienced diabetic nurses, they know what [are] the leading questions to ask, now that’s probably where the nurses have to get that experience I suppose, to know where the sources of problems are, you know.’ (Male participant 10)

**Length of GPN consultation.**
The final sub-theme, *length of GPN consultation*, illustrates the participants’ descriptions of GPN T2DM care in response to the semi-structured questions related to *exploring all aspects of the practice nurse diabetic care*. The length of GPN consultation time was identified as significant in the participants’ perception of whether the allocated time was sufficient to meet their identified needs. Although the GPN consultations are allocated a 15 minute time slot in the research general practice, all the participants had various interpretations of the actual time frame. The majority interpretation was that they spend longer than the allocated time for their GPN consultation. When explaining the time spent during the consultation, participants made specific reference to individual needs, noting that on occasion some people might need more time, depending on individual needs. They also
highlighted the need for longer time when initially diagnosed:

‘Yes it’s slotted in so you have 15 minutes with her then you go you see your doctor… but it does usually work out that… It’s definitely more than 15 minutes each that I have.…’ (Female participant 4)

‘Yeah, yeah and again that would be an individual thing, if somebody needs 20 minutes to discuss and hear issues back, I don’t think it should be a set time that you have 10 minutes, hurry up and then it’s done you know somebody might need 30 minutes to discuss so…. Yeah but I have never felt rushed.’ (Female participant 3)

‘Well the last time well I don’t think she could have used much more time I think we covered it all fairly well but one of the early times one of the first ones I went to hear was quite long…’ (Male participant 10)

The sub-theme length of GPN consultation time overlaps with the sub-theme ongoing, in theme 4, knowledge. In the sub-theme ongoing the participants outlined the need for more advice or explanation from the GPN during the consultation. They also described the need for the GPN to ask more probing questions to ensure that underlying issues are identified. This point is particularly important in view of one participant’s response that for what she currently experiences of the GPN there is enough time, but on reflection, she points out that she never asks any questions:

‘well for what she does I suppose it is but then again I don’t ask her anything?’ (Female participant 6)

When the researcher further probed their request for more advice or questions, the participants reflected on this and noted that there might not be enough time for the GPN to carry out all the clinical assessments and then spend adequate time with them for advice and or probing questions. One participant stated that they remained unsure of the specific role of the GPN, beyond collecting clinical data, and was not sure if the GPN consultation was the right place to ask more
questions:

‘I don’t think she would have … I presume after I leave she has to write down what she done etc. etc. write notes so the time she takes that in, that’s probably the best part of the time I seen her, the time she leaves that’s probably the best part of half and hour, well you wouldn’t see a doctor for that long so you know so that’s good to be honest with you I can’t complain at all.’ (Male participant 7)

‘…had a bit more time with her and them explaining more things for… for anybody who has got diabetes because there is bound to be questions that people are going to ask…’ (Female participant 4)

‘but I just sort of think that I guess I could if I wanted to stretch it out I could but sometimes you sort of think…you tend to sort of sit back and you go… OK I do this I do this what should I…do and you just don’t feel like it’s the right thing to be asking because you feel like you’re there for a check-up rather then a… so not so much a the tete a tete sort of you know, I’ve got this issue or that issue, it’s more the check-up you know the pricks and the feet and … you know eye tests and things like that.’ (Male participant 9)

Chapter Summary

This chapter discussed the themes that emerged from the interviews of the 10 participants in response to the interview questions. Although the participants were from different backgrounds, there were more similarities than differences in their experiences. Analysis of the data identified five themes that illustrated the participants’ perspectives of the GPN T2DM care. The five themes were interconnected, as they followed the participants’ journey from T2DM diagnosis to the ongoing self-management of this condition and their perception of the GPN role in their care. The following chapter is a discussion and summary of these findings, in terms of the purpose and objectives of this study. It will also identify the limitations of the study and offer recommendations for future resea
Chapter 5 Discussion

Introduction

This study explores patients’ experience of management of diabetes by general practice nurses in an Australian urban general practice setting. This final chapter considers the research findings in the light of the aim and objectives, with reference to literature on the subject and existing GPN guidelines for T2DM care. It discusses the individual impact of being diagnosed with T2DM, and how diagnosis and identified associated factors influence an individual’s ability to manage their condition effectively. It considers the participants’ interpretation and expectation of the general practice nurse role, and discusses their experiences of GPN consultation time, as well as of receiving care from different GPNs. It considers aspects of care that participants hold important in improving health outcomes, and identifies other aspects that need additional consideration. Finally, it explores the strengths and limitations of this study and makes recommendations for future research.

Participants in this study expressed a range of strong emotions when first diagnosed with T2DM. They described their initial emotions on diagnosis as shock, denial, fear, stress and confusion. Only one participant felt that the diagnosis was positive in helping him lead a healthier life style. Diagnosis with T2DM is recognised as a traumatic time for the individual.\cite{Olshansky2008} Olshansky’s (2008) exploration of patient experiences of living with and managing diabetes found that the strong emotions people experience at the time of diagnosis can have a major impact on adjusting to life changes.\cite{Olshansky2008} It found that while negative feelings such as fear or denial can adversely affect how people react and adjust, positive feelings can help people adjust to changes more successfully, as they see a healthier approach to living.\cite{Olshansky2008} It is well recognised that strong emotional responses can play a significant role in personal, psychological and emotional wellbeing, which are integral to developing and sustaining effective T2DM self-management.\cite{Olshansky2008}

Consistent with this study’s findings of the emotional impact of early diagnosis, the 2001 International Diabetes Attitudes, Wishes and Needs (DAWN) program noted
the large amount of stress that individuals experienced on diagnosis, acknowledging that the presence of ongoing stress factors related to fear of complications can be present up to 15 years after initial diagnosis. Speight’s (2012) review of managing diabetes and preventing complications calls for care that has a greater focus on reducing diabetes-related stress, noting that such distress accounts for much of the variance in the depressive symptoms, often making it difficult for HPs to assess effectively. This present study, together with Speight’s (2012) review, found that participants also described how they could be overwhelmed and frustrated with their condition.

Psychosocial factors such as those noted have a significant impact on facilitating individual adherence to treatment regimes, and poor compliance is related to psychological problems. Earlier studies by Patterson (1998) and Furler (2008) found that diagnosis with T2DM can have a significant emotional impact on the individual, and this in turn can affect the patient and HP relationship. It is well documented that HPs need to consider initial shock and life events before preparing an individual to take on an effective self-management role. Health professionals should not lose sight of the personal impact of the lived experience, and should balance this with clinical indicators such as HbA1c and blood pressure. Speight (2012) calls for a greater focus on evaluating psychological impact as an integral approach to improving diabetes care and outcomes.

Broom’s 2004 Australian-based qualitative research, exploring how people with diabetes describe everyday experience of managing their condition, found that self-management of T2DM is not just about following a designated plan, but involves daily attention to detail and personal control of the condition, as well as social acceptance. Greenfield’s (2011) rural West Australian study of the issues that account for poor control found that individuals have a lot going on in their lives, and psychosocial factors can play a dominant role in prioritising self-care through clinical management. Consequently, what may be a priority for the HP in consultations that seek to achieve metabolic control of the condition may not be the same for the patient, due to the closely related personal, social and emotional issues of living with T2DM. Speight’s (2012) review of diabetes in Australia notes
that despite the introduction of primary health care strategies such as the Service Incentive Payment (SIP) and the Diabetes Annual Cycle of Care (ACoC), the mean HbA1c remains above targets set by the Diabetes Control and Complications Trial (DCCT) and United Kingdom Prospective Diabetes Study (UKPDS). This study argues for a new approach to managing diabetes that includes training for GPNs to enable them to effectively identify and address diabetes-related stress.

The well-documented challenge faced by individuals with T2DM in finding a balance between dietary intake, exercise, and keeping BGLS within accepted ranges was repeated throughout the interviews. In this study, as with other diabetes research, ‘control’ was a term often used to describe an individual’s ability to keep their BGLs within specific ranges as determined by their GP and/or diabetes specialist. In addition to controlling their diabetes, participants also talked about the frustration they felt when they had lost control. Study participants explained how they had managed their condition for many years through diet and exercise, but when they could no longer exercise as much they felt that the loss of this strategy made it harder for them to be in ‘control’ of the T2DM. This frustration was particularly evident in the presence of other illness or co-morbidity such as arthritis, depression or a generalised feeling of reduced exercise tolerance attributed to aging. As these issues impacted on their daily living activities, they were finding it harder to adhere to established strategies and self-manage their T2DM effectively.

However contrary to the study participants’ description of their lived experience, research studies of general co-morbidities and aging indicate that the presence of these conditions does not have a negative impact on glycaemic control. In fact they note that older people tend to have better control and increased adherence to follow-up appointments as required. However, an extensive study in the USA indicated that as people aged they were less likely to have an active role in managing their condition. Although this study did not include a cross-reference to patient perceptions of glycaemic control and clinical test results, it did highlight the participants’ perception that the presence of age and or other health issues has an impact on keeping their glycaemic index within accepted range, or ‘under control’. In view of the aging population, high incidence of diabetes among the aged, and
common presence of co-morbidities and disabilities that further complicate management, the Australian Diabetes Educators Association has facilitated the guidelines for the management and care of diabetes in the elderly (2003). Study participants description of the impact of aging indicate that health professionals need to be aware that the process of aging and the development of other health issues can have a significant impact on personally developed strategies to self-manage T2DM. It demonstrates the need for ongoing evaluation of individual goals and identifying what people hope to achieve and how they plan to achieve this.

Participants in this study described in great detail how they managed their T2DM, and how this management became part of who they are. Dealing with T2DM was a very individual response; for some it is just another aspect of their lives, yet for others it became a dominating factor in their lives. They described how they negotiated their daily diet through self-management strategies personally developed to suit their needs, balancing what was happening in their lives with recommended practice. This finding is consistent with Ingadottir’s (2008) qualitative exploration of patients mastering their diabetes, which found that self-management in diabetes was a personal response, as individuals try to establish a balance between physical and psychosocial wellbeing, while adhering to prescribed regimes. In discussing the impact of diabetes on their life, participants described at length their diet as well as what they would or would not do as recommended in the literature or HP verbal advice, in terms of dietary intake, exercise, frequency of SMBG and, in some cases, medication use. Through their description of managing their daily care, participants displayed a broad knowledge of diet, exercise and/or medication and their effect on their condition. This finding is consistent with Greenfield’s (2011) study, which also identified that patients had good knowledge about what was expected from them to manage their condition effectively.

However, this evidence of knowledge base is contrary to other research. Studies have found that when specific T2DM knowledge is measured, considerable gaps in patient knowledge are identified. In 2001 a London-based study of 789 patients using the ADKnowl (Audit of Diabetes Knowledge) was carried out to evaluate the nature and extent of patient and health professional knowledge.
It noted that a substantial number of the participants did not have sufficient information to manage their condition effectively. In addition, a 2007 study by Fitzgerald using the Diabetes Semantic Differential Scale (DSDS) noted that there was a difference between patient and provider perception of care, in that patients viewed diabetes in terms of their lived experience while providers viewed it through medical meaning. While the participants in this study appeared confident about their decisions in manipulating diet, exercise and or medication, the researcher recognises its limitation in direct evaluation of this knowledge. However it noted some potential misunderstandings in some participants’ description of their experiences. In relation to medication use one participant stated “the effects of the diabetes the pills didn’t work because I wasn’t doing what I was supposed to…” ‘when I first found out I had diabetes I went on Glucophage … it was totally unsuccessful so because ..I had used insulin I knew I could control it so I just said forget it so they put me back on and from then on I have had good control.’ (Female Participant 3: diagnosed at age 22 –22 years ago) This participant’s description of their experience with medication in association with their description of denial and non-adherence to diet indicates that health providers need to question an individual understands when they are requesting certain approaches. The participant could well be correct in their choice of medication, however, if it is based on an underlying ineffective approach to managing diet, the use of the stronger medication could have been unnecessary, and prevented through supporting the participant to address this aspect of care more effectively.

Managing diet can also prove challenging for patients even when they have lived with their condition for a number of years as another participant stated ‘two years ago she [GP] sent me again to the dietician and that helps me a lot because…I get all confused.’ (Female participant 5) This description of the need for additional dietary support years after their initial visit illustrates the need for health professionals to be aware of the potential need for patients to have ongoing access to allied health support, in view of the chronic nature of this condition. In view of prior research indicating patients’ misunderstandings when their T2DM knowledge is directly tested together with HPs’ assumptions about patient knowledge, the research findings indicate the importance of health professional developing effective communication strategies and approaches to care, to ensure that patients
have a sound understanding of how to manage their condition effectively. This is particularly significant in view of the research findings that the participants constantly juggle diet, exercise and or medication on order to keep their BGLs within accepted ranges.

To meet the challenge of self-managing their T2DM effectively, participants in the study described how they received verbal advice in addition to an abundant amount of associated literature in the form of booklets and or brochures during their GPN/GP consultations, as well as at formal T2DM education sessions. While seven out of ten of the participants in this study had a minimum secondary level education, two of the participants had only primary school level education, and one had left school at fourteen years of age. In today’s environment where health consultations may be time-limited, health professionals often rely on the provision of written resources to support their patient education on self-management.190

Health literacy is the individual’s ability to obtain, read and understand health care information in order to make appropriate health decisions.190 It not only involves the ability to read and understand technical terms such as HbA1c or dosage of medication, but also encompasses factors such as culture, empowerment, motivation and their self-assessment of the information provided.191 Studies have shown that poor health literacy is particularly present in ethnic minorities, older people and those with chronic conditions, specifically diabetes.190,192 Moreover, patients with the greatest needs are the least likely to be able to read and understand the information.193,194 Tang’s (2007) study on health literacy, complication awareness and diabetes control noted that T2DM is a complicated, long-term condition, where a good understanding of the complications and high health literacy result in good diabetic control.190 Participants explained that they received large amounts of literature along with verbal advice. In some cases participants went on to explain that they did not read and/or threw away most of this written information. Furthermore, some of them described how as time went by they would go to the local library, or search online for information to help them in their ongoing self-management. However, Tang’s (2007) study noted the importance of considering patient health literacy issues when relying on such measures to supplement patient education.190 This study found that patients with
poor health literacy can be substantially disadvantaged and have poorer health outcomes.

Participants in the present study described the general practice nurse role as carrying out physical checks, which were then passed onto the GP. They viewed the GPN role in terms of gathering information to be passed onto the GP as well as relieving GP heavy workloads. While they saw the GPN role as an extension of the GP’s roles, they could not fully articulate the GPN role beyond carrying out a series of checks. During the interviews, when asked to describe the checks, they listed off with ease the clinical checks that the GPN carries out, as outlined in the diabetes template developed by the practice (Appendix 4), such as eyes, feet and blood pressure. Patients’ understanding of the GPN role in T2DM care as carrying out a series of checks is not restricted to this study. Beresford’s (2011), qualitative study of patients with T2DM and GPN care in the UK also found that participants’ perception of the GPN role was predominantly to carry out physical check-ups: ‘I’m not sure that there’s actually anything, apart from doing the checks.’ (Mr PK).

In the United Kingdom the GPN role in T2DM care is more established than in Australia, but there are concerns that the UK 2004 pay-for-performance scheme, Quality Outcomes Framework (QOF), developed to improve chronic disease outcomes, has put pressure on GPNs and GPs to focus on the clinical issues in their consultations rather than on the whole patient, identifying their concerns. A 2007 ethnographic case study of two English general practices, exploring health professional response to the QOF, found that GPNs and GPs are voicing their concern that there was an element of ‘box ticking’ through the use of pre-established electronic templates to meet incentives set in the QOF. They voiced concern that this approach is more focused on treating the condition, rather than the individual with a condition. While these templates were valued in terms of reminding people of what to do, they were also found to be limiting, particularly for GPNs, who had limited capacity to alter consultations to truly incorporate the patient perspective.

A 2010-2011 audit of the Australian PIP noted that the main Key Performance Indicators (KPIs) for the effectiveness of programs focused on evaluating program
uptake rather than outcomes, limiting its ability to inform government on the success or otherwise of the initiatives. Evaluation of PIP programs which focus on clinical outcomes and accountability also note that while patients report high satisfaction rates for and receive optimal care for clinical indicators such as HbA1c, eye and foot examinations, they receive suboptimal care in management and lifestyle indicators such as self-management, exercise and knowledge reviews. Ongoing PHC reform is focusing on patient-centred care, where diabetic consultations are aimed at targeting individual needs in view of persistent poor outcomes. Studies by Arah (2011) and Furler (2008) found that the provision of improved technical care does not correlate with interpersonal care, and it is recommended that there is ongoing measurement of both aspects of care, especially when evaluating chronic health outcomes such as diabetes.

A 2013 review of the implications of the Practice Incentive Program (PIP) noted that the introduction of this program has not improved quality of care over the long term, despite heavy financial investment. While using pre-established templates may be positive in achieving clinical outcomes, the importance of engaging the individual to establish goals cannot be overlooked. Research indicates that while clinical quality of care for T2DM has improved in Australia, there remains a substantial gap in care provision of management and lifestyle factors. Speight’s 2012 review calls for an expansion of the focus on clinical measurement to include the individual behavioural aspects that play a large part in influencing self-management outcomes.

General practices, as privately-run businesses, need to address the economic efficiencies of GPNs. Australian GPNs are currently funded through a blended payment system with the Fee for Service (FFS) the most recognised by general practices. As previously noted, this approach focuses on evaluating program uptake rather than outcomes. A 2010 Victorian research on the use of current guidelines and the impact of clinical depression on patients with T2DM indicated that while there has been an improvement in overall care, current guidelines are limited in their capacity to bring about change in the long term and close the evidence-treatment gap. However, while evaluation of outcomes can give a clearer picture of the impact of introduced strategies, ongoing research into GPN
activities in chronic disease indicates that long-term health advantages are not measurable. Nonetheless, National health reform is continuing to invest financial support to enable GPNs to work to their full scope of standards of practice. However, there is currently no established means of data collection that can clearly represent this full scope of practice. The Bettering Evaluation and Health Care (BEACH) survey, established to collate data of general practice activities, reports a substantial increase in GPN activities recorded in GP encounters, from 4.2% in 2005–06 to 8.0% in 2010–11. While these reports demonstrate that the number of GPN encounters is increasing over the years, it does not enable a full description of GPN activity. Figures underestimate all GPN contributions to health activities such as health assessments and in relation to T2DM Practice Incentive Payments (PIP), General Practice Management Plans (GPMPs), maintaining the reminder recalls for patient ongoing reviews, and organising appointments. Under the current BEACH evaluation, survey activities that do not involve a GP are not recorded, therefore data collection such as related to GPMPs, a component of overall diabetes management, fail to clearly capture GPN involvement in T2DM patient care.

Ongoing evaluation and review of the GPN role indicates that there remain extrinsic factors such as funding models and the political context of health care delivery that are restraining GPNs from reaching their full potential. While collaboration with GPs instead of delegation, and access to ongoing education, have been identified as facilitating the expanded GPN role, ongoing review of the GPN role indicates that it is unclear whether GPNs have the skills and competencies and/or willingness to take on new roles facilitating effective role expansion. In view of this uncertainty there is a recognised need for more evidence to facilitate an appropriate and effective GPN role expansion, especially in view of ongoing GP shortages and increased service demand.

The RACGP guide for general practice nurses outlines six roles of the general practice nurse: patient carer, organiser (e.g. recall reminder systems for ongoing reviews), problem solver, quality controller, educator, and agent of connectivity (see Table 2-3). Despite this formal description of the GPN role, participants in
this study could not, from their experience, fully articulate any of these roles beyond patient carer. A 2001 Australian report of Consumer Perceptions of Nursing and Nursing in General Practice found that the Australian GPN role is often not clear to patients, and this confusion can make it difficult for patients to articulate what exactly GPNs do. This report noted that patients with more experience of GPNs could describe their roles beyond the basic tasks, including developing health plans, providing education and support. A 2012 New Zealand-based study of consumer perspective of general practice nurse activity also found that people were often confused over the role of the GPN: ‘That's where it's quite grey to me because I don’t think it's ever been made clear all the things that you could use the nurse for.' Similarly, one participant in this study described the GPN role as ‘where you have this sort of little grey area that you sort of go well I do have some questions but should I ask…’ (Male participant 9) However, it is acknowledged that the Australian consumer/patient perception of GPN roles can vary depending on previous experience with GPNs. The researcher recognises that the participants’ expectations may not have been very clear, due to limited prior experience of GPN care in all areas, including T2DM. Hegney's (2004) review of Australian consumer perceptions of GPNs found that while some participants who had experienced GPN care were very satisfied with the care provided, the majority of participants across the studies did not believe that GPN care alone would increase their satisfaction. However, the review noted that the majority of the participants had not received expanded GPN care as experienced in the United Kingdom. They recognised that it could be this lack of experience that influenced their perception that seeing the GPN alone would not result in higher levels of satisfaction.

In this study participants expressed confidence in the GPN’s professionalism and ability to deal with issues what they described as 'less medical' issues. Although this term was not further explored in this study, the 2001 Australian report of Consumer Perception of Nurses and Nursing in General Practice also found that while consumers/patients were willing to see the GPN only, they wanted an option to see the GP when they had more clinical questions. Hegney’s (2004) review of consumer acceptance of the expanded GPN role noted that, while consumers were
happy with the care provided and were open to seeing the GPN only, when the need arose they were unsure of what this consultation should entail and what impact this would have on their overall care in the general practice setting. Nonetheless this present research noted that one participant who was happy with the current GPN care stated that their previous experience of nurse only diabetes care from a rural based community nurse was the ‘best of care’ (Male participant 7).

While the participants found it difficult to fully articulate the role of the GPN in the management of their T2DM, they described the GPN consultations as relaxed and casual, conducive to facilitating a more interpersonal patient-health provider relationship. The importance of developing good rapport and establishing more personalised consultations between HPs and patients with T2DM in achieving positive health outcomes is well established.\textsuperscript{13,50,86,131} Stubb’s (2007) study of people’s attitudes toward lifestyle change as necessary post-T2DM diagnosis noted the importance of the HP patient relationship ‘I think that she’s amazing, lovely, caring’.\textsuperscript{131} Description of the GPN as caring was also reiterated in this study, where the GPN were perceived as calm and supportive. Cheek’s (2002) review of consumers’ perceptions of GPNs also found that the reassuring, calming and supportive roles of nurses are recognised and appreciated by patients.\textsuperscript{139}

The Royal College of Nursing Australia recognises that good people skills is one of the key skills and roles required for GPNs in contributing to managing diabetes.\textsuperscript{70} As a profession, nurses are recognised as being ethical, good-natured and trustworthy.\textsuperscript{123} Nurses viewed in this role are in a prime position to engage individuals in a more personal manner. Although the importance of getting to know the individual and establishing individual goals in T2DM is well recognised, one of the biggest challenges for individuals is to manage their T2DM effectively, and one of the biggest challenges is for the HP to provide effective care.\textsuperscript{8,202} The experience of GPN T2DM management as recounted by the participants in this study indicates that the current length of time allocated to the GPN diabetes consultation does not facilitate GPN/patient discussion of goals and/or individual needs at any great length.
In their fifteen-minute consultations, general practice nurses in the research general practice setting carry out their consultation using the practice-developed diabetes template (Appendix 4). The template targets clinical assessment: blood pressure, height, weight and eye tests, as well as areas for further discussion in relation to smoking, alcohol, diet, exercise, medication management and frequency of BSLs at home. The RACGP clinical guidelines for GPN quarterly and annual review differ in content when compared to the practice-developed template, which does not distinguish between annual or quarterly reviews in terms of content or time allocation, despite the additional content included in the recommended annual review (see Figures 2-3, 2-4 & Appendix 4). When describing their GPN consultation, participants talked at length about the clinical assessment of eyes, feet and blood pressure, but only with additional probing questions did they mention discussions around diet, smoking, alcohol, or exercise. Yet when asked to describe how the consultations could better meet their needs, participants noted that there could be a greater focus on asking probing questions and explaining more, or allowing time to answer individual questions. This finding is consistent with Beresford’s (2011) study where participants also identified a need for additional support and information: ‘I think she could explain.’

Pooley’s (2001) mixed method study to explore issues perceived as essential in the effective management of diabetes in the primary care setting noted that time was recognised as a main constraint in delivering appropriate T2DM. It found that in general practices a shortage of time restricts HPs ability to respond to individual needs effectively and that appropriate self-management of T2DM cannot take place without sufficient time for the HP and patient to discuss their concerns. Lack of time was a concern to both the patient and the HP, because insufficient time leads to inadequate consultations where patient concerns are unmet, and the HP is not able to respond adequately to individual needs. Participants in this study described how they often experienced the GP as being pressed for time, and they viewed the GPN as important in relieving some of that time pressure. Participants showed a degree of concern that the GP was very busy and they did not want to add to this workload, and there was an underlying assumption that the GPN had more time available than the GP. This perception of the GPN as fulfilling the role of relieving GPs who are trying to cope with extensive workloads has long
been recognised. The 2001 Australian report of Consumer Perception of Nurses and Nursing in General Practice reflects the findings from this study, where participants perceived that the GPN had more time to see them.

Participants were specifically asked to describe their feelings when engaging with different GPNs, who were following practice procedure as part of the T2DM consultation. The majority of participants did not see an issue with seeing different GPNs as part of their T2DM reviews. They believed that the GPNs were professional and trained and they had confidence that they could conduct the reviews effectively. However, continuity of care and seeing the same HPs have been identified as significant aspects of increasing patient positive health outcomes. Alazari’s (2005) study of patient perspectives of T2DM continuity of care found that patients who experience ongoing care from the same practitioner feel that they receive more personalised care, but when HPs are changed, issues can occur in terms of receiving conflicting advice or difficulty establishing the interpersonal care that is essential for improved health outcomes. However, contrary to these findings, this study indicated that the majority of participants did not mind which general practice nurses they saw, as they believed continuity of care would be maintained through the use of a structured approach to care, and they had confidence that the GPN’s qualifications would effectively address their needs. These findings reiterate earlier findings by Furler’s (2008) qualitative Australian study of the emotional context of self-management in chronic illness, which noted that supporting self-management does not have to be entwined within an ongoing HP/patient relationship. However, Furler’s study cautioned against using a ‘one size fits all’ approach to achieving health care outcomes.

An increased community burden of T2DM and the resulting demand on general practice has led to primary health reform, calling for increased general practice nurse activity to help alleviate the impact of this growing demand on general practices. Following this, the current GPN health policy focuses on practice nurses as an auxiliary for GPs in meeting growing community needs rather than utilising an expanded GPN scope of practice to change work patterns. While the current guidelines for GPN diabetes care in general practice incorporate the
expanded scope of general practice nurse activity to enable effective chronic
disease management, some implemented models of care remain focused on
clinical outcomes described by the patients as a series of checks.\textsuperscript{7,70,86} The
Australian Medicare Local in association with the Royal Australian College of
Nursing have developed the Nurse Clinics in Australian General Practice resource
to assist general practices to meet increased workload, by implementing the
expanded role of the GPN in a systematic and sustainable manner that maximises
quality patient care and safety.\textsuperscript{83} If the GPN model of diabetes care becomes too
focused on completing set tasks in a busy atmosphere, patients can feel less
motivated, less engaged and less empowered to take on an effective role in self-
managing their care and promoting positive health outcomes.\textsuperscript{131,204}

Though the study participants’ descriptions of the expanded GPN role were limited,
they voiced their high satisfaction with the general diabetes care provision in the
research general practice. Some participants explained that they had transferred
from other general practices, and once satisfied with the care, they had gone on to
recommend it to their family and/or friends. The participants’ individual perceptions
of quality care identified aspects such as not having to remind the practice that
their diabetes review was due, a ‘structured’ care delivery process, and a feeling
that they were receiving personalised care. Two participants described the
potential role of the GPN as motivator in supporting people to self-manage their
T2DM through the regular process of follow up and reviews. They noted that
having the GPN carry out regular reviews can be particularly beneficial in
supporting those less inclined to take an active role in their care. Research
indicates that patients report higher patient satisfaction rates when receiving
recommended care.\textsuperscript{133,205} However, while the participants were happy with the care
provided, they also noted that this care fell short of meeting their individual needs,
in terms of getting more advice or information that they felt would help them
manage or deal with their condition more effectively.

While Australian consumer perceptions indicate high satisfaction levels with GPNs
in the more traditional roles of vaccinations and wound management, they remain
unsure of the expanded role wherein GPNs run independent consultations, mainly
due to fear that the GPN will replace or block access to the GP.\textsuperscript{84,139,146} A 2011
randomised control trial in the Netherlands to investigate the effects of transferring diabetes care to GPNs in primary health care settings indicates that within an expanded scope of practice, GPNs can deliver safe T2DM care in general practice settings, when they adhere to clinical standards and established protocols. This present study notes that GPN care of T2DM is effective in assisting patients to keep their HbA1c level within specified levels, suggesting an improvement in quality of diabetes management, and that this level of care is not only comparable to GP care, but that in some short-term results, GPNs achieve higher patient satisfaction rates. Gardner et al (2007) study to develop a research-informed model of the service parameters and framework for advanced practice nursing roles note that the expanded scope of GPN has been accepted as an effective means of enhancing patient care management in the general practice setting. However, the speed with which these measures have been introduced has resulted in this role not being clearly articulated and defined.

Increasing community health needs in areas such as chronic disease management have put pressure on the health care workforce, and triggered the introduction of an expanded GPN role; but this change has resulted in GPN role conflict and lack of clarity. This unplanned introduction of extended GPN roles is recognised as a barrier in the optimal use of GPN skills. Gardner’s (2007) Brisbane-based qualitative research into nursing models for advanced practice nurses in areas such as management and education recognised the need to clearly describe the service parameters of the GPN role, in view of the longstanding confusion and lack of definition of the advanced GPN role classification. The 2012 PNIP aims to support the expanded role of the GPN. The Australian Medicare Local Alliance has developed a resource based on the Royal Australian College of General Practice Framework to assist general practices to review and expand the role of practice nurses in a systematic and sustainable way. It is anticipated that this resource will enable the development of new ideas and approaches to GPN care, maximising quality care, patient safety, and health outcomes that work to maximise care in a financially sustainable manner.
Strengths and limitations

This study, a small-scale qualitative, was conducted in one general practice in a large urban area in Western Australia, therefore findings from this study cannot be generalised. However, the intention of this study was not to generalise the views of people with T2DM, but to describe the specific aspects that make up their experience. From this, some useful findings were generated, which have offered insight into patients’ perspectives of general practice nurse T2DM care.

This study’s strength is that it gave participants an opportunity both to voice their experiences of GPN T2DM care, and to voice their concerns and suggestions for a more responsive care. The qualitative approach, using semi-structured interviews, provided the researcher with an opportunity to enter the world of the participants and gain a deeper and broader understanding of their experiences of T2DM GPN care. To facilitate this deeper understanding, the interviews were conducted in a conversational discussion with the participants and through open-ended questions, the researcher guided the participants to provide a full account of their experiences.

The researcher is a GPN with experience in delivering T2DM care. Polkinghorne (2005) notes that where the researcher has experience in the area of T2DM GPN care they are in a position to assist the participants through additional probing questions to give a more intuitive and deeper description of the research topic. Chew-Graham (2002) notes that in qualitative research where the role of the researcher is clearly defined, general practitioners interviewing other general practitioners generate different outcomes than when the role of the interviewer is perceived as non-clinical. In these cases, information obtained during the interviews is narrower in focus, compared to interviews conducted with perceived clinicians, which generate richer, more spontaneous responses. This difference was attributed to the participants’ perception that with the non-clinician their described experience is generated for a more public domain, while in the presence of a professional clinician they feel more comfortable in recounting more detailed information.
There are several potential limitations to this study. Firstly, patients who did not speak English were excluded from this study, due to potential misinterpretations that could arise due to the nature of the data collection. Therefore, these potential participants could not present their perspective of care provided. Inclusion of participants who did not speak English would allow for comparison of experiences. In addition, the participants who were contacted and participated in the study may be individuals who were open and willing to share their story, resulting in the findings of this study reflecting a primarily positive perspective. However, a 2010 study by Montgomery et al. of the potential for selection bias in a large prospective cohort study found that there was little difference between the participants and non-participants in the follow-up interview.

The research participants were unable to describe the GPN role in any great detail beyond clinical assessment. Hegney (2004) identified that consumer lack of experience with the expanded practice nurse role limited the researcher’s capacity to fully explore the impact of the GPN expanded role. The participants could only fluently describe the clinical checks carried out and required additional probing to identify any other areas of the consultation. This was an unexpected finding from this study, as the practice’s GPN T2DM consultation template indicates that there is an opportunity during consultations for discussion regarding individual goals and self-management of diet and exercise (Appendix 4). Consequently the study was limited in its ability to evaluate the expanded role of the GPN T2DM beyond collecting clinical data.

All participants were only interviewed once, which could have resulted in insufficient in-depth information. However Polkinghorne (2007) notes that conducting only one interview is often not considered sufficient to produce the full and rich description necessary for comprehensive analysis of the phenomena. However, DiCicco-Bloom’s (2006) review of common qualitative interview methods noted that if interviews are sufficiently focused it enables the participants to describe experience of similar areas of the research topic. It notes that the use of semi structured interviews questions facilitates the gathering of information in a more focused manner than the conversational approach yet enables a degree of flexibility in gathering information from the participants. In this study the initial
questions gathered general information and then progressed to more focused questions, giving the participants a time to settle into the interview and feel more comfortable with the researcher’s presence. As there was only one interview, DiCicco-Bloom note that in addition to using focused questions, it was crucial to establish a safe and comfortable environment early in the interview, to enable a rich and intuitive account of their experiences. The researcher’s supervisors reviewed all of the information provided by the participants to determine that there was sufficient data saturation to support an effective in-depth, broad account of the participants’ experiences of the phenomenon being investigated.

Finally, the data collection process relied on the participants’ recollections of their GPN T2DM care and of the impact of diagnosis. Hassan (2006) notes that an element of recall bias can be anticipated in studies that depend on the participants recalling information that occurred in the recent and distant past. However, in qualitative descriptive studies the participants’ experiences are not expected to be an exact account of what happened, and the process recognises that participants’ perception of past experiences can be affected by their present mood and emotional state. Polkinghounre (2005) suggests that to address this issue, the researcher should assist the participants as much as possible with clarifying questions and probing to draw out the participants’ reflections on the events and therefore clarify the meanings the event had for them, which is the purpose of this exploration.

**Recommendations for further study**

The current study has highlighted that amid the increasing prevalence and associated burden of T2DM, ongoing individual health care support is required to assist people to optimise health outcomes. Given that individuals receive the majority of their T2DM health support at the general practice with an increasing input from practice nurses, their perception of this care, identifying its strengths and limitations, have been summarized and discussed in this study, and to recommend that the gaps in current health service delivery be addressed. Recommendations from this study are focused on clarifying the GPN model of T2DM care and policy and consumer expectations, to conduct ongoing evaluation of the expanded role of
the GPN, and to evaluate underlying patient knowledge when implementing and supporting individual T2DM self-management strategies.

**Implications for future research and policy development**

This study brings new knowledge to understanding the participants’ perceptions of the GPN T2DM role in this setting. There is still limited information regarding Australian patient perspectives of GPN T2DM care. The experience of GPN T2DM as described by the participants indicates that the practice nurse role remains confusing for the participants. The Royal College of Nurses Australia (RCNA) has developed a list of competencies for Australian General Practice Nurses, which has been endorsed by the Australian General Practice Nurse Association (AGPNA). The expanded role of practice as described by Phillips et al. (2009) identifies six roles that have been acknowledged in the RCAGP guidelines for GPN diabetes management in general practice. However, there is wide diversity in the model of general practice nurse care, and patient expectations of this expanded role of practice vary considerably depending on their experience with GPN care. Diversity in GPN roles is due to the delegation model of GPN, care where GPN roles are determined by the general practice, resulting in an ad hoc approach to roles and lack of clarity in the scope of PN practice. In addition, government policy development remains focused on tasks and systems rather than patient personal care in general practice settings. Ongoing research is required to ensure that policy on GPN expanded role, practice is aligned with patient expectations and contributes effectively to positive patient health outcomes. Outcomes from this and any further research need to be distributed to policy makers, health service providers, health practitioners and patients to ensure adequate communication of findings so that the role of the expanded role of GPNs is clearly defined and understood.

This research explored the current GPN model of diabetes care in one general practice setting. The participants had an opportunity to describe their experience of living with this condition as well as having GPNs involved in their care. The participants described how diagnosis with T2DM has a significant psychological impact. Other research by Furler (2008) and Olshansky (2008) has also identified the psychological impact of diagnosis as well as living with T2DM. In view of
these findings, there are increasing calls for the incorporation of more patient-centric care that facilitates psychological as well as physical evaluation of health care outcomes.\textsuperscript{181} In addition to the participants’ description of the strong emotional impact of diagnosis, they described the care provided as predominantly clinical assessments and identified the need for more probing questions and information and advice during the GPN consultations. The general practice allocated fifteen minutes for each consultation, yet the general participants’ perception was that this fifteen was often extended to meet their needs, especially during initial consultations or when issues needed further discussion. Through their descriptions it is apparent that they are satisfied with the overall GPN consultation, yet there are times when the content does not meet their needs effectively. The study findings indicate that the current model of GPN T2DM care does not meet all their needs on all occasions. These findings suggest that further research is required into the current practice-specific GPN model of T2DM care to ensure that it meets all individual needs effectively.

Evaluation of participants’ knowledge in T2DM management was not a stated objective of this research, but findings note that participants made frequent ongoing manipulation of diet, exercise and/or medication to maintain their BGLS within recommended ranges. Discussions revealed that the participants’ knowledge base for making these changes appeared extensive, which is consistent with other studies.\textsuperscript{13} They described how they received the majority of the knowledge on initial diagnosis from their GP/GPN and attendance at specific diabetes community based programs. Ongoing information was attained from their personal search at the local library, online, or from additional referrals to specialist allied health support such as the dietician. They explained how a lot of the information was given to them in written format that they were expected to take home and read. However, on some occasions the participants made contradictory statements regarding treatment experiences and expectations of outcomes. Additional review of literature noted studies that directly tested patient knowledge and indicated gaps in understanding that could impact on positive health outcomes.\textsuperscript{188,189} A study by Tang (2008) noted that T2DM is a complicated condition and people with high health literacy achieve good outcomes.\textsuperscript{190} However, it also noted that poor health literacy is particularly evident in older people and
people with chronic health conditions. In view of the participants' description of their experiences in self-managing their condition with some inconsistencies in feedback, it is suggested that future study is needed to ensure that individuals are making informed decisions that contribute to better health outcomes.

Chapter Summary

This chapter discussed the research outcomes, and considered them in association with a detailed literature review describing the outcomes. Following the discussion of the findings, the strengths and limitations of the study were considered. Finally, three areas of future research were identified: clarifying the GPN extended diabetes care role, evaluating the effectiveness of the current model of GPN T2DM care in meeting all individual needs, and evaluating health literacy and patient knowledge. The following chapter will present the conclusion to the thesis, bringing together the key elements of the study.
Chapter 6 Conclusion

This study has described the patient perspective of receiving T2DM care from general practice nurses in an urban general practice setting. A qualitative interpretative approach was used to investigate the phenomenon. Thematic analysis of the narratives from ten semi-structured face-to-face interviews provided rich insights into the perceptions and experiences of the study participants. Diabetes mellitus is the fastest growing disease in human history, affecting 7.5% of the Australian adult population, with 85-90% of this group diagnosed with T2DM.\textsuperscript{16,31} Prevalence of diabetes is expected to rise by 10% between 2008-2013.\textsuperscript{17} The key to preventing or minimising complications of T2DM and achieving positive health outcomes is maintaining good control of individual’s glycaemic index through life style changes.\textsuperscript{47,94} However, diabetes is one of the most challenging chronic diseases in terms of management, as it places a heavy responsibility on individuals to self-manage their own condition through daily decisions and actions.\textsuperscript{40} Therefore, ongoing health professional support is crucial for individual understanding, education and self-care support.\textsuperscript{54,56}

T2DM is predominately managed in general practice.\textsuperscript{31} To assist general practitioners, the Federal government provides funding initiatives to increase the general practice nurse workforce in order to improve quality and accessibility of primary health care.\textsuperscript{70} T2DM clinical practice guidelines for general practice clearly define the role of the GPN, and The Royal Australian College of Nursing has developed competency standards for GPN professional practice.\textsuperscript{7,70,73} However, while internationally the role of the GPN has been shown to have a positive effect on T2DM patient health outcomes, the Australian GPN role is still developing.\textsuperscript{123} There is wide diversity in GPN T2DM roles between general practice settings, and limited research into the impact of care provision and patient outcomes.\textsuperscript{70,131,206,208}

Findings from this study show that diagnosis and living with T2DM have a significant psychological impact on the participants. The strength of the emotions described reiterate earlier research that identifies the significance of psychological impact on how people manage their condition, and suggests that GPNs need to consider these life events during consultation in order to establish positive health
outcome goals. While this study did not aim to evaluate the participants’ knowledge or perception of diabetes management, findings show that diabetes had become part of their lives and they displayed a good understanding of what they had to do. However, in view of existing research where patient knowledge and perception of care were directly tested and differences were noted, this study cautions against GPN assumptions of patient knowledge and perceptions of care and suggests that GPNs need to have developed communication strategies to ensure that patients have a true understanding of how to manage their condition effectively.

The significance of these two findings relate directly to the participants’ experience of the GPN diabetes consultations. This study found that the participants could not define the purpose of GPN consultations beyond gathering clinical information through a series of designated checks that correlate to the practice-developed diabetes template (Appendix 4). However, patients interpreting GPN consultations as a series of checks is not new. Beresford’s (2011) study also found that participants could not describe the expanded role of the GPN, as consultations use pre-developed templates that focus on clinical outcomes. Lack of participant experience with the extended role of the GPN and subsequent inability to describe this role effectively was a recognised limitation of this study. A significant finding was the participants’ highlighted concerns regarding individual needs for education, advice or more probing questions. This finding suggests that the consultations were ineffective in engaging patients beyond the clinical assessment. Research indicates that the use of pre-established templates is valuable in terms of reminding HPs what to do but it is also limiting in terms of truly incorporating the patient perspective. This finding correlates significantly with the 2007 Queensland cross-sectional survey indicating existing gaps between current T2DM clinical practice guidelines in areas of lifestyle and self-management standards.

While the study found that the participants appreciated the additional support provided by GPN in a relaxed and calm atmosphere they noted there was not enough time to complete these consultations thoroughly. Lack of time is well recognised as an ongoing issue in general practices, as they struggle to address increasing health care workloads. Ironically, lack of GP time in meeting workloads
has contributed to the increasing number and expanded role of the GPN. Findings from this study also indicate that GPNs need more time to conduct consultations that enable more personal engagement of the individual, to provide more advice or identify individual needs. An unexpected finding from this study was that participants expressed an overall acceptance of care delivered by different practice nurses in this particular setting. They attributed this to their confidence in the GPN training, professionalism and practice standard of care delivery. However this finding was also related to frequency of care delivery, as one participant pointed out: ‘I know personally I would like to see the same nurse…. **but** …that nurse does not get to know me cause you only see her twice a year sure… so really the need to see the same nurse all the time is irrelevant to me …’ (Male participant 1). This finding is consistent with earlier studies by Furler (2008) which also suggested caution against a ‘one size fits all’ approach to the health practitioner/patient relationship in care delivery.\(^{179}\)

The implications of this study’s findings for GPN T2DM care are that the participants show high satisfaction and appreciation for the additional support provided through GPN T2DM consultations. However, they are still not sure of the exact role of the GPN in supporting them to manage their condition effectively, and the current model of care does not sufficiently address all their needs on occasion. These findings suggest that policy makers need to clearly identify the implemented GPN expanded role and facilitate ongoing evaluation of the clinical as well as the individual impact of lifestyle and self-management aspects of models of care. Finally, consumers need to be made fully aware of the identified benefits of this care in achieving positive health outcomes.
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Appendix 1

Participant Information Form

July 2012

Participant Information Form

Research Project: Patient experience of diabetic care by practice nurses in an urban general practice setting

Dear ________________

You are invited to take part in a research study at The Fremantle Family Doctors general practice. This research intends to explore the experiences of patients who visit the practice nurse as part of their usual diabetic care with their doctor. It is hoped that the information provided will enable the research team to identify common aspects of care across a group of patients that will contribute to the growing knowledge of the impact or influence of practice nurses in managing patients with diabetes in Australia. The following information is intended to give you as much information as possible about the research. If you have any questions or would like to be a part of this research please do not hesitate to contact the chief research investigator Rosemary Saunders or the student research Eileen Boyle at any time.

Chief Research Investigator:          Student Researcher:
Associate Professor Rosemary Saunders        Eileen Boyle
University Of Western Australian       University of Western Australia
School of Population Health              School of Population Health
Masters of Nursing Research

Departmental Address:
Mailbag M431 Course code 90650
35 Stirling Highway
Crawley WA 6009
Email: rosemary.saunders@uwa.edu.au Email:20638614@student.uwa.edu.au
Phone: 08 6488 8108                   Phone: 9331 4989

Why we are doing this research:
The number of people with diabetes is growing everyday in Australia. This means that more and more people are visiting their doctor to help them manage their diabetes. Due to this growing number of diabetic patients, practice nurses are now working together with the doctor to ensure that care is the best that can be provided. Ongoing research is needed to allow the continual improvement of this service. This research project is going to look at the patient experience to gain a greater understanding of the impact or influence of
the practice nurse when managing patients with diabetes as identified from the patient perspective or point of view.

**What we will do with the results:**
The results of this research will contribute to the growing information of experiences patients have as part of their care managed by practice nurses when visiting their general practitioner. There is a possibility that this research may be published in relevant medical or nursing journals or presented at conferences. All results will have identifying information removed and you will not be able to be identified.

**How the research will be carried out:**
The study involves an interview between you and the researcher. During this interview you will be asked to talk about your experiences of having a practice nurse involved in your diabetic care at the general practice. The interview will take place at a time and place of your convenience and will take about 45mins to 1 hour. To ensure the accuracy of your input, we would ask your permission to audio record/tape the interview. It is anticipated that this research project will take 10 months to complete.

**Any risks to you as part of this research:**
There are no known risks to you in participating in this research project.

**Potential benefits of the research for you and/or for society in general:**
The potential benefits of this research include an improved understanding of patients’ experiences of diabetic care by practice nurses.

**Selecting people to participate in this research:**
The doctor will identify and invite patients that receive diabetic care from a practice nurse to participate in this study.

**Data/information to be collected:**
The researcher will use an interview guide to assist you retell your experiences of practice nurse diabetic care at Fremantle Family Doctors. A guide is used to ensure all data/information is collected in the same way across all participants of this study.

**Confidentiality/privacy:**
All the information collected from you for the study will be treated confidentially/in private, and only the researcher and her University of Western Australia supervisors will have
access to it. All material gathered will be encrypted and stored on a computer that is password protected to maintain the security and integrity of the information. Your name will not appear in any of the documents. The taped interview will be destroyed once the information has been analysed. On completion of the project all information will be deleted from the computer folder. The anonymous certified transcripts of the interview together with the final research document will be stored in a locked facility at the University of Western Australia’s School of Public Health for a total of seven (7) years. At no time will the researcher disclose any information that you wish to keep private.

Cost
Participation in this study will not cost you anything, nor will you be paid.

Voluntary Participation
Participation in this study is entirely voluntary. If you would like to participate in this, you will be asked to sign the Participant Consent Form. You do not have to take part in this project. If you do take part but decide that you don’t want to continue you can withdraw/leave at any time without having to give a reason. If you withdraw, your information/data will also be withdrawn from the project, unless you consent to the retention of your data/information in the research. Whatever your decision, please be assured that it will not affect the usual care that you receive from your general practitioner and the services you receive from your general practice. Participation or non-participation is confidential and will not be disclosed to other members of the general practice team.

Approval to conduct this research has been provided by the University of Western Australia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time.

In addition, any person not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the Human Research Ethics Office at the University of Western Australia on (08) 6488 3703 or by emailing to hreo-research@uwa.edu.au

All research participants are entitled to retain a copy of any Participant Information Form and/or Participant Consent Form relating to this research project.

Your participation in this study does not prejudice any right to compensation, which you may have under statute or common law

THANK YOU
Appendix 2

Participant Consent Form

Associate Professor Rosemary Saunders
School of Population Health
University of Western Australia Mailbag M431
35 Stirling Highway Crawley WA 6009
Email rosemary.saunders@uwa.edu.au
Phone: 08 6488 8108

July 2012

Participant Consent Form

Patient experiences of diabetic care by practice nurses in an urban general practice setting

I __________________(participant) have read the information provided and any questions I have asked have been answered to my satisfaction. I agree to participate in this activity, realising that I may withdraw at any time without reason and without prejudice/unfairness to my future medical treatment.

I understand that all identifiable (attributable) information that I provide is treated as strictly confidential and will not be released by the investigator in any form that may identify me. The only exception to this principle of confidentiality is if documents are required by law.

I have been advised as to what data are being collected, the purpose for collecting the data, and what will be done with the data upon completion of the research.

I agree that research data gathered for the study may be published provided my name or other identifying information is not used.

__________________ __________________ Participant

This copy is for you to keep

Your participation in this study does not prejudice any right to compensation, which you may have under statute or common law.

‘Approval to conduct this research has been provided by the University of Western Australia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time.

In addition, any person not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the Human Research Ethics Office at the University of Western Australia on (08) 6488 3703 or by emailing to hreo-research@uwa.edu.au

All research participants are entitled to retain a copy of any Participant Information Form and/or Participant Consent Form relating to this research project.’
Appendix 3

Semi-structured interview guide

Patient experiences of diabetic care by practice nurses in an urban general practice setting

Introduction: Key Components:

Thank you
Your name/code
Explanation of project:
Purpose
Confidentiality
Duration of interview
How interview will be conducted
Opportunity for questions
Signature of consent

Demographic data

Ethnicity/background
Age
Education
Employed/retired (previous work)
Diagnosis date and type of diabetes
Diabetes control status and complications
Interview questions

Patient experience of living with diabetes
Tell me your experiences of general living with diabetes

Patient experience of practice nurse care
How long have you received diabetic management from practice nurses as part of your diabetic management plan?

Tell me about your experiences of having practice nurses involved with your diabetic management.

Can you tell me about the effect practice nurses have on how you manage your diabetes?

Exploring all aspects of practice nurse diabetic care
Can you tell me of some of the benefits of having practice nurses as part of your diabetic management plan?

Can you describe some other areas of your diabetic care where you believe practice nurses could be involved? Or more involved

What are your thoughts on the length of time you spend with the practice nurse?
What are your thoughts on care provided by different practice nurses or by the same practice nurse?

Probes and examples as needed
Tell me why you feel this way
Tell me how think this affects you.
You said a moment ago...can you tell me more?

Clarification questions
So by saying this you mean... if I am not wrong did you just say.....

Closing key components

Additional comments
Is there anything more you would like to add?

Next steps
This interview will be transcribed and I will start to analyze the information. Would you like a copy of the transcript? I can send you on a copy if you wish.

THANK YOU
Appendix 4

General Practice Nurse Diabetes Review Template

**Height:**
**Weight:**
**Waist:**
**BMI:**
**B/P:**

**Lifestyle**
*Smoking* Non smoker/ex smoker/Smoker
*Alcohol* (units/week)
*Diet*: Good/Okay/Needs education
*Exercise*

**Feet**
*Condition*: Good/Poor/Okay
*Neuropathy*: Yes/No
*Next podiatry review:*

**Eyes**
*Visual acuity (corrected)* R= 6/ L=6/
*Next Ophthalmology review date:*

**Management**
*Medication used:*
*Freq of home DGL monitoring:*
Appendix 5

Letter to General Practice Nurses and General Practitioners

Dear

I am in the process of doing my Masters in Nursing Research at the University of Western Australia (UWA). As part of this Masters course I will be carrying out research at Fremantle Family Doctors with the kind permission of Trish and the directors. My research is titled ‘Patient experiences of diabetic care by practice nurses in an urban general practice setting’. The UWA School of Population Health has approved my research proposal and the research has received UWA ethics approval. This is a qualitative research project that will invite patients with diabetes type 2 who have practice nurses as part of their management to participate in a 30-40min interview to retell their experiences of this care approach and the impact it makes on how they manage their condition.

The reason I choose this topic is because practice nurses are becoming more prominent, both in government health policy and clinical practice in general practice chronic diabetes care delivery. However, there is limited evidence of the impact of their involvement and patient diabetic management outcomes. While there is growing evidence from the nurses and other health provider side there is significantly little from the patients’ perspective.

In order to carry out this research ethics requires that I am unable to interview patients that I have delivered diabetic care to, i.e. had a 15 minute consult with prior to their scheduled G.P. appointment, and I cannot personally invite people to participate in the study. Ethics requires that the GP gives out the Participant Information Form and a Participant Consent Form (see attached) to the patient at the end of a consult. This information tells them about the project and provides contact details should they wish to participate. Patients need to take this information home and read through it in their own time and if they are interested they can follow up with me through contact provided. Only the research team will know who participates as all the information provided is confidential and will be coded so people can't
be identified once the interview is complete. To ensure that all relevant and appropriate people are given an opportunity to participate there are small inclusion and exclusion criteria:

**Inclusion Criteria:**

- Is aged over 35 years of age
- Has a diagnosis of diabetes type 2
- Has a diabetic management plan involving the practice nurse

**Exclusion Criteria:**

- Non-English speaking people
- People with a cognitive impairment, an intellectual disability or a mental illness.

I can fully appreciate that not everyone may want to be involved in this study so please feel free to abstain. Obviously, there is no obligation for anyone to participate in this study and I certainly do not want you or any of the patients to feel pressured to participate especially as I work at the practice.

(Name of one of the Directors) has suggested that the nurses may be able to help in the recruitment process as they see the patients for diabetic review before the doctor and would be in an ideal position to flag relevant patients before they see the GP. He believes that the GPs may forget about the project and the nurses may be better at reminding them. He and (name of practice manager) also suggested that I let the receptionists know so they can also flag patients as they come for appointments, or call in to make an appointment for their diabetic check. Patients can also be flagged if attending for other reasons but meet the criteria.

The anticipated time line for participant invitation and response is initially 4 weeks from Thursday the 30\(^{th}\) of August to Wednesday the 26\(^{th}\) of September 2012. I realise that starting on a Monday makes more sense however, due to limited time lines as determined by UWA semester dates I am hoping to get this project moving as soon as possible and have the majority of data collected before the end of November 2012.
All the General Practitioners will have copies of the Participant Information Forms and Participant Consent Forms as attached and I have left extra forms at reception in the ‘Diabetes Research Study’ Orange folder above the tray marked ‘Faxes for confirmation’ (on the shelves near the door to [Name of Practice Manager]’s) office).

I would greatly appreciate your assistant with this project, however, I fully understand if you do not wish to be involved with inviting your patients to participate.

Many thanks in advance

Eileen Boyle.