

Factors that influence the collection of chronic medication
parcels by patients with Type 2 diabetes from a primary health
care facility in the Western Cape Province

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KEYWORDS

Non-collection

Non-collection behaviour

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Adherence

Medication

Health system

Primary health care facility



ABSTRACT

Background: Optimal management of Type 2 diabetes requires that patients have a convenient method of collecting chronic medication. In the Western Cape Province, Type 2 diabetes patients can collect chronic medication from primary health care facilities including community health centres. The Chronic Dispensing Unit (CDU) was established to facilitate the dispensing of chronic medication by making medication collection more convenient for patients and was expected to improve medication collection. However, it has been observed that some Type 2 diabetes patients fail to collect pre-packed CDU parcels on the prescribed date and time which could result in poor treatment outcomes and secondary complications. This study therefore aims to explore the factors that influence collection of CDU chronic medication parcels by Type 2 diabetes patients from the Elsies River Community Health Centre (CHC), a primary health care facility in the Western Cape Province.

Methodology: An exploratory qualitative research design was used to explore the personal-, social-, health system-related factors that affect collection of pre-packed CDU parcels. Semi-structured interviews were conducted in English or Afrikaans with 18 purposefully selected Type 2 diabetes patients who are registered to collect pre-packed CDU parcels from the Elsies River CHC, and three key-informants from the Elsies River CHC. Data was recorded using a digital recorder. Interviews were transcribed and analysed using inductive content analysis.

Results: The main factors that facilitate collection of pre-packed CDU parcels were support from family and social support. On the other hand, social factors that were reported as barriers to collection were the safety of the patients and collectors failing to collect on behalf of the patient. Patients' recognition of the value of their treatment and value of the service were the main personal factors which facilitated collection. Personal factors that were reported as a barrier to collection included forgetfulness, laziness and tiredness. Other personal factors that were reported by participants as barriers to collection were illness, transport problems, financial constraints and anticipating non-collection. Health service related factors reported as facilitating factors were reduced waiting time and mistrust of the off-site collection system. In addition, participation in the diabetes chronic club and pharmacy support were also reported as facilitating factors. Negative staff attitude and a limited collection time for pre-packed CDU parcels were reported as barriers to collection by participants.

Conclusion: Various personal-, social and health service related factors affect the collection of pre-packed CDU parcels by Type 2 diabetes patients from the Elsies River CHC. To improve collection among patients who fail to collect on their appointment date, the factors that have been found to facilitate collection should be extended to more patients.

Recommendations: It is recommended that patients surround themselves with support structures including family, friends and community organisations to assist and motivate them in displaying adherent behaviour. Patients who make use of independent collectors should ensure that these individuals are reliable to avoid an undersupply of medication. Counselling and health promotion should be provided to patients by health service staff as a means of encouragement and empowerment. The diabetes club which serves as a source of information and support should be accessed by more patients. Open communications channels between health service staff and patients should be constructed to ensure that staff are aware of the barriers patients face.



ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
CDU	Chronic Dispensing Unit
CHC	Community Health Centre
HIV	Human Immunodeficiency Virus
IPM	Institutional Pharmacy Management
SMS	Short Message Service
TB	Tuberculosis
WHO	World Health Organization



DECLARATION

I declare that this thesis entitled “*Factors that influence the collection of chronic medication parcels by patients with Type 2 diabetes Patients from a primary health care facility in the Western Cape Province*” is my own work. It has not been submitted for any degree or examination in any other university and that all the references I have used or quoted have been acknowledged.

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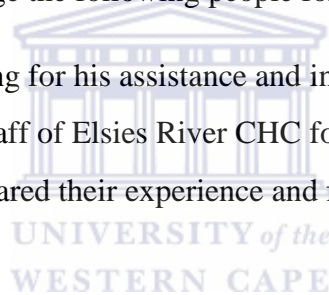


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CHAPTER ONE – INTRODUCTION

1.1 BACKGROUND

Diabetes is a leading cause of death globally and remains an ever growing challenge in both developed and developing countries (Alberti and Zimmet, 2013; Bradshaw et al., 2007, Wild et al., 2004). It is estimated to annually account for six percent of deaths in South Africa (World Health Organisation, 2014). Diabetes is classified as a group of metabolic conditions characterised by hyperglycemia which occurs due to suboptimal insulin secretion, insulin action, or a combination of both (American Diabetes Association, 2014). There are two main forms of diabetes, Type 1 and Type 2. Type 2 diabetes is the most common form, affecting more than eight percent of the South African population (Amod et al., 2012; International Diabetes Federation, 2014). Patients with Type 2 diabetes require chronic treatment with hypoglycemic medication. Oral hypoglycaemic medication is usually sufficient for treating Type 2 diabetes and most patients do not require insulin treatment to survive (International Diabetes Federation, 2014).

Access to hypoglycaemic medication is an important component of diabetes management (Access to medicine index, 2014). Globally, access to medication is influenced by various patient and health system related factors including financial constraints, supply chain issues and poor health policy (Beran et al., 2005; Camara et al., 2015; Higuchi, 2010). In South Africa, patients can access hypoglycaemic medication via the public or private health care sector, with 84% of the population accessing public health care services due to high costs of private health care services (Ataguba, 2010; Stats SA, 2011). In the Western Cape, one of the nine provinces of South Africa, approximately 75% of the population uses public health care services (Stats SA, 2011). Factors that may prevent patients from accessing chronic care from public health care facilities include availability of services, clinical weaknesses in diagnosis and prescribing, interrupted drug supplies, transport and poor patient-provider interaction (Goudge et al., 2009).

The Western Cape has a high burden of diabetes (Groenewald et al., 2010). To manage diabetes and other chronic conditions in the province, a comprehensive service plan was introduced by the Department of Health in 2007. The aim of the plan was to strengthen district health services including community-based services (Department of Health, 2007). Adherence support to chronic patients is one of the community-based services. Globally, it is

acknowledged that providing adherence support enhances treatment outcomes, decreases hospital admissions and also the decreases financial burden on the Department of Health (Roebuck et al., 2011; Sokol et al., 2005; Svarstad, et al., 2001). To facilitate adherence support in the Western Cape, the Chronic Dispensing Unit (CDU) was established. The CDU facilitates adherence support by reducing patient waiting time and assisting in the distribution of chronic medication (Du Plessis, 2008; Du Toit, et al., 2008).

Chronic Dispensing Unit

The Chronic Dispensing Unit (CDU) is an outsourced centralised unit that started functioning in the Western Cape in December 2005 (Du Plessis, 2008). The CDU was established in collaboration with a private partner, Institutional Pharmacy Management (IPM). UTI Pharma replaced IPM as the private partner in April 2012. The CDU system involves the following processes: chronic prescriptions are collected from health care facilities, chronic prescriptions are verified and dispensed at the CDU facility, chronic medication is electronically packaged into individual CDU pre-packed chronic medication parcels, CDU pre-packed chronic medication parcels are distributed to health care facilities (Mathys, 2015). The CDU currently dispenses an average of 273 364 pre-packed chronic medication parcels per month to more than 118 facilities across the Western Cape. The CDU charges the Department of Health per individually pre-packed medication parcel. Patients registered on the CDU system are given an appointment to collect their CDU pre-packed chronic medication parcel from the health care facility. In principle, adherence to their appointment would reduce the average waiting time of the patient significantly (Du Plessis, 2008).

Depending on the needs of the community and available resources, some facilities have adapted the CDU system to accommodate greater numbers of patients. Community Health Centres (CHCs), including Elsie's River CHC in Tygerberg sub-district, Cape Town, Western Cape, have implemented off-site collection points at selected locations, including local churches and community centres, where patients can collect their CDU parcels on a specific date and time. The collection points are operated by non-clinical staff and community health workers. The collection points are conveniently situated closer to the residences of patients in the specific area. Although many patients benefit from the off-site collection system, many patients prefer to collect their CDU parcels directly from the CHC.

1.2 STUDY SETTING

The City of Cape Town is divided into eight health sub-districts. The sub-districts share an uneven burden of disease that is mainly determined by socio-economic conditions (Groenewald, 2014). Tygerberg, one of the sub-districts, has some of the highest workload and utilisation rates of primary health care facilities. The study was conducted in Elsies River, an area situated within the Tygerberg sub-district. Elsies River is divided into 19 sub-areas and has a population of 90 574 (Statistics South Africa, 2013). According to Ibrahim et al. (2013), because of the poor socio-economic conditions of the Elsies River population, the Elsies River Community Health Centre (CHC) is accessed mainly by uninsured patients leading to a heavy workload for the health care staff.

Elsies River has one public sector primary health care facility - Elsies River CHC. The facility provides a full range of primary health care services including immunization, family planning, TB and HIV clinic, 24 hour trauma unit, family medicine and pharmacy services. The facility has one pharmacy from which all medication are issued. The pharmacy operates from 7.30 till 16.00 and 17.00 till 21.00 from Monday to Friday and 8.00 till 12.00 on Saturday. The pharmacy is closed on Sunday.

The CDU pre-packed medication parcels are issued between 7.30 and 12.00, Monday-Friday, after which other patients are helped. If patients do not collect their CDU pre-packed medication parcels before 12.00, they are advised to return the following day. The uncollected parcels are returned to the CDU if the patient fails to collect them within 5 days after the appointment date. According to monthly patient registers, an estimated 30% of patients who are registered to receive CDU pre-packed chronic medication parcels are Type 2 diabetes patients. Although these patients have a five day period to collect their medication, it has been observed that some Type 2 diabetes patients fail to collect their pre-packed chronic medication parcels from the Elsies River CHC on time.

1.3 PROBLEM STATEMENT

Collection of medication is a critical component of medication adherence (Sabate, 2003). Failure to collect chronic medication is strongly indicative of poor adherence which could lead to poor treatment outcomes and secondary complications (Barnett et al., 2010). The importance of adherence support for chronic patients has been identified in the Western Cape, resulting in interventions such as the CDU being established (Du Toit et al., 2008). The CDU

aims to make medication collection more convenient for patients on chronic medication, hence facilitating adherence (Du Toit et al., 2008). Magadzire et al. (2015) estimates that 60% of chronic patients in the Western Cape obtain their medication through the CDU. It has, however, been observed that some of these patients are not collecting their CDU pre-packed chronic medication parcels from the health care facility on time. It is estimated that 8-12% of pre-packed chronic medication parcels are returned to the CDU due to non-collection. An estimated 30% of chronic patients attending the Elsie's River CHC are Type 2 diabetes patients. According to patient registers, some of these patients fail to collect hypoglycaemic medication required for managing their disease and maintaining optimal blood glucose levels. The study seeks to explore the factors influencing collection of CDU pre-packed chronic medication parcels from the health facility by Type 2 diabetes patients.

1.4 SIGNIFICANCE OF THE STUDY

Understanding the factors influencing the collection of CDU chronic medication parcels by Type 2 diabetes patients from the Elsie's River CHC could help to understand some of the barriers that Type 2 diabetic patients face with regard to collection of medication. This information could be used to improve medication collection by Type 2 diabetes patients and contribute towards improved health outcomes.

1.5 AIMS AND OBJECTIVES

1.5.1 Study Aim

The aim of the study was to explore the factors that influence collection of CDU pre-packed chronic medication parcels, by Type 2 diabetes patients, from Elsie's River Community Health Centre, a primary health care facility in the Western Cape.

1.5.2 Objectives

The objectives of the study were;

- To explore the personal factors that influence collection of pre-packed chronic medication parcels by Type 2 diabetes patients.
- To explore the health services-related factors that influence collection of pre-packed chronic medication parcels by Type 2 diabetes patients.

- To explore the social factors that influence collection of pre-packed chronic medication parcels by Type 2 diabetes patients.

1.6 THESIS STRUCTURE

The thesis consists of six chapters. The first chapter provides an introduction to the research including the aims and objectives. Chapter 2 presents a review of relevant literature related to the factors that influences collection of medication. The third chapter provides a description of the methodology that was used to achieve the aims and objectives. The study setting, study population, sampling method, data collection procedure and analysis of data, including rigor are described. The last part of this chapter is used to discuss the ethics and limitations of the study. In the fourth chapter, the findings of the study are presented. The fifth chapter discusses the findings highlighted in chapter 4. The final chapter draws conclusions from the study and recommendations are made based on the findings.



CHAPTER TWO – LITERATURE REVIEW

2.1 INTRODUCTION

The literature review discusses the concept of medication non-collection, the implications of non-collection, the factors affecting non-collection as well as the interventions that have been used to improve collection. Non-collection is described as the failure of the patient to collect their prescription (Beardon et al., 1993; Compton et al., 2010). Although the patient is a primary component of medication collection, it has been found that non-collection involves the patient, health professionals and the health systems in which they operate (Griffin, 1998). All these components will be discussed in this review.

2.2 CONCEPT OF NON-COLLECTION

Non-collection is defined as the failure to collect a prescription by a patient (Beardon et al., 1993; Compton et al., 2010) and results in an undersupply of medication. An undersupply of medication directly affects patients' ability to adhere to treatment (Andersson et al., 2005; Odegard and Gray, 2008). Chronic conditions, including Type 2 diabetes, require strict adherence to chronic medication for optimal treatment outcomes (Kindmalm et al., 2007). Poor adherence to hypoglycaemic medication has implications on the patient and health care system (Asche et al., 2011; Egede et al., 2012).

2.3 IMPLICATIONS OF NON-COLLECTION ON PATIENTS

An undersupply of medication, caused by non-collection, affects patients' ability to adhere to treatment (Krigsman et al., 2007) and results in a greater risk of morbidity and complications for the patient (Griffin, 1998; Krousel-Wood et al., 2009). Diabetes management requires continuous treatment and breaks in continuity of treatment, such as caused by and undersupply of medication, could result in retinopathy, nephropathy, neuropathy, foot ulcers, amputation and dysfunction (Alberti and Zimmet, 1998). In addition to affecting the physical health of Type 2 diabetes patients, morbidity and complications due to non-collection also affect the patients' quality of life (Ciechanowski et al., 2001).

2.4 IMPLICATIONS OF NON-COLLECTION ON THE HEALTH SYSTEM

Non-collection results in a waste of financial and human resources (Kindmalm, 2007; Krigsman et al., 2007; Murdock et al., 2002). In the Western Cape context, the Department of Health pays the CDU per pre-packed chronic medication parcel (Munyikwa, 2010).

Therefore, when the parcel is not collected, the money is lost. Non-collection also results in allocated human resources being wasted. The human resources required to register the patients on the CDU system and issue medication parcels requires a fair amount of administration from pharmacy staff (Du Plessis, 2008). Staff who perform the administrative duties are paid regardless of whether the patients collect the parcels or not. Also, the staff members could be better utilised elsewhere in this already under-resourced setting.

2.5 FACTORS THAT INFLUENCE NON-COLLECTION

2.5.1 Patient factors that affect non-collection

Non-collection behaviour is attributed to several patient-related factors including race, culture, age, demographics, social class, forgetfulness, absentmindedness and patient knowledge (Griffin, 1998; Hanco et al., 2007; Murdock et al., 2002; Neal et al.; 2001). Schectman et al. (2002) reports that patient age has a significant effect on medication refill adherence. This is attributed to the effect of increasing age on the patients' mental and physical debility. Hanghøj and Boisen (2014) however reports that age may also be a barrier among younger patients as they often crave a sense of "normalcy" and "freedom" from chronic treatment which leads to poor adherence to chronic treatment.

According to Nam et al., (2011), patients' perception of disease and medication beliefs may influence how the patient perceives the need for and importance of hypoglycaemic treatment. How the patient perceives their disease and their medication beliefs is often determined by the patients' level of education and socio-economic conditions (Glanz et al., 2008), which are both low among the population of Elsie's River. Low socio-economic conditions and level of education has been linked to lower levels of patient knowledge (Rothman et al., 2005) and could be a reason for poor collection. According to Berikai et al. (2007), improved patient knowledge has a positive effect on patient behaviour. Conversely, Rothman et al., (2005) reports that although the patient may have sufficient knowledge, improved behaviour is not guaranteed.

2.5.2 Social factors that affect non-collection

Various social factors including socio-economic issues, ethnicity, health literacy and social support may influence medication collection (Bailey and Kodack, 2011; Gazmararian et al., 2006). Elliot (2006) reports that low socio-economic conditions, similar to those found in

Elsies River, may prevent patients from collecting medication because they may not be able to afford the medication. However, Kringsman et al., (2007) report that patients who were exempt from paying for chronic medication had lower medication refill rates than patients who pay for their medication. This phenomena was mainly attributed to exempt patients having an oversupply of medication. This study also found that patients who are exempt from paying for their medication were likely to accumulate medication (also referred to as stockpiling). Although patients who collect CDU pre-packed medication parcels from Elsies River CHC are exempt from paying for medication, the indirect costs such as transport costs associated with medication collection and management of diabetes, may influence their ability to collect their medication (Hill et al., 2013; Sato and Yamazaki, 2012).

Environmental conditions including safety, living conditions and support have a significant impact on how patients behave toward chronic treatment (Bains and Egede, 2011; Kidd and Altman, 2000). In addition to influencing patient behaviour, environmental factors may also limit access to the health care facility. According to Scheppers et al., (2006), facilities which are situated in areas which are deemed 'unsafe environments', may have lower patient numbers. In the community of Elsies River unsafe environmental conditions, including gang violence and robbery, are present, and this may be one of the reasons why patients do not present to the facility to collect their CDU pre-packed medication parcels.

2.5.3 Health system factors that influence non-collection

Non-collection is influenced by accessibility of health care services and the quality of the patient-provider relationship (Ratanawongsa et al., 2013). It is reported that a lack of access due to logistics, long waiting time, and overcrowding of the facility increases the likelihood of non-collection (Griffin, 1998). Overcrowding due to high patient numbers and heavy workload, which is common in primary health care facilities in the Western Cape, also negatively affects health staff as this may result in stress and psychological conditions (Weinberg and Creed, 2000). In addition, high patient numbers leave little time for interaction between the patient and the health care provider which could have been used to re-emphasize the importance of adherence to treatment (Gazmararian et al., 2006; Gross et al., 2005; Harmon et al., 2006).

A lack of continuity of care is common in primary health care settings in the Western Cape. Stable patients are usually seen by nursing professionals unless they are experiencing secondary effects due to their condition, however, although nurses are usually based at one particular CHC for some time they usually rotate between different departments at the facility which means that patients do not always see the same nurse for their diabetes care. In addition, the limited number of doctors rotate between primary health care facilities which means that patients are rarely seen by the same physician. This results in a lack of interaction and a breakdown in continuity of care. Fan et al. (2005) report that continuity of care significantly affected the level of satisfaction patients experienced during visits to a primary health care facility.

Although the CDU system offers patients many benefits including reduced waiting time and a convenient method of collection, one of the negative effects of the system is the reduced interaction between patient and health care provider. Patients who access their medication through the CDU system have limited interaction with the pharmacy staff and facility staff when collecting their CDU parcels (Du Toit et al., 2008) and are only seen by a doctor when their CDU prescription needs to be renewed every six months. This limited interaction is likely to have a negative effect on the quality of the relationship between the patient and provider (Ciechanowski et al., 2014; Ratanawongsa et al., 2013) and may in turn contribute towards poor medication collection.

2.6 INTERVENTIONS TO IMPROVE NON-COLLECTION

Different interventions have been successfully used to improve collection of medication, which is a vital component of adherence. Some interventions primarily focus on the patient while others involve the health system or other support structures.

Cellular telephones are one of the tools that have been used to improve collection. Vervloet et al. (2014) reports that sending SMS reminders for missed doses not only improved collection of medication but also promoted adherent behaviour among chronic patients. Similarly, the video function of the cellular telephone was used by Petry et al. (2015) to support and reinforce adherent behaviour and assist patients in integrating medication taking into their daily routine.

Alternative sources of support have been helpful in improving collection and adherence. Mayberry et al. (2012) report that patients who received support from their family members had improved adherence as they felt encouraged and motivated. Patients who attended specialty pharmacies also responded positively to the support and frequent reminders from staff members (Liu et al. 2010). The authors highlight that the positive result could be due to the fact that the pharmacy places emphasis on proactive refill management, medication adherence monitoring and reminder emails and telephone calls which are not available in normal retail pharmacies or primary health care facilities like Elsie's River CHC. Similarly, a community pharmacy intervention in Belgium improved adherence behaviour among diabetic patients (Mehuys et al., 2011). The intervention empowered patients by training them on correct medicine use, medication adherence and healthy lifestyle promotion. Results from this study highlighted the importance of patient education as a tool to improve patient outcomes.

The direct and indirect costs associated with medication collection affects the patient's ability to collect. Lesen et al. (2013) reported that a reduction in the co-payment improved refill adherence by 2-4 percent. In this study, patients who had a lower co-payment on their chronic medication had a significantly higher adherence rate. This study emphasised that medication related cost influences adherence. Generic substitution, another means of reducing cost, was also found to improve refill adherence. Trussel et al. (2014) found that refill adherence was higher among patients who were exposed to generic substitution compared to those who were not exposed. Patients who received medication via post also experienced a reduction in cost which led to improved adherence. According to Duru (2010) medication delivery by mail resulted in a 7-8 percent increase in adherence among patients in California who received hypoglycaemic medication via post compared to those that collected from their local pharmacy.

Interventions which focus on changing patient behaviour have shown positive results. Noureldin et al. (2012) reported that improving health literacy among chronic patients improved their adherence behaviour. Similarly, a behavioural intervention which taught patient how to manage behaviour in challenging situations was found to be effective in chronic patients (Burke et al., 2005). Motivational interviewing as a means of changing behaviour has also been reported as being useful in improving adherence behaviour (Thompson et al, 2011).

2.7 LESSONS FROM ANTI-RETROVIRAL TREATMENT (ART): IMPROVING ART ADHERENCE

HIV/AIDS, like diabetes and other chronic conditions, requires strict adherence (Rabkin and El-Sadr, 2011). Refill adherence is often used as a tool to monitor adherence and it has been proposed that it can be used as an early indicator of possible virologic and immunologic failure (El-Khatib et al., 2011). Various interventions have been used successfully to improve adherence to ART. These include adherence counselling and assistance from pharmacy personnel at a HIV-focussed pharmacy. This intervention was effective in improving adherence as reported by Cocohoba et al. (2012) and integrating a clinical pharmacist in the treatment of HIV patients was an equally useful approach in improving adherence (Ma et al., 2010). A SMS reminder system implemented in Namibia improved refill adherence and in addition reduced the risk of missing a pick-up appointment (Ugburo, 2015).

2.8 SUMMARY

Medication collection is critical to adherence. Type 2 diabetes patients require continued treatment and care to obtain optimal glucose levels and avoid secondary complications. Having reviewed relevant literature and evidence from previous studies, the investigator will describe the study setting and research methodology used in the study in the next chapter.

CHAPTER THREE - METHODOLOGY

3.1 INTRODUCTION

The chapter is divided into five sections which describe the various components of the methodology used. First, the study design, study population, sampling and data collection procedure are described. In addition, the methods used to analyse the data are also described. Finally, rigor and ethics of the study are discussed.

3.2 STUDY DESIGN

An exploratory qualitative research design was used to achieve the aim and objectives. This study design is useful when exploring a relatively new phenomenon (Stebbins, 2008). The exploratory research design allowed the investigator to build an understanding of the phenomenon, collection and non-collection of chronic medication parcels by patients with Type 2 diabetes, based on the experiences of the patients (Cooper et al., 2006). The study design was also useful to understand the patients' perspectives of services that are being provided for them (Sofaer, 2002).

3.3 STUDY POPULATION AND SAMPLING

Two population categories were used for the study. The first group consisted of 18 patients. The inclusion criteria for patients were:

- Patient is diagnosed with Type 2 diabetes.
- Patient is registered to receive CDU pre-packed chronic medication parcels.
- Patient is between 30-85 years old.
- Patient resides within the Elsies River area.
- Patient does not collect chronic medication from other sources e.g. private doctors and pharmacies.

Twelve of these patients had a history of non-collection (failed to collect their pre-packed medication parcel from the CHC within five days of collection date) and six patients were regular collectors (history of collecting pre-packed medication parcel on appointment date). These patients were selected because they were able to provide an in-depth understanding of the phenomenon by sharing their experiences (Sandelowski, 1995). Patients with a history of collection and non-collection were used to establish whether they are affected by the same factors and how these factors influenced collection. The patient population reflected different contextual factors (e.g. age, sex, distance from health care facility) which influenced how

they experienced the phenomenon (Kuper et al., 2008). Study participants were selected using the purposive sampling technique. This technique was used with the aim of purposefully selecting a group of people who could provide an in-depth understanding of the phenomenon (Burns and Grove, 2003).

Patient selection was undertaken in the following way. Between the 6th of June and 1st of July 2016, seventy patients were identified using copies of prescriptions collected from parcels sent back to UTI due to non-collection. The prescription copies contained the diagnosis, contact details and prescribed medication for the patient. Patients were contacted using the contact details provided on the prescription. Of these seventy patients, thirteen were contacted but only two were willing to participate in the study. Reasons for not wanting to participate include illness, disinterest and wanting to rest during the day (due to work-related schedules). Fifty-seven patients could not be reached due to provision of incorrect contact number, telephone line disconnected or no answer. Subsequently, ten participants were recruited when visiting the pharmacy to refill a prescription after they failed to collect their CDU pre-packed parcel within 5 days of their appointment date. Six patients were identified by pharmacy staff as patients who regularly collect on their appointment date according to their collection history. These patients were approached by pharmacy staff while collecting their chronic medication parcels. Patients were then requested to participate in the study.

The second population category consisted of key-informants. Key-informants are individuals who have specialist knowledge about the phenomenon because of their role in the setting (DiCicco-Bloom, 2006) and are valuable sources of information that often have extensive, detailed or privileged knowledge and experience about the phenomenon (Payne and Payne 2004). Three key-informants were included in this study: the pharmacy manager at the Elsie River CHC, pharmacist-assistant responsible for issuing CDU pre-packed chronic medication parcels at the Elsie River CHC, and a support staff member who organises off-site CDU collection and provides adherence support to chronic patients.

3.4 DATA COLLECTION TOOLS AND PROCEDURES

Semi-structured interviews were used to collect data. Semi-structured interviews are useful in circumstances where the investigator intends to co-create meaning of health-related experiences with patients by allowing them to share information (DiCicco-Bloom et al., 2006). The interviews were conducted using an interview guide, which is a document listing

the content of the interview such as introductory comments, topic headings, possible key questions, prompts and closing comments (Robson, 2011). Interview guides for patients and key informants were developed in English and Afrikaans (Appendix 1-4) as a large proportion of the population is Afrikaans speaking. Interviews were conducted by the investigator who is fluent in both English and Afrikaans in a private room at the Elsie River CHC. Interviews were recorded using an electronic recorder.

3.5 DATA ANALYSIS

Subsequent to data collection, recorded interviews were transcribed verbatim by the investigator. Interviews conducted in Afrikaans were translated to English by the investigator and an independent translator. Translated transcripts were compared and consensus reached. Data was manually analysed using inductive content analysis. This technique as proposed by Elo and Kyngäs (2008) allows the investigator to report common themes in the data which result in categories that describe the phenomenon. Content analysis consists of three phases namely; preparation, organization and reporting (Elo et al., 2007). During the preparation phase the investigator became immersed in the data through multiple interactions with interview recordings, transcripts and interview notes containing specific details about the interview. During the organization phase of analysis, open coding was applied to the data. This included the writing of notes and headings which described different aspects of the data. The notes and headings were recorded and used to develop a coding sheet. The coding sheet was used as a basis for development of categories such as barriers and facilitating factors affecting collection of chronic medication parcel. During the reporting phase, examples of each code and category was identified from the data and used to further analyse the data.

3.6 RIGOR

Rigor in qualitative research is ensured using a set of criteria which includes credibility, transferability, dependability and confirmability (Guba, 1981). Credibility in qualitative research is achieved when the investigator demonstrates that the data has been accurately interpreted (Shenton, 2004; Whitemore et al., 2001). In this study the investigator established credibility through triangulation, such as the use of different data sources; the patient population and key-informants (Turner, 2010).

Transferability in qualitative research is established when sufficient details of the context of the fieldwork, that provides validation that the study findings can be applied to a wider

population (Shenton, 2004). Providing a thick description is one of the key elements in ensuring transferability (Houghton et al., 2012). The investigator described the original context of the research. Providing a description of the original context allows the reader to make informed decisions about whether the results could be applied to their specific contexts. In addition, the researcher provided a detailed description of every aspect of the research process including the study setting, study population, data collection and data analysis. (Krefting, 1991; Anney, 2014). Descriptions of the following was also included; the type of organisations taking part in the study and where it is based, inclusion criteria of the participants, number of participants included in the study, data collection tools and methods used, the number and length of data collection sessions and the time period over which data was collected.

Confirmability in qualitative research is established when the investigator has demonstrated that the study findings have been derived from the data and not as a result of the investigators own predispositions (Tobin and Begley, 2004). The investigator is a qualified pharmacist with experience of the primary health care setting and has worked in a similar health care facility. This experience provided the investigator with a detailed understanding of the study setting and facilitated the data analysis process. By using the participants' own words, the investigator demonstrated that findings have emerged from the data (Shenton, 2004). In addition, the investigator applied reflexivity by using a research diary, to ensure awareness of how personal influence and interpretation may have influenced the participants and the research topic (Jootun, 2009; Thomas and Magilvy, 2011). As the investigator was not working in the health care setting for the duration of the research, influence and bias due to the investigators own dispositions was further limited.

According to Shenton (2004), dependability in qualitative research is established when the investigator has demonstrated that similar results would be obtained if the study were to be repeated using the same methods and participants, in the same context. To ensure dependability, the investigator provides a detailed description of the research process (Thomas and Magilvy, 2011) and audit trail (keep all information including raw data, memos, and recordings for cross-checking) (Anney, 2014).

3.7 ETHICAL CONSIDERATIONS

Ethical approvals were granted by the University of the Western Cape Senate Research Committee, the Western Cape Department of Health and Elsies River CHC (Appendices 5 and 6). Participants and key-informants were given an information sheet which explained the purpose of the study and provided information regarding the risks and benefits involved (Appendices 7 and 8). Informed consent was sought from participants and key-informants prior to the interview (Appendix 9, 10, 11 and 12). Permission to record the interview was also sought from participants. According to Cahana and Hurst (2008), the process of informed consent allows participants to make an informed and voluntary decision to participate in the research project and participants are made aware of the risks, right and benefits of participation (Smith-Tyler, 2007). Participants were enrolled into the study after informed consent was provided. This was done in a language the patient was comfortable with, either Afrikaans or English. The investigator protected the identity and nature of each participant's contribution by ensuring anonymity. The name of the participant was not included on any collected data; instead an identification code was given to each participant. The identification key was then used to link collected data to the participant. Only the investigator had access to the identification key.

Confidentiality was ensured by storing collected data in a locked filing cabinet and password-protected computer files. According to Kaiser (2009), confidentiality should be upheld as a means to protect the participant from harm. Only the investigator had access to these files. Participants could withdraw from the study at any point without their access to the Elsies River CHC or CDU services being affected.

All human interactions and talking about self or others carry some risks. In this study the investigator minimised such risks during the research process. Although none of the participants reported experiencing any form of risk, a suitable professional from the Elsies River CHC was identified and available to assist any participants that experienced any discomfort, psychological or otherwise during the research process. Results from the study will be reported to the Elsies River CHC, Tygerberg sub-district and the Western Cape Department of Health.

3.8 SUMMARY

This chapter was used to describe the study population and the methodology used to collect and analyse the data. Semi-structured interviews were conducted with participants while maintaining ethical considerations. Data was analysed using inductive content analysis and the results will be presented in the following chapter.



CHAPTER FOUR – RESULTS

4.1 OVERVIEW

A total of 18 patients were interviewed. This included 12 patients that were categorised as ‘non-collectors’ and 6 that were categorised as ‘collectors’. Non-collectors were defined as patients who have failed to collect their pre-packed medication parcel within 5 days of their collection date. Collectors were defined as patients who collected their pre-packed medication parcel according to their appointment dates. The characteristics of the patients are shown in Table 4.1 below. In addition, three key informants were interviewed, the pharmacy manager at the Elsie River CHC, the pharmacist’s assistant responsible for issuing CDU pre-packed chronic medication parcels at the Elsie River CHC, and a support patients with chronic conditions.

Table 4.1: Characteristics of patients

<u>VARIABLE</u>	<u>NON-COLLECTORS</u> (N=12)	<u>COLLECTORS</u> (N=6)
<u>Sex</u>		
Female	10	4
Male	2	2
<u>Age (in years)</u>		
50-55	6	2
56-60	4	1
60-65	2	2
66-70	0	0
75-80	0	0
81-85	0	1
<u>Co-morbidities</u>		
Present	11	5
Absent	1	1

The findings suggested that although Type 2 patients attending Elsie River CHC valued the CDU service, and while many collected on the correct appointment time, there were patients who experienced various social, personal and health service-related factors which affect their ability to collect their CDU parcels on time. Timely collection of the CDU parcels is required

to ensure patients have adequate medication to enable adherence to chronic diabetes treatment and prevent secondary complications. The key factors influencing collection of pre-packed CDU parcels are outlined in Table 4.2 under themes and sub-themes.

Table 4.2: Facilitators and barriers to collection of CDU parcels.

THEME	SUB THEMES	FACTORS
Social factors	Facilitators	Family support
		Social support
	Barriers	Safety
		Collector fails to collect CDU parcel
Personal factors	Facilitators	Values treatment
		Values service
		Opportunity to exercise
	Barriers	Illness/Feels unwell
		Forgetfulness
		Laziness
		Tiredness
		Transport problems
		Financial constraints
		Anticipates non-collection
Health service-related factors	Facilitators	Waiting time reduction
		Mistrust of off-site collection system
		Participation in diabetes chronic club

	Barriers	Staff attitude
		Short collection time

4.2 SOCIAL FACTORS THAT INFLUENCE THE COLLECTION OF CDU PARCELS

This theme is subdivided into two sub-themes; facilitating factors and barriers to collection of CDU parcels.

4.2.1 Social factors that facilitate collection of CDU parcels

Two key factors were identified as facilitating factors for the collection of CDU parcels: family support and social support.

4.2.1.1 Family support

Support and assistance from family members was reported as a factor that facilitates collection of CDU parcels. Participants reported that family members facilitate collection by helping them remember their appointment date, collecting on their behalf when they are feeling unwell and providing transport to the CHC.

“Yes when I get home now then she (daughter) takes my card then she writes the date on the calendar so that she does not forget.” (63 year old female, unemployed)

“I sent my daughter once when I did not feel well. I sent her to come and collect my medication.” (65 year old female, unemployed)

“When it rains I cannot come with my motorcycle then my children will transport me with the car. It is not nice to come with the motorcycle when it is raining like this because the people that drive in their cars cannot see well and that is how accidents with motorcycles and scooters happen.” (83 year old male, retired)

4.2.1.2 Social support

Participants reported that assistance from friends and acquaintances facilitates collection of their CDU parcels. Some participants used the services of collectors. These individuals collect on behalf of the patient upon arrangement of a fee ranging between twenty to thirty rand. Collectors are often unemployed and provide this service to several patients in order to

generate an income. Individuals who visit the facility for other reasons or work at the CHC also collected CDU parcels on behalf of patients who are not able to collect themselves.

“When I can’t come to fetch then I always ask a guy in my road to collect for me then I give him something.” (54 year old female, unemployed)

“Yes it is someone that works here at the day hospital (CHC). Sometimes when I do not feel well then I call her and ask if she can collect my medication.” (63 year old female, unemployed)

“It does help. Those church people, when your medication is there they come and tell you.” (56 year old male, unemployed)

4.2.2 Social factors that are a barrier to collection of CDU parcels

Participants reported that they may have the intention of collecting their CDU parcels themselves or via a collector, however, these methods of collection posed a barrier when the collector fails to collect the parcel or the safety of the patient is at risk.

4.2.2.1 Collectors fail to collect

Participants who make use of collectors i.e. individuals who collect CDU parcels on behalf of the patient at a set fee, reported that these individuals may fail to collect the CDU parcel for reasons including failure of the collector to report to CHC or miscommunication between collector and patient. Generally, pharmacy staff members were familiar with these collectors and assist them, however, facility staff members were aware that some collectors may fail to deliver CDU parcels to patients.

“I sent someone once but then he came late, he came with a story then I had to come to fetch my parcel then I had to come the next day and they told me come on your next date so I came for nothing.” (56 year old male, unemployed)

“For me it is not convenient to send someone else, that person comes to say there is none of this, or none of that, then what do I do in that case? I could have queried why this isn’t there. Can I go and buy it from the pharmacy?” (52 year old male, unemployed)

“Sometimes the collector does not show up, they will go buy alcohol with the patients’ money. They will have enough money (collected from other patients for the service) for alcohol so they do not need to deliver the CDU parcel so they will tell her that they were sick or they were drunk so they will just not show up...” (Pharmacy staff member)

4.2.2.2 Safety

The community of Elsie's River is burdened with a high crime rate where shootings and robberies are common. Participants reported that threats to their safety and theft were a barrier to collection of their CDU parcels.

“Yes, sometimes it is not safe, they shoot there in my area then, we cannot come outside. Like yesterday morning, we couldn’t come out at all.” (54 year old female, unemployed)

“They rob the people here at the park (referring to park across the road from CHC). I saw them take a parcel. When you walk with a parcel they grab it, they want the medication...Those naughty boys that rob the people, they do those things. I pray while walking. The Lord leads me.” (56 year old male, unemployed)

4.3 PERSONAL FACTORS THAT INFLUENCE THE COLLECTION OF CDU PARCELS

This theme is subdivided into two sub-themes; facilitators and barriers to collection of CDU parcels.

4.3.1 Personal factors that facilitate the collection of CDU parcels

Factors that facilitate the collection of CDU parcels on a personal level include; the value participants placed on treatment and the opportunity collection of medication provided to exercise.

4.3.1.1 Valued treatment

Participants who attach value to their treatment reported that this facilitates collection of their CDU parcel. The reasons participants gave for the added value included; feeling unwell when not taking the medication, finds treatment important, fear of undersupply and fear of secondary complications.

“I can’t do without the medication because when I don’t take the medication then I feel strange, feel lightheaded.” (65 year old female, unemployed)

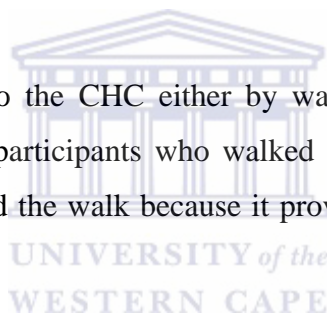
“The time they gave me is too early ...it is still dark that time but I came because I knew I needed it, I must have my treatment.” (65 year old female, unemployed)

“I come and fetch my tablets so that I don’t run out, so that I always have.” (65 year old female, unemployed)

“...I see that people sit in wheelchairs and lose their limbs due to this (diabetes) and they get thin. It is because they neglect their medication or the diet plan they received. They are irresponsible.” (52 year old male, unemployed)

4.3.1.2 Opportunity to exercise

All participants have to travel to the CHC either by walking, private transport or public transport services. Some of the participants who walked to the CHC to collect their CDU parcels reported that they enjoyed the walk because it provided them with an opportunity to exercise.



“...I walk far, I walk far. Yes, I walk with my feet because they said I must walk a lot, it is exercise...I like to walk I do not like to drive because it actually helps me.” (65 year old female, unemployed)

“For me it is better to walk like this, it is an exercise.” (56 year old male, unemployed)

“I would say for me it is okay, I will say if I have to walk from my house it is a stretch but I do it to exercise also.” (51 year old female, unemployed)

4.3.2 Personal factors that are a barrier to collection of CDU parcels

Several barriers that influenced the collection of CDU parcels at a personal level were reported. These included feeling ill or unwell, forgetfulness, laziness, tiredness, transport problems, financial constraints and anticipation of non-collection

4.3.2.1 Feeling ill/unwell

Participants reported that when they felt ill or unwell, they were unable to collect their CDU parcel from the CHC. Some participants attributed their illness to diabetes while others attributed it to unknown causes.

“...I mean when your feet are not okay then you can't move anywhere” (63 year old female, unemployed)

“It is only sometimes my feet that are a bit sore then it looks like a person cannot actually really walk and step on your feet that is how sore it is and then sometimes then one feels so tired and then you just want to sleep...” (52 year old female, unemployed)

“... now it's cold, I don't get up easily because, I won't say my feet are sore but there are days that I can't feel my feet.” (60 year old female, pensioner)

“It is not always that I come on my date because there are days that I do not feel well.” (60 year old female, unemployed)

4.3.2.2 Forgetfulness

Participants reported that they sometimes forget to collect their CDU parcel despite having patient card containing their collection date and time. In some cases, participants just forgot the date on which they were supposed to collect it and in one instance, the participant went on holiday and forgot to collect their CDU parcel.

“...sometimes the sugar makes you forget. Sometimes I forget my dates and then I remember I was supposed to come today, today is the 21st I was supposed to go today to fetch my pills and then it is too late...And sometimes we don't do it intentionally, it is the sugar that makes you forget.” (54 year old female, unemployed)

“...I am going to tell you the honest truth it's been 3 years with the packet but there are times that I am naughty when it comes to holiday times. Going away then a person forgets.” (60 year old female, unemployed)

4.3.2.3 Laziness

Participants reported that they often felt too lazy to come to the CHC to collect their CDU parcel. The following extracts illustrated this;

“Sometimes it is because of laziness. I feel it is too cold”. (63 year old female, unemployed)

“It is just plain laziness. Honestly, laziness. I am not going to pretend because I know I am naughty, don’t feel like walking, don’t feel like sitting here. Honestly, I just want to be honest.” (60 year old female, pensioner)

4.3.2.4 Tiredness

Some participants reported that they felt too tired or have insufficient energy to come to the CHC to collect their CDU parcels. The participants largely attributed this feeling to the fact that they are diabetics.

“...it is the sugar, diabetes that pushes me down and then I will lay down, I don’t have any energy.” (63 year old female, unemployed)

“...I just felt tired, tired. He (diabetes) does that, one day you are okay and the next day you feel tired. And there are times when your appetite also disappears and then there are times when you eat all the time.” (65 year old female, unemployed)

4.4 HEALTH SYSTEM-RELATED FACTORS THAT INFLUENCE THE COLLECTION OF CDU PARCELS

This theme is subdivided into two sub-themes; facilitators and barriers to collection of CDU parcels.

4.4.1 Health system-related factors that facilitate the collection of CDU parcels

Reduced waiting time, mistrust of off-site collection system and participation in diabetes chronic clubs were reported as factors that facilitated the collection of CDU parcels.

4.4.1.1 Reduction of waiting time

Participants and staff members reported that the CDU system drastically reduced patient waiting time at the CHC and this facilitated the collection of their CDU parcels as illustrated;

“It is good because look, here I am, otherwise I would have left here at 4 p.m. ...it is only half an hour, it is very quick...” (63 year old female, unemployed)

“...for me it is very convenient, it saves time because since I get the medication like this I do not sit long and my appointment is always for 8 a.m. so I can more or less expect it by 10 a.m. I want to be out of here, I do not want to sit later than 10 a.m...” (60 year old female, unemployed)

“Yes, it is much better than to go and sit there and wait for your folder and then you leave here 4 p.m., 5 p.m.I can bring my card here and they collect your card. It is much better.” (55 year old female, unemployed)

“For them (the patients) I think it is, if I may use the word “a blessing”, especially for those who don’t want to come and wait for a long time.” (Health care worker)

“I think they feel like they are privileged. They know that they have a great benefit in being able to have access and be served like this because they know they come at opening time they bring their card and they check if their name is on the manifest and then they know that the waiting time is very short. They don't have to sit and wait long hours and wait in the pharmacy waiting area. It takes about, maybe, if we have all hands on deck, you can quickly dispense upward of 100 prescriptions.” (Pharmacy staff member)

4.4.1.2 Mistrust of off-site collection system

Off-site collection points for CDU parcels are available to patients in certain areas of Elsie's River, however, despite the availability of this service, some participants preferred collecting their CDU parcel from the CHC as reported;

“There is a church that issues medication close to where I stay but the problem is that people complain that the medication is never there on the correct date that is why I have never bothered to register my name there” (54 year old female, unemployed)

“There are places (off-site collection sites) that are closer to me but I hear people say that their medication was not available there or all of the medication was not in the parcel and I do not want to struggle because then I have to come back here (to the CHC).” (51 year old female, unemployed)

4.4.1.3 Participation in diabetes chronic club

Patients who are part of the diabetes chronic club visit the Elsie River CHC once a month for routine screening. The diabetes chronic club occurs at the Elsie River CHC and is restricted to patients who are stable on their treatment. Participants who are part of this club reported that participation in the club facilitates collection of their CDU parcels.

“Now that I belong to the club it is better because you get your pills there and there is no need to come and sit here and wait for your medication.” (51 year old female, unemployed)

“What happens at the club is that you have to come and see that nursing sister every month. So when you come and see the sister every month then you can also get your parcel.” (54 year old female, unemployed)

4.4.2 Health system related factors that are a barrier to collection

Two health system related factors were reported as barriers to collection by participants; short collection time and staff attitude.

4.4.2.1 Short collection time

Patients registered with the CDU receive appointments to report to the facility at 8 a.m. On arrival, the patient cards are collected and the CDU parcels issued between 8 a.m. and 10 a.m. Participants reported that the collection times were not always convenient and posed as a barrier to collection of their CDU parcels. Facility staff members, however, felt that the allocated time was sufficient for collection. In addition, staff members claimed that the time frame for dispensing the CDU parcels had been chosen based on their convenience and other tasks that they have.

“Look, they told me after 10 a.m. they do not take your patient card anymore. Sometimes you feel ill in the morning but you have to be here before that time.” (83 year old male, retired)

“...there is a reason. It is because we want to make collection as quick as possible so that their trip to the day hospital (CHC) is short. We don't want them to collect throughout the entire day because it interferes with the normal operations, for example, patients who are admitted with acute conditions or emergencies.”
(Pharmacy staff member)

“...after 10 a.m there is boxes that need to be unpacked, the uncollected parcels need to be sent back to UTI so those parcels need to be counted and the boxes need to be sealed. The parcels that are sent back needs to be recorded and we need to contact UTI to inform them of how many parcels we are sending back and we have another separate page that we fill and keep at the day hospital with the statistics.” (Pharmacy staff member)

4.4.2.2 Staff attitude

Participants reported that the attitude of staff members and ill treatment by staff was a barrier to collection of CDU parcels. Staff members, however, felt that patients are irresponsible and deserved to be penalised when they fail to collect.

“...if you take long, (that is arrive more than 5 days after due date) then it is not here (CDU parcel) and then they make you wait a long time because you didn't come on your date - they punish you. You must wait till everyone else is helped.” (54 year old female, unemployed)

“...they told me if I have a problem I should go and see a private doctor. Just like that he told me “if you can't wait, then go see a private doctor”... he said “go see a private doctor where you can get helped quickly”. (58 year old female, employed)

“I think patients are irresponsible. You find those patients that want to be spoon fed, they just want to be spoon fed.” (Pharmacy staff member)

“I think there are patients who abuse the system. They do not want to commit from their side by waking up early and stay committed to their appointment dates, then they

want to manipulate the system according to what is convenient for them...” (Pharmacy staff member)

4.5 SUMMARY

The study results indicated that social, personal and health service-related factors influence collection of CDU parcels by diabetic patients from the Elsies River CHC. Support from friends and family, reduced waiting time and having the opportunity to exercise were reported as factors that facilitate collection of CDU parcels. Factors that were reported as barriers to collection include collectors failing to collect on behalf of the patient safety, illness, forgetfulness, short collection time and staff attitude. In order to improve collection among patients who face barriers to collection, patient, health care facility staff and the broader community needs to partner and ensure that patients have continuous access to their chronic medication/ pre-packed CDU parcels.



CHAPTER FIVE – DISCUSSION

5.1 INTRODUCTION

The aim of this research was to explore the factors that affect the collection of pre-packed CDU parcels by Type 2 diabetes patients from the Elsie River CHC. The objectives of the research were to explore the 1) social factors that influence collection of CDU parcels, 2) personal factors that influence collection of CDU parcels and 3) health service related factors that influence the collection of CDU parcels.

The study found that various factors affect the patients' ability to collect their CDU parcels. The factors include those that positively facilitate collection and those which are a barrier to collection. Results illustrate that the beliefs and surrounding factors of each patient influence their behaviour. According to DiMatteo et al. (2012) patient behaviour is determined by three distinct factors including: 1) access to correct information by the patient to ensure patient participation and partnership in decision-making; 2) assisting the patient in valuing their treatment and hence improving motivation and commitment and 3) assisting patients in overcoming practical barriers.

5.2 SOCIAL FACTORS

In this study, social support and support from family were reported as factors that facilitate collection by Type 2 diabetes patients. Mayberry and Osborn (2012) reported similar findings among diabetes patients who experienced improved outcomes after receiving support from knowledgeable family members. Improved retention rates were also experienced among HIV positive patients who received social support from a health care programme (Gardinier et al., 2010). A lack of family and social support was also associated with poor adherence rates among diabetes patients who were being treated with oral hypoglycaemic medicine and/or insulin (Tiv et al., 2012). It can therefore be concluded that support from family and the broader society facilitates adherence.

The World Health Organisation (WHO) emphasises the importance of ensuring that necessary health services are accessible to communities by reducing violence (Krug et al., 2002). Gun violence, robbery and gang violence is a concern in the community of Elsie River. Patients reported that safety is a challenge when collecting their CDU parcels that often prohibits collection. This barrier to collection may not affect all patients equally as their

means of transport and pathways to the health care facility varies. Patients who are unable to collect medication due to violence in the community are, however, negatively affected as their ability to access the health care facility and ultimately their medication supply is directly affected.

Patients using collectors to collect their CDU parcels on their behalf may be seen as a novel way of collecting medication. This means of collection is unique to the CDU system and is supported by staff at the community health centre. Although many patients use collectors with great success, at times these individuals may experience challenges and be unable to collect the medication resulting in a lack of medication for the patient. Phul et al. (2004) report that although novel methods of medication delivery have challenges for health care providers and patients, these methods can be used effectively. Even though this method of medication collection was found to be of varying value to patients in this urban setting, it could be particularly beneficial in rural settings where patients experience difficulty accessing medication due to distance from the health care facility and other structural barriers.

5.3 PERSONAL FACTORS

The findings of this study indicate that patients who value their treatment and the CDU service were more likely to collect their CDU parcels at their correct appointment time. This may be attributed to the patients desire to remain healthy. In general, patients who attached value to their treatment and the service, shared an understanding of their condition and were motivated to remain healthy and avoid secondary complications due to diabetes. Bains et al. (2011) and Shue et al. (2010) reported similar findings among patients who had improved understanding and health literacy regarding their chronic conditions. Similarly, interactive diabetes management sites, health promotion tools and support programmes may play an important role in motivating patients to be more active and conscious of their diet (Ahola and Groop, 2013). These influences may also explain why patients perceive walking to the Elsie's River CHC as a valuable opportunity to exercise.

Personal factors that were reported as barriers to collection by patient include forgetfulness, tiredness, illness and laziness. Gadkari and McHorney (2012) classifies forgetfulness as a type of unintentional non-adherent behaviour that is strongly associated with age. As most of the participants were elderly, this could be a possible reason for non-collection. Patients

reported that due to diabetes, they felt too tired or lazy to collect their CDU parcels. According to Gonzales et al. (2007) these symptoms are common among diabetes patients.

5.4 HEALTH SERVICE-RELATED FACTORS

Reduction in waiting time was one of the factors that facilitated collection of CDU parcels. Findings from the current study concur with those of Hardon et al. (2007) and Merten et al. (2007) who linked a reduction in waiting to time to improved collection of medication. These studies highlight the reasons why patients who made use of the CDU system were motivated to collect on their appointment date and time and hence avoid extended waiting times.

Mistrust of the off-site collection system was experienced by some patients. Although most patients found this system to be very effective and convenient, the mistrust could stem from previous challenges faced at the collection points. These challenges are often brought about by miscommunication and misunderstanding including receiving wrong information regarding collection date or time from the facility or their parcels not being delivered to the collection point. Once a patient has had an isolated negative experience and shares this experience with other patients it may result in negative perceptions among patients.

Support from the pharmacy and facility based diabetes chronic club were reported as facilitating factors to collection. Other studies have illustrated that patients who receive facility based support are more likely to be adherent (Lowrie et al. 2013). Health promotion tools and advice received from a chronic club or pharmacy personnel empowers patients and motivates them to take responsibility for their health and well-being (Ahola et al., 2013).

The Elsies River CHC pharmacy trades for extended hours to accommodate large numbers of patients. Despite the extended trading hours, CDU parcels are only issued for four hours in the morning. Patients report that these hours are often not convenient as they may experience challenges reaching the pharmacy in time. The importance of convenient opening hours and availability of pharmaceutical services was investigated by Bahari and Ling (2009) and Patwandan et al. (2012). The authors agree that the increased availability of pharmacy services has a positive impact on medication adherence.

Poor staff attitude was experienced as a barrier to collection by patients. Patients reported that they are treated poorly when they do not collect their CDU parcel on time or have complaints about the service. Poor staff attitude which negatively affects the relationship between the patient and the provider has been explored by Blackstock et al. (2012). The authors report that a poor patient provider relationship results in a lack of trust in the provider which negatively affects medication adherence. Among diabetes patients, similar results were reported. Peyrot et al (2006) reports that diabetes patients who had a good relationship with their provider were more informed about their condition which ultimately improved adherence and glycaemic control. According to Gilson et al. (2005) patients often experience poor treatment by health care staff at primary health care facilities in South Africa. The author highlights the importance of respectful treatment of patients by staff at primary health care facilities as a means of building trust and supporting fair treatment.

5.5 LIMITATIONS OF THE STUDY

Due to the nature of a mini-thesis, a small sample size was used in this study. Therefore, theoretical saturation may not have been achieved (Sandelowski, 1995). Results from this study can thus not be generalised to the larger population of CDU patients. As the aim of the study was to explore the factors which influence Type 2 diabetes patients who collect pre-packed CDU parcels from the Elsie River CHC, the investigator did not intend for the results to be generalised. However, the results may be used to improve services at Elsie River CHC.

Some patients could not be enrolled into the study due to illness, disinterest and their need to rest during the day (due to work-related schedule). This limited the participants to patients who were available during the day and patients who collected their own CDU parcels from the Elsie River CHC. In addition, patients could not be reached per telephone due to the provision of incorrect contact numbers, disconnected telephone lines or no answer. These factors limited the amount of contextual factors that could be investigated.

Bias answers due to gaps in memory (recall bias) or the participant saying what he/she thinks the investigator wanted to hear (courtesy bias), may also have limited the study (Robson, 2011). To reduce the effect of bias and make participants feel more comfortable, the investigator informed participants that she is not an employee of the Elsie River CHC or the Department of Health and that strict confidentiality will be maintained.

CHAPTER SIX – CONCLUSION AND RECOMMENDATIONS

6.1 CONCLUSION

The CDU system benefits both patients and the health care system. Patient waiting time is reduced, the distribution of chronic medication is facilitated and overcrowding of primary health care facilities is reduced. To gain maximum benefit from the system, patients are required to collect their pre-packed CDU parcels on the appointment date allocated to them. When patients fail to do so, it has negative implications including a loss of financial resources for the Department of Health and an undersupply of medication necessary for continued treatment. Findings from this study suggest that several factors may prevent patients from collecting their pre-packed CDU parcels on their appointment date and time. Alternatively, it is also suggested that various factors facilitate collection of pre-packed CDU parcels. Considering the different factors that influence collection of pre-packed CDU parcels, it is necessary to address the barriers that patients experience in collecting their CDU parcels and to extend the facilitating factors to more patients.

6.2 RECOMMENDATIONS

The barriers to collection experienced by patients range from those that are within the control of the patient (e.g. laziness) to those that are outside the control of the patient (e.g. safety of the patient and illness). It is therefore necessary that the patient, health care facility staff and broader community, partner to ensure that patients have continuous access to their chronic medication/ pre-packed CDU parcels.

6.2.1 Recommendations regarding social factors

Social factors that facilitate collection included social and family support. It is therefore recommended that patients include their family members and friends in their treatment journey. These individuals can assist and motivate the patient to adhere to their medication regimen by encouraging regular collection and hence improve treatment outcomes. For those patients without family support, support structures can be hosted at places of worship and other publically accessed buildings.

To prevent an undersupply of medication due to collectors failing to collect the CDU parcel on the patient's behalf, it is recommended that patients use a reliable person to collect their medication. The collector should have a trusted relationship with the patient and be able to communicate important information regarding out of stock situations, changes to medication

and follow-up appointments. The system of collectors can also be institutionalised through registration of reliable collectors at the health facility or through voluntary charity organisations in the community.

Patients who cannot access the health care facility due to violence and safety concerns should be accommodated. It is recommended that the health care facilities partner with local authorities and implement alternative methods of medication delivery such as home delivery. These patients should not be victimised or persecuted by health facility staff because of factors outside of their control.

6.2.2 Recommendations regarding personal factors

Patients who value their treatment, value the CDU service and use the collection of their CDU parcel as an opportunity to exercise, share a common motivation to be healthy and avoid secondary complications. In order to encourage this type of motivation among more patients, it is recommended that the health care facility provides counselling and health promotion messages to patients. These activities may motivate more patients to take responsibility for their health and improve adherent behaviour.

Counselling and health promotion could also assist patients who experience personal barriers to collection. These actions could empower patients to find solutions to barriers such as forgetfulness, laziness, tiredness and financial constraints.

6.2.3 Recommendations regarding health service related factors

Participation in the diabetes chronic club was reported as a facilitating factor to collection of CDU parcels. It is therefore recommended that diabetes patients be encouraged to participate in the chronic club. Support and information received during visits to the chronic club may have a positive effect on patients who currently lack the motivation to collect their CDU parcels.

The health system related barriers to collection were short collection time and poor staff attitude. This study recommends that the collection time be extended or a second time slot added to accommodate more patients. Alternatively, CDU parcels could be issued after hours when the majority of patients have been assisted and the pharmacy mostly caters to patients seen at the emergency unit.

To promote understanding of the barriers faced by patients, including short collection time, an open forum or feedback sessions should be hosted by the facility. This action may

facilitate communication between patients and health service staff and assist in the strengthening of the patient-provider relationship. In addition, health service staff and management may have a better understanding of the factors that influence patient behaviour and address them accordingly.

Patients at Elsies River CHC are privileged to have access to the CDU system for distribution of their chronic medication. Patients in other areas of South Africa and other middle-income countries do not have a system of this nature in place.



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APPENDICES

APPENDIX 1: INTERVIEW GUIDE FOR PATIENT POPULATION (English)

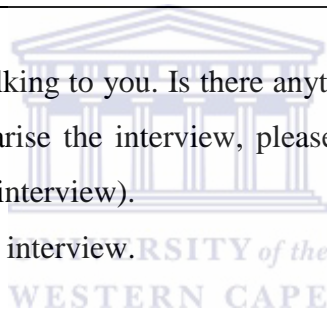
Opening: My name is Henriette and I am a student at the University of the Western Cape. I would like to ask you some questions about your experience of collecting your chronic medication from this facility. I hope to use this information to understand the barriers that diabetes patients face in collecting medication. The interview should take about 30 minutes.

Main question	Additional questions	Prompts
Experience with diabetes	<ul style="list-style-type: none"> • When did you find out that you had Type 2 diabetes? • Would you say that you follow the medication directions from your doctor as you are supposed to? • Do you face any challenges in taking your medication the way your doctor prescribed them? 	<ul style="list-style-type: none"> • Can you tell me more about how you take your medication • Can you tell me more about why you take your medication in that way
Experience of CDU	<ul style="list-style-type: none"> • How long have you been collecting your medication parcel from this facility? • How do you experience this method of medication collection? • Can you tell me about your experiences with collecting your medication parcel from this facility? 	<ul style="list-style-type: none"> • Can you tell me if you find the system helpful or not • Could you expand on your experience of the system
Barriers to CDU collection	<ul style="list-style-type: none"> • Are you able to collect your medication parcel on the date and time that is given? • What are the factors that influence your ability to collect your medication? • Are there any factors in the facility that influences collection of your medication parcel? • Are there any factors at home that influences collection of your medication parcel? 	<ul style="list-style-type: none"> • Can you make examples of some of the challenges you face

	<ul style="list-style-type: none"> • Are there any factors in your community that influences collection of your medication parcel? • How often do these factors influence collection of your medication parcel? • Do you think the system could function better? • In your opinion, what should be done to make the system function better? 	
Consequences of non-collection	<ul style="list-style-type: none"> • Can you tell me what happens when you do not collect your parcel • Are there any other sources from where you get medications when you run out? 	<ul style="list-style-type: none"> • Can you tell me how you reacted in this instance • How did this make you feel

Closing: It has been a pleasure talking to you. Is there anything else you would like to add? I would just briefly like to summarise the interview, please tell me if I have misunderstood what you meant. (Summarise the interview).

Thank you for participating in the interview.



APPENDIX 2: INTERVIEW GUIDE FOR PATIENT POPULATION (Afrikaans)

Begin: My naam is Henriette Hitchcock en ek is n student by die Universiteit van die Wes-Kaap. Ek sou graag vir u n paar vrae vra in verband met u ervaring van medikasie kolleksie vanaf hierdie fasiliteit. Ek hoop om hierdie informasie te gebruik om n beter begrip te he van die hindernisse wat diabete ondervind om hul medikasie te kollekteer. Die onderhoud sal om en by 30 minute neem.

Hoof vrae	Addisionele vrae	Prompts
Ervarings van diabetes	<ul style="list-style-type: none"> • Wanneer het jy uitgevind dat jy Tipe 2 diabetes het? • Sou jy se dat jy die medikasie aanwysings van jou dokter volg soos jy moet? • Ondervind jy enige uitdagings om jou medikasie te neem soos die dokter aanbeveel het? 	<ul style="list-style-type: none"> • Kan jy uitbrei oor hoe jy jou medikasie neem • Kan jy my meer vertel poor hoekom jy jou medikasie so neem
Ervaring van CDU	<ul style="list-style-type: none"> • Vir hoe lank kollekteer jy jou medikasie pakkie vanaf hierdie fasiliteit? • Hoe ondervind jy hierdie manier van medikasie kolleksie? • Kan jy my vertel van jou ervaring van medikasie kolleksie? 	<ul style="list-style-type: none"> • Vind jy die stelsel nuttig of nie • Kan jy uitbrei oor jou ervaring met die stelsel
Hindernisse om CDU te kollekteer	<ul style="list-style-type: none"> • Is dit altyd moontlik om jou medikasie pakkie te kollekteer op die dag en tyd wat voorgeskryf was? • Watter faktore beïnvloed jou vermoë om jou medikasie pakket te kollekteer? • Is daar enige faktore by die fasiliteit wat dalk medikasie kolleksie kan beïnvloed? • Is daar enige faktore by die huis wat dalk medikasie kolleksie kan beïnvloed? • Is daar enige faktore in die gemeenskap wat dalk medikasie kolleksie kan beïnvloed? • Kan jy my vertel hoe gereeld jy hindernisse 	<ul style="list-style-type: none"> • Kan jy voorbeelde maak van die tipe hindernisse wat jy ervaar

	ervaar? <ul style="list-style-type: none"> • Dink jy die stelsel kan beter funksioneer? • Wat dink jy kan gedoen word om die stelsel beter te laat funksioneer? 	
Gevolge van nie-kolleksie	<ul style="list-style-type: none"> • Kan jy my vertel wat gebeur as jy nie jou medikasie kollek nie? • Is daar ander bronne van waar jy medikasie kry as jy te min het? 	<ul style="list-style-type: none"> • Kan jy my meer vertel oor wat gebeur as jy nie medikasie het nie

Einde: Dit was n plesier om met jou te praat. Is daar enigies anders wat jy byvoeg. Ek wil net die onderhoud opsom. Voel vry om my te stop indien jy voel ek het jou misverstaan. (Som die onderhoud op).

Baie dankie dat jy deel geneem het aan die onderhoud.



APPENDIX 3: INTERVIEW GUIDE FOR KEY-INFORMANTS (English)

Main question	Additional questions	Prompts
Patient experience of CDU	<ul style="list-style-type: none"> • What was the purpose of establishing the CDU system? • How do you think the patients' experience the system? 	<ul style="list-style-type: none"> • Do you think that the system is fulfilling the purpose
Barriers to CDU collection	<ul style="list-style-type: none"> • Why do you think some patients still fail to collect their medication in spite of the CDU system? • What are some of the factors that influence medication non-collection? • What are the personal or social factors that you are aware of that could influence non-collection? • What are the health service factors that you are aware of that could influence non-collection? • Do you think the system could function better? • What do you think needs to be done to make the system function better? 	<ul style="list-style-type: none"> • Can you make examples of some of the factors that influence non-collection • What is the most common factors that influences non-collection
Consequences of non-collection	<ul style="list-style-type: none"> • How do you think non-collection affects the patients' medication supply • What, in your opinion, do patients do when they run out of medication? 	<ul style="list-style-type: none"> • Are there other ways in which the patient is affected?

Closing: It has been a pleasure talking to you. Is there anything else that you would like to add that you think might be important. Thank you so much for your time.

APPENDIX 4: INTERVIEW GUIDE FOR KEY-INFORMANTS (Afrikaans)

Hoof vrae	Addisionele vrae	Prompts
Pasient se ervaring van CDU	<ul style="list-style-type: none"> • Wat was die doel vir die oprig van die CDU? • Hoe dink jy ervaar die pasiente heirdie stelsel? 	<ul style="list-style-type: none"> • Dink jy dat die stelsel sy doel bereik
Hindernisse om CDU te kollekteer	<ul style="list-style-type: none"> • Hoekom dink jy vind sommige pasiente dit steeds moeilik om hul medikasie te kollekteer al is die CDU stelsel in plek? • Watter faktore kan moontlik nie-kolleksie beïnvloed? • Is jy bewus van enige persoonlike of sosiale faktore wat nie-kolleksie kan beïnvloed? • Is jy bewus van enige gesondheidsorg faktore wat nie-kolleksie kan beïnvloed? • Dink jy die stelsel kan beter funksioneer? • Wat, in jou opinie, kan gedoen word om die stelsel beter te laat funksioneer? 	<ul style="list-style-type: none"> • Kan jy voorbeelde maak van die hindernisse wat sommige van die pasiente teekom • Wat is die mees algeenste hindernisse wat die pasiente ervaar
Gevolge van nie-kolleksie	<ul style="list-style-type: none"> • Hoe dink jy affekteer nie-kolleksie die pasient se medikasie voorraad? • In jou opinie, hoe behandel pasiente hul diabetes wanneer hulle te min medikasie het? 	<ul style="list-style-type: none"> • Word die pasient dalk op ander maniere ook geaffekteer?

Einde: Dit was n plesier om met u te gesels. Is daar enigiets wat jy dink belangrik is en wil byvoeg? Baie dankie vir u tyd.

APPENDIX 5: APPROVAL FROM THE UNIVERSITY OF THE WESTERN CAPE



UNIVERSITY of the
WESTERN CAPE

DEPARTMENT OF RESEARCH DEVELOPMENT

18 January 2016

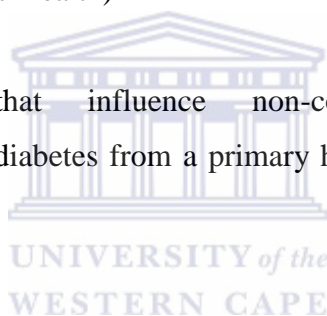
To Whom It May Concern

I hereby certify that the Senate Research Committee of the University of the Western Cape approved the methodology and ethics of the following research project by:

Ms H Hitchcock (School of Public Health)

Research Project: Factors that influence non-collection of chronic medication parcels by patients with Type 2 diabetes from a primary health care facility in the Western Cape Province.

Registration no: 15/7/269



Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

The Committee must be informed of any serious adverse event and/or termination of the study.

Ms Patricia Josias

Research Ethics Committee Officer University of

Private Bag X17, Bellville 7535, South Africa

3170

E: pjosias@uwc.ac.za www.uwc.ac.za

A place of quality,
a place to grow, from hope
to action through knowledge

APPENDIX 6: APPROVAL FROM THE WESTERN CAPE DEPARTMENT OF HEALTH



STRATEGY & HEALTH SUPPORT

Health.Research@westerncape.gov.za
Tel: 027 21 453 6857, Fax: 027 21 453 9895
5th Floor, Nelson Mandela House, 8 Riebeeck Street, Cape Town, 8001.
www.healthsupport.gov.za

REFERENCE: WC_2016RP46_823
ENQUIRIES: Ms Charlene Ruderick

University of Western Cape
Robert Sobukwe road
Bellville
Cape Town
7535

For attention: Ms Henrietta Hitchcock

Re: Factors that influence non-collection of chronic medication parcels by patients with Type 2 diabetes from a primary health care facility in the Western Cape Province.

Thank you for submitting your proposal to undertake the above mentioned study. We are pleased to inform you that the department has granted you approval for your research.

Please contact the following people to assist you with any further enquiries in accessing the following sites:

Elsies River CHC

Trevor Izally

021 931 0216

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.
2. Researchers, in accessing provincial health facilities, are expressing consent to provide the department with an electronic copy of the final feedback (**annexure 9**) within six months of

APPENDIX 7: INFORMATION SHEET FOR PATIENT POPULATION AND KEY-INFORMANTS(English)



UNIVERSITY OF THE WESTERN CAPE

Tel: +27 72 639 0975 Fax: 27 21-934 2408

E-mail: hitchcockhenriette@gmail.com

INFORMATION SHEET

Project Title: Factors that influence non-collection of chronic medication parcels by patients with Type 2 diabetes from a primary health care facility in the Western Cape Province

What is this study about?

This is a research project being conducted by Henriette Hitchcock at the University of the Western Cape. We are inviting you to participate in this research project because you are a patient of the Elsies River Community Health Centre (CHC) that receives pre-packed chronic medication from the Chronic Dispensing Unit (CDU). The purpose of this research project is to explore the factors that influence non-collection of CDU pre-packed chronic medication parcels by patients with Type 2 diabetes and we hope your experience will help us understand this situation more.

What will I be asked to do if I agree to participate?

You will be asked to participate in an interview during which you will share information. The interview will be conducted in a private room at the Elsies River CHC at a time that is convenient to you. The interview will last for approximately 30 minutes. Interview questions will focus on your experience of medication collection and challenges you face with regard to medication collection.

Would my participation in this study be kept confidential?

The information that you share will be confidential. To ensure your anonymity, your name will not be used on any information source and cannot be used to identify you. A code, that will be developed using an identification key, will be used to link your information to your identity. Only the investigator will have access to this identification key. To ensure your confidentiality, all collected data will be stored using password-protected computer files. Only the investigator will have access to these files. If a report or article about this research project is written, your identity will be protected.

What are the risks of this research?

All human interactions and talking about self or others carry some amount of risks. We will nevertheless minimise such risks and act promptly to assist you if you experience any discomfort, psychological or otherwise during the process of your participation in this study. Where necessary, an appropriate referral will be made to a suitable professional for further assistance or intervention.

What are the benefits of this research?

This research is not designed to help you personally, but the results may help the investigator learn more about the factors that influence non-collection of CDU pre-packed chronic medication parcels. We hope that, in the future, other people might benefit from this study through improved understanding of non-collection.

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalised or lose any benefits to which you otherwise qualify. Your treatment and care at Elsie's River CHC will not be affected in any way.

What if I have questions?

This research is being conducted by Henriette Hitchcock from the School of Public Health at the University of the Western Cape. If you have any questions about the research study itself, please contact Henriette at: hitchcockhenriette@gmail.com.

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Head of Department:
Prof Helen Schneider
School of Public Health
University of the Western Cape
Private Bag X17
Bellville 7535
hschneider@uwc.ac.za

Dean of the Faculty of Community and Health Sciences:
Prof José Frantz
University of the Western Cape
Private Bag X17
Bellville 7535
chs-deansoffice@uwc.ac.za

This research has been approved by the University of the Western Cape Senate Research Committee.



APPENDIX 8: INFORMATION SHEET FOR PATIENT POPULATION AND KEY-INFORMANTS (Afrikaans)



UNIVERSITY OF THE WESTERN CAPE

Tel: +27 72 639 0975 Fax: 27 21-934 2408

E-mail: hitchcockhenriette@gmail.com

INFORMASIE BLAD

Titel van Navorsings Projek: Faktore wat die kolleksie van kroniese medikasie pakkies deur Tipe 2 diabele vanaf n primere gesondheid fasiliteit in the Wes-Kaap Provinsie beïnvloed.

Waaroor handel die projek?

Die navorsings projექ word gedoen deur Henriette Hitchcock by die Universiteit van die Wes- Kaap. Ons nooi u om deel te neem aan heirdie projek omdat u 'n pasient van die Elsie Rivier Gemeenskap Gesondheid Sentrum is wie kroniese medikasie vanaf die Chronic Dispensing Unit (CDU) ontvang. Die doel van hierdie projek is om die faktore wat nie-kolleksie van medikasie beïnvloed, te verken en ons hoop dat u ervaring ons sal help om die situasie beter te verstaan.

Wat sal van my verwag word as ek instem om deel te neem?

Jy sal gevra word om deel te neem aan n onderhoud waar jy informasie sal deel. Die onderhoud sal in n semi-privaat kamer by die Elsie Rivier Gemeenskap Gesondheid Sentrum gedoen word op n tyd wat gerieflik is vir jou. Die onderhoud sal vir ongeveer 30 minute duur. Onderhoud vrae sal fokus op jou ervaring van medikasie kolleksie en die hindernisse wat jy teekom met betrekking tot kolleksie van medikasie.

Sal my deelname aan die projek vertroulik gehou word?

Die informasie wat jy deel sal vertroulik wees. Om anonimiteit te verseker sal jou naam nie op enige informasie bron gebruik word nie en kan nie gebruik word om jou te identifiseer. 'n Kode wat ontwikkel sal word met behulp van 'n identifikasie sleutel sal gebruik word om jou informasie aan jou identiteit te koppel. Slegs die navorser sal toegang he tot die intifikasie sleutel.

Om vertroulikheid te verseker sal alle informasie in rekenaar leers met n wagwoord gestoor word. Slegs die navorser sal toegang he tot die leers. Indien daar n verslag of artikel geskryf word, sal jou identiteit beskerm word.

Wat is die risiko van hierdie projek?

Alle menslike interaksie en praat oor self of ander, dra n risiko. Ons sal nogtans die risiko verminder en vinnig reageer indien jy enige ongemak, sielkundig of andersins ervaar tydens jou deelname in die projek. 'n Verwysing na n geskikte professionele persoon sal gemaak word vir verdere hulp en ingryping, indien nodig.

Wat is die voordele van hierdie projek?

Die navorsing is nie ontwerp om jou persoonlik te help nie maar die uitslag van die navorsing mag die navorser help om meer te leer oor die faktore wat nie-kolleksie van CDU kroniese medikasie pakkies beïnvloed. Ons hoop dat ander pasiente in die toekoms nut sal vind uit die navorsing deur verbeterde begrip van nie-kolleksie.

Moet ek in die projek deelneem en mag ek enige tyd onttrek?

Jou deelname aan die projek is heeltemal vrywillig. Jy mag besluit om glad nie deel te neem nie. As jy wel besluit om deel te neem, mag jy enige tyd onttrek. As jy besluit om nie deel te neem nie of om te onttrek, sal jy nie gepenaliseer word or enige voordeel waarvoor jy andersins sou kwalifiseer, verloor nie. Jou behandeling en sorg by Elsie Rivier Gemeenskap Gesondheid Sentrum sal nie op enige manier geaffekteer word nie.

Wat as ek vrae het?

Die navorsings projek word gedoen deur Henriette Hitchcock van die Skool vir Publieke Gesondheid by die Universiteit van die Wes-Kaap. Indien jy enige vrae in verband met die navorsings projek het, kontak asseblief vir Henriette by: hitchcockhenriette@gmail.com.

Indien jy enige vrae in verband met die navorsings projek of jou regte as n deelnemer of as jy enige probleem met die navorsings projek ondervind, kontak asseblief:

Hoof van Departement:
Prof Helen Schneider
School of Public Health
University of the Western Cape
Private Bag X17
Bellville 7535
hschneider@uwc.ac.za

Dean of the Faculty of Community and Health Sciences:
Prof José Frantz
University of the Western Cape
Private Bag X17
Bellville 7535
chs-deansoffice@uwc.ac.za

Die navorsings projek is goedgekeur deur die Universiteit van die Wes-Kaap Senaat Navorsings Komitee.

APPENDIX 9: INFORMED CONSENT FORM FOR PATIENT POPULATION

(English)



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 72 639 0975 Fax: 27 21-934 2408

E-mail: hitchcockhenriette@gmail.com

CONSENT FORM

Title of Research Project: Factors that influence collection of chronic medication parcels by patients with Type 2 diabetes from a primary health care facility in the Western Cape Province

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.

Participant's name.....

Participant's signature.....

Date.....

**APPENDIX 10: INFORMED CONSENT FORM FOR PATIENT POPULATION
(Afrikaans)**



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

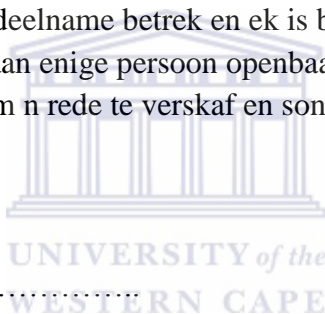
Tel: +27 72 639 0975 Fax: 27 21-934 2408

E-mail: hitchcockhenriette@gmail.com

TOESTEMMING FORM

Titel van Navorsings Projek: Faktore wat die kolleksie van kroniese medikasie pakkies deur Tipe 2 diabeete vanaf n primere gesondheid fasiliteit in the Wes-Kaap Provinsie beïnvloed.

Die navorsing is aan my verduidelik in a taal wat ek verstaan. My vrae oor die navorsing is beantwoord. Ek verstaan wat my deelname betrek en ek is bereid om vrywillig deel te neem. Ek verstaan dat my identiteit nie aan enige persoon openbaar gaan word nie. Ek verstaan dat ek enige tyd kan onttrek sonder om n rede te verskaf en sonder vrees van negatiewe gevolge of verlies van voordele.



Naam van deelnemer.....

Handtekening van deelnemer.....

Datum.....

APPENDIX 11: INFORMED CONSENT FORM FOR KEY-INFORMANTS (English)



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

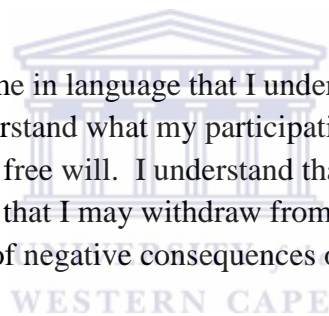
Tel: +27 72 639 0975 Fax: 27 21-934 2408

E-mail: hitchcockhenriette@gmail.com

CONSENT FORM

Title of Research Project: Factors that influence collection of chronic medication parcels by patients with Type 2 diabetes from a primary health care facility in the Western Cape Province

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.



Participant's name.....

Participant's signature.....

Date.....

**APPENDIX 12: INFORMED CONSENT FORM FOR KEY-INFORMANTS
(Afrikaans)**



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 72 639 0975 Fax: 27 21-934 2408

E-mail: hitchcockhenriette@gmail.com

TOESTEMMING FORM

Titel van Navorsings Projek: Faktore wat die kolleksie van kroniese medikasie pakkies deur Tipe 2 diabeete vanaf n primere gesondheid fasiliteit in the Wes-Kaap Provinsie beïnvloed.

Die navorsing is aan my verduidelik in a taal wat ek verstaan. My vrae oor die navorsing is beantwoord. Ek verstaan wat my deelname betrek en ek is bereid om vrywillig deel te neem. Ek verstaan dat my identiteit nie aan enige persoon openbaar gaan word nie. Ek verstaan dat ek enige tyd kan onttrek sonder om n rede te verskaf en sonder vrees van negatiewe gevolge of verlies van voordele.



Naam van deelnemer.....

Handtekening van deelnemer.....

Datum.....