

**IMPACT ANALYSIS OF A DOWN-REFERRAL CHRONIC MEDICATION
DISTRIBUTION SYSTEM FOR STABLE CHRONIC PATIENTS TO PRIMARY
HEALTH CARE FACILITIES IN AN EASTERN CAPE DISTRICT**

BY

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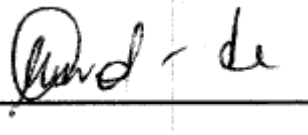
TITLE OF PROJECT:

Impact analysis of a down-referral chronic medication distribution system for stable chronic patients to primary health care facilities in an Eastern Cape district

DECLARATION:

In accordance with Rule G4.6.3, I hereby declare that the above-mentioned treatise is my own work and that it has not previously been submitted for assessment to another University or for another qualification.

SIGNATURE: _____



DATE: 06 January 2014

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ABSTRACT

Purpose of the study

The purpose of the study was to assess the level of patient satisfaction with service provided in the Buffalo City sub-district following the implementation of the down-referral chronic medication distribution system between the tertiary(ELHC) and primary (clinics) levels of health care. The intervention was aimed at improving accessibility and availability of medication to the chronic patients.

Research Design

A non-experimental descriptive quantitative research methodology was used. The sampling method for the study was the non-probability purposive sampling. Data was collected using a self-administered questionnaire that was given to respondents as they arrived at the facilities, and who, after completing the questionnaire, gave it back to the researcher.

Findings

The results of the study revealed that the patients were generally satisfied about the down-referral chronic medication distribution system. However the patients were not satisfied about the services that they receive from the primary health care facilities when they go to collect their down-referred medication. Lack of communication to the patients regarding their medication by the hospital staff (pharmacists in particular) was a concern for patients.

Conclusion

The down-referral chronic medication distribution system can benefit both the patients and the hospitals. Patient will receive their medication closer to their homes and save on the cost of transport. The hospital will have less patient congestion in the outpatient dispensaries and queues and waiting times will be reduced. Some strategies must be sought to improve the services at the primary health care facilities. The hospital should explore various communication methods to put into place, that will save pharmacists time and satisfy the needs of the patients. This would require the health services management from both the hospitals and the

primary health care facilities to work together to ensure continued support for the patients.

KEY WORDS: Down-referral chronic medication distribution system, essential drugs, essential drug list, primary health care

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ABBREVIATIONS

PHC	Primary Health Care
CHC	Community Health Centre
ELHC	East London Hospital Complex
CMH	Cecilia Makiwane Hospital
DVDH	Duncan Village Day Hospital
USC	Unit for Statistical Consultation
WHO	World Health Organization
UK	United Kingdom
NHS	National Health Services
SHA	Strategic Health Authorities
SHI	Social Health Insurance
RHC	Rural Health Centres
DOTS	Directly Observed Treatment Strategy
STG	Standard Treatment Guidelines
EML	Essential Medicine List
FRTI	Faculty Research, Technology and Innovation

CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

According to Dennill, King & Swanepoel (1995:3) primary healthcare (PHC) is the dynamic product of the community it serves, since it evolves from the economic, socio-cultural and political characteristics of that community and the needs identified by the community. They further state that the development of the health sector alone will not have a significant effect on the health of the people.

Deficiencies in the pharmaceutical sector as a component of the health sector are reflected most notably in the lack of equity in access to essential drugs, with a consequent impact on the quality of care. The government of South Africa decided to tackle these deficiencies systematically through the development and implementation of a national drug policy as an integral part of the new national health policy that aims at equity in the provision of healthcare for all citizens.

The goal of the South African National Drug Policy is to ensure an adequate and reliable supply of safe, cost-effective drugs of acceptable quality to all citizens of South Africa and the rational use of drugs by prescribers, dispensers and consumers. The following are the health objectives addressed in this policy (National Drug Policy, 1996):

- To ensure the availability and accessibility of essential drugs to all citizens;
- To ensure the safety, efficacy and quality of drugs;
- To ensure good dispensing and prescribing practices;
- To promote the rational use of drugs by prescribers, dispensers and patients through the provision of the necessary training, education and information;
- To promote the concept of individual responsibility for health, preventive care and informed decision-making.

Within the province, primary, secondary and tertiary levels of healthcare exist. PHC comprises the clinics and community health centres (CHCs) that are close to patients' homes and that provide basic health services. Once the patient is seen at the PHC facility and he/she requires further management, the patient is referred to the secondary level of care (district hospitals) which offers a limited number of specialist services. If further specialised management is required, the patient is up-referred to the tertiary level of care (regional and tertiary hospitals). Once the patient is treated and stabilised at the tertiary hospital, a prescription for six months will be given to him/her. This means that for the next six months the patient will not see a doctor but will come to the hospital every month to collect the medication.

Each of these levels of care has a list of drugs for use only at that particular level. This list is known as the Essential Medicine List and Standard Treatment Guidelines. This list was developed by a committee representing various expert fields from the nine provinces of the country, and appointed by the Minister of Health. This committee established a system to ensure that these patients do not come to the hospital where they were stabilised on drugs specific to that that level of care to collect their medication. The patient identifies a clinic closer to home where he/she would like to collect the medication, while the tertiary healthcare facility undertakes to ensure that the medication package is sent to that clinic.

An essential drug list was developed as per the National Drug Policy. The list groups the drugs according to the level of care and the spectrum of services offered at that level of care. Patients who have been up-referred to secondary and tertiary hospitals, once stabilised on PHC drugs, are simply referred back to the PHC centre of origin with a Patient Management Referral letter. However, those on higher-level drugs (secondary or tertiary) remain the responsibility of the down-referring institution (district, regional or tertiary hospital).

Once the patient is stabilised on tertiary-level drugs, it is the responsibility of that tertiary hospital to supply the patient with medication. The tertiary hospital will, on a monthly basis, pack the patient's medication and deliver it to the chosen clinic. This system is beneficial to both the tertiary hospital – in that it reduces the long

queues at dispensaries – and to the patient since the patient does not have to spend money on transport and sit in long queues at the hospital to collect medication. This system is known as the down-referral chronic medication distribution system.

A patient is registered on the system when the treating doctor or clinician is sure that the patient's condition is stable. During a survey that was undertaken to develop strategies in order to improve the service, patients indicated that a frustrating factor is the time that they spend in the hospital moving from one queue to another, as well as the money that they must spend on transport to access the hospitals. Reducing the long queues is one of the Health Ministry's six priorities.

The East London Hospital Complex (ELHC) where the study was undertaken comprises two hospitals, namely the Cecilia Makiwane Hospital situated in Mdantsane (the second largest township in the country) and the Frere Hospital situated in the city of East London. Both hospitals offer secondary and tertiary health services to the communities in the Buffalo City sub-district.

1.2 LITERATURE REVIEW

The down-referral chronic medication distribution system is a strategy employed to improve the quality of care in the PHC environment. The World Health Organisation (WHO) originally defined PHC in the Alma-Ata Declaration (WHO, 1978:3-4) in the following way:

Primary health care is essential care based on practical, scientifically sound and socially acceptable methods and technology, made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part of both of the country's health system of which it is the central function and main focus, and the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system, bringing health care as close as possible to where the people live and work, and constitutes the first element of continuing health care process.

According to the Alma-Ata Declaration, the characteristics of PHC are:

- It reflects and evolves from the economic conditions and socio-cultural and political characteristics of the country and its communities and is based on the application of the results of the social, biomedical and health services research and public health experience;
- It addresses the main health problems in the community providing promotive, preventive, curative and rehabilitative services;
- It should be sustained by integrated, functional and mutually supportive referral systems, leading to the progressive improvement of comprehensive healthcare for all and giving priority to those most in need;
- It relies, at local and referral levels, on health workers including physicians, nurses, midwives, auxiliaries and community workers as well as traditional practitioners, who are suitably trained socially and technically to work as a health team and to respond to the expressed health needs of the community (Alma-Ata Declaration, WHO 1978:6).

As with all other countries who attended the Alma-Ata conference, Brazil's health system was inspired by this declaration. Brazil's strategy to deliver PHC to millions of poor people has won widespread acclaim. But initially insufficient numbers of clinics and staff put a strain on the country's under-equipped public hospitals (Kepp, 2008:877).

South Africa also took this direction in reforming and reconstructing the National Health System, placing emphasis on PHC as the driving force towards ensuring quality healthcare to all the citizens. As in Brazil, the implementation of the PHC approach has not been a smooth operation. Challenges have surfaced and there is literature indicating the investigations that were done to highlight these challenges.

A major study was undertaken by the Health Systems Trust, examining the quality of care in clinics and hospitals. (Edwards-Miller, 1998) This study investigated all nine provinces in South Africa in terms of:

- Infrastructure and equipment;
- Human resources;

- Pharmaceutical services;
- Health information and management systems;
- Hospital/clinical services provided.

Problems were highlighted in respect of the pharmaceutical services, human resources and the clinical services provided. Frequent shortages of drugs and the lack of capacity to manage the system for the procurement of drugs threatened health service delivery. The crafted referral system from PHC services to tertiary hospital services and from tertiary hospital services back to PHC services aimed to improve the drug supply management for chronic patients.

The ELHC decided on the holistic approach strategy of patient management by supplying all drugs (as opposed to only secondary and tertiary level drugs) prescribed for the chronic patients and delivering them to clinics closer to their homes. If the patient's condition stabilised on PHC level drugs and secondary and tertiary level drugs but the hospital supplies only secondary and tertiary level drugs, it becomes a problem if the primary level drug is not available at the clinic. This means that the patient's treatment is not complete. It is unlikely that the patient will keep returning to the clinic to check if the outstanding medicine is back in stock.

1.3 RESEARCH PROBLEM

The ELHC, comprising Frere Hospital and Cecilia Makiwane Hospital, faces many health service delivery challenges within the Eastern Cape Department of Health. The number of patients coming to the hospitals in the ELHC is increasing on a daily basis. Frere Hospital sees approximately 30000 and Cecilia Makiwane Hospital approximately 25000 patients per month. The quality of healthcare provided is declining as the personnel cannot cope with the excessive patient volumes. Patients sit in long queues for about six hours to consult with the doctors and to get their medicines from the outpatient dispensaries. The health personnel are spending less time interviewing the patients to be able to make the correct diagnosis, and pharmacists are spending less time counselling the patients on the correct use of their medication. The focus has shifted from quality care to quantity care.

Patients suffering from chronic conditions such as hypertension, diabetes mellitus, arthritis or dermatological problems, as well those taking antiretroviral treatment (ARVs), travel long distances from as far as Aliwal North (approximately 300km from East London) to access their treatment at the ELHC hospitals. Concerns have been raised that centralised hospital-based services may create barriers of access for patients, with evidence suggesting that long travelling distances, unaffordable transport costs and long waiting times potentially result in a loss of follow-up (Moshabela, Schneider, Cleary, Pronyk & Eyles, 2011:393-401). This assumption that patients are unhappy about travelling long distances, spending hours in the long queues and the unaffordable transport costs came from interviewing the patients themselves. Most of the chronic patients are elderly citizens who are dependent on government social grants for their livelihood. Sometimes the patients do not collect their treatment for three months. This implies that they do not comply with their treatment and therefore that their chronic conditions are not managed effectively – which could result in an increased mortality rate and, in the case of ARVs, in drug resistance.

There are several contributing factors to this situation. The functionality of PHC is suboptimal, resulting in shortages of drugs at those facilities closest to patients' homes, namely the clinics and CHCs. Patients therefore do not follow the healthcare provision system of starting at the PHC facility and being referred upwards as required. They just walk into the hospital to access care.

In response to these realities, the down-referral of clinically stable chronic patients from hospitals to lower levels of the health system, mainly PHC facilities, has been suggested as a necessary evolution of sustainable services (Decroo, Panunzi, Das Dores, Maldonado, Biot, Ford & Chu, 2009: 1186). This led to the implementation of a down-referral system in many parts of the country, including the ELHC in the Buffalo City sub-district. However, it still has to be determined whether closing the distance between patients and the facilities where they receive their treatment is achieving better health outcomes. This latter consideration is the focus of this study.

1.4 RESEARCH QUESTION

PHC is believed to be the correct direction to take in reforming the health system according to the National Health Policy, the National Drug Policy and the Alma-Ata Declaration. Down-referral chronic medication distribution is an integral part of such health reform and provides a means to reduce patient congestion at hospitals.

The research question for this study is therefore as follows:

Do down-referred stable chronic patients feel more satisfied since they are able to access all their medications at clinics close to their homes?

1.5 RESEARCH AIM AND OBJECTIVES

The aim and objectives of this research study will now be described.

1.5.1 Research aim

Down-referral of stable chronic patients aims to improve the accessibility and availability of medication for these patients. The aim of this research is to assess the level of patient satisfaction with service provided in the Buffalo City sub-district following the implementation of the down-referral chronic medication system between the tertiary (ELHC) and primary (clinics) levels of healthcare.

1.5.2 Research objectives

The research objectives of the study are:

- To determine whether the down-referral system for stable chronic patients, functions effectively;
- To make recommendations to ensure efficient and effective management of chronically ill patients.

1.6 RESEARCH DESIGN AND METHODOLOGY

This sub-section provides an overview of the research design and methods followed during the study. Greater detail on these aspects will be provided in Chapter 3.

1.6.1 Research design

The study took the form of a non-experimental descriptive quantitative study since it attempts to determine and provide a picture of a particular situation. This type of research describes what exists and may help to uncover new facts and meanings. The purpose of descriptive research is to observe, describe and document aspects of a situation as it naturally occurs (Polit & Hungler, 1999:37). The quantitative researcher believes that the best or only way of measuring the properties of phenomena is through quantitative measurement, in other words, by assigning numbers to the perceived qualities of things (Babbie & Mouton, 2005:49).

1.6.2 Selection of sample

The study population was the stable chronic patients who are registered on the down-referral chronic medication distribution system at the ELHC and who collect their medication at clinics closer to their homes. The sample was selected from this population using the non-probability purposive sampling method.

Patients from the three CHCs were given self-administered questionnaires to complete. This made a sample size of 140 patients, comprising 40 patients from each CHC together with the remaining 20 patients interviewed at the Frere down-referral unit – since there were patients who preferred to collect their medication directly from the unit. Residential areas around Frere Hospital were predominantly for the white population. Previously when Frere was still servicing whites only, this population could access the hospital much more easily. During the democratic era, the public health services were rationalised, and there has never been a clinic or a CHC built to cater for this community. The closest clinic for them has been the Frere Hospital Gateway Clinic which is at the opposite entrance to Frere Hospital. This clinic provides PHC services, ideally to control the influx into Frere Hospital. However, most of the population residing in these areas is also unemployed or low-income earning; therefore, they prefer to collect their chronic medication from the chronic dispensing unit as it is within walking distance, and others would voice some discomfort about having to collect his/her chronic medication from a clinic or CHC that is located in a township which is predominantly black.

Criteria for inclusion in the sample were:

- Males;
- Females;
- Aged 40 years and older;
- On chronic medication for a chronic condition for a period of at least one year;
- Able to read and write English (as this was the language used).

Exclusion criteria for the sample were:

- Younger than 40 years;
- Patients registered on the programme for less than one year;
- Defaulting patients.

The age of 40 years and older was considered because most of the patients registered on the down-referral chronic medication distribution system are 40 years and older. Many of the population who are younger than 40 years of age and who suffer from chronic conditions, access their treatment through the private sector because they have medical aid cover or medical insurance.

The main consideration was the patient population being down-referred from the ELHC. This provided a total sample of 140 respondents.

1.6.3 Measurement instrument

The measurement instrument was a questionnaire. The format of a questionnaire is just as important as the nature and the wording of questions asked. An incorrectly devised questionnaire can lead to respondents missing questions, confusing them about the nature of the data desired and even leading them to throw the questionnaire away (Babbie & Mouton, 2005:239).

The questionnaire uses the Likert response scale. Babbie and Mouton (2005:242) state that this format offers several advantages over other formats. Firstly, it uses space efficiently. Secondly, respondents will probably find it faster to complete a set of questions presented in this fashion. In addition, this format may increase the comparability of responses given to different questions for the

respondents as well as the researcher. Because respondents can quickly review their answers to earlier items in the set, they are able to choose between the available options, such as strongly agree, agree, disagree, strongly disagree and neutral. Every questionnaire, whether it is to be completed by respondents or administered by interviewers, should contain clear instructions and introductory comments where appropriate (Babbie & Mouton, 2005:243)

Once the questionnaire was developed, it was pre-tested to eliminate the possibilities of errors. It was recommended that the pre-test questionnaire be given to colleagues, not seniors or juniors, since colleagues would be more objective in criticising and analysing the statements/questions. These colleagues were not representative of the research population. Pre-testing the questionnaire was critical because the researcher had respondents coming from various areas, with varying levels of education with a lack of or poor understanding. The pre-test identifies those areas of challenge that should be rectified before the main study, such as language barrier, illiteracy, the format and the content of statements/questions themselves.

1.6.4 Data collection

The data was collected in the form of questionnaires over a period of one month, namely August 2013. The questionnaires were administered at the PHC facility and at the hospital. Patients who were part of the research population, were given questionnaires randomly as they arrived at CHCs to collect their down-referred parcels. The respondents with limited understanding of English were assisted by the researcher and other identified gatekeepers when answering the questionnaire.

1.6.5 Data processing and analysis

Results were analysed using the available software, Statistica or MS-Excel. The statistical software was utilised to generate descriptive statistics to help identify deviations and further expose any hidden variables.

The frequency distribution was used in the analysis of data where the data needed to be organised in tables and graphs.

1.7 DEFINITION OF KEY CONCEPTS

This section will define in detail the concepts that appear more often throughout the study.

1.7.1 Down-referral chronic medication distribution system

This is a system whereby chronic medicines are dispensed at the hospital where the patient was seen and stabilised by the doctor. The medicines are then sent to a clinic close to the patient's home for the months that the patient does not have to see the doctor. (Inter-governmental Fiscal Review, 2003:35)

1.7.2 Essential drugs

Essential drugs are drugs that are required to treat the majority of conditions that are prevalent in the country in a cost-effective and efficient manner. The concept does not imply that no other drugs are useful, but that these drugs are most needed for the healthcare of the majority of the population. They should therefore be available at all times, in adequate amounts and in the proper dosage forms. (Essential Medicine List and Standard Treatment Guidelines: 2012).

1.7.3 Essential drug list

The essential drugs list is compiled by the National Essential Drug List Committee (NEDLC) whose members are appointed by the Minister of Health. There is a list for each level of care, namely primary level, secondary level and tertiary level. The list is reviewed every five years by the NEDLC. (Essential Medicine List and Standard Treatment Guidelines: 2012).

1.7.4 PHC system

This is the first level of contact of individuals, the family and community with the national health system, bringing healthcare as close as possible to where the people live and work, and constitutes the first element of continuing healthcare process (WHO 1978:3-4).

1.8 ETHICAL CONSIDERATIONS

The researchers are expected to behave ethically in all areas of their practice. Researchers must show integrity and be guided by the by ethical principles that include respecting the rights of subjects, abiding by the research design and reporting results as they are found. Ethics are therefore a formal code of conduct describing what is considered acceptable or unacceptable behaviour in the society.

- The following ethical considerations have been applied in this study (Babbie & Mouton, 2005:219–223):
- Informed consent: participants will be informed about the study and if they agree to participate, they will be given a consent form to sign. (Annexure E);
- Confidentiality: the researcher will not relate any particular statement made during the data collection process to any unauthorised person;
- Principle of anonymity: participants' names will not be disclosed in any manner on the questionnaire or at any period during data analysis;
- No harm to the participants: During the study, the researcher should never harm the participants regardless of whether they volunteer for the study or not .

Ethical considerations will be discussed in more detail in Chapter 3.

1.9 LIMITATIONS OF THE STUDY

The study had some limitations in that only those patients who are still participating in the down-referral system were interviewed. It was difficult to trace those who had dropped out of the system for various reasons, for example relocation to other provinces or other areas of the Eastern Cape province where they were able to access treatment from other health facilities. Some patients are deceased. There was also a proportion of patients who were stable and who qualified but chose not to participate in the down-referral system. Also some refused to participate in the research thus exercising their free choice.

1.10 PROPOSED STRUCTURE OF THE STUDY

The study is divided according to the following chapters:

Chapter 1 – Overview of the study

Chapter 2 – Literature review

Chapter 3 – Research methodology

Chapter 4 – Results and discussions

Chapter 5 – Conclusion, limitations and recommendations

1.11 CHAPTER SUMMARY

Re-engineering of the PHC system in South Africa is currently one of the critical initiatives driven by the National Department of Health. A functional PHC system would mean improved access to health services by the majority of the citizens. Availability of medication is one aspect of the health services requiring strengthening.

The written report of the study as well as recommendations will be forwarded to the management of the health institutions involved in the study. This could form part of the critical strategies of improving healthcare by taking services to the communities.

The following chapter will provide a detailed discussion of the literature review on topics pertinent to this study.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

According to World Health Organisation in the World Health Report of 2003, the state of adult health at the beginning of the 21st century is characterised by two major trends. These are the slowing of gains and widening health gaps, and the increasing complexity of the burden of disease. The most disturbing sign of deteriorating adult health is that advances in adult survival in Africa have been reversed so drastically that, in parts of sub-Saharan Africa, current adult mortality rates today exceed those of 30 years ago. The greatest impact has been in Botswana, Lesotho, Swaziland and Zimbabwe, where HIV/Aids has reduced the life expectancy of men and women by more than 20 years (World Health Report. 2003: 16).

2.2 BACKGROUND TO THE STUDY

The fragile state of adult health in the face of social, economic and political instability is apparent everywhere. Male mortality in some countries in Eastern Europe has increased substantially (World Health Report. 2003: 16). Globally, most countries are already facing the double burden of communicable and non-communicable diseases. Almost half of the disease burden in high-mortality regions of the world is now attributable to non-communicable diseases. Aging populations and changes in the distributions of risk factors have accelerated these epidemics in most developing countries (World Health Report. 2003: 18). Injuries, both unintentional and intentional are on the increase, primarily among young adults (World Health Report 2003: 19).

Today, the burden of deaths and disability in developing countries caused by non-communicable diseases outweighs that imposed by long-standing communicable diseases. The impact of the combination of these two categories

(the “double response” approach) involves the integration of prevention and control of communicable and non-communicable diseases within a comprehensive healthcare system based on PHC (World Health Report 2003: 19).

The World Health Report of 2003 argues that the key to success is strengthening health systems centred on the strategies and principles of PHC, and constructing responses that support integrated, long-term health systems development on behalf of the entire population. This requires the effective use of existing knowledge, technologies and innovation to create new health tools together with appropriate structures and strategies to apply them. Success will require new forms of cooperation between international health agencies, national health leaders, health workers and communities, and other relevant sectors (World Health Report 2003: Chapter 3).

The World Health Report 2003 proposes an approach to scaling up health systems based on the core principles of PHC which were formulated in the 1978 Declaration of Alma-Ata. These principles are: universal access and coverage on the basis of need; health equity as part of development orientated to social justice; community participation in defining and implementing health agendas and inter-sectorial approaches to health (World Health Report 2003: 107). While these principles remain valid, they must be re-interpreted in the light of dramatic changes in the health field during the past 25 years. The World Health Report 2003 further clarifies the conceptual basis of the development of health systems that are led by PHC. It then explores how health systems based on PHC principles can address the four major contemporary challenges, namely the global health workforce crisis, inadequate health information, lack of financial resources, and the stewardship challenge of implementing pro-equity health policies in a pluralistic environment (The World Health Report 2003: 105).

2.3 HEALTH SYSTEMS IN EUROPEAN COUNTRIES

In response to the emerging challenge posed by chronic diseases, many countries have experimented with new models or approaches to healthcare

delivery designed to achieve better coordination of services across the continuum of care required with chronic illnesses. A recent review of organisational innovations in a range of European countries illustrated the considerable variation in approaches to chronic disease management being implemented in different healthcare settings (Nolte, Knai & McKee, 2008:2). It found that the characteristics of each health system were important determinants of success in introducing new patterns of service delivery. It suggests for example, that tax-based systems seem to find it easier to implement organisational innovations that involve coordination across interfaces, while social insurance systems seem to face major difficulties in implementing coordinated approaches to care because of their tendency to have strict separation between the ambulatory and inpatient care sectors.

There has been an in-depth assessment of the health system response to the rising burden of chronic disease of the following countries: England (United Kingdom), France, Germany, Australia and Canada (Nolte, Knai & McKee, 2008:3).

2.3.1 Health system in the United Kingdom

In the United Kingdom (UK), health services are predominantly provided through a tax-funded national health service (NHS). The planning and delivery system is hierarchical, with the Department of Health and government offices providing a policy focus while 10 Strategic Health Authorities (SHAs) provide leadership at regional level. As in other countries, the growing burden of chronic disease has placed pressure on costs. There has been a shift from secondary care to primary care based on the assumption that health services can be provided more cost-effectively in primary care (Department of Health, 2006a).

PHC teams include general practitioners, nurses and other healthcare workers and provide PHC services at community-based health centres. In January 2005, the UK Government launched an NHS and social care model based on the chronic care model of the United States, to help health and social care organisations improve care for people with long-term conditions (Department of Health, 2005a).

The UK Government established some countrywide targets for improving care for people with long-term conditions. General practitioners are paid for their services and are also rewarded for achieving a package of care elements. The initiatives are monitored centrally with health organisations required to report regularly on the progress.

Like all other countries, the UK faces a challenge of staff shortages. The NHS is increasingly commissioning certain services from the private sector. The Department of Health has in recent years identified workforce development as a critical element of chronic care. In 2002, the NHS “Skills for Health” organisation was established to help create a skilled and flexible healthcare workforce by developing national workforce competency frameworks (for example, case managers and community matrons), as well as mechanisms for increasing skill levels and promoting qualifications and career frameworks (Skills for Health, 2008).

2.3.2 Health system in France

The French health system is mainly funded through health insurance under the supervision of the state. Since 1945, the health coverage has gradually expanded and, with the 2000 Universal Health Coverage Act, all legal residents of France are now covered by the public social health insurance system.

The government determines the health policies, the principles of which are endorsed by Parliament, including the specific Public Health Law adopted in 2004. The delivery of health services is by public and private providers covering both ambulatory and hospital care. Fee-for-service payments remain the general system for remunerating services in ambulatory care (Nolte, Knai & McKee, 2008:55).

One of the key concerns in the French healthcare system has been a perceived lack of coordination and continuity of care, both at the ambulatory level and between the ambulatory and hospital care. Two other steps in addressing the challenge of chronic disease have been the Public Health Law mentioned earlier and the Health Insurance Reform Act, both passed in 2004. The Public Health Law defines five major health plans and 104 public health priorities with individual

target indicators for the period 2005–2009. The targets are organised into 22 categories, of which 11 concern chronic conditions or diseases.

France has two approaches to chronic disease management: the long-term disease procedure and the health network approach. One key feature of the French social health insurance system is the principle of patient co-payments for goods and services. However, exemptions from co-payments exist for those whose health costs could exceed their ability to pay, in the form of a long-term disease procedure which targets those with long-term conditions. The public service provides full cover of all expenses related to the treatment of any of the long-term diseases. Eligibility for exemption from co-payments for patients with these conditions is determined by the general practitioner who presents the patient's details to the health insurance, which in turn decides whether the patient qualifies for full coverage or not.

The key characteristic of this health system is the French national authority for health that plays a role in the development of the guidelines for treatment of chronic diseases and defines eligibility criteria for inclusion in the long-term disease procedure.

This national authority developed the following for each long-term disease:

- Medical criteria for eligibility;
- Evidence-based operational protocols describing the clinical pathway for optimal management;
- A list of corresponding medical and allied services and products.

In France, the job descriptions of healthcare professions are legally defined; therefore, transferring competencies from one group of professionals to another requires changes in the corresponding laws.

2.4 HEALTH SYSTEM IN SOUTH AMERICA (BRAZIL)

In general, South America lacks many of the services needed to meet the evolving disease burden. Brazil will be used to illustrate the circumstances prevailing in many South American countries.

The very success of the Brazilian primary care system in dealing with infectious disease, means that the country now faces an ageing population and a steady increase in non-communicable diseases. Such a set of conditions requires many different kinds of care, and system managers have to think less in terms of the impact of a “health facility” and more in terms of a “healthcare network” as the relevant unit of analysis when considering the cost-effectiveness of different investments. However, the pressure to create such networks and to provide extensive high-tech care for conditions like cancer, will impose new strains on the system and increase the competition for resources between primary care and other levels (Elias & Cohn, 2003: 44-48).

Healthcare in Brazil still encompasses dual subsystems, which present distinct forms of institutionalisation. The complementary medical care system provides coverage to Brazilians who are younger, present lower risks, and who have higher purchasing power. The unified health system provides direct services to those who have lower or no purchasing power, and to those with a higher purchasing power whose healthcare needs require a more complex mix of services. Thus, both the provision of and access to health services operate according to a logic of private practice and market principles, to the detriment of a logic that aims to fulfil the needs of the population (Elias & Cohn, 2003: 44-48).

The government’s percentage of overall health spending, at 41%, remains low compared to other countries that also have a national health service. Second, the limited human resources and infrastructure in the unified health system have made it dependent on the private sector to supply secondary and tertiary care. This will make the need for coordination across levels difficult to achieve in the years ahead. Access to care has, however, improved substantially since the introduction of the unified health system. A 2008 survey found that 93% of people seeking healthcare in Brazil actually received care. The system has achieved almost universal vaccination and prenatal coverage. Average life expectancy has increased from 67 years in 1990 to 73 years as of 2010 (Elias & Cohn, 2003: 44-48).

The federal Minister of Health and the State and Municipal Secretaries of Health are under continuous pressure to deliver appropriate healthcare to everyone.

Seventy-five per cent of the population has the unified health system as their basic source of care (Elias & Cohn, 2003: 44-48).

In practical terms, Brazil still has two health systems: the unified health system and the complementary medical care system. The unified health system operates throughout the country; its 475699 health professionals attend to the health needs of Brazil's 174.6 million people in 5714 hospitals with 439577 hospital beds and in 62865 ambulatory care centres. Although the capacity of the system generates impressive statistics of delivered services, the demand for health services remains dramatically higher than the supply of health facilities and personnel. The complementary medical care system provides health services to a limited segment of the population (Elias & Cohn, 2003: 44-48).

In 1991, the Ministry of Health began to set the rules for the transfer of responsibilities to the states and cities, emphasizing the regionalisation of health services and federal financial support to those states and municipalities with the equipment necessary to carry out medium- and high-technology services. The objective was to rationalise the provision of health services on the basis of a public-private mix (Elias & Cohn, 2003: 44-48).

Under the decentralised unified health system, the Ministry of Health operates at the federal level, while its counterparts at the state and municipal levels are organized into Secretariats of Health. Each of these entities has a health fund, which consolidates resources coming from different sources. The National Health Fund transfers resources to the sub-national funds according to two formulas, (i) direct payment for services provided to the unified health system (ambulatory care and hospitalisation), and (ii) fixed "per capita" transfers for basic health and epidemiological activities among others. Each entity is accredited by the Ministry of Health, on the basis of its capacity and level of competence, as responsible for either overall management of the health system or management of basic health services only (Elias & Cohn, 2003: 44-48).

The decentralisation of the unified health system has resulted in considerable progress in health services delivery in several areas. Firstly, although there are marked disparities between Brazil's cities, the state and municipal administrations

have enjoyed greater flexibility in adapting services to the local reality. Secondly, the decentralisation process has improved the ability of basic healthcare programmes such as the family health programme, to expand access to wider swathes of the population despite universality not yet being achieved (Elias & Cohn, 2003: 44-48).

In spite of such advances, the implementation of the unified health system faces serious obstacles, not only because of the volume of care it needs to provide but also because of its financing system. On one hand, increasing access to care has resulted in ever-higher expenditures. On the other, a renewed public-private segmentation of health services has been created whereby the public sector is responsible for high volume basic health services as well as high-cost services and the private sector covers more profitable services (Elias & Cohn, 2003: 44-48).

Decentralisation of health services makes local health systems more attuned to the health needs of the population. Moreover, decentralisation enables the exercise of public control over health policies.

Finally, the Brazilian case shows that universality and equality of access to healthcare require that a clear distinction be made between the establishment of health as a universal right and the state's role in the provision of health services (Elias & Cohn, 2003: 44-48).

2.5 HEALTH SYSTEMS IN AFRICA

Zimbabwe and Nigeria will be briefly discussed to give a brief overview of the health systems in Africa.

2.5.1 Health system in Zimbabwe

When Zimbabwe gained independence in 1980, 44% of public funds for health services went to urban central hospitals serving 15% of the population, while only 24% of funds were dedicated to rural areas where 77% of the population lived. The promise of "health services for all" mobilised political support for post-colonial governments (Walt, 1990). Less developed countries such as Zimbabwe instituted PHC systems and developed a pyramidal referral model to support the

primary care level. Clinics and district hospitals were intended to provide local services for uncomplicated cases, while patients with more serious conditions were referred to regional/provincial and central hospitals.

Peripheral facilities are often seen as providing an inadequate standard of service, while central hospitals are frequently overloaded and inefficient (WHO 1992). More seriously, significant segments of the population, especially in rural areas and peri-urban informal settlements, still remain at the periphery of the health services umbrella. In Zimbabwe's hospital referral plan, district (secondary level) hospitals were to provide general in-patient services, accepting referrals from urban and rural health centres and clinics (primary level). Provincial (tertiary level) hospitals were to receive patients referred from district (secondary level) hospitals and provide general specialist services. Quaternary level hospitals in the major urban centres were to serve as national referral facilities and provide specialist and sub-specialist services. Pragmatic direct primary level referrals of less seriously ill patients were to be phased out. Anecdotal evidence, however, has suggested inequity and inefficiency in the pyramidal healthcare model (Sanders, Kravitz, Lewin & McKee.1998, 13(4): 359-370).

2.5.2 Health system in Nigeria

The national health system provides for three tiers of healthcare: primary, secondary and tertiary. The three should enjoy patronage from clients and a good referral system is the main link between them. In Nigeria, many secondary and tertiary health facilities are crowded with people with simple ailments that could be managed at primary health centres, while health workers in many of latter facilities are idle (Akande, 2004:130-133).

The primary health centres are supposed to be the point of first contact of patients who are then referred from there to other levels of healthcare. Referral is a process by which a health worker transfers the responsibility of care temporarily or permanently to another health professional or social worker or to the community. Some patients present directly to the hospital through emergencies and self-referrals, while physicians, nurses or other healthcare workers refer other patients. The hospitals are usually overwhelmed with patients, which makes

adequate attention difficult to achieve. The tertiary health facilities provide extensive primary and first referral care to clients mainly in urban settlements (Akande, 2004:130-133).

Since this study is primarily concerned with healthcare in South Africa, this is dealt with in a separate, more detailed manner in the next section.

2.6 HEALTH SYSTEM IN SOUTH AFRICA

South Africa also took the PHC direction in reforming and reconstructing the national health system in which the emphasis is on PHC as the driving force towards ensuring quality healthcare to all the citizens. As with Brazil, the implementation of the PHC approach has not been a smooth operation. Challenges have surfaced and there is literature indicating the investigations done to highlight these challenges.

The South African health system has various levels of care, namely PHC, secondary healthcare, tertiary healthcare, quaternary healthcare and specialised healthcare services.

2.6.1 Primary health care services

Primary health care (PHC) is the dynamic product of the community it serves, as it evolves from economic, socio-cultural and political characteristics of that community and the needs identified by that community. Dennill, King, Lock & Swanepoel (1995:3) further state that the development of the health sector alone will not have a significant effect on the health of the people.

Primary health care evolves from economic conditions, socio-cultural and political characteristics of the country and its communities and is based on the application of relevant social, biomedical and health services research and public health experience (WHO 1978: 3-4).

Primary health care services are made up of clinics and CHCs that are close to patients' homes. District hospitals also form part of the PHC system. Clinics are run by professional nurses, a doctor who visits on certain days, and clinical support staff who visit the clinics on an outreach basis.

2.6.2 District hospital services

The district hospital plays a pivotal role in supporting PHC on the one hand, and being a gateway to more specialised care on the other. The package of services provided at district hospitals includes trauma and emergency care, in-patient care, out-patient visits and paediatric and obstetric care (Government Gazette 35101, 12 August 2011).

2.6.3 Regional hospital services

Hospitals at this level render services at a general specialist level, receive referrals from district hospitals and provide general specialist services to a number of district hospitals. They also serve as a platform for training health workers and for research. Most of the care provided will require the expertise of teams led by experienced specialists in the following disciplines: general surgery, orthopaedics, general medicine, paediatrics, obstetrics and gynaecology, family medicine, radiology and anaesthetics. The services provided at a regional hospital level also include the services that are offered at a district hospital level.

2.6.4 Tertiary hospital services

These hospitals render specialist and sub-specialist care to a number of regional hospitals. These hospitals serve as a platform for training health workers and for research. Most care provided will require the expertise of teams led by specialists. The areas of speciality include cardiology, cardiothoracic surgery, craniofacial surgery, diagnostic radiology, ear, nose and throat, endocrinology, geriatrics, haematology, human genetics and infectious diseases. This level of hospital also provides the services listed under the regional hospital services.

2.6.5 Central hospital services

These hospitals render a highly specialised tertiary and quaternary service on a national basis and are a platform for training health workers and for research. They also function as highly specialised referral units for the other hospitals and provide a high cost but low volume service. These hospitals make use of sophisticated technology and employ highly trained staff.

2.6.6 Specialised hospital services

2.6.6.1 Psychiatric hospitals

These facilities render specialist psychiatric hospital services to people with mental illness and intellectual disability and provide a platform for training health workers and for research.

2.6.6.2 Tuberculosis (TB) hospitals

These hospitals provide for the hospitalisation of acutely ill and complex TB patients (including XDR and MDR-TB).

2.6.6.3 Rehabilitation centres

These hospitals are responsible for rendering specialised rehabilitation services to persons with physical disabilities, including the provision of orthotic and prosthetic services.

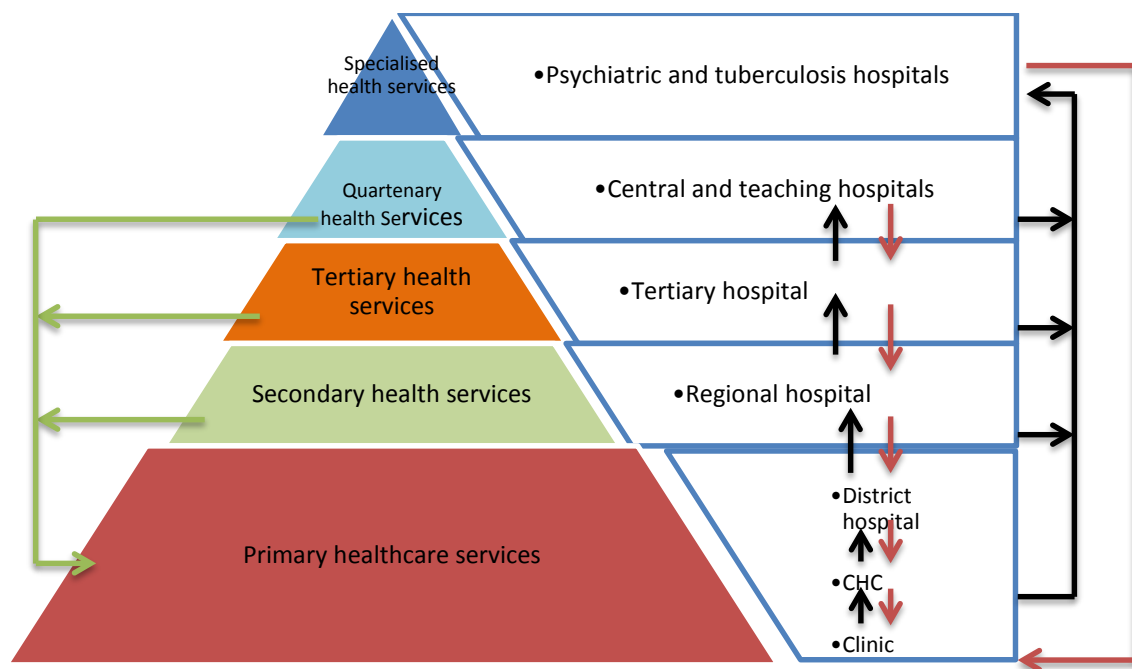





Figure 2.1: Different levels of care in the South African health system

Source: researcher's own illustration

-  Patients referred to a higher level health facility.
-  Patients managed and stabilised at a higher level are referred back to the original referring health facility.
-  Patients stabilised at higher level of care are down-referred to collect their medication at a clinic closer to their home.

Primary health care is a public health strategy derived from the social model of health and is based on the philosophy that health gains are better obtained when people's needs are first met (Keleher, 2001(7): 57-61). The district health system is sanctioned as the vehicle for the implementation of the PHC at community level. (Barron & Monticelli, 2003:6). However, the process of implementing and integrating the health system at district level has been slow and inconsistent, with some areas reflecting well-functioning health units while other areas have fragmented and poorly coordinated PHC delivery systems. Inequalities in the coverage and quality of health services, and inherent inequities in resource allocation coupled with the historical burden of disease, indicates that provinces and districts are not at the same level of healthcare delivery (Dookie & Singh, 2012(13):67). This results in patients presenting at all levels of healthcare delivery, overloading regional and the tertiary hospitals with cases that could have been managed at the PHC level. Quaternary services are for national referrals at central hospitals. They offer an extension to the tertiary services, managing rare and unusual clinical cases. Their geographical location in the country makes it difficult for patients to present themselves there as self-referrals, thus bypassing other levels of care.

In South Africa, healthcare is financed through a combination of mechanisms. In 2005 for instance, allocations from general tax accounted for about 40%, private medical schemes about 45%, and out-of-pocket payments about 14% of total healthcare financing (Ataguba & Akazili, 2010:74)

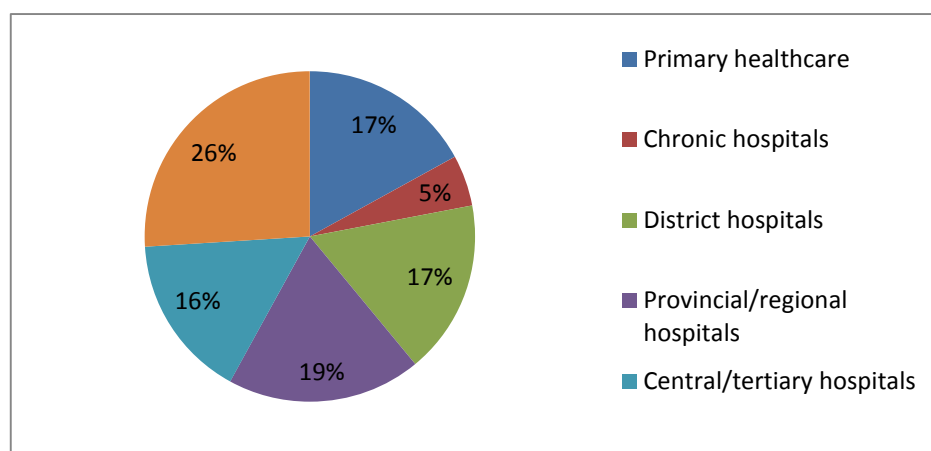


Figure 2.2 Distribution of total government healthcare expenditure, 2005

Source: National Treasury

Figure 2.2 above shows the distribution of total government healthcare expenditure, including other spending such as administration, facility maintenance, health professional training, ambulance and other patient transport.

In 2007 in Polokwane, the African National Congress committed itself, as the South African ruling party, to the establishment of a National Health Insurance system, largely due to concerns about the challenges of the South African health system (within both the public and private sectors). It reflects growing concerns for the poor who sometimes cannot utilise health services because of high costs (not only of health services but also of transport to access these services), employees complaining about the escalating contributions to medical schemes, and failed attempts in the past to establish such similar schemes (Ataguba & Akazili, 2010:74).

2.7 THE REFERRAL SYSTEM

A referral can be defined as a process in which a health worker at a particular level of the health system, has insufficient resources (drugs, equipment, skills) to manage a clinical condition, and seeks the assistance of a better or differently resourced facility at the same or higher level to assist with or take over the management of the client's case (www.who.int/management/referralnotes.doc).

Key reasons for deciding to refer either an emergency or routine case include:

- To seek expert opinion regarding the client;
- To seek additional or different services for the client;
- To seek admission and management of the client;
- To seek use of diagnostic and therapeutic tools.

www.who.int/management/referralnotes.doc

Further important principles underlying a well-functioning referral system are that it is, or should be, a two-way process and that “the retention of patients in a referral institution (that is the institution at a higher level of care) should be as brief as possible”. As soon as the patient's recovery can be maintained by less

sophisticated means, the patient must be returned to the community – that is, to the referring institution – the institution at a lower level (WHO, 1978:66).

In most cases, when a health worker at a lower level care facility has made a decision to refer a patient to a higher level care facility, the health worker should refer to the protocol that stipulates to which facility his/her facility must refer. This protocol of where each facility must refer, is informed by the geographical location of the facilities concerned. Within the PHC services, patients can be referred from a lower level to a higher level facility. Once stabilised at a higher level facility, the patient is referred back to the lower level facility for further management, still within the PHC.

Throughout the different levels of health services, patients requiring specialised care are identified and referred to facilities for specialised services, for example multi-drug resistant TB or psychiatric facilities

The specialised health services facility initiates the treatment. For example, a TB-infected patient is given the supply of his/her medicines and takes this to the clinic closest to his/her home. The patient then goes to the clinic every day to be given his/her daily dose, a process known as DOTS (directly observed treatment strategy). If the patient is stabilised at secondary, tertiary or quaternary levels of care, that facility has the responsibility of ensuring that the treatment for the patient is made available at all times.

To ensure the continuous supply of medication to the patients, the higher level facility packs and delivers the medicine to the clinic closest to the patients' homes. This intervention is called down-referral chronic medication distribution system, which will be discussed in detail in the next section.

2.8 THE DOWN-REFERRAL SYSTEM

The down-referral system is one of the critical sub-systems of the referral system. It is a system that is used as a vehicle to distribute chronic medication to stable chronic patients who were referred from a lower-level care facility to a higher-level care facility.

The National Drug Policy is the framework within which the down-referral system is implemented. Access to affordable essential medicines is a vital component of an efficient healthcare system. Every level of care has Standard Treatment Guidelines (STG)/Essential Medicine Lists (EML) that are compiled by a committee appointed by the Minister of Health. This means that the PHC will have its own STG/EML indicating the medicines used at that level and the competency level for prescribing such medicines. (South African National Drug Policy: 1996)

Once the PHC worker decides to refer the patient to a higher level health facility (either a district, regional or tertiary hospital), the hospital level STG/EML will be used to treat the referred patient. The level of competency to prescribe such medicines will be different. Medicines used at this level will be much more costly than those used at the PHC; therefore the budget allocation will be appropriate for this level.

Therefore, if the patient who was referred from the PHC to a regional/tertiary hospital is managed and stabilised on medicines that are available at the PHC level and are included in the PHC STG/EML, that patient will be referred back to the original health facility with a document indicating the diagnosis and the treatment that the patient is on.

If the referred patient presents as a complicated case that requires specialist treatment, the receiving facility will take over the management of such a patient. Once the patient is diagnosed as chronic and stabilised on treatment that is only available at the receiving health facility, that health facility is obliged to ensure that the patient gets his/her medication timeously. When the doctor is comfortable that the patient is stable, he/she will prescribe a six- month supply of medication for that particular patient. This means that the patient will come to the hospital

every month to collect medication. During this period, the patient does not have to see the doctor until the prescription period of six months expires. This intervention aims to make healthcare accessible to all citizens by taking services closer to the people.

PATIENT REFERRAL FLOW

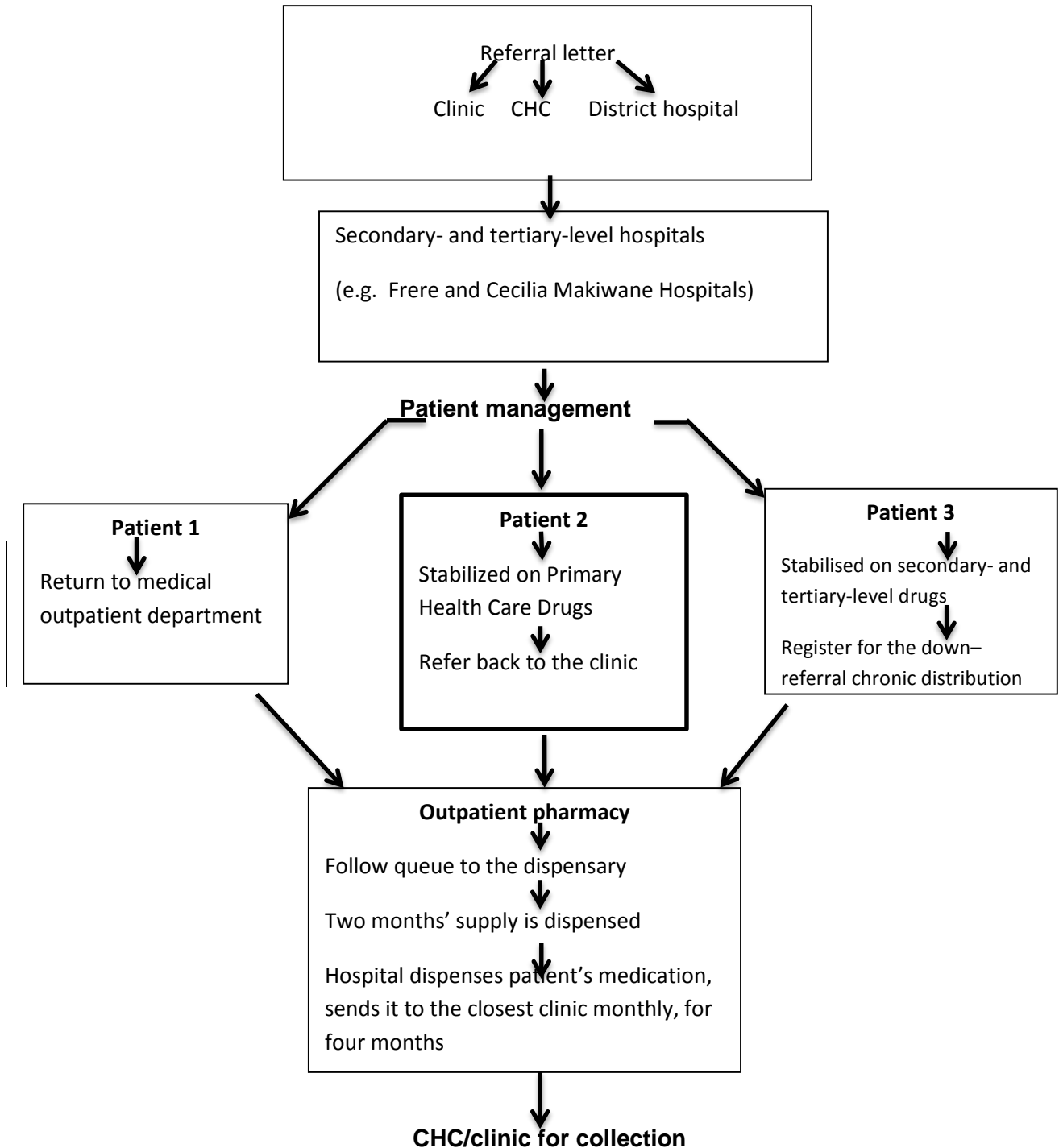


Figure 2.3: Patient management flow chart

Source: researcher's own illustration

The doctor treating the patient will complete the down-referral registration form (Annexure A) with the following information:

- Patient's details (name, residential address and contact telephone numbers);
- Name of the clinic (the patient chooses the clinic closest to his/her home where he/she will collect the medication);
- The diagnosis of the patient;
- The medication that the patient is on and the number of times the prescription can be repeated;
- The name and qualifications of the prescribing doctor;
- The date of the patient's next visit.

Once the patient is registered on the down-referral system, the down-referral unit will for at least six months, on a monthly basis, pack the patient's medication and deliver the parcel to the clinic chosen by the patient as his/her point of collection. Therefore, for those six months the patient will not come to the hospital to collect the medicines as they are sent to her/him.

The packed medication parcels are grouped per clinic. Upon delivery at the clinic, the person in charge of the clinic signs the accompanying list indicating how many parcels were delivered. The clinic is also given a list for that particular clinic with the names and telephone or cell phone numbers of all patients who will collect the medication. This list provides a space for the person issuing and the patient receiving, to sign that the medication has been received and the date on which this occurred. This process has advantages for both the hospital and the patient. The patient influx into the outpatient dispensary will decrease and the patient does not have to spend money on transport and food for the whole day. It sometimes happens that while the patient is already at the hospital, he/she cannot get the medicines due to long queues, therefore the patient must come back the next day to continue sitting in the queue. This is where the down-referral chronic medication distribution system plays a critical role.

A major study was undertaken by the Health Systems Trust, examining the quality of care in clinics and hospitals (Edwards-Miller, 1998). This study investigated all nine provinces in South Africa in terms of:

- Infrastructure and equipment;
- Human resources;
- Pharmaceutical services;
- Health information and management systems;
- Hospital/clinical services provided.

Problems were highlighted in the aspect of pharmaceutical services, human resources and clinical services provided. Frequent shortages of drugs and a lack of capacity to properly manage the procurement system of drugs poses a threat to health service delivery. The crafted referral system from PHC to tertiary hospital services and from tertiary hospital services to PHC was introduced to improve the drug supply management for chronic patients.

The East London Hospital Complex (ELHC) decided on the strategy of holistic management of the patient by supplying all drugs, not just secondary and tertiary level drugs, prescribed for the chronic patients and delivering them to the clinics closer to their homes. If the patient is stabilised on PHC level drugs as well as secondary and tertiary and the hospital only supplies secondary and tertiary drugs it becomes a problem if the PHC drug is not available at the clinic. It would mean that the patient's treatment is not complete. It is unlikely that the patient will keep going back to the clinic to check if the outstanding medicine is back in stock.

2.9 CHAPTER SUMMARY

It is evident in the countries discussed in this chapter that provision of health services in any country is complex. Most countries no longer rely on a single system to fund healthcare services. Most are still exploring a public–private mix approach to funding. Like all other countries, South Africa is continuously reviewing systems and policies to address the complex challenges facing the health system. Hence, the introduction of the National Health Insurance in South Africa and the PHC re-engineering seem to be logical approaches in addressing

the current health service burden, characterised by continuous drug shortages, poor infrastructure, chronic shortages of critical staff and poor leadership and governance. The National Health Insurance will be fully state-funded while also using the public–private approach in the delivering of the services. It is still at the pilot stage and specific challenges need to be addressed to improve public health service delivery.

The next chapter will focus on the quantitative research methodology.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The previous chapter dealt with the literature review. The aim of this chapter is to describe in detail the process followed to conduct the research. The chapter will focus on predetermined aspects of the research design, the research population and sample, research site, the data collection process including the measuring instrument, data collection, analysis and interpretation.

3.2 RESEARCH DESIGN

A research design is a plan or blueprint of how one intends conducting the research (Babbie & Mouton, 2005:74). Neuwman ,(2000:121-155) distinguishes between the quantitative and qualitative research designs. The quantitative category includes experiments, surveys and content analysis.

The aim of this research is to assess the level of patient satisfaction with services provided in the Buffalo City sub-district following the implementation of the down-referral chronic medication distribution system between the tertiary (ELHC) and primary levels (clinics) of healthcare. Before deciding on the research strategy to undertake, the researcher must have a clearly defined aim of what the research is intended to achieve. Also the design to be utilised depends on the nature of the client, the nature of the problem and the time available (Grinnell & Williams, 1990: 234).

Based on the above, a cross-sectional case study design was utilised. This is the type of research design where the subject of research is studied once only, subsequent to the intervention (de Vos, 2005:132-135).

Kerlinger (1998: 294-295), further clarifies this research design by observing that it is non-experimental. Therefore the non-experimental descriptive (survey) design is quantitative in nature. These designs require questionnaires as a collection data method. Different authors, Mark, (1996: 403); Barker (1997: 348);

Salkind (2000: 233), agree that a single system design, like the non-experimental descriptive design, is the ideal way to evaluate the effectiveness of the intervention. Ginsberg (2001: 116) mentions that these measurements should be statistically validated.

Based on the fact that the aim of the study was to assess the level of patient satisfaction with services provided in the Buffalo City sub-district following the implementation of the down-referral chronic medication system between the tertiary and primary levels of healthcare, the non-experimental quantitative descriptive research design was utilised. This research design was chosen to assist in evaluating whether the intervention had been effective in improving the accessibility and availability of medication to stable chronically ill patients.

The difference between descriptive and experimental designs is that with descriptive design, the subjects are measured once, whereas with the experimental design, subjects are measured before and after treatment. There is also *ex post facto* research design. This one identifies the effect that has already occurred and attempts to infer the cause.

3.3 RESEARCH POPULATION AND SAMPLING

This section discusses the research population and different sampling methods to be able to choose the correct one for the purpose of this study.

3.3.1 Research population

Polit & Hungler (1999:37) refer to the population as an aggregate or totality of all the objects, subjects or members that conform to a set of specifications. Bless & Higson-Smith (2000:85), also define population as the set of elements that the research focuses upon and to which the obtained results will be generalised.

The research population will be all the stable chronic patients that are registered on the down-referral chronic medication distribution system at the ELHC and who collect their medication at the PHC facilities closer to their homes. These patients consult the doctor every six months. In between the six-monthly checks, the hospital pre-packs their chronic medication and delivers it for collection at the

PHC facilities within the Buffalo City sub-district. The PHC facilities include the clinics and CHCs.

3.3.2 Research sample

According to Arkava & Lane (1983:27), a sample comprises elements of the population considered for actual inclusion in the study. Alternatively, it can be viewed as the subset of measurements drawn from the population in which the researcher is interested. There are probability and non-probability sampling methods to choose from. In this section, however, only the non-probability sampling methods are briefly discussed.

Dimensional sampling is viewed by Bailey (1994:95) as a multidimensional form of quota sampling. The idea is to identify all variables in the population that are of interest to the investigation and see to it that each dimension is represented by at least one case. Snowball sampling, on the other hand, involves approaching a single person who is involved in the phenomena to be investigated in order to gain information on the other similar cases. In turn, this person is requested to identify further people who could make up a sample (de Vos. 2005:202).

For this research, the sample was selected from the research population using the non-probability purposive convenience sampling method based on the researcher's knowledge of the population, its elements and the nature of the research aim. In some instances a researcher may wish to study the subset of a larger population in which members of the subset are easily identifiable (Babbie & Mouton, 2005:166). In this instance, the researcher chose non-probability purposive convenience sampling because she did not know who would be coming to the facility on any particular day. Respondents could therefore be given the questionnaire one after the other as they arrived.

The study aim was to analyse the impact of the down-referral chronic medication distribution system from the ELHC to the PHC facilities within the Buffalo City sub-district. The PHC facilities include clinics and CHCs which are widely scattered and it would have taken the researcher longer and required more resources to access all 125 clinics and five CHCs within the Buffalo City sub-district. It therefore made sense for the researcher to target the three CHCs that

are in close proximity to the hospital complex and to each other, in order to conduct the study.

This type of sampling made data collection easier for the researcher. The potential respondents were easily identifiable as they were patients who went directly to the pharmacy to collect the medication that had been sent from the hospital's down-referral unit. These patients arrived at the pharmacy without their medical records folder and prescription chart as these are kept at the hospital. They only had yellow cards to identify them when collecting their medications.

Criteria for inclusion in the sample were:

- Males;
- Females;
- Aged 40 years and older;
- On chronic medication for a chronic condition for a period of at least one year;
- Able to read and write English (as this was the language used).

Exclusion criteria for the sample were:

- Younger than 40 years;
- Patients registered on the programme for less than one year;
- Defaulting patients

Both males and females have taken medication for some chronic disease to varying degrees some time in their lives; chronic diseases are not gender specific. The age of 40 years and older has been included because it is an average age when one is likely to be diagnosed with a chronic disease. Secondly, the majority of the population younger than 40 years have medical insurance and do not use public health facilities to access treatment. The ability to read and write English was included because the research questionnaire was written in English. The main considerations were the patient population being down-referred from the ELHC.

3.4 RESEARCH SITE

The research sites included the three major CHCs in close proximity to the ELHC (Frere and Cecilia Makiwane Hospitals) which offer secondary and tertiary services to the Buffalo City sub-district.

The proximity of three major CHCs, namely Duncan Village Day Hospital (DVDH), Empilweni-Gompo and Notyatyambo (NU 2) made it easier to collect data within a limited period. Buffalo City sub-district has more than 125 CHCs and clinics that provide PHC to the community and it would have been a limiting factor to try to collect data at other facilities in terms of time as well as the travelling costs to those facilities.

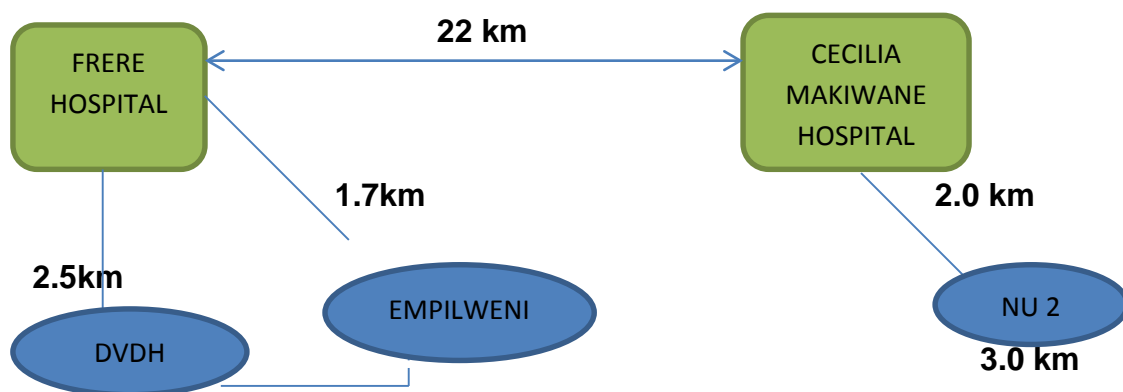


Figure 3.1 Research site

Source: researcher's own illustration

3.5 DATA COLLECTION

Data collection forms part of the plan of how the research will be carried out. This section will therefore focus on the elements of data collection.

3.5.1 Data collection instrument

The instrument of data collection was a self-administered questionnaire. It was divided into two subsections of which section A was biographical information and section B consisted of the actual questions/statements that the participants had to respond to. The study questionnaire is attached as Annexure D. The format of the questionnaire used the Likert response scale. This format offers several advantages over other formats. First, it uses space efficiently. Second, the respondents find it faster to complete a set of questions presented in this fashion. (Babbie & Mouton, 2005:242). In addition, respondents and researcher may find this format increases the comparability of responses given to different questions because respondents can quickly view their answers to earlier items in the set. They chose between strongly agree, agree, strongly disagree, disagree and neutral.

Age: Mark the appropriate box with an X	
Age range	Mark
40-49	
50-59	
60-69	
70+	
Gender: Mark the appropriate box with an X	
Gender	Mark
Male	
Female	
Educational qualification: Mark the appropriate box with an X	
Qualification	Mark
Pre-matriculation	
Matriculation	
Post-matriculation	
Home language: Mark the appropriate box with an X	
Home Language	Mark
Xhosa	
English	
Afrikaans	
Other	

Figure 3.1 Section A - Biographical information

Section B: Perceptions about the quality of down-referral chronic medication distribution system from ELHC to Buffalo City sub-district.

SECTION B – PERCEPTIONS ABOUT THE QUALITY OF DOWN-REFERRAL CHRONIC MEDICATION DISTRIBUTION SYSTEM FROM EAST LONDON HOSPITAL COMPLEX TO BUFFALO CITY SUB-DISTRICT.						
Please indicate to what extent you agree with each of the statements below by circling the appropriate number: 1- Strongly Disagree (SD), 2- Disagree (D), 3- Neutral (N), 4- Agree (A) and 5- Strongly Agree (SA)						
	SD	D	N	A	SA	
1. The pharmacist informed me why I have to collect my medication at the clinic for the next six months .	1	2	3	4	5	
2. I was asked about the area that I come from and given a list of clinics to choose the one I would like to collect my medication from.	1	2	3	4	5	
3. My contact telephone or cell phone number or that of a relative or neighbour who can easily give me a message was requested.	1	2	3	4	5	
4. The staff at the clinic where I am collecting, knew that I was going to be collecting my medication from them when I first arrived.	1	2	3	4	5	
5. The staff at the clinic requested some form of identification to confirm my details, or the details of the person who went to collect for me.	1	2	3	4	5	
6. The staff at the clinic checked my blood pressure and glucose levels.	1	2	3	4	5	
7. My down-referral parcel was readily available for collection every month.	1	2	3	4	5	
8. All the medicines written on the original prescription at the hospital are always in the parcel I collect from the clinic.	1	2	3	4	5	
9. The pharmacist at the hospital contacts me to let me know that my down-referred medication will be late for collection.	1	2	3	4	5	
10. The pharmacist from the hospital contacts me if some of the medication that has been prescribed is out of stock and will not be in the parcel.	1	2	3	4	5	
11. The pharmacist from the hospital contacts me to inform me how and when the medication that is out of stock is going to be delivered to me.	1	2	3	4	5	
12. The pharmacist from the hospital communicates with me if one of my regular medicines is out of stock and has been replaced by a generic medicine.	1	2	3	4	5	
13. The time spent at the clinic to collect my medicines is less than the time I used to spend at the hospital.	1	2	3	4	5	
14. The travel costs of getting my medication every month are now less.	1	2	3	4	5	
15. The staff at the clinic gives health information to improve my lifestyle to manage my chronic condition better.	1	2	3	4	5	
16. When my medication is finished, I stay a few days without taking it.	1	2	3	4	5	
17. I wait for current medication supply to be finished before I go fetch the next parcel.	1	2	3	4	5	
18. I was not admitted to hospital for my chronic condition in the past two years	1	2	3	4	5	
19. Sometimes I give my neighbour my medication when she/he ran out of hers/his.	1	2	3	4	5	
20. On some days I do not feel like taking my medication even if it is available.	1	2	3	4	5	

Figure 3.3 Section B: Research statements

3.5.2 The process of data collection

The period of data collection was one month. The questionnaires were delivered to the study sites of Frere Hospital down-referral unit, Empilweni Gompo CHC, Duncan Village Day Hospital, Notyatyambo CHC and Cecilia Makiwane Hospital by the researcher. The researcher announced her arrival to the pharmacy manager at the health facility and briefly discussed the purpose of the questionnaire. All pharmacists, including pharmacy managers, play a critical role in the down-referral chronic medication distribution system.

The researcher then interacted with the patients as they arrived to collect their pre-packed medication parcels. After introducing herself to the patient, the researcher explained the questionnaire and its purpose. The researcher then asked the patient if he/she was interested in taking part in the study by completing the questionnaire. The respondents were assured that their names will not appear on the questionnaire or any other document related to the study. The respondents were then given an informed consent form (Annexure H) to sign.

All the questionnaires were identified by a number (ranging from 1 for the first questionnaire to 140, which was the last questionnaire). Those respondents whose home language was not English, requested assistance in the form of translation of the statements, but they completed the questionnaire themselves by ticking in the box of their choice. In cases where there would be more than two people waiting for the researcher to assist with the translation, the researcher requested a staff member at the facility to assist.

At the end of the day the researcher took all the questionnaires (both completed and incomplete) to bring them back to continue the following day or to move to another facility.

3.5.3 Data collation, analysis and interpretation

All the data from the questionnaires was captured onto an Excel spread sheet. It is important to code questions/statements in order to make the analysis of the results easier. Descriptive statistics was utilised to analyse the initial data. The internal reliability was assessed by using Chronbach's alpha coefficient. The

analysis was done with the assistance of NMMU's Unit for Statistical Consultation.

3.6 ETHICAL CONSIDERATIONS

Ethics is a set of moral principles that are suggested by an individual or a group and are widely accepted. They offer rules and expectations about the most correct conduct towards experimental subjects and respondents (de Vos, 2005:57). The basic ethical principles of avoidance of harm and informed consent were followed. Respondents were not forced to participate; they did so voluntarily.

1. Autonomy/self-determination:

- Respect for the person, human dignity.
- Freedom to choose a course of action.
- It is the right of the individual, as participant, to make his/her own decisions.
- It is the responsibility of the researcher to ensure that the participants have a free choice to participate or not.
- Anonymity refers to the situation where even the researcher does not know who provided the information.
- The researcher keeps the information confidentially.

2. Non-maleficence:

- Absence of harm to the research participant.
- Intention to do no wrong to the participant.
- The researcher is helpful rather than focusing on own goals.
- The activity involved in the study are executed with skill.

The respondents were assured of the principles of no violation to privacy, of anonymity and of confidentiality. The respondents' identities were not captured anywhere on the questionnaire. The questionnaires were identified by a numerical value unrelated to the identity of the respondents.

The principles of the Declaration of Helsinki (2000) were adhered to throughout the research. The Declaration contains all the basic ethical elements specifically designed to address the unique vulnerabilities of human subjects solicited to

participate in clinical research projects. The unique principles developed in the Helsinki Declaration include:

- The necessity of using an independent investigator to review potential research projects;
- Employing a medically qualified person to supervise the research and assume responsibility for the health and welfare of human subjects;
- The importance of preserving the accuracy of research results;
- Suggestions regarding how to obtain informed consent from research participants;
- Rules concerning research with children and mentally incompetent persons;
- Evaluating and using experimental treatment on patients;
- The importance of determining which medical situations and conditions are appropriate and safe for research.

The research proposal was submitted for approval to the University's Faculty of Research, Technology and Innovation committee. Approval to conduct research was granted by the University's Research Ethics Committee – Human (Annexure F), East London Hospital Complex Research and Ethics committee (Annexure G) and the Eastern Cape Department of Health Research and Ethics committee (Annexure H).

3.8 CHAPTER SUMMARY

This chapter has provided in detail the methodology of all the processes for conducting this research, with the main focus on selecting the correct research design, the research population and sampling, research site, data collection tool, and data collation.

Data analysis and interpretation will be presented in detail in the next chapter.

CHAPTER 4

RESULTS AND DISCUSSIONS

4.1 INTRODUCTION

This chapter details the results of the research analysis and interpretation in accordance with the aim and objectives of the study. The data collection tool was a self-administered questionnaire that was divided into two sections, Section A requested respondents to give biographical information and Section B contained the statements that respondents had to rate using a response scale of 1 to 5.

4.2 ANALYSIS OF SECTION A – BIOGRAPHICAL INFORMATION

This section presents the results of the biographical information of the respondents. Thereafter, the results were analysed and interpreted in terms of gender, age, educational qualification and home languages.

4.2.1 Gender

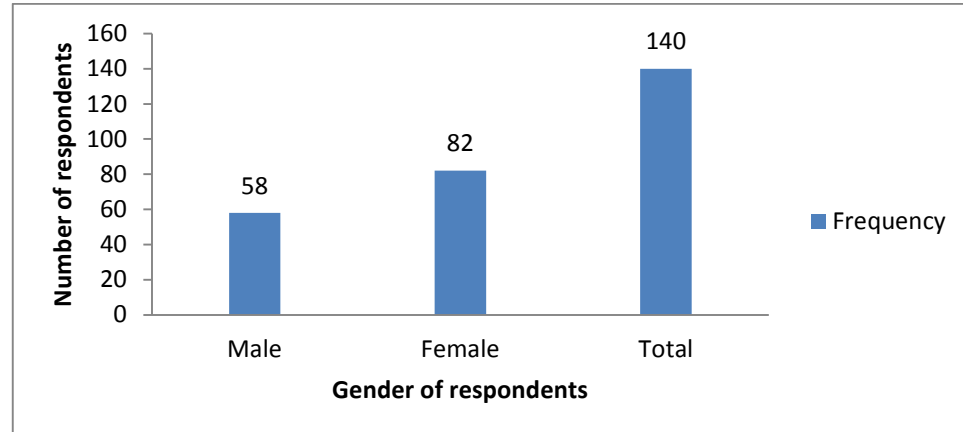


Figure 4.1 Gender of respondents

The above figure (4.1) shows that more women than men were represented in the research sample (58.6%: $n=82$, $N=140$). Most chronic conditions are not necessarily related to gender. The result of 82 females from the sample coming to collect their treatment for chronic medication could be an indicator that women in general take a pro-active approach towards their health. Women often consult with a health professional when they begin to feel unwell and the diagnosis can

be made earlier, whereas men usually consult with the health professional when they are actually sick.

The other factor contributing to the results above could be that most men are still productively employed as they are breadwinners. There are some households where both male and female suffer from chronic conditions; therefore the woman would collect medication for her working spouse while collecting her own.

4.2.2 Age

Table 4.1 Age distribution of respondents

Age distribution of respondents (n = 140)		
Age	Frequency	Percentage
40 – 49 years	22	15.7%
50 – 59 years	42	30.0%
60 – 69 years	46	32.9%
70+ years	30	21.4%

The age of the respondents was recorded using the range from 40 years to 70 years and above. Table 4.1 indicates that the majority of respondents were between the ages of 60 and 69 years (32.9%: n=46, N=140). Respondents in this age range are mostly pensioners who suffer from one or two chronic conditions for various reasons. Sometimes they have inherited the disease or they have had exposure through lifestyle. Individuals in this age range survive on state grants and therefore collect their health services from public health facilities. Traditionally, chronic conditions are associated with old age. The demands of lifestyle in recent years are increasing due to work pressure and other responsibilities. Younger people in general do not eat healthily and exercise less. This exposes them to chronic conditions earlier in life. The result for 15.7% respondents in the 40 to 49 year age group could be attributed to the fact that most people in this age group are employed and can afford to have medical insurance. They therefore prefer to access healthcare using the private sector instead of public health facilities.

4.2.3 Educational qualifications

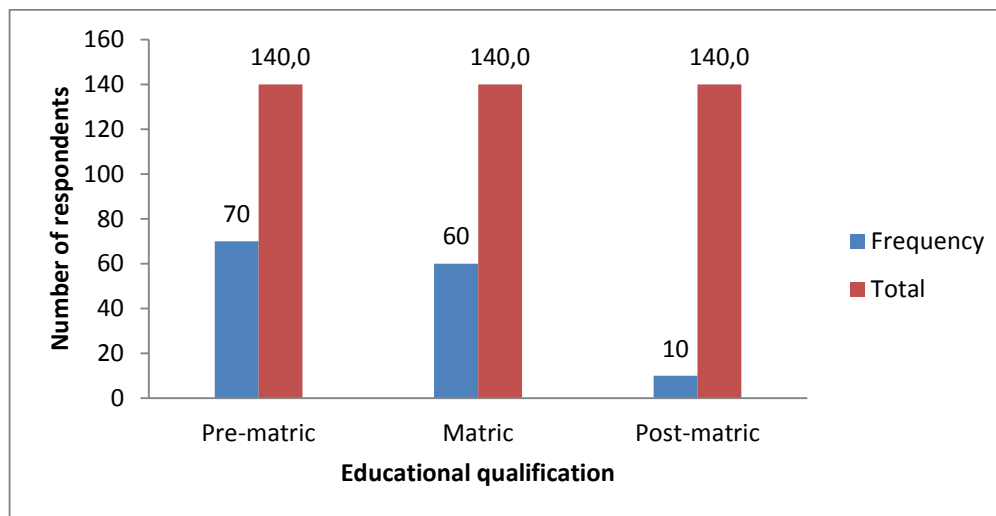


Figure 4.2 Educational qualifications of respondents

The least represented category in the research sample was the respondents with post-matriculation qualifications (7.1%: $n=10$, $N=140$) while the majority of respondents had a pre-matriculation educational level (50%: $n=70$, $N=140$). One of the contributing factors to this situation could be that these respondents have been labourers for most of their working life. They would therefore be low-income earners or dependent on state grants. They are dependent on the public sector for health services. The small percentage who have post-matriculation qualifications could access public sector health for various reasons. One such reason could be that their income is not enough for them to have health insurance or medical aid. It could also be that they have retired and can no longer afford medical aid.

The 60 respondents with matriculation certificates could be using public sector health services because they had been unemployed for most of their lives. They could also be low-income earners even if they are still employed.

4.2.4 Home language

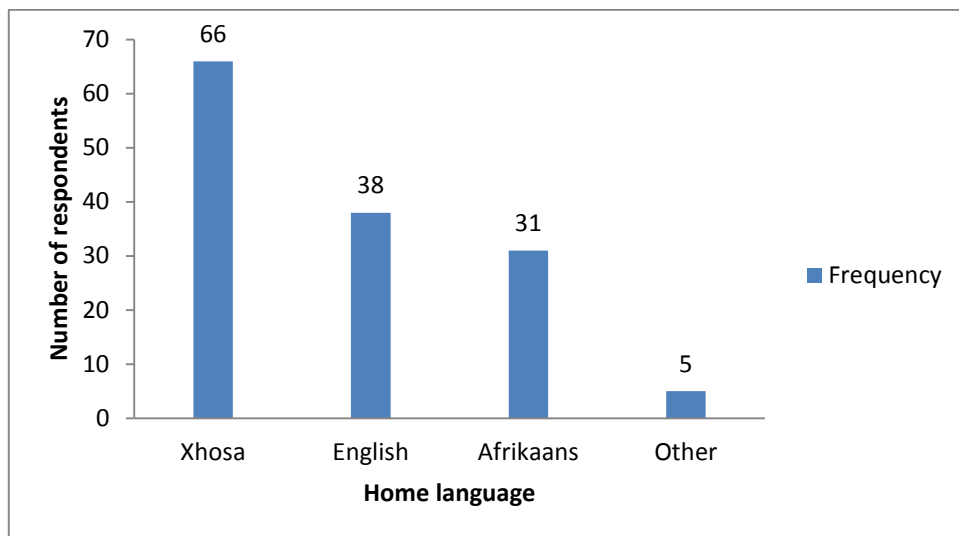


Figure 4.3 Home language of the respondents (N = 140)

The above figure shows that the majority of the respondents (47.14%: n=66, N=140) have Xhosa as their home language. This could be influenced by the geographical location of the research sites as they are located in areas that are predominantly the residential areas for Africans.

4.3 ANALYSIS OF SECTION B – PERCEPTIONS ABOUT THE QUALITY OF THE DOWN-REFERRAL CHRONIC MEDICATION DISTRIBUTION SYSTEM FROM ELHC TO BUFFALO CITY SUB-DISTRICT

Table 4.2 Frequency distribution of the mode in terms of questionnaire rating; Scale (1 – 5); n=140

TEST ITEM	N	MODE	FREQUENCY OF MODE	%
B1. The pharmacist informed me why I have to collect my medication at the clinic for the next six months.	140	5	70	50%
B2. I was asked about the area that I come from and given a list of clinics to choose the one I would like to collect my medication from.	140	5	65	46%
B3. My contact telephone or cell phone number, or that of a relative or neighbour who can easily give me a message, is requested.	140	5	65	46%
B4. The staff at the clinic where I am collecting, knew that I was going to be collecting my medication from them when I first arrived.	140	3	42	30%
B5. The staff at the clinic requested some form of identification to confirm my details, or the details of the person who went to collect for me.	140	4	49	35%
B6. The staff at the clinic checked my blood pressure and glucose levels.	140	2	50	36%
B7. My down-referral parcel was readily available for collection every month.	140	5	70	50%
B8. All the medicines written on the original prescription at the hospital are always in the parcel I collect from the clinic.	140	5	60	43%
B9. The pharmacist at the hospital contacts me to let me know that my down-referred medication will be late for collection.	140	2	60	43%
B10. The pharmacist from the hospital contacts me if some of the medication that has been prescribed is out of stock and will not be in the parcel.	140	2	62	44%
B11. The pharmacist from the hospital contacts me to inform me how and when the medication that is out of stock is going to be delivered to me.	140	2	60	43%
B12. The pharmacist from the hospital communicates with me if one of my regular medicines is out of stock and has been replaced by a generic medicine.	140	2	60	43%
B13. The time I spend at the clinic to collect my medicines is less than the time I used to spend at the hospital.	140	5	58	41%
B14. The travel costs of getting my medication every month are now cheaper.	140	5	76	54%
B15. The staff at the clinic give health information to improve my life-style to manage my chronic condition better.	140	2	48	34%
B16. When my medication is finished, I stay a few days without taking it.	140	2	59	42%
B17. I wait for current medication supply to be finished before I go to fetch the next parcel.	140	2	46	33%
B18. I was not admitted to hospital for my chronic condition in the past two years	140	4	67	48%
B19. Sometimes I give my neighbour my medication when she/he runs out of hers/his.	140	1	61	43%
B20. On some days I do not feel like taking my medication even if it is available.	140	1	67	48%

Table 4.2 above presents the statements recorded in Section B of the research questionnaire. It indicates the sample size per statement, the mode – which is the

most commonly appearing number which corresponds to the number of the rating scale, the frequency of the mode and the percentage of the sample size.

Table 4.3: Section B ratings by respondents

TEST ITEMS	N	AGREE	NEUTRAL	DISAGREE
B1. The pharmacist informed me why I have to collect my medication at the clinic for the next six months.	140	123(87.8%)	12(8.6%)	5(3.6%)
B2. I was asked about the area that I come from and given a list of clinics to choose the one I would like to collect my medication from.	140	127(90.7%)	4(2.8%)	9(6.4%)
B3. My contact telephone or cell phone number or that of a relative or neighbour who can easily give me a message was requested.	140	124(88.6%)	7(5.0%)	9(6.4%)
B4. The staff at the clinic where I am collecting knew that I was going to be collecting my medication from them when I first arrived.	140	62(44.3%)	42(30.0%)	36(25.7%)
B5. The staff at the clinic requested some form of identification to confirm my details, or the details of the person who went to collect for me.	140	82(58.6%)	11(7.8%)	47(33.6%)
B6. The staff at the clinic checked my blood pressure and glucose levels.	140	56(40.0%)	7(5.0%)	77(55.0%)
B7. My down-referral parcel was readily available for collection every month.	140	122(87.1%)	8(5.7%)	10(7.1%)
B8. All the medicines written on the original prescription at the hospital are always in the parcel I collect from the clinic.	140	114(81.4%)	16(11.4%)	10(7.1%)
B9. The pharmacist at the hospital contacts me to let me know that my down-referred medication will be late for collection.	140	27(19.3%)	41(29.3%)	72(51.4%)
B10. The pharmacist from the hospital contacts me if some of the medication that has been prescribed is out of stock and will not be in the parcel.	140	20(14.3%)	45(32.1%)	75(53.6%)
B11. The pharmacist from the hospital contacts me to inform me how and when the medication that is out of stock is going to be delivered to me.	140	20(14.3%)	44(31.4%)	76(54.3%)
B12. The pharmacist from the hospital communicates with me if one of my regular medicines is out of stock and has been replaced by a generic medicine.	140	33(23.6%)	39(27.8%)	68(48.6%)
B13. The time I spend at the clinic to collect my medicines is less than the time I used to spend at the hospital.	140	115(82.1%)	14(10.0%)	10(7.1%)
B14. The travel costs of getting my medication every month are now cheaper.	140	123(87.8%)	10(7.1%)	7(5.0%)
B15. The staff at the clinic gives health information to improve my lifestyle to manage my chronic condition better.	140	38(27.1%)	37(26.4%)	65(46.4%)
B16. When my medication is finished, I stay a few days without taking it.	140	11(7.8%)	21(15.0%)	108(77.1%)
B17. I wait for current medication supply to be finished before I go fetch the next parcel.	140	56(40.0%)	12(8.6%)	72(51.4%)
B18. I was not admitted to hospital for my chronic condition in the past two years	140	100(71.4%)	7(5.9%)	33(23.6%)
B19. Sometimes I give my neighbour my medication when she/he runs out of hers/his.	140	24(17.1%)	4(2.8%)	112(80.0%)
B20. On some days I do not feel like taking my medication even if it is available.	140	9(6.4%)	16(11.4%)	115(82.1%)

Note 1: “Strongly agree” and “agree” are grouped together for interpretation of results.

Note 2: “Strongly disagree” and “disagree” are grouped together for interpretation of results.

4.4 INTERPRETATION OF RESULTS

4.4.1 Section B of the questionnaire

In this section, the ratings given by the patients are grouped for better interpretation of the results. The scale of 1 to 5 was used (1- strongly disagree, 2- disagree, 3- neutral, 4- agree and 5- strongly agree). The ratings of strongly agree and agree were grouped together. Strongly disagree and disagree were also grouped together. Each test item is highlighted in bold followed by the interpretation.

B1: The pharmacist has informed me why I have to collect my medication at the clinic for the next six months.

Once the patient has been on chronic medication for some time, the consulting doctor at the hospital would declare the patient as being stable and not required to see the doctor on regular basis but rather only for a review every six months. The doctor would then discuss with the patient alternative methods of getting her/his chronic medication without having to come to the hospital, and would complete the down-referral form indicating the patient's medication and return date. Upon dispensing the initial prescription, the pharmacist would explain the process. The results show that 87.8% (n=123, N=140) of the respondents agreed that they were informed about why they would be collecting their medication from the clinic; more especially they were informed that the medication would be packed at the hospital and be sent to the clinic. While 8.6% (n=12, N=140) were neutral, 3.6% (n=5, N=140) disagreed that they were given information. Over the years, it appears that patients may have developed a mind-set that medication given at the clinic is perhaps inferior to the medication they receive at the hospital.

B2: I was asked about the area that I come from and given a list of clinics to choose the one I would like to collect my medication from.

The results show that 90.7% (n=127, N=140) of the respondents agreed that they were given the opportunity to choose where they would like to collect their medication from. This process is done at the point of completing the down-referral form by the doctor as well as by the pharmacist when issuing the first of

the six-month supply of the prescription. The patient who understands why he/she does not need to come to the hospital when he/she does not have to see the doctor, will be more likely to choose the health facility that is more convenient to collect the medication from. Some of the patients are still employed and would not necessarily choose the clinic close to their residential area but rather choose the facility close to their place of employment.

B3: My contact telephone or cell phone number or that of a relative or neighbour who can easily give me a message, was requested.

It is still the responsibility of the down-referring hospital to ensure that the patient receives her/his chronic medication on time to prevent the patient panicking and returning to the hospital to collect her/his medication. The hospital should therefore have each patient's contact details, which might be different from the details captured in the medical records when the patient initially came to the hospital. The results show that 88.6% (n=124, N=140) of respondents agreed that, should the need arise that the hospital has to communicate with them regarding their chronic medication, the hospital has their updated record of contact details. A total of 6.5% (n=9, N=140) disagreed that they were asked for a contact telephone or cell phone number. It is highly probable that this portion of respondents represent those who were not asked to choose the health facility close to their homes or place of employment from which to collect their medication. In some instances, down-referral forms are completed using the information in the patient's medical records. That could be due to language/communication barriers.

B4: The staff at the clinic where I am collecting knew that I was going to be collecting my medication from them when I arrived the first time.

The down-referring hospital and the PHC facility should communicate regarding the patients that are down-referred. The communication is to facilitate planning for such patients to ensure continuity of care. A medication collection sheet containing the patients' names and contact details accompanies medication parcels from the hospital's down-referral unit. Patients must sign this as proof of collection. Upon delivery, staff should check the collection sheet against the parcels that are delivered. The results show that 44.3% (n=62, N=140) agreed

that the staff at the clinic knew they were coming to collect their chronic medication, 25.7% (n=36, N=140) disagreed with the statement whereas 30.0% (n=42, N=140) were not sure if the staff knew they were going to collect their medication.

The down-referral procedure regarding the responsibilities of the hospital and the PHC facility is the same across the province. The ratings as given by the respondents indicate that the procedure might be different at the PHC facilities, namely prioritising those who are only collecting medication, letting the down-referred patients sit in the queue with other patients who are waiting to consult with the health professional. The down-referred patients may interpret this as indicating that they were not expected, hence not planned for.

B5: The staff at the clinic requested some form of identification to confirm my details or the details of the person who went to collect for me.

Giving the wrong medication to the patient is a medication error that could be fatal. The results show that 58.6% (n=82, N=140) of respondents agreed that they produced some form of identification when collecting their medication. A significant proportion of respondents, 33.6% (n=47, N=140), disagreed implying that they told the person who issued the medication their names and the parcel was given to them. A proportion of 7.8% (n=11, N=140) of respondents were neutral. This could be the proportion who sent other people to collect the medication on their behalf. Even if the patient or the person collecting had signed the medication collection sheet, it is not easy to verify the name with the signature. The staff should always confirm that the right medication is given to the right person.

B6: The staff at the clinic checked my blood pressure and glucose levels.

The results show that 55.0% (n=77, N=140) of the respondents disagreed that their blood pressure and glucose levels were checked when they collected their medication at the PHC facility. When a patient is described as “stable” by the doctor, it does not mean that his/her blood pressure or glucose level will not fluctuate, even when he/she takes the medication as prescribed. The 40% of respondents (n=56, N=140) who agreed that their blood pressure and glucose

levels were checked, could indicate that they are known hypertensive and diabetic patients who understand that they should monitor their blood pressure or blood glucose respectively on a regular basis. The statement did not request the respondents to state their chronic condition; hence the respondents who did not have their blood pressure and/or glucose level checked could be suffering from other chronic conditions. However, the diagnosis of the two mentioned chronic conditions can happen at any time in a person's life because they are conditions related to lifestyle.

B7: My down-referral parcel was readily available for collection every month.

Even if the patient is down-referred, the hospital still carries the responsibility to ensure that the chronic medication is delivered on time. Here, 87% (n=122, N=140) of the respondents agreed that they received their medication on time.

B8: All the medicines written on the original prescription at the hospital are always in the parcel I collect from the clinic.

The ELHC decided on the holistic strategy of patient management by supplying all the medicines to the patients that the complex had down-referred – and not only the secondary and tertiary level ones. The results show that 7.1% (n=10, N=140) of respondents disagreed that they get all their medicines in the parcel but 81.4% (n=114, N=140) agreed that they received all their medicines.

B9: The pharmacist at the hospital contacts me to let me know that my down-referred medication will be late for collection.

Communication is the key principle in ensuring proper implementation of the down-referral chronic medication distribution system. Fifty-one per cent (n=72, N=140) of respondents indicated that the hospital does not contact them if there are delays in delivering their medication parcels to the PHC facility. Some respondents were neutral, indicating that they are not sure if the hospital ever contacted them and these made up 29.3% (n=41, N=140) of the respondents. The results show that 19.3% (n=27, N=140) agreed to having been contacted.

B10: The pharmacist from the hospital contacts me if some of the medication that has been prescribed is out of stock and will not be in the parcel.

As previously stated, communication is the key principle in ensuring proper implementation of the down-referral chronic medication distribution system. The patients should know why some of their medication is not in the parcel. While 53.6% (n=75, N=140) of respondents disagreed that the hospital informs them about the out-of-stock medicines, 14.3% (n=20, N=140) agreed that they are contacted by the hospital about their medicines being out of stock. The remaining 32.1% (n=44, N=140) of respondents are not sure if the hospital has attempted to let them know that some of their medication is out of stock.

B11: The pharmacist from the hospital contacts me to inform me how and when the medicine that is out of stock is going to be delivered to me.

The results show that 54.3% (n=76, N=140) of respondents disagreed that the hospital contacts them to let them know when they will receive the medication that is out of stock. If the hospital has not informed the patient that the medication is out of stock, it is unlikely that the hospital will inform the patients when they will get the out-of-stock medication.

B12: The pharmacist from the hospital communicates with me if one of my regular medicines is out of stock and has been replaced by a generic medicine.

The pharmacist has the role of educating patients about their medicines. If different companies manufacture the same type of medication, the medication may have different names and/or appearances. The results show that 48.6% (n=68, N=140) of respondents disagreed that they are informed about generic medicines and 23.6% (n=33, N=140) agreed that they are informed. The statement did not request clarity from the respondents regarding at what stage they obtain this information from the hospital. It may only be after they noticed an unusual medicine in the parcel or it may be before they collect the medicines.

B13: The time I spend at the clinic to collect my medicines is less than the time I used to spend at the hospital.

A majority of 82% (n=115, N=140) of respondents agreed that they spend less time at the clinic. There should be an incentive for patients to continue collecting their chronic medicines at the clinic. Only 7.1% (n=10, N=140) of respondents disagreed with the statement.

B14: The travel costs of getting my medicines at the clinic are now cheaper.

The down-referral chronic medication distribution system should benefit both the patient and the down-referring hospital. It should improve access to and the affordability of healthcare for the patients. It should reduce congestion at the hospital. Transport costs to access chronic medication should be affordable. The results show that 87.8% (n=123, N=140) of respondents agreed that travel costs to the clinic are cheaper than to the hospital. Five per cent (n=7, N=140) disagreed, indicating they could still be paying the same amount or paying even more than going to the hospital, but that they continue to go to the clinic because they spend less time there.

B15: The staff at the clinic gives health information to improve my lifestyle to manage my chronic condition better.

Most chronic conditions are lifestyle-related. Lifestyle modification is important in reducing the risks involved. Health promotion at PHC level should be done at all times. The results show that 46.4% (65, n=140) of respondents disagreed that they get any health information at the clinic while 27.1% (n=38, N=140) agreed with the statement.

B16: When my medication is finished, I stay a few days without taking it.

The results show that 77.1% (n=108, N=140) of respondents disagreed that they would stay a few days without taking their medication. This indicates that patients are aware of their conditions and understand the complications that could result from not taking their medicines. Only 7.8% (n=11, N=140) agreed with the statement.

B17: I wait for my current medication supply to be finished before I go fetch the next parcel.

This statement together with statement B16 should indicate the trends of how patients prioritise their health, and 51.4% (n=72, N=140) of respondents disagreed that they wait until their medication is finished before they get the next supply. The results show that 40.0% (n=56, N=140) of respondents agreed. The statement did not request the respondents to disclose their chronic condition where it would have been possible to identify the proportion that does not prioritise their medication and the reasons for this.

B18: I was not admitted to hospital for my chronic condition in the past two years.

The results show that 71.4% (n=100, N=140) of respondents agreed that they have not been admitted to hospital for their chronic condition. The remaining 23.6% (n=33, N=140) disagreed with the statement, which means they have been admitted to hospital for their chronic condition. This does not necessarily mean that they are the proportion that is not compliant with their medication as reflected in B16 and B17. The ratings varied significantly.

B19: Sometimes I give my neighbour my medication when she/he runs out of hers/his.

Eighty per cent (n=112, N=140) of respondents disagreed that they share their medication. The statement is related to finding out if patients know that different people can react differently to the same medication. It is important to know that two people with hypertension do not necessarily get the same medication; however 17.1% (n=24, N=140) of respondents agreed to sharing their medication.

B20: On some days I do not feel like taking my medication even if it is available.

The results show that 82.1% (n=115, N=140) of respondents disagreed with the statement, which implies that they take their chronic medication all the time, not necessarily when they feel like doing so. The respondents who agreed that they

sometimes do not feel like taking their medication make up the remaining 6.4% (n=9, N=140)

4.4.2 Grouping of the statements according to themes

Table 4.4 Statements grouped according to themes

Statement	Theme
B1, B2, B3, B7, B8, B13, B14	Patients' satisfaction about the down-referral chronic medication distribution system
B4, B5, B6, B15	Services at the PHC facility
B9, B10, B11, B12	Communication between the down-referring hospital and the patients
B16, B17, B18, B19, B20	Patients' attitudes towards their medication

4.4.2.1 Patients' satisfaction about the down-referral chronic medication distribution system:

The statements grouped together under this theme reflect the respondents' perceptions about the down-referral chronic medication distribution system. The respondents indicated their understanding of the process.

4.4.2.2 Services at the PHC facility:

The statements grouped together under this theme are related to the services that the patients receive at the PHC facility when collecting their down-referred medication. This demonstrates that chronic disease management is not effective. It also highlights poor or lack of health promotion, which is one of the pillars of PHC services.

4.2.3 Communication between the down-referring hospital and the patients:

The statements grouped together under this theme relate to the communication between the hospital and the patients regarding their medication. Respondents indicated some negative aspects of this communication as the hospital staff did not meet the expectations of the respondents.

4.4.2.4 Patients' attitudes towards their own medication:

Statements in this group are related to the attitude of patients towards their medication. The respondents showed the trends of their understanding of their chronic condition and their attitudes towards taking their medication.

4.5 INTERNAL RELIABILITY

Reliability is concerned with the ability of the instrument to measure consistency whereas validity is concerned with the extent to which the instrument measures what it is intended to measure. Therefore the two are closely related to one another. The instrument cannot be valid if it is not reliable. The Chronbach's alpha measures the reliability of the instrument. The alpha value close to 0 indicates that there is no correlation between the items in a subscale, whereas values of 0.7 and larger show increased inter-item correlation (Takavol & Dennick, 2011 (2): 53-55).

Table 4.5 Chronbach's alpha values

Variable	Number of items	Inter-item correlation	Alpha
Patients' satisfaction	7	0.60	0.90
Services at the PHC	4	0.68	0.86
Communication	4	0.38	0.68
Patients' attitudes	5	0.54	0.70

The values indicated in the table above indicate that there is strong correlation between the items in the patient satisfaction subscale with the alpha value of 0.90. The other subscales show that there is some correlation with the alpha values of above 0.70, with the exception of the communication subscale that has an alpha value of less than 0.70 but is still not close to 0. A limited correlation does exist although it is not as strong as for other items.

4.6 CHAPTER SUMMARY

This chapter focused on revealing the results of the study and the interpretation of the results. The responses given by participants indicate their perceptions of the down-referral chronic medication distribution system, the services offered by the staff at the PHC facility, the communication between the hospital and the patients about their medication and the patients' attitudes towards their own medication.

Chapter 5 will focus on discussing the conclusion and recommendations about the results presented in this chapter, in relation to the research aim and objectives.

CHAPTER 5

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The previous chapter focused on presenting the results of the study, and the analysis and interpretation of such results. This chapter sets out to review the aim and objectives of the study, to discuss the conclusions and establish if they are in line with the research aim, and thereafter, to make recommendations about the study and for possible future research.

5.2 SUMMARY OF THE STUDY

This section will provide a brief overview of the study.

5.2.1 Review of the aim and objectives of the study

The aim of this research was to assess the level of patient satisfaction with the service provided in the Buffalo City sub-district following the implementation of the down-referral chronic medication distribution system between the tertiary levels (ELHC) and primary levels (clinics) of healthcare. This down-referral intervention aims to improve the accessibility and availability of medication to chronic patients.

The objectives of this research were:

- To determine whether the down-referral system for chronic patients functions effectively;
- To make recommendations to ensure efficient and effective management of chronically ill patients.

With these objectives in mind, the researcher will focus on the conclusions and recommendations to be made to the Buffalo City sub-district health management about the down-referral chronic medication distribution system.

5.2.2 The self-administered questionnaire study

The research questionnaire was issued to the patients coming to collect their down-referral medication at the three major CHCs, from ELHC where the down-referral unit is based. This unit serves the chronic patients managed at both Frere and Cecilia Makiwane hospitals. The researcher used random non-probability purposive sampling and issued 173 questionnaires to be completed by chronic patients. However, only 140 questionnaires were used as some patients wrote their names, telephone numbers or residential addresses on the other questionnaires. These spoiled questionnaires were destroyed in order to maintain the confidentiality and anonymity of the process.

The following section contains a summary of the conclusions drawn from analysis of the questionnaires.

5.2.2.1 Biographical information

The respondents were at the three CHCs, two based in East London in close proximity to Frere Hospital and one based in Mdantsane in close proximity to Cecilia Makiwane Hospital. Of the 140 respondents, 82 were females and 58 males. The age group of the respondents ranged from 40 years to 70 years and above.

The educational qualifications of the respondents were also taken into consideration. Most of the respondents had a pre-matriculation education, namely 70 (N=140), while 60 (N=140) had matriculation certificates and 10 (N=140) had a post-matriculation education. The home languages recorded were Xhosa (n=66, N=140), English (n=38, N=140), Afrikaans (n=31, N=140) and other (n=5, N=140). It is notable that most respondents were Xhosa-speaking. This could have been influenced by the geographical location of the research sites. Other languages spoken were recorded by five respondents. These other languages were not specified.

5.2.2.2 Statements of perceptions about the down-referral system by patients

5.2.2.2.1 Patients' satisfaction about the down-referral chronic medication distribution system

The statements grouped together under this theme reflected the respondents' perceptions about the down-referral chronic medication distribution system. The respondents indicated their understanding of the process. Patients were satisfied about receiving their medication closer to their homes.

5.2.2.2.2 Services at the PHC facility

The statements grouped together under this theme were related to the services that the patients received at the PHC facility when collecting their down-referred medication. Even though patients were satisfied about their medication, they still believed the quality of services could be improved.

5.2.2.2.3 Communication between the down-referring hospital and the patients

The statements grouped together under this theme were related to the communication between the hospital and the patients regarding their medication. Respondents indicated some negative aspects as the hospital staff did not meet the expectations of the respondents.

5.2.2.2.4 Patients' attitudes towards their own medication

Statements in this group related to the attitude of patients towards their medication. The respondents showed the trends of their understanding of their chronic condition and positive attitudes about taking their medication.

5.3 LIMITATIONS

The study had some limitations in that only those patients who were still participating in the down-referral system were polled. It could be difficult to track down those who have dropped out of the system for various reasons, such as relocation to other provinces or other areas of the Eastern Cape Province where they are able to access treatment from other health facilities. Some patients were deceased. There was also a proportion of patients who were stable and who

qualified but who chose not to participate in the down-referral system. Others may have refused to participate in the research, thus exercising their free choice.

5.4 CONCLUSIONS

In this section the researcher will discuss in detail the conclusions drawn from the analysis and interpretation of the research results in Chapter 4.

5.4.1 Patients' satisfaction with the down-referral chronic medication

The above perceptions of the respondents indicate that the patients were generally satisfied with the functionality of the down-referral chronic medication distribution system. However, the respondents gave a low rating to the efficiency of the service offered to the patients when they collect their down-referred chronic medication at the PHC facility. This indicates that certain services that they receive at the hospital are not offered at the PHC service. These include monitoring of vital signs, checking blood pressure and glucose levels of the patients as well as providing health education to the patients.

5.4.2 Communication between the down-referring hospital and the patients

The other aspect which the respondents rated low was the communication of the hospital staff (most particularly pharmacists) to the patients regarding their medication. When the patient collects medication at the hospital, the patient is informed if some of the medication is out of stock, and the patient will also be advised of the appropriate time to collect the out-of-stock item/s. This does not happen, however, when the patient is down-referred. Such a patient will only find out when she/he notices that not all the medication is in the parcel and when she/he must phone the hospital to enquire. This is a negative aspect indicating that the management of chronically ill patients is still not effective.

5.4.3 Patients' attitudes towards their own medication

Another negative aspect is the attitude of patients towards their own medication. The patients rated this as low, but not as low as the level of service at the PHC facility and the communication of the hospital staff. There are still patients among the respondents who do not prioritise taking their medication, even if it is available to them. Some of the respondents indicated that they would share their

medication with others. The low rating of this aspect correlates with the low rating of the test item on the lack of health education at the PHC facilities when patients collect their chronic medication. This also indicates that the management of chronically ill patients is not effective. Most of the chronic conditions are related to lifestyle; therefore providing information about lifestyle modification to the patients would improve the management of their chronic conditions.

5.5 RECOMMENDATIONS

The down-referral chronic medication distribution system is an intervention devised to reduce patient congestion in the secondary and tertiary health facilities. However the implementation of the system has not been standardised through the Eastern Cape province, nor throughout the country as a whole. Patients have been allowed to sidestep the PHC facilities and present themselves directly at higher level facilities without referral. Patients themselves have complained about the long waiting periods in the hospitals, the travel costs and the time it takes to get to hospitals to access medication for their chronic conditions. Most of the patients accessing the health services at these hospitals are people who are dependent on government grants (be these old age or disability grants). Effective functioning of the system could thus benefit the patients and the hospitals. Although a significant number of patients were satisfied with the system, the following recommendations are made to enhance other aspects that support effective and efficient functioning of the system.

Currently, for the patient to be registered on the down-referral chronic medication distribution system, the patient must be declared stable by the doctor. There are many patients who are reviewed twice a year or even annually who still go to the hospital every month to get their chronic medication.

Recommendation 1 – accessing the down-referral system

The first recommendation of this paper is that patients be empowered to understand their chronic condition to be able to recognise that they are stable. Such a patient should be able to request the doctor to register him/her on the system by completing the down-referral patient management form.

This patient empowerment could take place through communicating the system and its benefits to the patients by giving patients a leaflet explaining the system in various languages. Such leaflets could be handed out at the hospital dispensary when issuing medication, at the pension pay points or other places that could be identified as community gathering points.

Recommendation 2 – health education

The workload of the staff at the PHC facilities should not be underestimated. Strategies of how to manage the chronically ill patients that have been down-referred could be looked into. Various methods of providing patients with health information could be explored in the following manner:

- Common chronic conditions could be identified; then each month of the year could be dedicated to educating patients about a particular chronic condition. For example, if December was dedicated to hypertension, the facilities could attach the leaflet/pamphlet about hypertension to medication parcels.
- Videos about different types of hypertension could be played in patient waiting areas, discussing the different symptoms of the condition, the lifestyles that put people at risk of suffering from the condition and lifestyle modification which may assist patients to manage their condition better, and to help those who do not have the condition, to avoid it.
- Posters could be put up in areas where patients cannot ignore them. These various forms of communication could relieve the already overworked staff from doing the patient education themselves.
- It would be helpful if community radio stations were fully utilised by the sub-district to provide health education. The staff working at these radio stations could be given information to familiarise themselves with various chronic conditions and be able to share the information with the community on the regular basis.
- The health services management could consider empowering the patients to check their own blood pressure. This could be done by purchasing electronic blood pressure machines that are commercially available and setting up self-service points in the PHC facilities where patients could

check their own blood pressure and blood glucose levels without the assistance of staff. This would allow the staff to do other functions and the health service could have patients who were satisfied that their chronic condition was well managed.

Recommendation 3 – communication strategies

The concern raised by the patients about the lack of communication by the hospital staff (most particularly pharmacists) is valid. It is common knowledge that the country as a whole has a shortage of pharmacists, hence the long queues at the hospital dispensaries. Traditional forms of communication such as telephone calls take pharmacists away from their jobs. For instance, if calcium gluconate is out of stock and the hospital has 300 patients suffering from arthritis who receive calcium gluconate every month, the pharmacist is obliged to phone 300 patients to let them know that this medication is out of stock.

This activity would be costly and it could take the pharmacist more than one day to contact all 300 patients. Some patients might not be available at the time when the pharmacist is making a call and the pharmacist would have to keep on trying to contact them. An alternative approach could be as follows:

- In recent times, almost every household has at least one cell phone. Patients are therefore encouraged to give details of a neighbour or a relative who can give them a message if the hospital has to contact them.
- The hospital management could explore the use of mass sms (short message services) through cell phone services to contact the patients. One message regarding any issue passes to all 300 patients at once. This would save both time and telephone costs. The patient would not have to be available at the time of sending the message. Patients would be able to read the message in their own time when checking their cell phones. This kind of service has been tried and tested. There are many businesses using such a service to communicate with their customers.

Down-referral chronic medication distribution system is a critical intervention in improving the health services offered at tertiary level facilities. It is recommended that, from the lessons learnt in the implementation of the intervention, further

research into determining whether it improves the health outcomes should be conducted.

5.6 FEEDBACK TO MANAGEMENT

An oral presentation of this research will be made to the health service management of the ELHC and the facility managers in the Buffalo City sub-district. Hard copies of the research will be given to the managers and to the provincial Department of Health, and will also be lodged with the Nelson Mandela Metropolitan University Library.

5.7 CHAPTER SUMMARY

This chapter reviewed the aim and the objectives of the study. The results that were analysed and interpreted in Chapter 4 were discussed in detail and conclusions were drawn. Recommendations of how to improve specific areas of health service delivery as indicated from the results of the study were highlighted and feedback will be given to various health service managers. The objectives of the study have been met and the limitations of the study were also highlighted.

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ANNEXURE: C

DOWN –REFERRED MEDICATION: PATIENT COLLECTION SHEET

CLINIC A

MARCH 2013

Patient name	Patient telephone	Date of delivery	Date of collection	Issued by	Patient signature

(The first three columns are completed already by the pharmacist at the ELHC down-referral unit when the parcels are delivered to the clinic)

STUDY QUESTIONNAIRE

SECTION A- BIOGRAPHICAL INFORMATION

1. GENDER -

Male

Female

2. AGE (yrs) -

40-49

50-59

60-69

70+

3. HIGHESTQUALIFICATION -

Pre - matric

Matric

Post -matric

4. HOME LANGUAGE -

Xhosa

English

Afrikaans

Other

SECTION B – PERCEPTIONS ABOUT THE QUALITY OF DOWN-REFERRAL CHRONIC MEDICATION DISTRIBUTION SYSTEM FROM EAST LONDON HOSPITAL COMPLEX TO BUFFALO CITY SUB-DISTRICT.

Please indicate to what extent you agree with each of the statements below by circling the appropriate number: 1- Strongly Disagree (SD), 2- Disagree (D), 3- Neutral (N), 4- Agree (A) and 5- Strongly Agree (SA)

	SD	D	N	A	SA
1. The pharmacist informed me why I have to collect my medication at the clinic for the next 6 months .	1	2	3	4	5
2. I was asked about the area that I come from and given a list of clinics to choose the one I would like to collect my medication from.	1	2	3	4	5
3. My contact telephone or cell phone number or that of a relative or neighbour who can easily give me a message was requested.	1	2	3	4	5
4. The staff at the clinic where I am collecting knew that I was going to be collecting my medication from them when I first arrived.	1	2	3	4	5
5. The staff at the clinic requested some form of identification to confirm my details, or the details of the person who went to collect for me.	1	2	3	4	5
6. The staff at the clinic checked my blood pressure and glucose levels.	1	2	3	4	5
7. My down-referral parcel was readily available for collection every month.	1	2	3	4	5
8. All the medicines written on the original prescription at the hospital are always in the Parcel I collect from the clinic.	1	2	3	4	5
9. The pharmacist at the hospital contacts me to let me know that my down-referred medication will be late for collection.	1	2	3	4	5
10. The pharmacist from the hospital contacts me if some of the medication that has been prescribed is out of stock and will not be in the parcel	1	2	3	4	5
11. The pharmacist from the hospital contacts me to inform me how and when the medication that is out of stock is going to be delivered to me.	1	2	3	4	5
12. The pharmacist from the hospital communicates with me if one of my regular medicines is out of stock and has been replaced by a generic medicine.	1	2	3	4	5
13. The time I spend at the clinic to collect my medicines is lesser than the time I used to spend at the hospital.	1	2	3	4	5
14. The travel costs of getting my medication every month are now cheaper.	1	2	3	4	5
15. The staff at the clinic gives health information as to improve my life style to manage my chronic condition better.	1	2	3	4	5
16. When my medication is finished, I stay a few days without taking it.	1	2	3	4	5
17. I wait for current medication supply to be finished before I go fetch the next parcel.	1	2	3	4	5
18. I was not admitted to hospital for my chronic condition in the past 2 years	1	2	3	4	5
19. Sometimes I give my neighbour my medication when she/he ran out of hers/his.	1	2	3	4	5
20. On some days I do not feel like taking my medication even if it is available.	1	2	3	4	5

NELSON MANDELA METROPOLITAN UNIVERSITY
INFORMATION AND INFORMED CONSENT FORM

RESEARCHER'S DETAILS	
Title of the research project	Impact analysis of a down-referral chronic medication distribution system for stable chronic patients to primary health care facilities in an Eastern Cape district
Reference number	
Principal investigator	Ms M Ndwandwe (S206018088)
Address	Pharmaceutical Services, East London Hospital Complex, East London
Contact telephone number	083 3781459

A. <u>DECLARATION BY OR ON BEHALF OF PARTICIPANT</u>		<u>Initial</u>
I, the participant and the undersigned		
ID number		
Address (of participant)		

A.1 HEREBY CONFIRM AS FOLLOWS:		<u>Initial</u>
I was invited to participate in the above-mentioned research project		
that is being undertaken by	Ms M Ndwandwe	
from	Faculty of Health Sciences	
of the Nelson Mandela Metropolitan University.		

THE FOLLOWING ASPECTS HAVE BEEN EXPLAINED TO ME, THE PARTICIPANT:			<u>Initial</u>	
2.1	Aim:	The investigator is studying whether the down-referral chronic medication system will improve the compliance to the treatment schedule by stable chronic patients		
2.2	Procedures:	I understand that I only need to complete a questionnaire		
2.3	Risks:	I understand that I will incur no risks by participating in the research programme		
2.4	Possible benefits:	I understand that this research aims to identify ways to improve or strengthen the current medication distribution system		
2.5	Confidentiality:	I understand that my identity will not be revealed in any discussion, description or scientific publications undertaken by the investigators.		
2.6	Access to findings:	Any new information or benefit that develops during the course of the study will be shared with the authorities to implement an improved system of medication distribution		
2.7	Voluntary participation / refusal / discontinuation:	My participation is voluntary		YES
		My decision whether or not to participate will in no way affect my present or future care	TRUE	FALSE

3. THE INFORMATION ABOVE WAS EXPLAINED TO ME BY:								Initial
Ms M Ndwandwe								
in	Afrikaans		English		Xhosa		Other	
and I am in command of this language,								
I was given the opportunity to ask questions and all these questions were answered satisfactorily.								
4.	No pressure was exerted on me to consent to participation and I understand that I may withdraw at any stage without penalisation.							
5.	Participation in this study will not result in any additional cost or harm to myself.							
A.2 I HEREBY VOLUNTARILY CONSENT TO PARTICIPATE IN THE ABOVE-MENTIONED PROJECT:								
Signed/confirmed at				on		20		
Signature or right thumb print of participant				Signature of witness:				
				Full name of witness:				
B. IMPORTANT MESSAGE TO PATIENT								
Dear participant								
Thank you for agreeing to participate in this study. Should you require any further information with regard to the study please contact the following people								
Ms M Ndwandwe Main Researcher NMMU Tel: 083 3781459				Mrs AG Klopper Research Supervisor NMMU 041 5042492				

ANNEXURE F



• PO Box 77000 • Nelson Mandela Metropolitan University
• Port Elizabeth • 6031 • South Africa • www.nmmu.ac.za

Chairperson: Research Ethics Committee (Human)
Tel: +27 (0)41 504-2235

Ref: [H12-HEA-NUR-007/Approval]

RECH Secretariat: Mrs U Splee

27 August 2013

Ms G Klopper
Faculty of Health Sciences
Faculty Administration
07-01-18
South Campus

Dear Ms Klopper

IMPACT ANALYSIS OF A DOWN-REFERRAL CHRONIC MEDICATION DISTRIBUTION SYSTEM FOR STABLE CHRONIC PATIENTS TO PRIMARY HEALTH CARE FACILITIES IN AN EASTERN CAPE DISTRICT

PRP: Ms G Klopper
PI: Ms M Ndwandwe

Your above-entitled application for ethics approval served at the Research Ethics Committee (Human).

We take pleasure in informing you that the application was approved by the Committee.

The ethics clearance reference number is **H12-HEA-NUR-007**, and is valid for three years. Please inform the REC-H, via your faculty representative, if any changes (particularly in the methodology) occur during this time. An annual affirmation to the effect that the protocols in use are still those for which approval was granted, will be required from you. You will be reminded timeously of this responsibility, and will receive the necessary documentation well in advance of any deadline.

We wish you well with the project. Please inform your co-investigators of the outcome, and convey our best wishes.

Yours sincerely

Prof CB Cilliers
Chairperson: Research Ethics Committee (Human)

cc: Department of Research Capacity Development
Faculty Officer: Health Sciences

Ethics Committee: E. L HOSPITAL COMPLEX

Postal Address :

C/o East London Health Resource Centre
PO Box 12882
Amalinda
5252

Telephone : 043 -709 2032

Physical Address :

Cheltenham Road
East London
5201 South Africa

Fax no.: 043 - 7092386

27th September 2013

M Ndwandwe
East London Hospital Complex
Amalinda
East London
5200

Dear

RE: Impact analysis of the down-referral chronic medication distribution system for stable chronic patients to primary health care facilities in an Eastern Cape District

We acknowledge receipt of the above mentioned proposal.

Having gone through your proposal, the committee has no ethical problems noted.

Please be advised that the committee has granted you the consent to do the research.

Yours sincerely



**Dr P Alexander – Chairman Region C Ethics Committee
Ophthalmologist EL Hospital Complex**



Eastern Cape Department of Health

Enquiries: Zonwabele Merile

Tel No: 040 608 0630

Date: 28th October 2013

Fax No: 043 642 1409

e-mail address: zonwabele.merile@impilo.ecprov.gov.za

Dear Ms M Ndwandwe

Re: Impact analysis of a down referral chronic medication distribution system for stable chronic patients to primary health care facilities in an Eastern Cape district

The Department of Health would like to inform you that your application for conducting a research on the abovementioned topic has been approved based on the following conditions:

1. During your study, you will follow the submitted protocol with ethical approval and can only deviate from it after having a written approval from the Department of Health in writing.
2. You are advised to ensure, observe and respect the rights and culture of your research participants and maintain confidentiality of their identities and shall remove or not collect any information which can be used to link the participants.
3. The Department of Health expects you to provide a progress on your study every 3 months (from date you received this letter) in writing.
4. At the end of your study, you will be expected to send a full written report with your findings and implementable recommendations to the Epidemiological Research & Surveillance Management. You may be invited to the department to come and present your research findings with your implementable recommendations.
5. Your results on the Eastern Cape will not be presented anywhere unless you have shared them with the Department of Health as indicated above.

Your compliance in this regard will be highly appreciated.

DEPUTY DIRECTOR: EPIDEMIOLOGICAL RESEARCH & SURVEILLANCE MANAGEMENT



Ikanwa eliqaqambileyo!