

**The impact of the current performance management system in a  
South African retail pharmacy on the provision of pharmaceutical  
care to patients**

A Research Report

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by

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## ABSTRACT

XXX Pharmacy is an independently-owned retail pharmacy in Johannesburg. Good Pharmacy Practice standards make it mandatory for pharmacists to provide “pharmaceutical care”, a highly patient-centred approach to providing pharmaceutical services. Since XXX Pharmacy has a high patient load, a shortage of dispensary staff and a strategic focus on operational efficiency, the question arose whether pharmacists comply fully with Good Pharmacy Practice standards for the provision of pharmaceutical care. Non-compliance poses operational risks that could undermine the business’s financial performance. The research statement was thus that the current performance management system undermines compliance with Good Pharmacy Practice standards for the provision of pharmaceutical care to patients.

A triangulation approach was used. The quantitative research method, in which 200 patients completed a questionnaire, investigated two research objectives: (i) whether the pharmacy complies with Good Pharmacy Practice standards for pharmaceutical care; and (ii) whether there is a relationship between patients’ race or gender and their responses. The qualitative research method involved conducting individual semi-structured interviews with all four dispensary employees to achieve another two research objectives: (i) to determine whether the provision of pharmaceutical care is viewed as a key performance area by pharmacists; and (ii) to investigate what aspects of the implementation of the performance management system are viewed as enabling or undermining the provision of pharmaceutical care.

At least 50% of patients perceive only two out of ten pharmaceutical care services as always being provided. These two services relate to patient counselling. The remaining pharmaceutical care services that are not always provided, according to patients, relate primarily to analysing the appropriateness of pharmacotherapy, including efficacy and side effects, assessing patient compliance and generic substitution. Interview results support patient counselling being given preference over other pharmaceutical care services. Although the racial group responding most

favourably to whether pharmaceutical care services are provided is African, and the gender responding most favourably is male, this cannot be conclusively confirmed. All pharmacists agree that the provision of pharmaceutical care is a key performance area and there are several commendable aspects of the performance management system, but there are ten key weaknesses in this which have the potential to undermine compliance with Good Pharmacy Practice standards. These weaknesses extend from inadequacies relating to the pharmacy's vision and mission statement; to poor awareness of Good Pharmacy Practice standards; to the absence of fundamental documentation, such as job descriptions, and performance appraisals; confusion regarding performance objectives; inadequate training and development; misunderstandings regarding rewards; problems with management style and the organisational culture; to a shortage of dispensary staff. Prominent findings are that time pressures contribute to it being difficult to provide pharmaceutical care, and that a key performance target is to serve customers as quickly and efficiently as possible.

In addressing the above weaknesses in the performance management system, five recommendations are made: (i) conducting a training session, at which dispensary employees can learn about Good Pharmacy Practice standards and important pharmacy-related information, and provide input into aspects of the performance management system; (ii) the owner-manager using this feedback to develop key documents that are either absent or weakly developed, in alignment with Good Pharmacy Practice standards, and the use of these as performance management tools; (iii) the introduction and implementation of a performance appraisal process and linking this to a training and development programme and rewards system; (iv) developing an open communication culture that promotes the enactment of the values of pharmaceutical care; and (v) employing two pharmacist interns over a period of two years. For the first four recommendations, a comprehensive implementation plan is proposed, detailing desired outcomes, key activities, responsible stakeholders and expected costs and timelines, to allow for weaknesses in the performance management system to be addressed within 11 weeks, and for key activities to be initiated that can then be performed at specified intervals. These recommendations could potentially enhance XXX Pharmacy's compliance with Good Pharmacy Practice standards for the provision of pharmaceutical care to patients.

## **DECLARATION**

I, Layla Cassim, with the UNISA student number 72076984, hereby declare that this dissertation is my own independent work. I have been the sole researcher involved in this research project. This work has not been submitted to UNISA or any other university for examination.

## **DEDICATION**

This dissertation is dedicated to my mother – not only a visionary human resources practitioner, manager and entrepreneur, but also someone who has supported, encouraged and inspired me along every step of this MBA journey.... Thank you.

## **ACKNOWLEDGEMENTS**

I would like to convey my deepest gratitude to my supervisor, Delisiwe Dlodlu, for all her guidance, support, constructive feedback and input over the journey of this research project.

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## **LIST OF ABBREVIATIONS USED**

AIDS:	Acquired Immunodeficiency Syndrome
ANOVA:	Analysis of variance
ASHP:	American Society of Health-System Pharmacists
CPD:	Continuing professional development
DRP:	Drug-related problems(s)
EFQM:	European Foundation for Quality Management
GPP:	Good Pharmacy Practice
HIV:	Human immunodeficiency virus
HPCSA:	Health Professions Council of South Africa
HR(M):	Human Resource (Management)
KPI(s):	Key performance indicator(s)
n:	Sample size
OTC:	Over-the-counter
PCNE:	Pharmaceutical Care Network Europe
PMS:	Performance management system

PSSA:	Pharmaceutical Society of South Africa
s:	Section (of legislation, regulations or standards)
SAPC:	South African Pharmacy Council
SEM:	Standard error of the mean
SMMEs:	Small, medium and micro enterprises
SOP(s):	Standard Operating Procedure(s)
T&D:	Training and development
UK:	United Kingdom
UKCPA:	United Kingdom Clinical Pharmacy Association
UNISA:	University of South Africa
USA:	United States of America

## CHAPTER ONE: INTRODUCTION AND BACKGROUND TO THE PROBLEM

### 1.1 Problem in context

XXX Pharmacy is an independently-owned retail pharmacy<sup>1</sup> located in a residential area in Johannesburg, South Africa. The pharmacy is situated in a medical centre, opposite a private hospital. Due to its location, the pharmacy has long trading hours and is very busy. The high patient load, as well as a shortage of pharmacists and pharmacist's assistants, has contributed to the owner-manager<sup>2</sup>, who has owned the pharmacy for five years and worked in it for eleven years, adopting a strategy of increasing operational efficiency.

The current performance management system (PMS) reflects this focus on efficiency, with minimal time afforded to individual pharmacist-patient<sup>3</sup> interactions and an emphasis on the use of financial, quantitative key performance indicators (KPIs), such as sales figures and the number of prescriptions dispensed. During busy times, pharmacists often have no direct interaction with patients, as front-shop assistants serve as intermediaries, bringing prescriptions to the dispensary and transporting the processed medication to patients. Pharmacists thus have little, if any, time to communicate directly with patients and provide pharmaceutical care.

Providing "pharmaceutical care" is a core function of pharmacists, according to Good Pharmacy Practice (GPP) in South Africa standards, published by the South African Pharmacy Council (SAPC) (South Africa. SAPC, 2010a: 3), a statutory body overseeing pharmacy practice in the country. This 2010 version of the GPP standards is the fourth edition; pharmaceutical care has been the guiding paradigm

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<sup>1</sup> A "retail pharmacy" is also referred to as a "community pharmacy".

<sup>2</sup> The owner-manager can also be referred to in this case as the "responsible pharmacist" or "managing pharmacist".

<sup>3</sup> "Patients" and "customers" will be used interchangeably in this report.

of pharmacy practice expressed in GPP standards since at least the second edition, published in 2004 (South Africa. SAPC, 2004). The GPP standards outline standards for the provision of pharmaceutical care; Human Resource Management (HRM) and general management standards for pharmacies that facilitate the provision of pharmaceutical care; the scope of practice of pharmacists, pharmacist interns and pharmacist's assistants; and other standards regulating pharmacy practice in South Africa. The GPP standards have their genesis in the Pharmacy Act 53 of 1974 (South Africa. National Parliament, 1974) and the Medicines and Related Substances Act 101 of 1965 (South Africa. National Parliament, 1965).

Pharmaceutical care is a highly patient-centred approach to providing pharmaceutical services and aims to provide quality, safe and optimal pharmacotherapy to patients. According to GPP standards (South Africa. SAPC, 2010a), a pharmacist and not a pharmacist's assistant provides pharmaceutical care. The SAPC (South Africa. SAPC, 2010a: 3) describes pharmaceutical care as "taking responsibility for the patient's medicine<sup>4</sup>-related needs and being accountable for meeting these needs".

Pharmaceutical care is thus not limited to the relatively technical function of processing a prescription, either manually or on computer, and issuing medication to a patient. According to GPP standards, it also encompasses other functions, such as (South Africa. SAPC, 2010a):

- (i) Ensuring that each patient's pharmacotherapy is appropriate, for example in terms of dosage and medical condition(s);
- (ii) Detecting drug interactions amongst various drugs that a patient may be taking;
- (iii) Detecting adverse effects;
- (iv) Determining whether patients are compliant<sup>5</sup> with their pharmacotherapy;

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<sup>4</sup> "Medicine", "medication" and "drug" will be used interchangeably in this report.

<sup>5</sup> Patient compliance refers to whether patients take their medication exactly as prescribed (see glossary on page 276).

- (v) Counselling<sup>6</sup> patients adequately about their medication so that medication is used safely and correctly;
- (vi) Counselling patients regarding possible dietary modifications;
- (vii) Liaising with other health-care professionals, such as prescribers, when necessary; and
- (viii) Performing a medication review of a patient's pharmacotherapy, for example if requested to do so by a patient or other health-care professional. This review would include an assessment phase, formulation of a care plan and a follow-up evaluation to assess patient outcomes.

These, and additional, standards also apply to the provision of over-the-counter (OTC) medication to patients (South Africa. SAPC, 2010a).

It is evident that providing pharmaceutical care is time-intensive, as time is required to elicit all the required information from a patient, analyse each patient's pharmacotherapy and provide adequate patient counselling. Given the focus of the current PMS of XXX Pharmacy on efficiency, pharmacists are faced with the challenge of finding sufficient time for this information exchange that is necessary between pharmacist and patient in order for pharmaceutical care to be provided. GPP standards also stipulate that cheaper, generic medication be offered to patients (South Africa. SAPC, 2010a). Under the current PMS, pharmacists and the pharmacist's assistant are expected to follow the working practices and preferences of the owner-manager, one of which does not encourage generic substitution unless the patient requests it or the patient's medical aid does not cover the original brand.

The PMS for front-shop assistants is highly formalised and structured, with written job descriptions and regular performance appraisals. However, there are no written job descriptions for dispensary staff (i.e. pharmacists and the pharmacist's assistant) and no regular performance appraisals for these employees. This contrasts with the requirements for HRM practices in Chapter 3 of the GPP standards (South Africa.

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<sup>6</sup> In the context of pharmaceutical care, "counselling" refers to providing patients with information and advice (see glossary).

SAPC, 2010a). The absence of written job descriptions, with clearly-defined roles and responsibilities, increases the risk that the pharmacist's assistant works outside her scope of practice, as defined by GPP standards (South Africa. SAPC, 2010a). Furthermore, although GPP standards outline the responsibilities of pharmacists in the sale of OTC medication, in this pharmacy front-shop assistants usually manage the sale of these. A consultant developed a comprehensive set of Standard Operating Procedures (SOPs) for the pharmacy, which are closely aligned with GPP standards and came into effect in August 2009. There are no employee signatures, however, to confirm that employees have read and are aware of these SOPs.

Non-compliance with GPP standards has potentially serious implications for individual pharmacists, the pharmacist's assistant and the pharmacy. These include legal and professional risks, which could be costly, as well as the increased risk of patient morbidity or mortality due to drug-related problems (DRP).

## **1.2 Problem review**

Appendix H contains a mind-map showing the unravelling of the research problem. From this mind-map, the following emerging themes highlight the dissonance between the way in which the performance of pharmacists and the pharmacist's assistant is managed in the pharmacy, and GPP standards for the provision of pharmaceutical care to patients outlined by the SAPC (South Africa. SAPC, 2010a).

### **1.2.1 Adoption of a strategy of increased operational efficiency**

The current PMS for pharmacists and the pharmacist's assistant focuses on operational efficiency and increasing sales revenue. The latter is in alignment with the organisation's existence as a profit-seeking entity. The imperative for efficiency has arisen due to the high patient load and shortage of dispensary employees.

According to the owner-manager, an average of 250-280 prescriptions is dispensed daily, in addition to OTC medication. There are two full-time pharmacists, including the owner-manager; one locum pharmacist, who works twice a week; and one pharmacist's assistant. The owner-manager ascribes the shortage of dispensary staff to individuals being unwilling to work his long trading hours of thirteen hours daily. It also reflects the national shortage of pharmacists and pharmacist's assistants highlighted by the Department of Labour (South Africa. Department of Labour, 2008).

There are a total of twenty front-shop assistants, who work different shifts. Front-shop assistants are the first and last points of contact between the pharmacy and patients or customers. The fact that the PMS for these employees is so well-developed, with a key role in the job description of these employees being to ensure efficiency and quality customer services, reflects the strategic focus on efficiency.

### **1.2.2 Limitations of the current choice of KPIs**

The KPIs used are primarily financial and quantitative in nature. The use of sales figures, for example, as well as the preferences of the owner-manager, has the potential to discourage pharmacists from offering generic medication (see 1.2.3). Another KPI used is the number of prescriptions processed daily and monthly; this has the potential to discourage pharmacists from spending time with patients, as pharmacists work more speedily to accumulate higher prescription totals.

Performance standards for the dispensary include the time to process a prescription on computer and collect the required medication, which is not expected to exceed a few minutes. Current practices minimise communication time between pharmacists or the pharmacist's assistant and individual patients, thus decreasing queuing times, increasing efficiency and allowing more prescriptions to be processed, thereby



increasing revenue. The performance standards and KPIs used thus do not reflect the qualitative components of the pharmaceutical service provided. Furthermore, it is not known whether pharmacists view the provision of pharmaceutical care as a key performance area, since there are no performance standards and KPIs for this, and no job descriptions that would highlight pharmacists' key performance areas.

### **1.2.3 Potential non-compliance with GPP standards for professional services**

The tension created between the current organisational drive for efficiency, increased profitability and rapid patient turnover, and the need to have sufficient time to provide pharmaceutical care, raises the question whether the current PMS allows pharmacists time and a supportive framework within which to comply fully with the standards for professional services in Chapter 2 of the GPP standards (South Africa. SAPC, 2010a). These include analysing each prescription for drug interactions, appropriateness for the individual patient, and providing adequate patient counselling, so that optimal pharmaceutical care is provided.

Although providing pharmaceutical care is a function of pharmacists, it is within the scope of practice of pharmacist's assistants (South Africa. SAPC, 2010a) to provide patient counselling regarding pharmacotherapy, a key aspect of pharmaceutical care, under the supervision of a pharmacist. It is not known whether performing this function is viewed as a key performance area for the pharmacist's assistant, since she does not have a written job description.

Finally, not offering patients the option of generic substitution infringes s2.7.3.11 of the GPP standards (South Africa. SAPC, 2010a), as well as s22F of the Medicines and Related Substances Act 101 of 1965 (South Africa. National Parliament, 1965), which state that generics must be offered except in certain circumstances, such as if the prescriber writes next to the item on the prescription that it cannot be substituted,

the cost of the generic is higher than that of the original product, or the item has been declared non-substitutable by the Medicines Control Council.

#### **1.2.4 Potential non-compliance with GPP standards for management practices**

Chapter 3 of the GPP standards (South Africa. SAPC, 2010a) focuses on standards for HRM, whilst Chapter 4 includes general management standards. These are intended to facilitate the provision of a high quality, efficient pharmaceutical service embodying the principles of pharmaceutical care (South Africa. SAPC, 2010a). Many of these standards are performance management-related, and thus of particular relevance in this research.

Chapter 3 includes standards prescribing the scope of practice of pharmacy personnel; having written job descriptions for all pharmacy employees; orientation and training when employees are appointed; performance objectives being set, in consultation with employees, at least once a year; regular performance appraisals, which includes employees' self-assessment of their performance; rewards reflecting performance outcomes; employee participation in the activities of professional bodies being promoted; a training plan and development programme for employees; employees having self-development plans; standards for continuing professional development (CPD); and pharmacists being covered by professional indemnity<sup>7</sup> (South Africa. SAPC, 2010a).

Chapter 4 includes standards relating to having sufficient pharmacists and support staff to provide a pharmaceutical service; clearly allocating employee responsibilities and duties; compliance with all SAPC standards and relevant legislation; having a

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<sup>7</sup> Professional indemnity is a form of insurance which would cover the pharmacist to a certain monetary value in the event of him/ her facing a legal risk arising from his/ her professional work. An example of such a legal risk is a patient suing the pharmacist.

mission statement that is understood by all employees and aligned with the principles of pharmaceutical care; having quality and business objectives, which should be reviewed at least once a year; standards for a Quality Improvement Plan, including the development of SOPs, which must be adhered to; monitoring the effectiveness of the pharmacy, including the health outcomes of patients; and developing inter-professional relationships with other health-care professionals (South Africa. SAPC, 2010a).

It is not known to what extent the pharmacy is compliant with all the above standards. There is the risk that the pharmacist's assistant and front-shop assistants perform functions outside their scope of practice, with the latter often managing the sale of OTC medication. There are no written job descriptions, regular performance appraisals or a structured induction and orientation programme for the pharmacists and pharmacist's assistant. There is a shortage of dispensary staff; there is no mission statement; and employees have not signed the SOPs developed for the pharmacy, leading one to assume that they have not read these. This indicates that many of the required performance management-related tools are not in place.

It is not known whether the pharmacy is required to be compliant with the Employment Equity Act 55 of 1998 (South Africa. National Parliament, 1998), another standard in Chapter 3 of the GPP standards. This is because although there are fewer than 50 employees, it is not known whether the pharmacy's annual turnover exceeds R15 million, in which case it would have to comply with this Act. Fifteen million Rand is the threshold for retail trade in schedule 4 of the Employment Equity Act. Retail trade in pharmaceuticals is classified under retail trade in the Standard Industrial Classification of All Economic Activities (Statistics South Africa, 1993). The pharmacy's turnover is unknown as the owner has not divulged financial results (see 1.6). All dispensary employees, however, are from designated groups<sup>8</sup>.

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<sup>8</sup> "Designated groups" are defined in s1 of the Employment Equity Act 55 of 1998 as Black people, women and people with disabilities (South Africa. National Parliament, 1998).

### **1.2.5 Risks associated with non-compliance with GPP standards**

Non-compliance with GPP standards outlined by the SAPC (South Africa. SAPC, 2010a), besides potentially leading to patient harm and an increase in the incidence of DRP, has legal and professional risks. Although, according to the owner-manager, there have been no complaints to the SAPC about the pharmacy, s35A(d) of the Pharmacy Act 53 of 1974 (South Africa. National Parliament, 1974) mandates the SAPC to inspect pharmacies. Non-compliance with GPP standards could lead to disciplinary action being taken against individual pharmacists, the pharmacist's assistant and/ or the pharmacy.

### **1.3 Research statement**

“The current PMS for pharmacists and the pharmacist's assistant undermines compliance with GPP standards for the provision of pharmaceutical care to patients”.

### **1.4 Research objectives**

The objectives of this research are:

- i) To examine whether the pharmaceutical services provided by pharmacists and the pharmacist's assistant comply fully with GPP standards for pharmaceutical care;
- ii) To assess whether patients' perceptions of whether various pharmaceutical care services are performed by the pharmacy vary with the demographic profile of patients;
- iii) To determine whether pharmacists view the provision of pharmaceutical care as a key performance area; and

- iv) To investigate which aspects of the implementation of the PMS are viewed by pharmacists and the pharmacist's assistant as enabling or undermining the provision of pharmaceutical care.

## **1.5 Significance of the study**

This research could potentially identify areas of non-compliance with GPP standards for pharmaceutical care, as outlined by the SAPC (South Africa. SAPC, 2010a). Such non-compliance poses legal and professional risks to pharmacists, the pharmacist's assistant and the pharmacy. Identifying possible areas of non-compliance is thus a necessary first step in taking appropriate corrective action, so that the compliance of the pharmacy and its employees with the standards surrounding pharmacy practice in South Africa is enhanced further.

Moreover, identifying aspects of the PMS that undermine the provision of pharmaceutical care highlights weaknesses in the current PMS that need to be addressed in order to improve individual and organisational performance in providing optimal pharmaceutical care. Increased compliance with GPP standards for pharmaceutical care has the potential to enhance the quality of pharmaceutical services provided to patients, contributing towards enhanced patient safety, therapeutic efficacy and customer satisfaction.

Finally, there is a scarcity of literature on PMSs in small, medium and micro enterprises (SMMEs), particularly in the retail pharmacy environment. There is no literature published, to the author's knowledge, on whether patients' perceptions and expectations of pharmaceutical care vary with the demographic profile of the patient, or the effects of a PMS on the provision of pharmaceutical care in South Africa. It is hoped that this research thus contributes to knowledge creation in these areas.

## 1.6 Delineation of the research

This research is conducted in the retail sector of pharmacy practice. The many other sectors of pharmacy practice, such as the hospital, institutional and industrial sectors, will not be included. This study is also conducted in the private sector, and not in a public-sector pharmacy.

The research is conducted at one independently-owned retail pharmacy in Johannesburg, South Africa. There were two reasons for choosing an independently-owned pharmacy:

- (i) Independently-owned pharmacies in South Africa have been under increasing competition since 2004 from private-sector retailers, such as New Clicks Holdings, Shoprite and Pick 'n Pay, which have opened pharmacies in their stores (Shevel, 2008; New Clicks Holdings, 2008). Due to their larger purchasing power, these retailers are able to offer lower prices, leading to the closure of many small, independently-owned pharmacies (Shevel, 2008). It was thus decided to investigate performance management within a pharmacy facing these competitive pressures; and
- (ii) There are not many studies reported in the literature on PMSs in SMMEs, particularly in the retail pharmacy environment (see 1.5).

The pharmacy in this study was chosen primarily due to the willingness of the owner-manager for this research to be conducted at his pharmacy. The name of the pharmacy, however, cannot be disclosed, due to a confidentiality agreement with the owner-manager. He has also declined to share financial information with the author.

XXX Pharmacy will be referred to as operating in the SMME sector, but it cannot be classified further as a medium, small, very small or micro enterprise according to the schedule in the National Small Business Act 102 of 1996 (South Africa. National Parliament, 1996), because the pharmacy's total annual turnover is not known.

The PMS that is investigated is that for pharmacists and the pharmacist's assistant only. XXX Pharmacy does not employ any pharmacist interns at the time of this research. Front-shop assistants were not interviewed, as according to GPP standards (South Africa. SAPC, 2010a) the provision of pharmaceutical care is the responsibility of pharmacists. Information on whether front-shop assistants are providing pharmaceutical services, which is the function of pharmacists and pharmacist's assistants according to GPP standards (South Africa. SAPC, 2010a), is obtained through the questionnaire administered to patients and interviews with pharmacists and the pharmacist's assistant.

The legislation referred to is legislation passed by the National Parliament of the Republic of South Africa. Reference to an Act also includes amendments made to the Act.

Sections 3(c), 3(e)(iii)-(iv) and 35A of the Pharmacy Act 53 of 1974 (South Africa. National Parliament, 1974) require the SAPC to establish GPP standards in South Africa. The compliance of pharmacists and the pharmacist's assistant in XXX Pharmacy with a selection of these standards is assessed. The questions asked in the questionnaire are limited to probing compliance with selected, relevant standards in Chapter 2 ("Professional standards for services: minimum standards for services provided in a pharmacy") (South Africa. SAPC, 2010a: 43-190) and Appendix A ("Scope of practice of pharmacy personnel") of the GPP standards (South Africa. SAPC, 2010a: 222-231). In order to keep the questionnaire short and user-friendly, as patients might not otherwise be willing to complete it, compliance with only a selection of GPP standards has been investigated. The probing of standards that are specifically non-technical in nature, i.e. those related to the analysis of pharmacotherapy to ensure it is appropriate for individual patients and those related to patient counselling, were selected, because these relate more specifically to the "expanded role" of pharmacists, as described by Assa-Eley and Kimberlin (2005: 44), as providers of pharmaceutical care. GPP standards relating to other sectors of pharmacy practice, such as the institutional and wholesale sectors, were excluded, as many of these are not relevant for a retail pharmacy.

The interview questions are based on selected, relevant standards in Chapter 2, Chapter 3 (“Professional standards for pharmacy human resources: minimum standards for human resources in (*sic*) pharmacy”), Chapter 4 (“Professional standards for pharmacy management: minimum standards for management of the pharmacy/ pharmaceutical service”) and Appendix A of the GPP standards (South Africa. SAPC, 2010a: 43-231). In order to keep the interview relatively short, given the time commitments of all interviewees, compliance with only selected GPP standards is probed. There is more of a focus on standards in Chapters 3 and 4, as there is greater emphasis on performance management in these chapters.

Chapters 3 and 4 (South Africa. SAPC, 2010a) consider a PMS holistically and in an integrated manner with other business-related processes, including the planning phase; the development of relevant business documentation, such as job descriptions and performance objectives; performance appraisal; quality management; training and development (T&D); and rewards. All these aspects of an integrated PMS are considered in this research.

Compliance with Chapter 1 (“Professional standards for premises: minimum standards for pharmacy premises, facilities and equipment”) of the GPP standards (South Africa. SAPC, 2010a: 9-42) is not considered, with the exception of sections 1.2.1(e) and 1.6.1(g), which state that a pharmacist and post-basic pharmacist’s assistant, respectively, must wear a name tag that identifies the individual to the public and states his/ her designation. These two standards are included in the present study, as the identification of the designation of these individuals reflects the scope of practice of pharmacists and pharmacist’s assistants, which is a component of this research.

Finally, the patients participating in this study had to be functionally literate in English, in order to complete the questionnaire by themselves. Patients also had to be eighteen years or older. Employees of the pharmacy were not permitted to complete a questionnaire.



## 1.7 Definition of terms

“**Pharmaceutical care**” is described by the SAPC (South Africa. SAPC, 2010a: 3) as “taking responsibility for the patient’s medicine-related needs and being accountable for meeting these needs”. A “**drug-related problem**” (DRP) is defined by the Pharmaceutical Care Network Europe (PCNE) Foundation (2010: 2) as “an event or circumstance involving drug therapy that actually or potentially interferes with desired health outcomes”. A glossary of other pharmaceutical terminology used in this report is provided on page 276.

## 1.8 Assumptions

The appropriateness of GPP standards (South Africa. SAPC, 2010a) will not be evaluated. This research assumes that since GPP standards are legally mandatory for dispensary employees, any PMS is obliged to promote compliance with these standards. Many of the same questions or statements have also been posed to the interviewees and patients, in order to detect discrepancies. Nevertheless, it is assumed that all participants will be honest in their responses.

## 1.9 Chapter overview

In the second chapter, two business models will be applied to the research problem. Chapter three is a literature review, whilst chapter four details the research design and methodology employed. Chapter five will present the results of this study, and these will be discussed in chapter six. This research report will conclude with chapter seven, in which the summary of research findings, commendations, final conclusions, recommendations, possible barriers to implementing these recommendations and ways in which these can be addressed, as well as suggestions for future research, will be provided.

## **CHAPTER TWO: PROBLEM ANALYSIS**

### **2.1 Introduction**

Cameron's (2006a: 120) "elaborated model" of a PMS and Parasuraman, Zeithaml & Berry's (1985) "quality gaps model" cited in Stapleton (2007: 122) will be applied to the research problem in this chapter, in order to gain deeper understanding of the complexity of the research problem. It should be noted that the information related to the pharmacy provided in this chapter and in the preceding chapter, is preliminary information. This preliminary information is based on the author having spent time in the pharmacy; familiarising herself with the layout, processes and practices in the pharmacy; having had several informal discussions with the owner-manager in recent years; and from reviewing relevant business documentation, such as the minutes of staff meetings, SOPs and the job descriptions of front-shop assistants.

### **2.2 Analysing the pharmacy's PMS**

In Cameron's (2006a: 120) "elaborated model", there is the horizontal integration of processes such as individual objective setting, T&D, performance appraisal and rewards; and the vertical integration of organisational strategy, departmental goals and individual objectives. This model is applied to the pharmacy in Figure 1 on the next page. Each component will subsequently be discussed in more detail. A limitation of the model is that it does not refer to staffing. Section 4.1(b) of the GPP standards (South Africa. SAPC, 2010a) states that there must be sufficient pharmacists and support staff to provide pharmaceutical services. Including pharmaceutical care, which is time-intensive (see 1.1), as a key performance area may necessitate employing additional pharmacists and pharmacist's assistants, in order to maintain operational efficiency. The model has also been adapted by including the vision of the pharmacy as impacting on its strategies.



Figure 1: Analysing the pharmacy's PMS by adapting Cameron's (2006a: 120) "elaborated model"

### **2.2.1 Pharmacy's vision**

Organisational vision is not a component of the model, but rather provides the strategic direction for the PMS. It is not known whether XXX Pharmacy has a vision and what this is, as there is no written vision advertised to patients and the wider public, for example as a slogan on the dispensary wall. There is thus no explicitly-stated commitment to the provision of pharmaceutical care, or an expressed recognition of the interests of a wide range of stakeholders, such as patients, the community and other health-care professionals, that is reflected in the principles of pharmaceutical care, as described by the SAPC (South Africa. SAPC, 2010a).

Furthermore, there is no explicit mission statement, which would reflect the pharmacy's vision and which should be in alignment with the principles of pharmaceutical care, according to s4.2.1.1(e) and s4.2.1.1(f) respectively of the GPP standards outlined by the SAPC (South Africa. SAPC, 2010a). This could result in ambiguity for employees and patients regarding the pharmacy's core functions.

### **2.2.2 Organisational strategy**

Following the lack of an explicitly-stated vision of pharmaceutical care, there is no articulated organisational strategy to ensure the provision of pharmaceutical care, suggesting that providing pharmaceutical care is not regarded as a strategic priority.

### **2.2.3 Functional strategy and goals**

In the dispensary, there are also no written, explicitly-stated strategies for the provision of pharmaceutical care. There is thus no guidance to pharmacists on how to provide pharmaceutical care, or what the goals of such a service are. The owner-

manager revealed to the author that he does not have any strategic and business plans for the dispensary or the pharmacy.

#### **2.2.4 Individual objective setting**

This component is particularly problematic. The absence of written job descriptions for dispensary staff and regular discussions to agree on performance objectives, required in s3.2.1(a) and s3.2.2(a) of the GPP standards (South Africa. SAPC, 2010a), respectively, has the potential to result in uncertainty regarding roles, responsibilities and the execution of key performance areas. This could adversely affect employee motivation and effective teamwork. There is also an increased risk that pharmacists do not fulfil all their responsibilities outlined in GPP standards (South Africa. SAPC, 2010a) and that the pharmacist's assistant and non-dispensary employees perform pharmaceutical functions that they are not entitled to perform.

There are no objectives for the delivery of pharmaceutical care. Cameron (2006a) classifies two types of objectives, namely tasks and targets. Although providing pharmaceutical care includes a number of tasks (see 1.1 and the next page), there are no clearly-articulated tasks and targets relating to pharmaceutical care in XXX Pharmacy. There are also no specific KPIs and performance standards for the provision of pharmaceutical care, which increases the likelihood that pharmacists do not view the provision of pharmaceutical care as a key performance area.

As discussed in 1.2.2, the KPIs and performance standards do not promote pharmacists spending time communicating with patients. The use of primarily quantitative, financial KPIs and performance standards undermines the importance of qualitative aspects of pharmaceutical service delivery, such as whether patients understand how to take medication correctly. These qualitative aspects are critical in providing pharmaceutical care.

The expectation that pharmacists follow the owner-manager's working preferences is a form of managerial control. Whilst this may be advantageous in promoting consistency in service delivery and maintaining the quality standards set by the owner-manager, a disadvantage is that preferences of the owner-manager that are in conflict with GPP requirements (see 1.2.3), become established.

Since the SOPs became effective in August 2009, there have been no signatures confirming employee awareness of these SOPs. This highlights that ensuring adherence to these SOPs has not been a strategic priority for the dispensary, or a key performance area for pharmacists and the pharmacist's assistant. Furthermore, the owner-manager's practice of not always offering generic medication contrasts with the SOP for generic substitution, indicating that he does not view compliance with this SOP as important.

Analysis of the SOPs reveals that whilst there are SOPs for the handling of medication and whilst the SOPs mention the need to adhere to GPP standards, none of these includes the procedure to be followed in dispensing a prescription or providing OTC medication. According to s2.7.1 of the GPP standards (South Africa. SAPC, 2010a), dispensing consists of three phases: (i) prescription interpretation and assessment; (ii) preparing and labelling medication; and (iii) patient counselling. Phase (i) is not within the scope of practice of a pharmacist's assistant, according to s1.2(g) in Appendix A of the GPP standards (South Africa. SAPC, 2010a). Phases (i) and (iii) are particularly important in ensuring that pharmaceutical care is provided, as described in s1.5.1(a) of Appendix A of the GPP standards (South Africa. SAPC, 2010a). Whilst not suggesting that an SOP covering these three phases should be overly prescriptive, some guidelines for the pharmacists and pharmacist's assistant to follow could be beneficial in creating a structure and paradigm of practice that facilitates the provision of pharmaceutical care, by ensuring that the focus is not predominantly on the primarily technical phase (ii).

The absence of an SOP for dispensing a prescription could thus contribute to difficulty and potential inefficiency in providing pharmaceutical care, as there are no practical, agreed-upon steps to be followed. Although there is likely to be variability in information exchanges between pharmacists or the pharmacist's assistant and patients, a standard set of questions and responses could promote efficient, effective information exchange. An SOP for the provision of OTC medication could, likewise, introduce a structured way of practice that facilitates pharmacists and the pharmacist's assistant complying with requirements for the provision of OTC medication in s2.12 of the GPP standards (South Africa. SAPC, 2010a).

The fact that the pharmacy has not developed SOPs for dispensing prescriptions and providing OTC medication mirrors the fact that s4.2.3.3.1 of the GPP standards (South Africa. SAPC, 2010a), which lists the SOPs a retail pharmacy should have, does not include these as required SOPs and also does not list an SOP for the provision of pharmaceutical care as being required. This highlights a weakness of the GPP standards; if pharmaceutical care is a core function of pharmacists, then its provision is undermined by it not being compulsory for pharmacies to have and comply with SOPs covering all the key aspects of providing pharmaceutical care.

### **2.2.5 Performance appraisal**

According to s3.2.2(a) of the GPP standards (South Africa. SAPC, 2010a), performance objectives and job descriptions are the yardsticks against which performance should be assessed. As there are no written job descriptions for dispensary employees and performance objectives are not clearly stated and assessed on a regular basis and in consultation with employees, it is thus possible that there may be problems in implementing effective performance appraisals.

Performance is also appraised on a reactive basis, if a problem is detected by the owner-manager. Waiting until such a situation develops could result in problems

becoming more difficult to resolve and having a potentially greater adverse effect on individual, team and organisational performance. Furthermore, when the owner-manager is off-shift, he would not be present to detect and address problems.

It is likely to be difficult to assess whether a pharmacist is providing pharmaceutical care or whether the pharmacist's assistant is providing patient counselling, and the quality of this, since there are no performance objectives, standards and KPIs related to pharmaceutical care. Since compliance with SOPs is not emphasised by the owner-manager and he has not ensured that dispensary staff have read the SOPs, it would be problematic for him to assess their performance against these SOPs. If he had made compliance with SOPs a key performance area, however, the need for dispensary employees to comply with GPP standards, as described by the SAPC (South Africa. SAPC, 2010a), would be promoted.

#### **2.2.6 T&D**

The pharmacy does not have a training plan and structured development programme, which are required in s3.2.3(a) of the GPP standards (South Africa. SAPC, 2010a). T&D activities, such as the attendance of medical talks at the nearby hospital, are undertaken on an irregular basis, if there is time.

Chapter 3 contains standards for CPD. Section 3.4.1.1(c) states that a qualification as a pharmacist or pharmacist's assistant does not imply competence in performing the required functions, and that additional training may be necessary. The owner-manager of XXX Pharmacy is responsible for evaluating the T&D needs of his employees, according to s3.4.1.1(j) of the GPP standards (South Africa. SAPC, 2010a). The absence of a T&D plan and a structured programme to assess and proactively develop the skills needs of pharmacists and the pharmacist's assistant could result in critical skills gaps being overlooked.



Providing pharmaceutical care, as described by GPP standards (South Africa. SAPC, 2010a), requires a vast amount of pharmacotherapeutic expertise. There is the possibility that pharmacists may be reluctant to provide pharmaceutical care due to a lack of specific knowledge and/ or skills. For example, pharmacists may not know a new drug profile and might thus be reluctant to question the appropriateness of a prescription for the drug. Or, a pharmacist may have forgotten drug knowledge learnt at university. This could undermine confidence in analysing a patient's pharmacotherapy and/ or in providing patient counselling, serving as a deterrent in performing these tasks. Similarly, a pharmacist's assistant may be reluctant to provide patient counselling due to a lack of knowledge, perhaps regarding a particular medication and/ or medical condition.

There could also be non-pharmaceutical skills gaps, such as in customer relations, problem-solving, communication and/ or time-management skills. The Introduction to the GPP standards (South Africa. SAPC, 2010a) highlights the need for improved communication skills. A gap in these "softer" skills could undermine confidence in asking patients questions probing their pharmacotherapy and/ or in providing patient counselling. In the South African context, additional skills, such as diversity management, are particularly relevant. Diversity-related issues such as race, culture, gender and socioeconomic status, between the pharmacist or pharmacist's assistant and a patient could add further complexity to the patient encounter.

### **2.2.7 Rewards**

There are no financial or non-financial rewards for providing pharmaceutical care. It could be argued that pharmacists should not be rewarded additionally for providing pharmaceutical care, as this is mandatory according to GPP standards outlined by the SAPC (South Africa. SAPC, 2010a). This raises the question whether pharmacists' salaries, in this pharmacy and more broadly in South Africa, adequately reflect the responsibilities inherent in providing pharmaceutical care.

In recent years, besides pressures exerted on independently-owned retail pharmacies by large chain stores (see 1.6), profit margins on medication decreased due to Single Exit Pricing, introduced in 2004 in terms of the Medicines and Related Substances Act 101 of 1965 (South Africa. National Parliament, 1965). This could have served as a disincentive to greatly increase the financial rewards to pharmacists and pharmacist's assistants, as doing so would further decrease pharmacies' net operating profit. This raises the question whether managing pharmacists may possibly not encourage pharmacists to provide pharmaceutical care in the belief that pharmacists would expect greater financial rewards. Finally, individual performance not being recognised at staff meetings could potentially serve as a disincentive to provide pharmaceutical care.

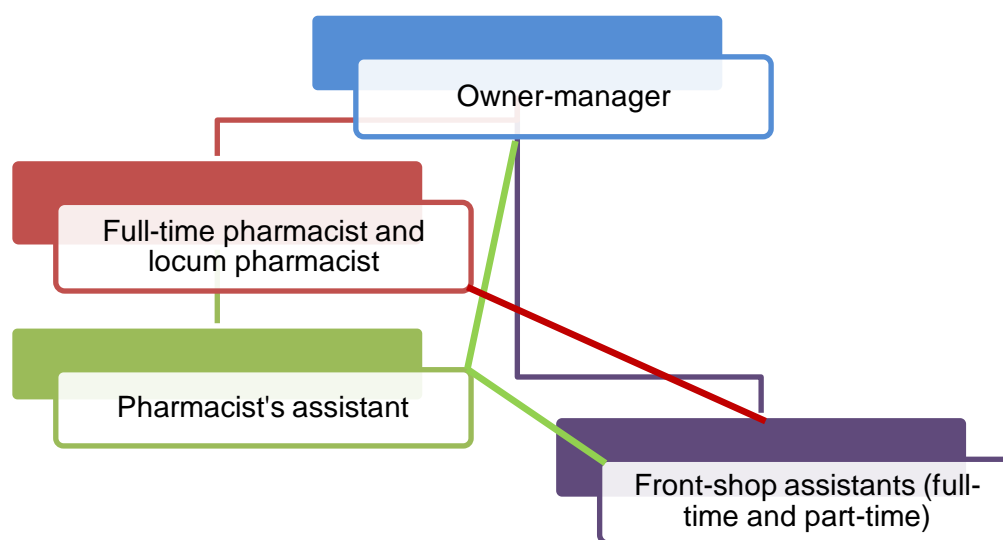
### **2.2.8 Potential for career advancement**

It could be argued that providing pharmaceutical care cannot be rewarded by career advancement, as it is a core function of pharmacists (see 2.2.7). The assumption of the additional responsibilities inherent in providing pharmaceutical care (see 1.1) is unlikely to result in career advancement for pharmacists in XXX Pharmacy, as there is only one level between pharmacists and the owner-manager (see the organogram in Figure 2 on the next page). The pharmacist's assistant's potential for career advancement is also limited, as she does not possess a pharmacy degree.

### **2.2.9 Agreeing on new objectives and reviewing the PMS**

There are no regular discussions to assess the appropriateness of performance objectives. According to s3.2.2(a) of the GPP standards (South Africa. SAPC, 2010a), the managing pharmacist should develop performance standards at least once a year, with input from individual employees. In XXX Pharmacy, there is thus inadequate dialogue and analysis of individual performance objectives, and whether these remain appropriate and reflective of key stakeholder interests. This is unlikely

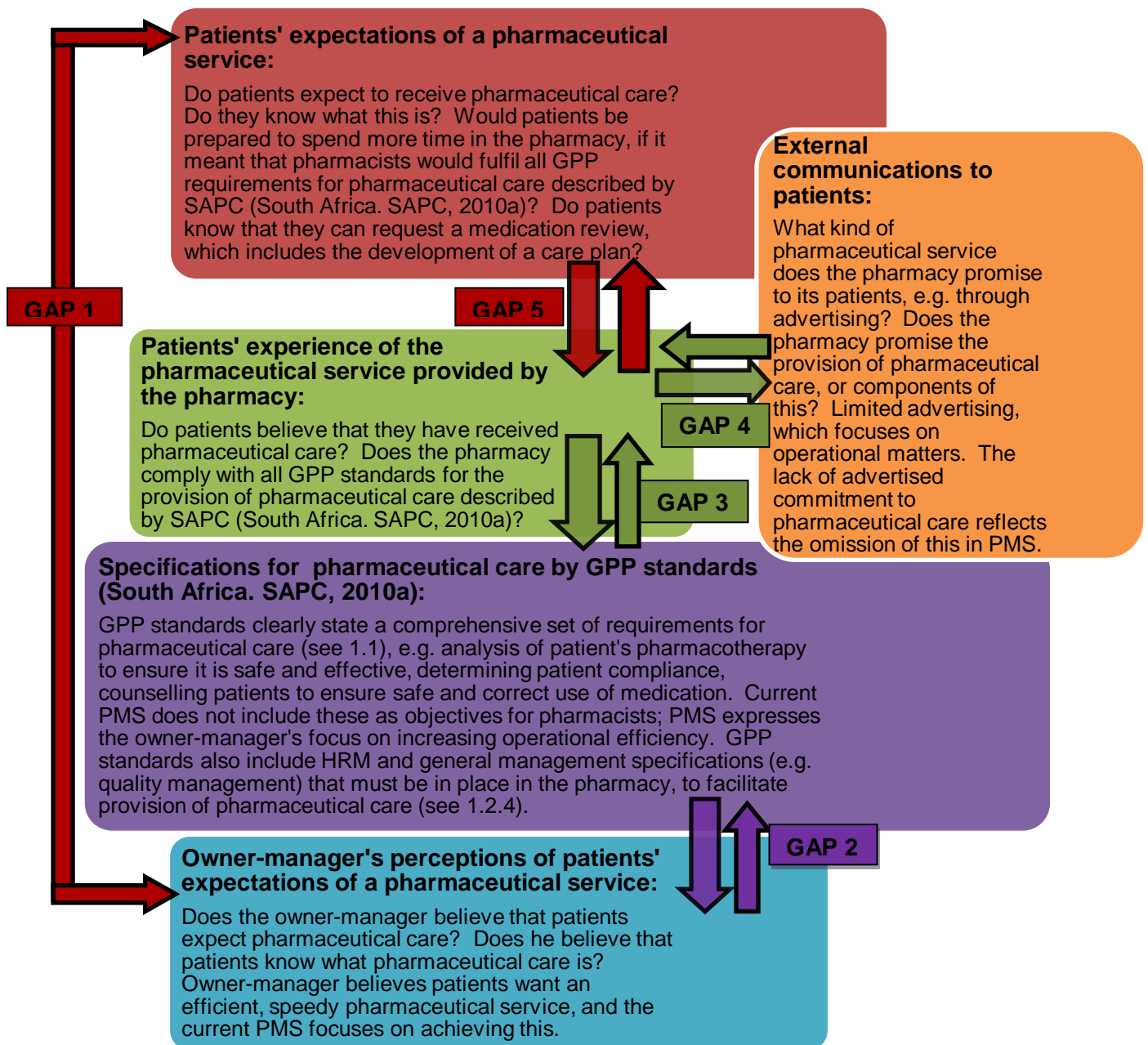
to promote discussions about pharmaceutical care, how to introduce this as a key performance area and the kinds of objectives that would facilitate the provision of this service. Similarly, not reviewing the PMS on a regular basis does not promote the owner-manager proactively detecting weaknesses and gaps, such as inadequate recognition of the importance of pharmaceutical care as a key performance area from a regulatory perspective, or the need for a structured T&D programme.



**Figure 2: Organogram of the pharmacy**

### 2.3 Analysing potential quality gaps

Since GPP standards, for example s4.2.2, aim to ensure the provision of a high quality pharmaceutical service (South Africa. SAPC, 2010a), it is necessary for a pharmacy's PMS to have a sound focus on quality management. Parasuraman, *et al.*'s (1985) "quality gaps model" cited in Stapleton (2007: 122) identifies several quality gaps that can occur. This model is applied to the pharmacy in Figure 3 on the next page.



**Figure 3: Analysing potential quality gaps by adapting Parasuraman, *et al.*'s (1985) model cited in Stapleton (2007: 122)**

**2.3.1 Gap 1: Between patients' expectations and the owner-manager's perceptions of these**

The owner-manager believes that patients expect an efficient, speedy service. This perception has added impetus to the PMS's strategic focus on operational efficiency.

He also believes that many patients do not want to receive counselling about their pharmacotherapy. The owner-manager's perceptions thus reflect the view that patients do not want to receive pharmaceutical care. These perceptions could offer justification for not including the provision of pharmaceutical care as a key performance area for pharmacists and not developing relevant KPIs and performance standards for this (see 2.2.4), as the owner-manager believes that his customers do not consider pharmaceutical care important.

Expectations are not the same as wants. A patient may, for example, want certain elements in a service, but may not expect that these will be delivered, perhaps due to prior negative experiences. An individual's level of knowledge is also important in shaping expectations. For example, a patient may not expect certain elements in a service, not necessarily because the patient does not want these, but because the patient does not know that these elements exist, or that a particular service provider can deliver these elements (see 2.3.5).

Parasuraman, *et al.*'s (1985) model cited in Stapleton (2007: 122) refers to expectations. The question arises whether patients expect to receive pharmaceutical care. It is unclear whether the owner-manager believes that patients do not expect pharmaceutical care, in addition to his perception that patients do not want to receive this service. The implication is that one of the reasons that patients continue to patronise the pharmacy is because they do not expect, from the owner-manager's perspective, to receive pharmaceutical care there.

If patients expect pharmaceutical care and the owner-manager's perception is that they do not, a gap arises. As described in 2.2, the PMS of XXX Pharmacy does not emphasise and evaluate performance in providing pharmaceutical care. If patients expect pharmaceutical care, this could lead to service quality not meeting patients' expectations, potentially resulting in patient dissatisfaction. This could potentially have an adverse effect on customer or patient retention (see 2.3.5).

### **2.3.2 Gap 2: Between the owner-manager's perceptions of patients' expectations and specifications for pharmaceutical care**

The SAPC's specifications for pharmaceutical care are outlined in GPP standards (South Africa. SAPC, 2010a) (see 1.1). These specifications have arisen in response to the SAPC's vision "to ensure that pharmaceutical services are the best to meet the health care needs of the people" (South Africa. SAPC, 2010a: 1). This vision of the SAPC is not echoed in a vision for the pharmacy; or its strategies, goals, objectives for pharmacists and the pharmacist's assistant or other components of the PMS (see 2.2).

Assuming responsibility and accountability for meeting patients' medication-related needs, as described by the SAPC's definition of pharmaceutical care (South Africa. SAPC, 2010a) (see 1.7), and complying with GPP standards to ensure that patients' pharmacotherapy is individualised in terms of appropriateness and counselling, promotes the development of relationships between pharmacists and patients, characterised by a pharmacy's commitment to deliver a high quality service and the recognition of patients as primary stakeholders.

This creates a gap with the owner-manager's perceptions that patients expect a speed-oriented service; and also with the current PMS, which focuses on achieving such efficiency. If the owner-manager decides to strategically focus on fulfilling what he perceives patients' expectations to be, instead of including compliance with GPP standards for pharmaceutical care as a key performance area, substandard pharmaceutical services could result (see 2.3.3).

Sections 3.4.1.1(d), 4.1, 4.2.2.2(e) and 4.2.3 of the GPP standards (South Africa. SAPC, 2010a) state that pharmaceutical services should be provided efficiently. The management standards in Chapters 3 and 4 are thus supposed to promote efficient service delivery. Complying with GPP standards should therefore facilitate achieving

the pharmacy's strategic priority of increased operational efficiency. Theoretically, there thus does not have to be tension between efficiency and compliance with GPP standards, as these are two complementary components of providing pharmaceutical care. The dominant focus on the former, however, in the current PMS, has the potential to widen the gap between these two components, thereby undermining the provision of pharmaceutical care.

### **2.3.3 Gap 3: Between patients' experiences and GPP standards for pharmaceutical care**

The SAPC (South Africa. SAPC, 2010a: 1) states that,

“The vital element in this [the SAPC's] vision is the commitment of the pharmacy profession to promote excellence in practice for the benefit of those they serve. The public and other professions will judge the pharmacy profession on how that commitment is translated into the practice they observe”.

According to the SAPC (South Africa. SAPC, 2010a), service excellence is promoted by pharmacies complying with GPP standards. The question that arises is whether patients experience this “excellence in practice”, as described by the SAPC (South Africa. SAPC, 2010a: 1). If not, there is a quality gap between patients' experiences and GPP specifications for the provision of pharmaceutical care, leading to the delivery of substandard pharmaceutical services. This may lead to patients judging that the pharmacy is not committed to promoting excellence in pharmaceutical service delivery.

The PMS does not include formal quality standards for the pharmacists and pharmacist's assistant. As mentioned in 2.2.4, having to follow the owner-manager's working preferences can represent a form of quality control, but if these preferences

do not promote compliance with GPP standards, as outlined by the SAPC (South Africa. SAPC, 2010a), poor quality pharmaceutical services could result.

A shortcoming of the PMS is that adherence to SOPs is not a key performance area for dispensary employees. Section 4.2.2.1(k) of the GPP standards (South Africa. SAPC, 2010a) stipulates that all employees be trained in SOPs. If this was so, and compliance with SOPs thus promoted, the quality gap between patients' experiences and GPP specifications would potentially be narrowed. There is also no Quality Improvement Plan, the requirements of which are detailed in s4.2.2.1(a) of the GPP standards (South Africa. SAPC, 2010a), which could also narrow this gap.

#### **2.3.4 Gap 4: Between patients' experiences and external communications to patients**

In this gap, patients do not receive what they have been promised by a service provider. The pharmacy has undertaken limited advertising to patients. There is no mission statement (see 2.2.1), so patients do not know what the pharmacy commits to in pharmaceutical service delivery. The pharmacy's vision and goals are not on public display, so patients are not informed of these. A possible reason for the pharmacy not advertising its vision and goals is that if these are profit-oriented, it might offend patients' sensibilities to have these clearly displayed.

The advertising undertaken includes a prominent sign notifying passersby that the pharmacy has long trading hours. There is also a board in the dispensary listing the pharmacy's services, such as the provision of blood pressure testing, the hiring of rehabilitative equipment, a nurse on Saturday mornings and the provision of patient counselling for prescription and OTC medication. Quality standards, pharmaceutical care or desired health outcomes are not mentioned. The limited advertising thus focuses primarily on operational matters, which is in alignment with the pharmacy's strategic focus on operational efficiency. A potential advantage of limiting



advertising primarily to operational matters, and not conveying a vision, mission statement, goals, quality-related information or commitments regarding pharmaceutical care, is that the scope of what is promised to patients is narrower. Patients' expectations are thus not heightened and it is potentially easier for the pharmacy to deliver on what has been promised.

The owner-manager emphasises punctuality; trading hours are observed and this aspect of the advertised services are provided. With the exception of patient counselling, there is thus no quality gap between the pharmacy's advertising and patients' experiences. However, this does not imply that patients' experiences necessarily reflect a high quality service; it instead reflects that the pharmacy has not committed, in its advertising, to deliver a high quality pharmaceutical service embodying the principles of pharmaceutical care described by the SAPC (South Africa. SAPC, 2010a). This omission mirrors the PMS not committing to providing pharmaceutical care (see 2.2). If patients do not receive counselling, there is a gap between patients' experiences and the pharmacy's advertising, with the latter not delivering on a commitment it has made, which could lead to patient dissatisfaction.

### **2.3.5 Gap 5: Between patients' experiences and their expectations**

If patients' experiences do not meet their expectations, dissatisfaction and a loss of customer loyalty could result. Alternatively, if patients' experiences positively exceed their expectations, increased customer satisfaction and loyalty could ensue.

The pharmacy's PMS is designed to ensure that patients receive a speedy, efficient, transactional service. There is minimal time for patient counselling regarding pharmacotherapy and the development of relationships between pharmacists or the pharmacist's assistant, and patients. If this is the pharmaceutical service that patients experience, does it meet their expectations? As discussed in 2.3.1,

experiences, whether occurring to the patient or to others, can shape expectations. If patients have never received pharmaceutical care, they may be unaware that pharmacists can provide this service and therefore might not expect to receive it. Patients might also not know what pharmaceutical care is, or what pharmacists' responsibilities are in this regard, as described by the SAPC (South Africa. SAPC, 2010a). Patients might not know, for example, that they can request a pharmacist to perform a medication review (see 1.1). Patients' expectations would thus be set at the level of their experiences, and the quality gap between experiences and expectations would be narrow.

The question that arises is whether patients would like to receive pharmaceutical care. Would patients be willing to perhaps spend more time queuing in the pharmacy, if this meant that when it was their turn to be served, the pharmacist would analyse their pharmacotherapy thoroughly and counsel them appropriately? If this was so, and patients experienced optimal pharmaceutical care, their expectations could potentially be raised. It would then be even more imperative that all aspects of the PMS promoted the optimal provision of pharmaceutical care, as otherwise the quality gap between patients' experiences and expectations would widen.

## **2.4 Summary**

In this chapter, individual components of the pharmacy's PMS for pharmacists and the pharmacist's assistant were analysed. The lack of an explicitly-stated, written vision that commits the organisation publicly to providing pharmaceutical care has cascaded to all stages of the PMS, in particular on individual objective setting. The potential effects of the PMS on quality gaps in pharmaceutical service delivery to patients were then explored, with major potential quality gaps being that between the owner-manager's possible perceptions of patients' expectations and GPP standards for pharmaceutical care, and between these standards and patients' experiences.

## CHAPTER THREE: LITERATURE REVIEW

### 3.1 The nature of performance management

Bruden (2010: 109) describes performance management as “a discipline that assists in establishing, monitoring and achieving individual and organisational goals”. This author identifies the following three problematic areas in current performance management practices (Bruden, 2010):

- (i) There is poor development of standards for the classification, definition and use of performance management tools, which makes it difficult to apply performance management principles. Performance measurement, for example, is often used interchangeably with performance management;
- (ii) There is tension between two contrasting paradigms of performance management practice, namely the “command and control” paradigm (Bruden, 2010: 110), which was characteristic of the previous century, and the systems paradigm, which has evolved in the current era (see 3.1.2.2); and
- (iii) The predominant focus on performance measurement and rewards, instead of learning and development (Bruden, 2010). Neely (2005), in his history of the evolution of performance measurement, argues that the focus on quantification and the use of outdated performance measures in recent decades undermines long-term organisational performance. Many of these performance measures may no longer be appropriate, given the rapidly-changing business environment, as suggested by Kennerley and Neely (2003). Performance measures may be inappropriate by not having a strategic direction, not considering customer desires or competitors’ practices sufficiently, and by ensuring conformance to specified standards rather than encouraging continuous improvement (Neely, Gregory & Platts, 2005).

In discussing various approaches to defining performance management, Bruden (2010) cites Wholey (1996), who describes performance as socially constructed,

subjective and open to various interpretations, thus necessitating the need for there to be some kind of performance measurement. Folan, Browne & Jagdev (2007) cited in Bruden (2010) believe that organisations evaluate performance primarily against objectives that have been developed and agreed-upon internally, instead of objectives that have been developed externally. This could also contribute to some of the aforementioned limitations of many performance measures. Neely, *et al.* (2005), for example, highlight the importance of the external environment, in particular competitors and customers, as well as the internal environment of an organisation in influencing performance measurement.

The different levels of performance management, as well as contrasting paradigms of the nature of this field of management practice, will now be explored.

### **3.1.1 The evolution of performance management**

Performance management has evolved on an individual, operational and strategic level, according to Bruden (2010), as discussed below.

#### **3.1.1.1 The evolution of individual performance management**

Individual performance management has the longest recorded history, with performance appraisals of family members of the Wei Dynasty emperors in China being conducted as far back as the third century (Banner and Cooke, 1984 and Coens and Jenkins, 2000, both cited in Bruden, 2010). In industry, performance appraisals were introduced in Scottish cotton mills at the beginning of the 19<sup>th</sup> century (George, 1972 cited in Bruden, 2010). Individual performance was assessed in terms of individuals performing functions within a group (Bruden, 2010).

The military developed the use of performance appraisal in the First World War, based on a man-to-man rating system developed at Carnegie-Mellon University (Bruden, 2010), and many army researchers were recruited by the business sector after the war (Wiese and Buckley, 1998 and Scott, Clothier & Spriegel, 1941, both cited in Bruden, 2010), thus facilitating the transfer of performance management practices developed in the military. Civil rights and employment equity legislation in the United States of America (USA) in the 1970s and in Britain in the subsequent two decades prompted the need for organisations to introduce a system to manage performance (Bruden, 2010). In the 1980s and 1990s, PMSs were used as tools to transform the culture of public sector entities (Furnham, 2004 cited in Bruden, 2010).

In the 1990s, there was a shift towards self-assessment of individual performance (Bruden, 2010), which may have been due to an increase in the number of knowledge workers, who had greater autonomy over their work (Drucker, 1993 cited in Bruden, 2010). Storey (2005, 2009) describes knowledge workers emerging as a class of workers due to a fundamental transformation in the nature of work from Industrial Age, Taylorist principles of efficiency and standardisation (see 3.1.2.1), to the current era, in which knowledge is regarded as a key intangible asset in many sectors. Knowledge workers are discussed further in 3.1.2.1.

Even though there may thus be increased awareness of self-assessment and a greater incidence of this, as mentioned above, the role of line managers in performance appraisal and other performance management-related practices nevertheless remains important, according to den Hartog, Boselie & Paauwe (2004) and Storey (2005). According to den Hartog, *et al.* (2004), managers set objectives, provide employees with feedback on performance, can provide learning and developmental opportunities for employees and can contribute to developing a departmental subculture that emphasises high performance.

Another development in individual performance management in the 1990s was the introduction of the Balanced Scorecard and similar tools (see 3.1.1.3), which aligned

individual performance management with organisational strategic performance, thus enhancing individual accountability for the achievement of the organisation's strategies (Bruden, 2010). Research conducted in the area of performance management has also changed. Whereas traditionally research focused on determining whether supervisors' ratings of employees were accurate, current research also investigates the social dimension of performance appraisal (Fletcher, 2001 cited in den Hartog, *et al.*, 2004).

### **3.1.1.2 The evolution of operational performance management**

As described by Bruden (2010), the focus of operational performance management is on achieving functional or departmental objectives, usually by evaluating efficiency and effectiveness. The evolution of this sphere of performance management has been influenced by developments in the management and accounting fields, due to the ease of applying quantitative, financial performance indicators (Bruden, 2010). Lebas (1995) cited in Bruden (2010) mentions that, for example, the performance of a Venetian sailing expedition in the 13<sup>th</sup> century was calculated as the amount of money invested by the ship's owner less the amount gained by selling the goods brought back from the expedition.

The development of management as a separate activity arose in the 19<sup>th</sup> century, when there was a separation of the roles of owners and managers (Dainty and Anderson, 2008 cited in Bruden, 2010). This was followed in the early 20<sup>th</sup> century by Taylor's (1911) development of the principles of scientific management (Drenth, Thuerry & Wolff, 2001 cited in Bruden, 2010; Giannetti, 2004) (see 3.1.1.1 and 3.1.2.1), which were extended by Gilbreth and Gilbreth's time and motion studies, in which all employee movements at work were measured (Radnor and Barnes, 2007 cited in Bruden, 2010), to enhance efficiency.

With increasing environmental complexity, the abovementioned focus on the use of financial performance indicators gradually shifted towards an increasing recognition of the role of non-financial performance indicators, which contributed towards integrating operations management with other facets of management practice (Bruden, 2010). This recognition of the role of non-financial indicators was stimulated by the Japanese notion of quality management in the 1950s, which, according to Busi and Bititci (2006) cited in Bruden (2010), contributed to the foundation of current performance management theories. The concept of total quality management highlighted the need to improve operational effectiveness, and not just efficiency (Bruden, 2010). This stimulated the advent of customer-oriented performance measures (Bruden, 2010), such as those used by General Motors in the 1970s (Johnson and Kaplan, 1987 cited in Bruden, 2010).

In the late 1980s, there was increasing recognition of the need for operations performance management to consider performance from a number of perspectives (Bourne, Franco & Wilkes, 2000 cited in Bruden, 2010). This led to the greater use of business intelligence software programmes, which allow users to access and integrate a wide range of organisational data, in the 21<sup>st</sup> century (Bruden, 2010).

Neely, *et al.* (2005) classify performance measures as relating to quality, time, cost or flexibility. These authors suggest that there needs to be consistency between performance measures, decision-making, actions undertaken at various levels of the organisation and the organisation's strategies (Neely, *et al.*, 2005). Strategic performance management is discussed below.

### **3.1.1.3 The evolution of strategic performance management**

Strategic performance management focuses on achieving organisational objectives, with strategy formulation and implementation being important related processes (Bruden, 2010). There are numerous strategic performance management tools,

such as Kaplan and Norton's famous Balanced Scorecard (described below) and the European Foundation for Quality Management's (EFQM) Excellence Model, used to implement organisational strategies (Bruden, 2010). The EFQM Excellence Model (EFQM, 2010) proposes that leadership; people; strategy; partnerships and resources; and processes, products and services are all enabling factors that allow results to be achieved for various stakeholders, with customers occupying central importance (Martín-Castilla, 2002).

As a discipline, strategic performance management has a relatively brief history compared to the other spheres of performance management, as it developed in the 20<sup>th</sup> century (Bruden, 2010). Its growth was stimulated by Drucker's (1946) book, *Concept of the Corporation*, cited in Bruden (2010) and increasing interest in the 1950s and 1960s amongst large organisations in the notion of "long-range planning" (Bruden, 2010: 114). Key performance measures used, however, for example by General Electric, were still financial in nature (Eccles, 1991 cited in Bruden, 2010).

Interest in strategic planning subsequently decreased until the 1990s, when Kaplan and Norton introduced their Balanced Scorecard, fuelling a resurgence of interest in the field (Bruden, 2010; Neely, 1999 cited in Bruden, 2010). Originally introduced in 1992, within four years it was classified as a strategic PMS which provided a framework for integrating organisational strategies, goals, budgeting, the allocation of resources, planning and employee learning and development (Kaplan and Norton, 1996 cited in Bruden, 2010). Bruden (2010) regards the Balanced Scorecard as currently the most popular PMS used for strategy implementation.

A newly emerging perspective in strategic performance management is that of strategic management dynamics. This is rooted in a resource-based view of strategy, and advocates that the only means by which management can influence strategic performance is by impacting on resource flows entering and leaving the organisation (Bruden, 2010). There is a strong temporal component to this perspective, as it is necessary that resource flows be monitored over time, in better



understanding why performance is at its current level and how it could be managed and enhanced in the future, as described by Warren (2008) cited in Bruden (2010). Bruden (2010: 115) argues that this perspective of strategic performance management requires a paradigm shift from the traditional paradigm of “command and control”, towards one of “systems thinking”, as described in 3.1.2 below.

### **3.1.2 Paradigms of performance management**

#### **3.1.2.1 The “command and control” paradigm**

Performance management for most of the previous century reflected the “command and control” paradigm (Seddon, 2008 cited in Bruden, 2010: 115). In this mechanistic approach to performance management, managers used financial performance indicators, set performance quotas for employees and measured whether these were completed (Bruden, 2010). Work was divided into specialisations, and there was poor integration of different tasks and functions. Organisations were viewed as hierarchies, in which management exerted top-down control through the use of a large number of controls, such as administrative controls in the form of rules and procedures (Bruden, 2010). The surge in customer demand for goods also led to an emphasis on product standardisation (Bruden, 2010).

In the current era, however, the profile of the workforce, as well as the nature of work and customer expectations, has changed considerably. There has been an increase in the proportion of educated, mobile employees with different job expectations (Bruden, 2010), the knowledge workers referred to in 3.1.1.1. Customers have become more demanding, with diversified needs, and work has become increasingly complex (Bruden, 2010). As discussed in 3.1.1.1, knowledge has come to be regarded as a key organisational asset. By the 21<sup>st</sup> century, there has thus been a shift from the majority of the workforce being engaged in mechanical work in

industrial facilities, to working in technology- and knowledge-intensive services industries (Bruden, 2010; Drucker, 1999 cited in Bruden, 2010).

These new workplaces require employees to interact with a variety of stakeholders and make decisions speedily (Drucker, 1999 cited in Bruden, 2010). According to Fletcher, 2001 cited in den Hartog, *et al.* (2004) and den Hartog, *et al.* (2004), there is also greater collaboration between employees of different cultures and nationalities, as more organisations expand operations internationally and the use of new technology increases. This necessitates employees developing additional skills, such as technological and diversity management skills. Giannetti (2004) agrees, adding that employees also have career development, stress management and mentorship needs.

Bruden (2010) argues that performance management practices have not kept pace with the changing work landscape, as described above. Molleman and Timmerman (2003) cited in den Hartog, *et al.* (2004) share this view, noting that as performance indicators at an organisational level become more knowledge management- and innovation-oriented, employees work more interdependently and perform increasing amounts of non-routine work. These authors argue that performance management criteria for employees at these lower levels should thus change to reflect employees' changing working relations and roles (Molleman and Timmerman, 2003 cited in den Hartog, *et al.*, 2004). Schuler and Jackson (1987) cited in Storey (2009: 52) agree, arguing that, "Rather than emphasising managing people so they work *harder* (cost-reduction strategy) or *smarter* (quality strategy) on the same products or services, the innovation strategy requires people to work *differently*" [emphasis in the original].

The predominant focus of current performance management practices is largely still on "command and control" measures which, Bruden (2010: 116) argues, can undermine optimal performance. This is illustrated in Storey's (2004: 23) model of the "vicious circle of control", in which tight management controls result in increasing employee resistance, leading to a decline in performance. When management

reacts to this by imposing additional controls, employee resistance is fuelled further, leading to an even more deleterious effect on performance (Storey, 2004).

Storey (2005) and Tam, Korczynski & Frenkel (2002) argue that due to the distinct nature of knowledge workers, it is necessary to have different HRM policies for these workers. Recruitment policies, for example, may be more effective at enticing knowledge workers if these policies highlight that employees would have T&D opportunities and greater autonomy over their work (Storey, 2005). Ehin (2008: 337) agrees that knowledge workers should not be managed according to Industrial Age principles, and argues that knowledge workers should be “un-managed” from these Industrial Age practices, principles and structures. He argues that in order for knowledge workers to optimally create social capital, a “shared-access system” should be developed; this is a non-hierarchical, self-organised structure in which knowledge and information are shared openly; there is a focus on developing interpersonal, collaborative relationships; and individuals feel personal commitment to their work, rather than being bound by compliance to directives (Ehin, 2008: 343).

Current rewards for knowledge workers may also need to be reviewed, as suggested by Tam, *et al.* (2002). Smith and Rupp (2003), for example, argue that in practice there is dissonance between merit increases that knowledge workers receive, and the performance ratings of these workers. The majority of knowledge workers in their study perceived that their merit increases were not reflective of their performance ratings. Receiving a low merit increase, although having a high performance rating, had a greater adverse effect on motivation for younger knowledge workers (Smith and Rupp, 2003).

### **3.1.2.2 The systems paradigm**

As described by Seddon (2008) cited in Bruden (2010: 116), the systems paradigm, in contrast to the “command and control” paradigm, considers an organisation

holistically, as an integrated system in which employees can contribute meaningfully, and not as a hierarchy in which employees are controlled. The purpose of an organisation as a set of interrelated components is considered, and progress in fulfilling this purpose is measured (Bruden, 2010). Relationship management and learning are emphasised in this paradigm, which reflects McGregor's Theory Y perspective (Eccles, Nohria & Berkley, 2003 cited in Bruden, 2010). Ehin's (2008: 343) "shared-access system" (see 3.1.2.1) is an example of a systems paradigm.

Bruden (2010: 116) describes shifting from the "command and control" paradigm to the systems paradigm as shifting "from performance management for control to performance management for learning". Bruden (2009) cited in Bruden (2010) contrasts the control- and learning-oriented paradigms according to a number of criteria; the control paradigm, for example, is characterised by "single loop" learning (see below), individual rewards, punishment for poor performance and the limited communication of business results. The learning-oriented paradigm, on the other hand, is characterised by "double loop learning", group rewards, dialogue to enhance performance and open communication (Bruden, 2009 cited in Bruden, 2010: 117). As described by Argyris (1976: 363), "single-loop learning" involves individuals' performance against set criteria being measured, whereas "double-loop" learning also entails a critical examination of the appropriateness of these criteria.

Bruden (2010: 116) acknowledges the difficulty in organisations and individuals shifting from the "command and control" paradigm to the systems paradigm, one of the reasons for this being that new skills are required of employees. Examples of these are communication, stakeholder management and decision-making skills, as described by Drucker (1999) cited in Bruden (2010). Reflecting a contingency perspective, Bruden (2010: 116) suggests that a "command and control" paradigm may be more appropriate in certain environmental conditions, given particular organisational resources and in certain contexts, for example the military. Chenhall (2003) agrees, reporting that, during periods of external pressure, organisations may choose tight management controls as a survival mechanism.

Another difficulty in shifting to the systems paradigm is management's commitment to the *status quo*. Greenwood and Hinings (1996: 1025) argue that certain "templates", or paradigms, of management practices and structures are accepted unconsciously by management, over time, as being the best way to manage, even though this may not necessarily be correct, and that the preference for organisational stability further establishes these "templates" into the culture of the organisation.

National cultures are also important. In his paper on the socio-economic perspective of management control, for example, Verstegen (2011) mentions that performance management in organisations may vary due to the influence of different national cultures. He mentions that Anglo-Saxon cultures may place greater emphasis on the performance management of individuals compared to European cultures, which may place greater importance on managing team performance (Verstegen, 2011). Verstegen (2011) also suggests that historical events in an organisation play a role in influencing how employees behave and the nature of organisational controls and performance management. He warns that if management ignores that employees are "authentic human beings" with social and cultural differences, and instead views employees as solely "economic m[e]n" motivated only by financial incentives, the effectiveness of management control could be undermined (Verstegen, 2011: 114).

### **3.1.2.3 An integrated model of performance management**

Bruden (2009) cited in Bruden (2010: 119) proposes an integrated model of performance management, in which "command and control" measures, systems thinking and other approaches to performance management, such as goal-setting, agency and contingency theories, are integrated with the strategic, operational and individual levels of performance management. Bruden (2010) suggests that this model could potentially assist in better aligning individual and organisational performance.

According to Roberts (2001) cited in den Hartog, *et al.* (2004), performance management encompasses objective setting on a variety of levels, T&D, performance appraisal, coaching, rewards, career planning, culture management and reviewing the effectiveness of the PMS. DeNisi (2000) and Baron and Armstrong (1998), both cited in den Hartog, *et al.* (2004), also offer similar definitions of an integrated PMS as enhancing organisational effectiveness.

Den Hartog, *et al.* (2004) argue that all HRM practices directly associated with performance management should be aligned, and that this could impact on other HRM practices, such as recruitment and selection. Murphy and Olsen (2009), adopting a resource-based view of organisations, agree and suggest that the link between HRM and performance management results in competitive advantage. These authors discuss “high performance management systems”, a particular paradigm that recognises managers and employees as human capital and knowledge workers (see 3.1.1.1) who can create value for organisations, instead of as a cost (Murphy and Olsen, 2009: 839). A “high performance management system” comprises a wide range of components, including T&D, work/ life balance, the sharing of information, diversity, the use of self-managed teams, incentive pay and high wages, and internal promotion (Murphy and Olsen, 2009: 848).

At the heart of both performance management and HRM, according to den Hartog, *et al.* (2004), is the nature of the employment contract in the organisation. This can be viewed as: (i) a psychological contract, in which the human or employee perspective is highlighted; (ii) a legal contract, which emphasises the legal perspective; or (iii) a transactional contract, which reflects the organisational perspective (den Hartog, *et al.*, 2004). There are different types of psychological contracts. O’Donohue, Sheehan, Hecker & Holland (2007), for example, highlight that psychological contracts based on professional and altruistic ideologies are particularly relevant to knowledge workers, rather than more traditional relational or transaction-based psychological contracts. The nature of the employment contract can impact on employees’ perceptions of the organisation, commitment and

performance (den Hartog, *et al.*, 2004). The model proposed by den Hartog, *et al.* (2004) thus integrates performance management and HRM.

The issue of commitment is taken further by Farndale, Hope-Hailey & Kelliher (2011: 6) in their paper on “high commitment performance management”, which these authors describe as encompassing performance management practices that encourage employee involvement and development, which is expected to result in increased commitment to the organisation. Examples of such activities include employees choosing remuneration options and T&D needs being identified through performance appraisal (Farndale, *et al.*, 2011).

These authors argue, however, that whether such performance management practices result in greater employee commitment depends on the notion of “organisational justice”, namely whether employees perceive performance management practices as being fair, in terms of procedural, interactional and distributive justice (Farndale, *et al.*, 2011: 6). Procedural and distributive justice refer to whether the process and outcomes of performance management practices, respectively, are perceived as fair by employees (Farndale, *et al.*, 2011), whilst interactional justice refers to the way in which managers treat employees during these performance management practices (Chang, 2005 cited in Farndale, *et al.*, 2011). It was also found that the extent to which employees trust the employer influences employees’ perceptions of whether performance management practices are fair, and that trust impacts on employee commitment (Farndale, *et al.*, 2011).

### **3.1.3 Performance management in SMMEs**

Matlay (2002: 311) notes that industrial relations practices in SMMEs are often “primitive”, characterised by long working hours for employees, low remuneration and poor conditions of employment, often due to owner-managers attempting to decrease costs. Employees in this sector in Britain have been identified as being

particularly vulnerable to these practices as, unlike European employees, they are not protected by collective bargaining (ENSR, 1997 cited in Matlay, 2002). This could be exacerbated by many employees being part-time and casual workers, and a relatively small proportion belonging to trade unions, as found by Matlay (2002).

Matlay (2002) found that the extent to which the owner-manager is responsible for the control of industrial relations processes varies between SMMEs. In micro-sized businesses, which are defined as having between 1-10 employees, 100% of owner-managers indicated that they were responsible for management controls (Matlay, 2002). This figure decreased to 84.07% for small businesses, defined as having between 11-49 employees; in this category of businesses, owner-managers were increasingly delegating authority for industrial relations to personnel managers. The owner-manager is responsible for controlling industrial relations in only 17.72% of medium-sized businesses, which have between 50-250 employees, with personnel managers and training managers largely responsible for this function (Matlay, 2002).

The abovementioned findings suggest that as organisational size decreases, owner-managers are increasingly individually responsible for controlling industrial relations processes and practices. Matlay (2002) also found that as organisational size decreases, owner-managers increasingly prefer an informal management style. This style indicates the owner-manager's approach to recruitment, T&D, disciplinary issues, rewards and other management practices (Matlay, 2002).

Although owner-managers have significant control over performance management practices in SMMEs, as described above, customers and suppliers also play an influential role in shaping such practices, as highlighted by Kinnie, Purcell, Hutchinson, Terry, Collinson & Scarbrough (1999). These authors point out that small- and medium-sized enterprises are often dependent on a small base of customers and suppliers, and that pressures exerted by these stakeholders can have a profound effect on employment relations within the organisation. An example is provided of a medium-sized organisation which enhanced its T&D efforts in



response to a customer's expectations regarding customer services and total quality management (Kinnie, *et al.*, 1999). Sometimes tension arises between the abovementioned stakeholder pressures, for example for greater employee flexibility and speed in decision-making, and current performance management practices within the SMME, which are geared towards ensuring tighter management controls, as described by Kinnie, *et al.* (1999).

Garengo, Biazzo & Bititci (2005) have reviewed the use of performance *measurement* systems in small- and medium-sized enterprises. Their description of these, however, reflects what has hitherto been described as an integrated performance *management* system (see 3.1.2.3). This demonstrates Bruden's (2010) concern about the lack of clarity in the literature in distinguishing between performance management and measurement (see 3.1). Due to the similarities in Garengo, *et al.*'s (2005) description of performance measurement systems and an integrated PMS, these authors' review of performance *measurement* systems can be regarded as a review of performance *management* systems. There is also an instance in Garengo, *et al.*'s (2005: 40) paper in which the terms "performance measurement" and "performance management" are used interchangeably.

Garengo, *et al.* (2005) note that not many studies have been reported in the literature on performance measurement systems in small- and medium-sized enterprises; and suggest that performance measurement systems designed for larger organisations may not be appropriate for small- and medium-sized enterprises. These authors identify the following barriers to implementing performance measurement systems in these organisations (Garengo, *et al.*, 2005):

- (i) Insufficient human resources (HR) to implement a performance measurement system, with existing employees being too occupied with the operational running of the organisation;
- (ii) Inadequate attention to developing managerial capabilities, with individuals, such as the owner-manager, occupying multiple positions;
- (iii) A reactive approach to management practices, in which there are problems in strategic planning. Furthermore, there is inadequate realisation of what

organisations' critical success factors are (Greatbanks and Boaden, 1998 cited in Garengo, *et al.*, 2005);

- (iv) Limited financial resources to invest in a performance measurement system. Neely, *et al.* (2005) agree, citing an earlier study by Neely and Mills (1993), in which the managers of small- and medium-sized enterprises identified the perceived cost of performance measurement as a key barrier to the implementation of such systems;
- (v) The benefits of having a performance measurement system not being fully appreciated, with many small- and medium-sized enterprises perceiving such a system as potentially inhibiting organisational flexibility (Hvolby and Thorstenson, 2000 cited in Garengo, *et al.*, 2005); and
- (vi) The lack of formal managerial systems and processes; and the prevalence of tacit knowledge, which is difficult to share (Jennings and Beaver, 1997 cited in Garengo, *et al.*, 2005).

Garengo, *et al.* (2005) conclude that performance management is largely not practiced in small- and medium-sized enterprises, even though there is a need for this, and for performance measurement systems to be utilised.

Another barrier to implementing PMSs could be that the managers and/ or owners of SMMEs may possess inadequate knowledge of business practices, as found by Visara and Hunt (2008) cited in Banomyong and Supatn (2011).

### **3.2 Paradigms of pharmacy practice**

Classical job design theories, such as Taylorism, are well aligned with the traditional paradigm of pharmacists as primarily technical dispensers<sup>9</sup> of medication (Giannetti, 2004). The focus of these theories (see 3.1.1.1 and 3.1.2.1) is on ensuring

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<sup>9</sup> This notion of dispensing differs from that described by the SAPC, as discussed on the next page.

efficiency, accuracy and employees obeying commands (Giannetti, 2004). With the shift towards pharmaceutical care, however, many pharmacists may have “higher-order needs” for, and expectations of, greater autonomy, professionalism and being able to practice pharmaceutical care (Giannetti, 2004: 216).

The shift in paradigms of pharmacy practice, from a product-oriented paradigm to the paradigm of pharmaceutical care, as described below in 3.2.1 and 3.2.2, can thus be seen to mirror the shift in paradigms of performance management discussed in 3.1. The traditional paradigm of pharmacists as primarily technical dispensers and controllers of medication use (see 3.2.1) can be seen as reflecting the control approach to performance management, in which financial performance indicators are primarily used to assess performance and there is a predominant focus on efficiency. Pharmaceutical care, on the other hand, reflects a systems approach to performance management, as it entails, for example, providing holistic care that considers all aspects of a patient’s actual and potential pharmacotherapy, liaising with a variety of stakeholders and pharmacists acting as knowledge workers and being open to learning and development. These issues will be explored in more depth below.

### **3.2.1 The shift from a product- to a care-based paradigm**

Al-Shaqha and Zairi (2001) classify the history of pharmacy practice into three phases, namely: (i) compounding<sup>10</sup> and dispensing; (ii) clinical pharmacy; and (iii) pharmaceutical care, each of which will be discussed in the next few pages. These authors’ (2001: 282) reference to these phases as representing “pharmacy practice evolution” may be misleading, as this implies that the majority of pharmacists currently practise pharmaceutical care and that this latest phase has replaced earlier ways of practice. As discussed in 3.4.1, this is not necessarily the case. It might thus be more accurate to regard Al-Shaqha and Zairi’s (2001) three phases as each representing a different paradigm of pharmacy practice.

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<sup>10</sup> “Compounding” refers to combining different ingredients, for example by mixing (see glossary).

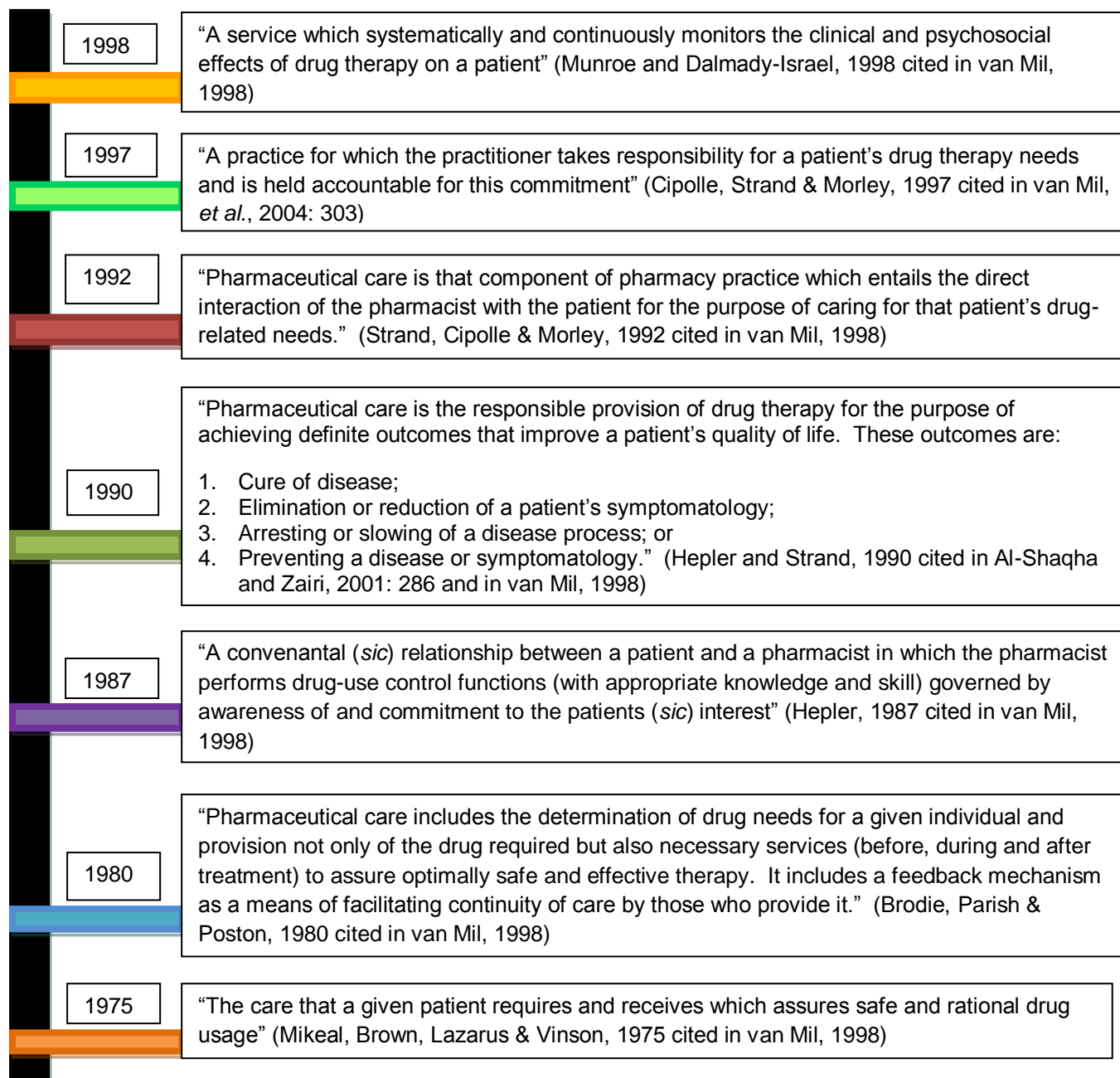
These paradigms reflect a shift in viewing the role of pharmacists as performing primarily technical, product-oriented tasks towards the acceptance of responsibility for patient outcomes and provision of patient counselling inherent in providing pharmaceutical care (Al-Shaqha and Zahiri, 2001; van Mil, Schulz & Tromp, 2004). Assa-Eley and Kimberlin (2005: 44) refer to this shift towards pharmaceutical care as representing an “expanded role” for pharmacists.

The first paradigm, of compounding and dispensing medication, typified pharmacy practice for centuries (Al-Shaqha and Zairi, 2001). It is important to note that this view of dispensing is narrower than the SAPC’s description of dispensing as consisting of the three phases of (i) prescription assessment and evaluation, (ii) preparing and labelling medication, and (iii) patient counselling (South Africa. SAPC, 2010a) (see 2.2.4). Al-Shaqha and Zairi’s (2001) description of dispensing corresponds to phase (ii) of the SAPC’s description only; phases (i) and (iii) of the SAPC’s description of dispensing reflect tasks that Al-Shaqha and Zairi (2001) describe as components of pharmaceutical care.

As the pharmaceutical industry began to compound more medication, pharmacists had more time to engage in other services, which contributed to the development of the second paradigm of pharmacy practice, clinical pharmacy, in the mid-1960s (Al-Shaqha and Zairi, 2001). Clinical pharmacy became more predominant in the hospital rather than the retail pharmacy sector, and was characterised by pharmacists collaborating more with other health-care professionals, in particular doctors and nurses, to ensure optimal clinical outcomes for patients. Pharmacists began to assume the role of critically evaluating the appropriateness of drug use, for example in terms of patient safety and efficacy (Al-Shaqha and Zairi, 2001).

Although clinical pharmacy had increased the scope of pharmacy practice, there was a growing realisation of the limitations of adopting a solely clinical paradigm, such as the predominant focus on controlling drug use (Al-Shaqha and Zairi, 2001; Elenbaas, 2008). Inadequate attention was given to developing a “philosophy of practice” (Al-

Shaqha and Zairi, 2001: 286) and a management system that holistically considered patients' pharmacotherapeutic needs and pharmacists' responsibilities in this regard, according to Strand (1997) cited in Al-Shaqha and Zairi (2001). The timeline in Figure 4 below illustrates how the concept of pharmaceutical care has developed over the last few decades, and the major authors responsible for this.



**Figure 4: A timeline of some evolving definitions of pharmaceutical care (based on van Mil, 1998; Al-Shaqha and Zairi, 2001; and van Mil, *et al.*, 2004)**

Van Mil (1998) notes that Brodie, *et al.*'s (1980) definition (see Figure 4) introduced awareness of the social dimension of pharmaceutical care, with the recognition that patients do not solely require tangible medication, but also services to ensure that this is used optimally. This was developed by Hepler (1987) cited in van Mil (1998), who used the word "relationship" for the first time to describe the interactions between patients and pharmacists in particular, and recognised patients' interests explicitly in his definition.

This contributed to Hepler and Strand's seminal (1990) definition of pharmaceutical care cited in Al-Shaqha and Zairi (2001: 286), in which responsibility for patient outcomes is highlighted (see Figure 4). Cipolle, *et al.*'s later (1997) definition cited in van Mil, *et al.* (2004: 303) extended this emphasis on practitioner responsibility and accountability for the pharmacotherapeutic needs of patients. Van Mil, *et al.* (2004: 303) describe Cipolle, *et al.*'s (1997) definition as reflective of a "humanistic" school of thought, whereas earlier definitions (notably Hepler, 1987 and Hepler and Strand, 1990, both cited in van Mil, 1998) are more technical (van Mil, 1998). The SAPC's description of pharmaceutical care (South Africa. SAPC, 2010a) (see 1.7) closely mirrors Cipolle, *et al.*'s (1997) definition cited in van Mil, *et al.* (2004).

The inclusion of the word "care" in "pharmaceutical care" is significant, according to Al-Shaqha and Zairi (2001: 286), who argue that, "The idea of professional care goes beyond the idea of professional service. While both indicate actions, care adds a dimension of concern and commitment." This is echoed by Elenbaas (2008), who argues that a demonstration of pharmacists' commitment to caring for patients has the potential to contribute to creating demand from patients and other health-care professionals for a highly patient-centred approach to pharmacy practice.

Hepler and Strand's (1990) definition cited in Al-Shaqha and Zairi (2001: 286) suggests that pharmaceutical care involves pharmacists having to apply their knowledge, judgement and skills more intensively. Van Mil, *et al.* (2004) believe that the knowledge and academic background that pharmacists possess should compel

pharmacists to provide pharmaceutical care. The more intensive use of knowledge and expertise, which are intangible resources, suggests that, in providing pharmaceutical care, pharmacists are expected to function as knowledge workers (see 3.2), according to Giannetti (2004). As discussed in 3.4.1, this use of pharmacists' knowledge to provide pharmaceutical care and thus transform the nature of pharmacy practice is currently not occurring widely.

Desselle (2004: 9) has developed a classification of five "pharmaceutical care practice domains", each of which he believes adds credibility to his assertion that pharmaceutical care is strongly influenced by the managerial sciences. According to Desselle (2004), there is a synergistic relationship between good business practices and pharmaceutical care. He argues that pharmaceutical care is essentially about managing patients and their pharmacotherapy. The abovementioned five domains are (Desselle, 2004: 9):

- (i) Risk management, which includes calculating dosages and reporting adverse effects;
- (ii) Patient advocacy, involving patient counselling and attempting to address the factors that could lead to patient non-compliance with pharmacotherapy;
- (iii) Disease management, including providing patients with information relating to their medical conditions and monitoring patient outcomes;
- (iv) Pharmaceutical care services marketing, which involves functions such as liaising with prescribers and active involvement in the activities of professional associations that espouse the philosophy of pharmaceutical care; and
- (v) Business management, which includes ensuring operational efficiency in pharmacies and optimally utilising support staff to perform technical functions.

### **3.2.2 A commercial *versus* a professional paradigm of pharmacists**

The different paradigms of a product- and a pharmaceutical care-based approach to pharmacy practice, as discussed in 3.2.1, can also be regarded as reflecting the

differences between a commercially- and a professionally-oriented paradigm, respectively. According to Panitch and Leys (2009), capitalism has given rise to the commoditisation of health-care services. Within this paradigm, pharmacists and patients are perceived as income generators for organisations. In his history of the pharmaceutical profession in Canada, Malleck (2004) notes that the intrusion of capital market pressures on the professional ideals of pharmacy practice was demonstrated as far back as the 1860s.

Market pressures have intensified since then, an example of which is the growing number of retail chain stores offering pharmaceutical services (URCH Publishing, 2009; Desselle, 2004) (see 1.6). Schmidt and Pioch (2005) highlight the increasing competitive pressures faced by independent pharmacies in the United Kingdom (UK), for example by supermarkets and chain stores also selling medication; these authors state that such pressures have contributed to 20% of pharmacies in the UK facing financial collapse. In Germany, the struggle facing many pharmacies to survive financially, for example due to low profit margins on medication and political reform, and the subsequent need for pharmacies to offer differentiated services has led Pioch and Schmidt (2001) to question whether pharmacists are merchants or professionals. Incidents such as that of a pharmacist who diluted anticancer drugs in order to decrease stock costs (Stafford, 2002 cited in Desselle, 2004) add to the perception that pharmacists' commercial interests are not compatible with professional ethics, as described by Desselle (2004).

Ehlert (2004) believes that a professional, by nature, places the interests of the public above his/ her own interests. The tension arising between meeting such ethical imperatives and commercial pressures may potentially contribute to pharmacists suffering from the high levels of "moral distress" found by Sporrang, Höglund, Hansson, Westerholm & Arnetz (2005: 223). Desselle (2004) believes that sound managerial skills, however, can potentially assist pharmacists in successfully navigating the stresses arising from pharmacy practice.



### 3.3 Pharmaceutical care and DRP

According to the PCNE Foundation (2010: 4), there are four categories of DRP:

- (i) Treatment not being effective;
- (ii) Adverse drug reactions;
- (iii) Treatment costs, including pharmacotherapy being more expensive than it should be; and
- (iv) Others, such as patients not being satisfied with their pharmacotherapy.

There are eight primary domains that can cause DRP (PCNE Foundation, 2010: 5):

- (i) Drug selection, such as a drug that is contraindicated being prescribed;
- (ii) Drug form, in which an inappropriate dosage form is used;
- (iii) Dose selection, for example overdosage or underdosage;
- (iv) Treatment duration, which may be inappropriately long or short;
- (v) Drug use process, such as a dose not being taken at the appropriate time;
- (vi) Logistics, such as the occurrence of prescribing and dispensing errors;
- (vii) Patient factors, such as the patient forgetting to take a dose; and
- (viii) Other causes, which may not be known.

In a Spanish study, Muñoz, Miguez, Pérez, Escribano, Garcia & Saez (2010) found that more than 45% of medication errors<sup>11</sup> involved prescription errors. It has been found that patients with medication errors have a mortality rate of almost twice that of patients not affected by medication errors (Classen, Pestotnik, Evans, Lloyd & Burke, 1997 cited in Muñoz, *et al.*, 2010). The mortality and morbidity costs of DRP are thus likely to be significant. The costs of DRP in the USA alone for ambulatory patients in 2000 were greater than \$177.4 billion (Ernst and Grizzle, 2001). This represents an increase of more than \$100.8 billion from that reported in Johnson and Bootman's landmark (1995) study cited in Ernst and Grizzle (2001). The costs of DRP in South Africa are at present unknown.

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<sup>11</sup> Medication errors were defined in this study as, "Events caused by inappropriate use of medication, which could harm the patient, while the medication is under the control of the healthcare professional or patient" (National Coordinating Council for Medication and Prevention, 1998 cited in Muñoz, *et al.*, 2010: 329).

Pharmaceutical care has the potential to allow for the detection and resolution of DRP by enabling pharmacists to actively intervene in the possible causes of DRP described previously. Banerjee (2009) argues that pharmacists have a crucial role to play, particularly with regard to liaising with prescribers and in communicating with patients, in improving the benefit-to-risk ratio of medication. Furthermore, the positive effects of pharmacists on decreasing the costs of DRP are well-documented. Gillespie, Alassaad, Henrohn, Garmo, Hammarlund-Udenaes, Toss, Kettis-Lindblad, Melhus & Mörlin (2009), for example, found that the inclusion of pharmacists in a hospital health team led to a 16% decrease in hospital visits by patients over the age of 80 years. A 34% decrease in the incidence of adverse drug reactions and medication errors<sup>12</sup> amongst outpatients with cardiovascular disease subsequent to pharmacists' interventions has also been reported (Murray, *et al.*, 2009). The direct costs of DRP are expected to fall by 59% with the adoption of pharmaceutical care, according to Johnson and Bootman's (1995) pharmacoeconomic analyses cited in Bootman and Harrison (1997).

### **3.4 The extent to which pharmaceutical care is practised**

#### **3.4.1 Frequency of pharmacist interventions**

The International Pharmaceutical Federation released a set of standards in 1998 that includes the provision of pharmaceutical care as a GPP requirement (van Mil, *et al.*, 2004), thus sending out a signal internationally that pharmaceutical care should be practised routinely by pharmacists. Pioch and Schmidt (2001) report that the German pharmacists in their study view pharmaceutical care as the core offering of their pharmacies, and have a strong sense of professionalism in this regard. Van Mil, *et al.* (2004) also cite various studies showing that, in several European countries, pharmacists intervene to address actual and potential DRP. However,

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<sup>12</sup> In this study, "medication errors" refers to prescribing errors and errors in monitoring pharmacotherapy, defined as the sum of potential and preventable adverse drug reactions (Murray, Ritchey, Wu & Tu, 2009).

closer examination of several of these studies referred to by van Mil, *et al.* (2004) reveals that either the frequency of these reported pharmacists' interventions is relatively low, or the frequency was not reported. In the study by Leemans, Veroeveren, Bulens, Hendrickx, Keyenberg, Niesten, Vandenberg, Van Hoof & Laekeman (2003), for example, it was reported that Flemish pharmacists in the study only intervened in 4.05% of prescriptions.

Similarly, Buurma, de Smet, van den Hoff & Egberts (2001) reported an intervention frequency of 4.3% for all prescriptions, whilst Hawksworth, Corlett, Wright & Chrystyn (1999) report a lower frequency of 0.75%. This suggests that either the remaining large proportion of prescriptions were error-free, or pharmacists were reluctant to intervene more often. Leemans, *et al.* (2003) report, furthermore, that similar investigations have shown frequencies of between 0.8% and 6.2%. Chamba, Bauguil & Gallezot (1999), also referred to in van Mil, *et al.* (2004), whilst disclosing that the French pharmacists in the study reported 727 acts of intervention, which cover various aspects of pharmaceutical care, have not reported how many prescriptions in total were processed by these pharmacists.

In a Brazilian study, d'Ávila, Assunção, Belisário & de Abreu (2010) found that the provision of information to patients only occurred in 43% of dispensing encounters, and that less information was provided as the number of dispensing encounters increased, suggesting that time pressures in pharmacies and the volume of patients play a role in determining whether drug-related information is provided by pharmacists to patients. These authors also highlight that taking time to provide information to patients allows health-care professionals to detect errors in dispensing (d'Ávila, *et al.*, 2010), thus decreasing the potential for DRP.

The abovementioned studies thus suggest that pharmaceutical care is not widely practised. Van Mil, *et al.* (2004) acknowledge this in the epilogue to their article, and this view is shared by others, including Elenbaas (2008), Assa-Eley and Kimberlin (2005) and Cipolle and Strand (1998) cited in Giannetti (2004).

### **3.4.2 Demographic variables and pharmaceutical care**

To the author's knowledge, there are no reported studies in the literature on determining whether patients' perceptions of pharmaceutical services or pharmaceutical care vary according to demographic variables, such as gender and race. Hanna, White & Yanamandram's (2010) study (see 3.5.3) investigated whether certain demographic variables are related to patients' willingness to pay for a diabetes disease management service, which is a pharmaceutical care-related service. In the abovementioned study, the potential effects of demographic variables were thus limited to willingness to pay. Assa-Eley and Kimberlin's (2005) report on patients' perceptions of pharmaceutical care (see 3.5.2) only describes the demographic profile of the authors' patient sample group in terms of gender and age, and does not include an investigation into whether there was a relationship between different demographic variables and patients' perceptions of pharmaceutical care.

### **3.4.3 Levels of pharmaceutical care**

Smith and Benderev (1991) cited in Al-Shaqha and Zairi (2001) propose that different levels of pharmaceutical care be provided, to correspond with the primary, secondary and tertiary levels of health care respectively. The United Kingdom Clinical Pharmacy Association (UKCPA, 2009) also suggests that different kinds of pharmaceutical care may be more appropriate for different groups of patients and clinical scenarios. In primary pharmaceutical care, which represents the most basic level and which should be provided by retail and outpatient hospital pharmacies, typical functions provided by pharmacists include monitoring pharmacotherapy for effectiveness and safety, detecting drug interactions and adverse drug reactions, and providing drug information to patients and other health-care professionals (Smith and Benderev, 1991 cited in Al-Shaqha and Zairi, 2001). Al-Shaqha and Zairi (2001) further add that primary pharmaceutical care also involves monitoring patient compliance, a greater focus on patient counselling and assisting prescribers in selecting appropriate pharmacotherapy for patients.

If a patient's medical condition is more complex than can be treated with primary care, secondary care is provided, usually in acute-care hospitals and facilities such as hospices (Al-Shaqha and Zairi, 2001). Secondary pharmaceutical care involves the basic functions involved in primary pharmaceutical care and additional services, such as pharmacists performing pharmacokinetic services, in which drug concentrations are measured; and managing a patient's pharmacotherapy (Al-Shaqha and Zairi, 2001). For patients whose medical conditions are yet more complex, tertiary care is appropriate; this is usually provided at in-patient, critical-care hospitals, many of which are teaching hospitals. Tertiary pharmaceutical care entails the most comprehensive and in-depth pharmaceutical care, for example detailed clinical pharmacy services, as described by Al-Shaqha and Zairi (2001).

Whilst health-care in the public sector in South Africa is organised according to the primary, secondary and tertiary levels, there is no differentiation by the SAPC (South Africa. SAPC, 2010a) in the levels of pharmaceutical care that should be provided by pharmacists, as described above. Furthermore, although pharmaceutical care is mandatory in South Africa, it is possible that individual pharmacies may respond differently to this legal imperative. Azzone and Palermo (2011), for example, found that the organisations in their study have differing responses to statutory requirements, and that these responses are influenced by the resources organisations possess, time pressures and the motives of the organisation.

### **3.5 Barriers to implementing pharmaceutical care**

Various reasons have been cited for pharmacists not intervening more often, in order to provide pharmaceutical care. Al-Shaqha and Zairi (2001: 296) identify four barriers to implementing pharmaceutical care, namely: (i) system-related barriers; (ii) pharmacist-related barriers; (iii) demand-related barriers; and (iv) pharmacy management-related barriers. Each of these will be discussed in more detail next.

### 3.5.1 System-related barriers

Al-Shaqha and Zairi (2001) describe the fragmentation of the health-care system, with differences between services that patients receive whilst in hospital as inpatients, and those received as outpatients. In a study comparing progress in addressing fragmentation of health-care systems in South Africa, the United Republic of Tanzania and Ghana, McIntyre, Garshong, Mtei, Meheus, Thiede, Akazili, Ally, Aikins, Mulligan & Goudge (2008) conclude that South Africa has made the least progress. These authors define fragmentation as “the existence of a large number of separate funding mechanisms [...] and a wide range of health-care providers paid from different funding pools” (McIntyre, *et al.*, 2008: 871).

In South Africa, the underlying fragmentation arising from the country’s colonial and apartheid past have been exacerbated by an escalation in the number of private-sector insurance companies (McIntyre, *et al.*, 2008), which provide cover to the wealthiest proportion of the population (McLeod, 2005 cited in McIntyre, *et al.*, 2008). In addition to differences between public and private health-care services in South Africa, there are also inequalities between rural and urban areas, and between provinces (Heywood, 2006). According to Louie and Robertson (1993) cited by Al-Shaqha and Zairi (2001), fragmentation does not promote continuity of patient care.

Another system-related barrier is poor development of processes and guidelines to establish desired drug therapy outcomes, for individual patients as well as the wider patient population (Al-Shaqha and Zairi, 2001); as mentioned in 3.2.1, pharmaceutical care emphasises taking responsibility for patient outcomes. Al-Shaqha and Zairi (2001) also highlight that the physical location and layout of pharmacies often serves as a physical barrier to the provision of pharmaceutical care. Frequently, there is no dedicated patient counselling area (Al-Shaqha and Zairi, 2001), and patient privacy may thus not be protected.

Furthermore, pharmacists are geographically removed from the place at which choices regarding drug therapy for patients are often made, thus decreasing their

involvement in this key phase (Al-Shaqha and Zairi, 2001). This contributes to distance developing between prescribers and pharmacists, as described by Van Mil, *et al.* (2004). Instead of collaborating with prescribers to decide on the most appropriate therapy for patients, pharmacists are, according to Van Mil, *et al.* (2004), thus in the position of detecting DRP only once a prescription has been written, and contacting a prescriber to highlight prescription errors could damage professional relations between pharmacists and prescribers. Chamba, *et al.* (1999) highlight that collaboration between pharmacists and prescribers is essential for pharmaceutical care interventions to be effective; these authors have found that there was tension between pharmacists and prescribers in discussions regarding changing prescribed doses. This suggests that another factor discouraging pharmacists from intervening upon detecting DRP could be potentially adversarial relationships with prescribers.

The abovementioned limitation in pharmacists' involvement in drug therapy decisions, due to the pharmacy's location, may also reinforce the belief that patients may have that their prescriber is solely responsible for patient care and that pharmacists only perform the technical task of issuing medication (Penna, 1990 cited in Al-Shaqha and Zairi, 2001).

A final system-related barrier is inadequate access that pharmacists have to patients' medical information (Al-Shaqha and Zairi, 2001), such as diagnoses and laboratory results (May, 1993 cited in Al-Shaqha and Zairi, 2001). This makes it more difficult, time-consuming and costly for pharmacists to liaise with prescribers and/ or patients to determine what patients' drug therapy outcomes are (Louie and Robertson, 1993 cited in Al-Shaqha and Zairi, 2001), and provide pharmaceutical care that is in alignment with these outcomes (Al-Shaqha and Zairi, 2001).

Cooksey, Knapp, Walton & Cultice (2002) conclude that the current drug product-oriented market paradigm (see 3.2.2) is geared towards ensuring convenience for customers, as opposed to providing integrated and holistic patient health-care services, of which pharmaceutical care is a component.

### 3.5.2 Pharmacist-related barriers

A major barrier cited is the lack of time to provide pharmaceutical care (Al-Shaqha and Zairi, 2001). Hawksworth, *et al.* (1999) found that pharmacies with a high prescription load reported lower frequencies of pharmacists' interventions to address DRP; this suggests that pharmacists did not take time to intervene in cases of DRP, as their focus was on increasing operational efficiency in processing prescriptions and minimising patient waiting times. This is supported by d'Ávila, *et al.* (2010) who report that an increase in the number of dispensing encounters is associated with the provision of less information to patients (see 3.4.1). Hawksworth, *et al.* (1999) also suggest that inexperience and inadequate training may play a role in pharmacists not intervening to address DRP.

Van Mil, *et al.* (2004) believe that university curricula do not prepare pharmacists adequately for providing pharmaceutical care, and that there are critical knowledge and skills gaps, for example in detecting DRP, in social and clinical pharmacy and in communication, that contribute to pharmacists being hesitant about practising pharmaceutical care. These authors argue that the focus of European university curricula still reflects the traditional compounding and dispensing paradigm of pharmacy practice (see 3.2.1) (van Mil, *et al.*, 2004).

Another significant barrier is many pharmacists still espousing the technical, product-oriented paradigm of pharmacy practice, as described in 3.2.1, and not having shifted towards accepting the paradigm of pharmaceutical care, with its focus on individualised care and patient outcomes (Al-Shaqha and Zairi, 2001). Louie and Robertson (1993) cited in Al-Shaqha and Zairi (2001) believe that this is due to poor understanding by some pharmacists of the significance of accepting responsibility for patient outcomes as a component of pharmaceutical care. These authors also believe that some pharmacists may wish to provide pharmaceutical care, but that their attempts to do so do not exploit their pharmacotherapeutic expertise (Louie and Robertson, 1993 cited in Al-Shaqha and Zairi, 2001). This reflects inadequate



understanding of the practicalities of implementing pharmaceutical care, and the lack of guidelines and processes described in 3.5.1. It is also important for pharmacists to know and be able to relate to their patients, in order for patients to trust the services offered by the pharmacist, as highlighted by Desselle (2004).

Agnihotri, Rapp & Trainor (2009) argue that in buyer-seller encounters, the knowledge and communication skills of sellers enhance the information-exchange process, contributing to greater customer satisfaction. Although medication cannot be regarded as an ordinary commodity of trade due to the difficulty in quantifying health-related products and activities, as pointed out by d'Ávila, *et al.* (2010), which makes pharmacists more than just sellers, Agnihotri, *et al.*'s (2009) findings can nevertheless be applied to the pharmacy setting. This application suggests that the knowledge and communication skills possessed by pharmacists have the potential to result in greater patient satisfaction. Gill and White (2009) sound a note of warning, however, on the use of patient satisfaction as an indicator of the perceived quality of a health-care service. Some reasons for this include the questionable validity of many tools used to assess patient satisfaction (Gill and White, 2009), the subjective nature of satisfaction (Crowe, Gage, Hamson, Hart, Kimber, Storey & Thomas, 2002 cited in Gill and White, 2009) and the complexity involved in patient interactions with health-care professionals (Lengnick-Hall, 1995 cited in Gill and White, 2009).

Although Al-Shaqha and Zairi (2001) believe that older pharmacists may be more resistant to adopting pharmaceutical care as a way of practice due to an ingrained product-oriented paradigm and inadequate skills and knowledge, Leemans, *et al.* (2003) found that younger pharmacy graduates did not intervene to address DRP any more often than older pharmacists did. However, Leemans, *et al.* (2003) also report that even though older pharmacists may possess greater experience than younger pharmacists, the former did not intervene more often to address DRP.

Assa-Eley and Kimberlin (2005) have reported that a major barrier to pharmacists implementing pharmaceutical care is their perception that patients do not want such

a service, whereas patients have expressed interest in learning more about their medication. This failure to recognise and meet patients' needs reinforces the traditional view of patients, as reported by Assa and Shepherd (2000), that pharmacists perform a merely technical role in dispensing medication.

Using the interpersonal perception method to investigate the perceptions that pharmacists and patients have of each other and of the benefits of pharmaceutical care, Assa-Eley and Kimberlin (2005) have found that patients have low expectations of pharmaceutical services and are unaware of the benefits of pharmaceutical care. These authors suggest that these low patient expectations could have arisen due to patients not having experienced pharmaceutical care and not understanding the role of pharmacists in performing pharmaceutical care-related functions (Assa-Eley and Kimberlin, 2005). This is supported by Hanna, *et al.*'s (2010) finding that patients expressed a neutral opinion of the ability of pharmacists to provide diabetes disease management services (see 3.5.3).

The abovementioned finding by Assa-Eley and Kimberlin (2005) that patients are unaware of the benefits of pharmaceutical care was confirmed by the finding that those patients who reported that their pharmacist often asked them if they experience problems with their medication viewed pharmaceutical care as having greater benefit than those patients whose pharmacists did not ask them this question (Assa-Eley and Kimberlin, 2005). This has led the authors to conclude that patients begin to appreciate the value of pharmaceutical care-related services after having experienced these, and that if pharmacists provided pharmaceutical care more often, patients' expectations of pharmaceutical services and their demand for pharmaceutical care could be increased (Assa-Eley and Kimberlin, 2005).

Although Practice Profile (1994) cited in Al-Shaqha and Zairi (2001) reveals that providing pharmaceutical care has resulted in increased satisfaction for some pharmacists, there have been some perhaps unexpected effects, as discussed next, that might potentially serve as a disincentive or deterrent to pharmacists providing

pharmaceutical care. One of these, as reported by Gidman, Hassell, Day & Payne (2007), is that the increase in pharmacists' responsibilities in providing pharmaceutical care, and an increase in patient load, have been cited as reasons for female community pharmacists in the UK feeling that their work environments are increasingly stressful, leading to lower job satisfaction and adverse effects on pharmacists' wellbeing. Giannetti (2004) also points out the issue of stress experienced by pharmacists, in particular those with a Type A personality as described by Freidman and Rosenman (1974) cited in Giannetti (2004). Employee wellbeing and health is important not just to employees, but also to organisations, as described by Edington and Schultz (2008). These authors suggest that increased employee productivity and lower absenteeism rates and workers' compensation costs are some examples of benefits to organisations (Edington and Schultz, 2008).

Another challenge facing pharmacists is that the increased patient contact time and pharmacists' responsibilities towards patients resulting from providing pharmaceutical care, has contributed to the "moral distress" and ethical dilemmas experienced by pharmacists in a Swedish study (Sporrong, *et al.*, 2005: 223) (see 3.2.2). A prominent example of this mentioned by Sporrong, *et al.* (2005) is that, due to the layout of pharmacies, the counselling that a patient receives may be overheard by other customers, thus violating the patient's right to privacy. The pharmacist thus faces an ethical dilemma, as the responsibility to provide patient counselling conflicts with the professional imperative to protect patient confidentiality.

Finally, Hepler (1996) cited in Al-Shaqha and Zairi (2001) advocates that it is essential for pharmacists to document the pharmaceutical care provided, in order to record patients' information and evaluate the effectiveness of pharmaceutical care. Penna (1990) cited in Al-Shaqha and Zairi (2001) reports that many pharmacists do not value the significance of such documentation. Similarly, Pioch and Schmidt (2001) report an indifferent or antagonistic view to the use of information technology as a support tool to facilitate the provision of pharmaceutical care, for example the use of databases to detect contraindications to drug use.

### 3.5.3 Demand-related barriers

As highlighted by Elenbaas (2008) (see 3.2.1), Assa-Eley and Kimberlin (2005) (see 3.5.2) and Al-Shaqha and Zairi (2001), there is currently low demand from patients, other health-care professionals, medical aids and government agencies for pharmacists to provide pharmaceutical care. The latter point about government agencies is not applicable in South Africa, as the SAPC, a statutory body, views pharmaceutical care as a key responsibility for pharmacists (see 1.1).

Al-Shaqha and Zairi (2001) believe that the low demand for pharmaceutical care is because the value and benefits of pharmaceutical care are not fully understood and appreciated by the abovementioned stakeholders, largely because pharmacists have not communicated this effectively and there are not many well-controlled studies reported on the advantages of pharmaceutical care. Van Mil, *et al.* (2004) agree with this assertion that other professions do not value the importance of pharmaceutical care. Other health-care professionals may, according to Al-Shaqha and Zairi (2001), also believe that pharmaceutical care undermines their role, instead of viewing it as a complementary service that assists in the overall optimisation of patient outcomes.

Hanna, *et al.* (2010) cite a study by Larson (2000), which highlights that a major barrier to providing pharmaceutical care is that many pharmacists perceive that patients are unwilling to pay more for additional services, and thus believe that there is a lack of patient demand for pharmaceutical care. This perception was found to be incorrect in Hanna, *et al.*'s (2010) study of Australian retail pharmacies, in which these authors found that although patients are neutral in their perceptions of the abilities of pharmacists to provide additional diabetes disease management services (see 3.5.2), most patients are nevertheless willing to pay more for such a service.

Patients were willing to pay a median of approximately 30 Australian dollars for an initial half-an-hour consultation with a pharmacist that led to a 50% improvement in

their diabetes control, and a median of approximately 40 Australian dollars for a similar consultation that led to a 100% improvement (Hanna, *et al.*, 2010). Patients were willing to pay a median of approximately 20 Australian dollars for a follow-up half-an-hour consultation leading to a 50% improvement in their diabetes control, and a median of approximately 30 Australian dollars for a follow-up consultation leading to a 100% improvement (Hanna, *et al.*, 2010). This study indicates that there is a demand from patients for pharmaceutical care-related services.

#### **3.5.4 Management-related barriers**

Elenbaas (2008) indicates that the nature of the PMS has the potential to undermine the provision of pharmaceutical care being provided to patients. He suggests that if pharmacy support staff are not utilised optimally in performing technical functions, then pharmacists' difficulty in finding the time to provide pharmaceutical care is exacerbated. Elenbaas (2008) also argues that the nature of how the performance of pharmacists is measured needs to change, as the current use of the number of prescriptions processed as a key performance measure discourages pharmacists from focusing on their responsibilities to patients and patient outcomes. Gouveia (1993a) cited in Al-Shaqha and Zairi (2001) agrees, highlighting that the criteria used for performance appraisal and job descriptions for pharmacists are still based on traditional key performance areas, and not pharmaceutical care.

Al-Shaqha and Zairi (2001) note that managing pharmacists are frequently not held accountable for the outcomes of pharmacotherapy. The overriding accountability is to meet traditional financial goals (Louie and Robertson, 1993 cited in Al-Shaqha and Zairi, 2001), such as decreased operating costs (Al-Shaqha and Zairi, 2001). The irony highlighted by Al-Shaqha and Zairi (2001) is that the benefit of pharmaceutical care in terms of decreasing the costs of DRP (see 3.3) is not considered. Managing pharmacists also often do not have the time required to plan for implementing pharmaceutical care (Al-Shaqha and Zairi, 2001); this, and the lack of protocols or guidelines on how to measure the effect of pharmaceutical services on patient

outcomes, and insufficient resources being directed towards this (Hepler, 1990 cited in Al-Shaqha and Zairi, 2001), are barriers to the practice of pharmaceutical care.

Gouveia (1993a) cited in Al-Shaqha and Zairi (2001) points out that organisational organograms often allocate clinical care responsibilities to some pharmacists, and responsibilities for drug distribution and other product-oriented responsibilities to others. Pharmaceutical care should, however, be the responsibility of all pharmacists, as suggested by Gouveia (1993a) cited in Al-Shaqha and Zairi (2001) (see 3.6.3). Other reasons cited for pharmacists not intervening to address DRP include a shortage of pharmacy staff and a lack of additional remuneration for providing pharmaceutical care (Anonymous, 2000; Shibley and Pugh, 1997; and Hawksworth and Chrystyn, 1999; all cited in Leemans, *et al.*, 2003). Van Mil, *et al.* (2004) and Rossing, Holme Hansen & Krass (2001) cited in van Mil, *et al.* (2004) also highlight the lack of remuneration for pharmaceutical care as a barrier.

In South Africa, as mentioned in 1.2.1, pharmacists and pharmacist's assistants are regarded as scarce-skill professionals (South Africa. Department of Labour, 2008). The shortage of pharmacists has also been highlighted as limiting the potential of a national chain store to increase its number of pharmacies (Enslin-Payne, 2011).

The shortage of pharmacists in the USA, which has outpaced the slight increase in the number of new pharmacists, is discussed in detail by Cooksey, *et al.* (2002), who associate the shortage of pharmacists with the following five factors:

- (i) An increase in the use of prescription drugs, evidenced in a 35% increase in the annual number of prescriptions dispensed by community pharmacists between 1992 and 2000 (Health Resources and Services Administration, 2000 cited in Cooksey, *et al.*, 2002);
- (ii) The expansion of pharmacists' roles into new job markets, such as the wholesale industry and business sector, leaving fewer pharmacists to practise in the retail and hospital sectors;

- (iii) The large proportion of female pharmacists and those working shorter hours. The proportion of female practising pharmacists increased from 12% in 1970 to 46% in 2000 (Gershon, *et al.*, no date cited in Cooksey, *et al.*, 2002). Female pharmacists work approximately seven hours per week less than male pharmacists; and 28% work on a part-time basis, compared to 11% of male pharmacists (Walton and Cooksey, 2001 cited in Cooksey, *et al.*, 2002);
- (iv) The limited use of pharmacy support staff and automation, such as dispensing robots. In response to the shortage of pharmacists, there has been a significant increase in the number of pharmacy support staff, such as assistants and technicians, from 123 000 in 1996 to 247 000 in 2000 (Cosca, 2002 cited in Cooksey, *et al.*, 2002). However, many pharmacists are reluctant to make optimal use of these support staff, due to the limited training that they receive (American Society of Health-System Pharmacists (ASHP) and the American Pharmaceutical Association, 1996 cited in Cooksey, *et al.*, 2002). The situation in South Africa, however, may be different. An anonymous writer to the South African Pharmaceutical Journal, for example, discusses pharmacist's assistants practising outside their scope of practice and reading, evaluating and dispensing prescriptions (A community pharmacist, 2010). The writer states that sometimes pharmacist's assistants dispense more than 250 prescriptions daily. He/ she suggests that this situation has developed because it is less costly for pharmacy owners to employ pharmacist's assistants instead of additional pharmacists, and due to the drive for increased sales volume. The writer furthermore states that the SAPC is not vigilant, when inspecting pharmacies, in investigating who dispenses prescriptions (A community pharmacist, 2010). The prevailing culture that allows pharmacist's assistants to perform the duties of pharmacists is illustrated in an incident reported by Osman (2010: 4), in which a pharmacist's assistant told her that she was an "assistant pharmacist"; and
- (iv) Workplace and health-system inefficiencies, which do not make optimal use of pharmacists. System-related problems (see 3.5.1), such as difficulty in accessing patients' medical records, are barriers to providing pharmaceutical care, according to Cooksey, *et al.* (2002) and Al-Shaqha and Zairi (2001).

A further management-related barrier arises from considering the work of Moore and McAuliffe (2010). These authors point out that the incidence of errors by health-care workers is high, and argue that an inadequate management response to whistle-blowing in hospitals promotes the underreporting of such errors. In particular, whilst 86% of staff nurses had witnessed an incident of poor care, only 65% of these nurses reported the incident (Moore and McAuliffe, 2010). Furthermore, only one third of this 65% of staff nurses reported the incident in a documented incident report form. The main reason cited for the underreporting of incidents of poor care is fear of victimisation. Nurses have also expressed dissatisfaction with the manner in which incident reports are handled (Moore and McAuliffe, 2010).

These authors warn that if nurses are not encouraged to report incidents of poor care, and a proper system is not put into place to deal effectively with such reports, “there is a real danger of perpetuating a culture of silence and an acceptance of poor quality” (Moore and McAuliffe, 2010: 177). The question that arises, based on this study, is whether pharmacists and pharmacist’s assistants may also be reluctant to report incidents of poor care and/ or non-compliance with standards for pharmaceutical care, to pharmacy management and/ or the SAPC for the same reasons cited by Moore and McAuliffe (2010). This could potentially result in non-compliance with standards for pharmaceutical care being perpetuated.

### **3.6 A PMS for pharmaceutical care**

Al-Shaqha and Zairi (2001) emphasise the need for a sound management system to be in place in order for pharmaceutical care to be implemented successfully and sustainably. These authors have developed a framework of such a management system, based on earlier work by Phillips, Strand, Chesteen & Morley (1987) cited by these authors. The key elements of this management system (Al-Shaqha and Zairi, 2001: 289) will be discussed next. Although Al-Shaqha and Zairi (2001) do not specify that this management system is a “performance management system”, it shall be discussed here as a PMS, as all the components that are part of this



management system are considered to be a part of an integrated PMS, as described in 3.1.2.3.

### **3.6.1 A philosophy and mission statement reflecting pharmaceutical care**

Al-Shaqha and Zairi (2001) believe that the first step of a management system for pharmaceutical care is developing a philosophy and mission for the pharmacy that recognises the responsibilities of the pharmacy as providing the appropriate medication, as well as the appropriate related information, to patients. This philosophy should be expressed in the mission statement, goals and objectives of the pharmacy. Strategic and operational plans should be developed for the delivery of pharmaceutical care and these, together with the mission statement, should be monitored and reviewed on a continuous basis (Al-Shaqha and Zairi, 2001).

It is noteworthy that Al-Shaqha and Zairi (2001) omit mentioning the organisation's vision as having to reflect the principles of pharmaceutical care. Schumock and Wong (2004a: 66) highlight the importance of pharmacies conducting strategic planning (see 3.1.1.3), which includes developing a "vision statement". Examples of the benefits gained by strategic planning include pharmacies being able to offer additional value and services to patients; and increased sales figures, leading to enhanced profitability (Harrison and Bootman, 1994; Harrison and Ortmeier, 1995, 1996; all cited in Desselle, 2004). Having the provision of pharmaceutical care as a priority in the vision and strategic plan of a pharmacy would thus be important in guiding all strategic initiatives and conveying high-level commitment to the practice.

### **3.6.2 Short- and long-term goals**

Business, or operational, plans should also be in place, detailing how specific new services are to be provided (Schumock and Wong, 2004b); an example of such a

service is pharmaceutical care. The short- and long-term goals of the pharmacy, expressed in its strategic and business plans, should be in alignment with the new mission statement espousing pharmaceutical care, as recommended by Al-Shaqha and Zairi (2001). These authors suggest that goals provide a practical framework and influence the type of structures adopted by the organisation for the provision of pharmaceutical care (Al-Shaqha and Zairi, 2001) (see 3.6.4).

### **3.6.3 Pharmacists' responsibilities**

Al-Shaqha and Zairi (2001) propose that job responsibilities for pharmacists be founded on the types of activities and standards of pharmacy practice expected for individual patients. It is suggested by Al-Shaqha and Zairi (2001) that a paradigm shift may be required for pharmacists in this step, in acknowledging the additional responsibilities placed upon them by adopting the paradigm of pharmaceutical care.

Gouveia (1993b) cited in Al-Shaqha and Zairi (2001) recommends that pharmacists be empowered to make decisions that are in the best interests of their patients, rather than function under micromanagement. This author suggests that current practices in which set responsibilities are assigned to different pharmacists should be changed, so that all pharmacists can contribute to patient monitoring (Gouveia, 1993b cited in Al-Shaqha and Zairi, 2001). Instead of certain pharmacists being responsible solely for drug distribution, for example, and others for purchasing, all should be responsible for pharmaceutical care (Al-Shaqha and Zairi, 2001).

The following broad steps, which are reminiscent of the SAPC's description of a medication review (South Africa. SAPC, 2010a) (see 1.1), should be performed by pharmacists in providing pharmaceutical care (Al-Shaqha and Zairi, 2001):

- (i) Evaluation of each patient's pharmacotherapeutic needs;
- (ii) Collaboration with the patient and other health-care professionals to develop a plan that allows the patient's therapeutic goals to be achieved;
- (iii) Implementation of the abovementioned pharmaceutical care plan; and

- (iv) Performing a follow-up comparison of actual and desired patient outcomes, which evaluates the effectiveness of the pharmacist's intervention(s). This step could potentially be highly beneficial in patients with chronic medical conditions (Al-Shaqha and Zairi, 2001).

In addition to the above, Desselle's (2004) five domains of pharmaceutical care (see 3.2.1) can also serve as a framework for determining pharmacists' responsibilities.

The need for the activities and tasks performed in providing pharmaceutical care to be standardised was highlighted by the ASHP (1993) cited in Al-Shaqha and Zairi (2001) who, in 1996 published *Guidelines on a Standardised Method for Pharmaceutical Care* (Al-Shaqha and Zairi, 2001). Hutchinson and Schumock (1994) cited in Al-Shaqha and Zairi (2001) agree, stating that if individual pharmacists and pharmacies define pharmaceutical care in their own way, the provision of pharmaceutical care in general will not be sustainable. Standardisation furthermore promotes continuity of care (Al-Shaqha and Zairi, 2001). An example of an activity to be standardised is the manner in which pharmacists collect information from patients in order to allow DRP to be detected (Al-Shaqha and Zairi, 2001).

Giannetti (2004: 217) argues that providing pharmaceutical care is facilitated by pharmacists having "enrich[ed]" jobs, which also contributes towards greater job satisfaction and motivation. Giannetti (2004) further recommends that Hackman and Oldham's (1975) job characteristics model, cited in Giannetti (2004: 217), be applied to determine how pharmacists' jobs within various pharmaceutical contexts could be enriched, so that the provision of pharmaceutical care is facilitated.

Hackman and Oldham's (1975) job characteristics model cited in Giannetti (2004: 217) proposes that three critical psychological states, namely (i) the experienced meaningfulness of work, (ii) experienced responsibility for work outcomes and (iii) knowledge of the results of work, lead to intrinsic motivation. These critical

psychological states arise from five core job characteristics or dimensions, namely (Hackman and Oldham, 1975 cited in Giannetti, 2004: 217):

- (i) Skill variety, in which the employee is able to utilise a range of different skills to perform job-related tasks;
- (ii) Task identity, in which the employee is completely responsible for all aspects of a certain task;
- (iii) Task significance, in which the employee appreciates the importance of his/her tasks to other stakeholders;
- (iv) Autonomy, which describes the freedom that an employee possesses to utilise his/ her individual judgement in carrying out a task; and
- (v) Feedback, or the extent to which the employee receives feedback on his/ her performance. Silva and Ferreira (2010), in a study of primary health-care services in Portugal, for example, highlight that nurses were the only group of employees that held regular meetings to address performance-related issues and to promote collective learning, and that these meetings had led to enhanced performance, according to a general practitioner.

Pharmacists' need for the above "enriching characteristics" is individualised, with some pharmacists preferring jobs that are not highly "enrich[ed]" (Giannetti, 2004: 217). Those pharmacists likely to prefer "enrich[ed]" jobs are those who desire learning and individual achievement (Giannetti, 2004: 217). The extent to which the redesigning of pharmacists' jobs to optimise the abovementioned job characteristics can be achieved may also be limited by contextual factors, such as the pharmacy's available resources; the type of sector in which the pharmacy operates; and the organisation's degree of openness towards innovation and, by extension, readiness for change, as suggested by Giannetti (2004). A key responsibility of managing pharmacists should be the management of innovation (Giannetti, 2004).

Giannetti (2004) warns that if workplace realities in pharmacies, which often do not promote the provision of pharmaceutical care (see 3.4), are in dissonance with the education and training received by pharmacists, which emphasises pharmaceutical care in many cases (van Mil, *et al.*, 2004 do not agree with this, as mentioned in

3.5.2), and the professional ideals of pharmacists, which may be to provide pharmaceutical care and act as knowledge workers, there is the potential for pharmacists to experience disillusionment with the pharmacy profession. Giannetti (2004) argues that if job design for pharmacists does not align these key aspects of education, professional ideals and workplace realities, it is likely that pharmacists, particularly new graduates, may experience job dissatisfaction.

#### **3.6.4 Organisational structure**

As noted by Al-Shaqha and Zairi (2001), it is necessary to have an organisational structure that facilitates the provision of pharmaceutical care, as well as the technical dispensing functions that, whilst no longer being the predominant focus of pharmacy practice, remain an important component of this. Al-Shaqha and Zairi (2001) suggest a decentralised decision-making structure, with pharmacists feeling that they possess sufficient autonomy to creatively practise pharmaceutical care. Gouveia (1993b) cited in Al-Shaqha and Zairi (2001) suggests that organograms be changed, with patients occupying the central position and the pharmacy's structure being flatter, allowing pharmacists greater empowerment (see 3.6.3).

A hospital pharmacy may need to be transferred from the basement (Smith and Mackewicz, 1972 cited in Al-Shaqha and Zairi, 2001), an isolated geographical position, to a location in which pharmacists are more easily involved as part of the health-care team and better able to contribute to patients' clinical outcomes. The costs associated with relocation may be a barrier to this occurring. Relocation can also be viewed in a metaphorical light, as suggested by Smith and Mackewicz (1972) cited in Al-Shaqha and Zairi (2001), as reflecting the need for pharmacists to change their practice style to one involving greater integration with that of other health-care professionals. As suggested by Smith and Mackewicz (1972) cited in Al-Shaqha and Zairi (2001), systems should be developed that allow for patient safety to be monitored, in addition to providing an efficient and effective pharmaceutical service.

### **3.6.5 Resources**

All necessary resources should be present, including the human, infrastructure and financial resources necessary to provide optimal pharmaceutical care (Al-Shaqha and Zairi, 2001). An important HR is support staff, and Al-Shaqha and Zairi (2001) emphasise that having a sufficient number of pharmacy support staff is essential, and note that one of their roles is to aid the flow of patients through a pharmacy, thus assisting in the provision of an efficient service. Elenbaas (2008) points out that pharmacy support staff and technology (see 3.5.4) should be used more effectively, for example to perform more technical functions, thus allowing pharmacists more time to provide pharmaceutical care. Finally, recruitment and selection should prioritise hiring pharmacists who are able to provide pharmaceutical care, and ongoing T&D should cultivate this competence (Al-Shaqha and Zairi, 2001).

### **3.6.6 Performance appraisal**

Al-Shaqha and Zairi (2001) categorise performance appraisal together with rewards, but due to the critical role played by each in a PMS, these will be considered in greater depth separately. Performance appraisal must be reflective of the new philosophy of pharmaceutical care, and, as suggested by Al-Shaqha and Zairi (2001), should focus on evaluating performance in providing more pharmaceutical care services as well as performance in traditional dispensing functions.

Smith (1988) cited in Al-Shaqha and Zairi (2001) proposes that the performance of managing pharmacists be evaluated in terms of how they manage pharmaceutical care activities. The benefits to patients and other health-care professionals, and pharmacists' job satisfaction, should be KPIs, as suggested by Smith (1988) cited in Al-Shaqha and Zairi (2001). Elenbaas (2008) and Giannetti (2004) also highlight the need to shift away from using the number of prescriptions dispensed as a KPI for pharmacists, towards indicators reflecting patient outcomes and pharmacists' overall responsibilities to patients. Desselle and Tipton (2001) cited in Desselle (2004)

report that feedback from managers and managers' ability to enhance the job satisfaction of pharmacists was a factor in determining whether pharmacists perceived that they were complying with standards for pharmaceutical care.

### 3.6.7 Rewards

The choice of rewards should reflect the philosophy of pharmaceutical care, according to Al-Shaqha and Zairi (2001). Elenbaas (2008) mentions the importance of financial viability for pharmacies and points out that currently pharmacists receive payment primarily for drug products and the technical function of dispensing.

Van Mil, *et al.* (2004) note that payment for pharmaceutical care has been initiated in some European countries, such as The Netherlands, and that in this country some insurance companies have started reimbursing pharmacists for providing pharmaceutical care for selected medical conditions. According to Elenbaas (2008), in the USA, funders such as medical aid schemes and the government are being approached to change payment policies, so that recognition and remuneration is provided to pharmacists for providing pharmaceutical care. In Germany, the largest health insurance fund agreed to remunerate pharmacists for providing pharmaceutical care in 2003 (Eickhoff and Schulz, 2006).

In South Africa, the SAPC gazetted new rules in 2010 (South Africa. SAPC, 2010b) detailing the services for which pharmacists may charge a fee, in addition to the fee that patients have to pay for medication. In terms of procedure code 0001(a), pharmacists may charge a fee for evaluating the appropriateness of prescribed medication, in accordance with sections 2.7.1-2.7.4 of the GPP standards; whilst procedure codes 0001(c) and 0008 state that a pharmacist can charge a fee for providing patients with instructions and advice, in accordance with GPP standards, in particular s2.8 (South Africa. SAPC, 2010b). Pharmacists may also charge a fee for reviewing a patient's entire pharmacotherapy, in terms of procedure code 0011, in accordance with s2.25 of the GPP standards; and for providing pharmacist-initiated

therapy<sup>13</sup>, according to procedure code 0028 (South Africa. SAPC, 2010b). These services are all components of providing pharmaceutical care (see 1.1).

However, financial rewards are unlikely to lead to pharmacists feeling more motivated to provide pharmaceutical care, as financial rewards are a “hygiene factor” necessary for job satisfaction, according to Herzberg’s (1987) two-factor theory cited in Hendriks (1999: 95). As Giannetti (2004: 217) points out, financial rewards may contribute to short-term organisational commitment, but do not address the longer-term sense of stagnation that pharmacists could experience as a result of not having “enrich[ed]” jobs promoting the provision of pharmaceutical care (see 3.6.3).

Azzone and Palermo (2011) highlight the potential difficulties in linking rewards to performance appraisal; one of these problems is that there may be overcompensation of excellent performance and the ignoring of substandard performance. Although the overcompensation of pharmacists may be unlikely in a retail pharmacy in South Africa, given the financial pressures faced by these pharmacies (see 1.6 and 2.2.7), ignoring substandard performance could be motivated by a desire not to have to financially reward employees if their performance improved. Subsequent “failure costs” (Campanella and Corcoran, 1983 cited in Neely, *et al.*, 2005: 1232) that could occur are discussed in 3.6.8.2.

### **3.6.8 Further requirements**

#### **3.6.8.1 The managing pharmacist’s role**

Al-Shaqha and Zairi (2001: 291) highlight the importance of the pharmacy manager espousing the philosophy of pharmaceutical care and its potential benefits to

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<sup>13</sup> This refers to the provision of OTC medication (see glossary).



patients, and acting as a “role model” for pharmacists and support staff in providing pharmaceutical care. Gouveia (1993a, b) cited in Al-Shaqha and Zairi (2001) suggests that managing pharmacists be held responsible for patient outcomes. Another role of managing pharmacists is enabling the CPD of pharmacists, so that pharmacists remain competent and able to provide and use the additional drug information necessary in delivering pharmaceutical care (Al-Shaqha and Zairi, 2001).

Providing pharmaceutical care also entails administrative tasks, such as capturing the costs and resource requirements of providing pharmaceutical care, and evaluating these against patient outcomes (Smith, 1988 cited by Al-Shaqha and Zairi, 2001). The documentation of pharmaceutical care activities also needs to be performed (see 3.5.2). The managing pharmacist needs to ensure that these functions are performed.

The role of the managing pharmacist in driving the implementation of the PMS and an organisational culture that appreciates the value of such a PMS is also important. In a Malaysian government-linked company that instituted a new PMS, for example, Norhayati and Siti-Nabiha (2009: 243) found that PMS-related practices became “decoupled” from organisational practices, as the new practices were viewed as a separate, routine activity related to performance appraisal. This resulted in the new PMS not resulting in a meaningful change in employee practices and performance (Norhayati and Siti-Nahiba, 2009). These authors suggest that senior management has a key role to play in addressing the barriers that the prevailing organisational culture could play in introducing changes to PMSs (Norhayati and Siti-Nahiba, 2009).

### **3.6.8.2 Quality management system**

Neely, *et al.* (2005) highlight that considerations of quality should also include the costs of failing to meet quality standards. This includes “internal” and “external failure costs” (Campanella and Corcoran, 1983 cited in Neely, *et al.*, 2005: 1232).

An example of the former, in the context of retail pharmacy, could be the cost of redoing the preparation of a patient's medication prior to the patient receiving it, because an error had been detected, whilst an example of an "external failure cost", as described by Campanella and Corcoran (1983) cited in Neely, *et al.* (2005: 1232) could be the costs involved in addressing a complaint or the cost of a DRP resulting from a patient receiving incorrect medication. The costs of preventing quality problems and evaluating quality are also important (Feigenbaum, 1961 cited in Neely, *et al.*, 2005). Benchmarking can be used to detect areas of the pharmacy's current practices that could be improved, as suggested by Neely, *et al.* (2005).

This can be addressed by having a structured quality management system. There is synergy between pharmaceutical care and quality management. The UKCPA declares that, "Pharmaceutical care results from the application of the principles of quality management to the use of medicines" (UKCPA, 2009). A quality management system should thus be developed in pharmacies, according to Schaefer and Verheyen (2003).

This quality management system should focus on the following four key parameters, as outlined by the UKCPA (2009):

- (i) Dialogue with patients, in which a pharmacist assesses a patient's pharmacotherapy, identifies actual and potential DRP and develops relationships with patients that will facilitate ongoing patient monitoring;
- (ii) Liaison and collaboration amongst health-care providers, who all appreciate the significance of pharmaceutical care and share relevant information, such as patient results and health outcomes. Patient commitment for this to occur is a key objective and it is also necessary for pharmacists to document all necessary information, interventions and outcomes (UKCPA, 2009);
- (iii) The clear definition of processes to achieve pharmaceutical care, which can lead to the allocation of roles and responsibilities in the pharmacy and the enhancement and maintenance of standards relating to patient care; and
- (iv) The recording and measurement of data, such as patient outcomes and details of pharmacists' interventions, so that pharmaceutical care can be continuously improved and continuity of patient care promoted. According to

the UKCPA (2009), subjective measures such as quality of life, should also be measured, to enable a more holistic understanding of patient outcomes. Furthermore, as suggested by the UKCPA (2009), the pooling of data can be beneficial in determining outcomes for groups of patients, for example those with a particular medical condition or falling into a certain demographic profile. This can identify areas of drug use that need to be improved, stimulating the continuous enhancement of pharmaceutical care services (UKCPA, 2009).

Adoption of the EFQM Excellence Model (see 3.1.1.3) as a quality management tool by health-care teams in various countries, such as Germany (Moeller, 2001) and Spain (Sánchez, Letona, González, García, Darpón & Garay, 2006), has led to improvements in service quality. Stewart (2003) notes that the EFQM model offers a structured means to improve the quality of pharmaceutical services.

The UKCPA (2009) advocates that a multidisciplinary quality management system for patients be developed, in which various health-care professionals are involved and pharmacists assume responsibility for each patient's use of medication. A key quality assurance measure should be whether a patient's use of medication reflects that patient's drug therapy needs (UKCPA, 2009). According to the UKCPA (2009), developing a culture within the health-care sector that supports the implementation of quality management systems can be facilitated by pharmacists espousing quality assurance measures and techniques in alignment with pharmaceutical care, such as the four parameters discussed above, and applying these to everyday practice.

In a study of the effects of organisational culture on quality improvement practices in a Jordanian hospital, Ababaneh (2010) found that an innovative subculture had a greater impact than a supportive subculture, which emphasises effective teamwork and interpersonal relations, or a bureaucratic subculture, which is characterised by decision-making being centralised in the hospital manager. Ababaneh (2010) thus recommends that an innovative subculture, in which employees are encouraged to

think creatively and continually seek to improve performance, should be institutionalised and reflected in organisational values and practices.

Alhatmi (2010) argues that conducting quality audits are an essential component of improving the quality of health-care services, and cites Deming's four-stage cycle of "plan, do, check and act" (Bedi, 2006 cited in Alhatmi, 2010: 114). In describing the beneficial effects of conducting internal quality audits at her hospital, Alhatmi (2010) highlights the importance of quality being reflected in the organisation's vision and mission, as well as the usefulness of providing change management training to address employees' potential resistance to quality audits. There should, furthermore, be a structured approach with which management effectively addresses reports or complaints by pharmacists and pharmacist's assistants on issues of poor care, as suggested by the work of Moore and McAuliffe (2010) (see 3.5.4). A culture that supports the implementation of quality management systems thus has the potential to enhance the delivery of pharmaceutical care, leading to an improvement in patients' quality of life, as suggested by the UKCPA (2009).

### **3.7 Summary**

In this literature review, different paradigms of pharmacy practice were shown to mirror evolving paradigms of performance management. The paradigm of pharmaceutical care, in particular, reflects and requires a systems approach to performance management. The history and benefits of pharmaceutical care in addressing DRP were explored, and then focus was turned to assessing how widely pharmaceutical care is currently being practised. Several barriers to implementing pharmaceutical care were analysed, and the requirements of an integrated PMS in optimally facilitating the provision of pharmaceutical care were considered.

## **CHAPTER FOUR: RESEARCH DESIGN AND METHODOLOGY**

### **4.1 Research design**

Appendix I contains an Ishikawa or fishbone diagram, adapted from Gwiazda (2005) cited in Gwiazda (2006: 440), which has been used to illustrate several main themes of this research and highlight important methodological considerations that have shaped how this research was conducted. These methodological considerations and choices are discussed in detail in this chapter.

#### **4.1.1 Choice of research design**

A “methodological triangulation” approach, described by Easterby-Smith, Thorpe & Lowe (2002: 146) as including the use of both a quantitative and a qualitative research method, was adopted in this research. The quantitative research method used involved the completion of survey questionnaires by patients of the pharmacy under study, to ascertain whether or not the pharmaceutical services provided by the pharmacy comply with GPP standards for the provision of pharmaceutical care, as outlined by the SAPC (South Africa. SAPC, 2010a).

The qualitative research method used comprised holding semi-structured one-on-one interviews with all three pharmacists and the pharmacist’s assistant, in order to determine their perceptions of whether the provision of pharmaceutical care is a key performance area, and which aspects of the implementation of the PMS facilitate or undermine the provision of pharmaceutical care. Both of these methods are discussed in more detail in 4.2.1 and 4.2.2 respectively.

#### 4.1.2 Rationale for a triangulation approach

A triangulation approach was adopted, as this is a synergistic approach that allows the advantages of both the quantitative and qualitative research methods to be utilised in a complementary manner, thus allowing a more comprehensive, in-depth appreciation of the research problem, as described by Gani (2004) and Easterby-Smith, *et al.* (2002). The quantitative method used allows for a mathematical assessment of whether the pharmacy complies with a variety of GPP standards for pharmaceutical care, as outlined by the SAPC (South Africa. SAPC, 2010a), from the perspective of patients. Patients' demographic details were also captured. This allowed the first two research objectives (see 1.4) to be achieved.

As highlighted by Laxton (2004), since questionnaires can be completed in a relatively shorter period of time compared to qualitative data-gathering tools such as interviews, a large sample of patients can be surveyed. This larger sample size enhances the representivity of the sample, thus potentially increasing the accuracy and credibility of research findings (see 4.2.1.2.4). Additional advantages of using survey questionnaires, as suggested by Laxton (2004), are that lower costs are involved and patients can complete the questionnaires anonymously.

A disadvantage of administering questionnaires is that they do not fully capture the reasoning behind certain findings; in this case, the questionnaire does not provide insight into *why* the pharmacy under study complies, or does not comply, with GPP standards for the provision of pharmaceutical care. Other disadvantages include the impersonal nature of questionnaires, the danger that bias can occur if questions are not worded carefully and the usually low response rates to questionnaires (Laxton, 2004). Furthermore, not all information can be reduced to numerical data.

This motivated the decision to also use semi-structured interviews, to gain an in-depth, qualitative understanding of pharmacists' and the pharmacist's assistant's

perceptions of the PMS, and probe the potential PMS-related barriers to providing pharmaceutical care from their perspective. This allowed the third and fourth research objectives (see 1.4) to be achieved. Laxton (2004) identifies this ability to obtain in-depth information as a major advantage of interviews. The interviews were semi-structured in nature, as this offered flexibility in being able to follow up individual interviewees' responses whilst maintaining consistency in the kinds of questions asked. Disadvantages of interviews include the time required to conduct and analyse interviews; and the potential for interviewers to lead interviewees to certain responses, thus introducing bias (Laxton, 2004).

The use of a triangulation approach thus offered the benefit of being able to quantify, in a mathematical manner, whether the pharmacy complies with GPP standards for pharmaceutical care as stipulated by the SAPC (South Africa. SAPC, 2010a), and then gaining insight from key employees and the owner-manager into the reasons for this from a performance management perspective. Charlesworth (2003a) suggests that triangulation also enhances the reliability of data that is obtained (see 4.2.1.5), as consistencies are confirmed and inconsistencies highlighted.

## **4.2 Research methodology**

The data-gathering tools, or research instruments, that were used were survey questionnaires to patients and semi-structured interviews with dispensary employees, each of which will be discussed in detail below. The interviews, although described after the questionnaires in this chapter, were held first (see 4.2.2) whilst the author was in Cape Town, and the questionnaires administered to patients approximately a week later, as the author was only able to travel to Johannesburg for a period of approximately two weeks to perform this (see 4.2.1.2.4). The questionnaires will be discussed first as a more comprehensive overview of relevant theory is provided with regard to the use of this research instrument.

## **4.2.1 Patient questionnaires**

### **4.2.1.1 Questionnaire design**

The questionnaire that was used was designed by the author, following Laxton's (2004) advice that researchers aiming to utilise questionnaires write the kinds of questions to be used in their research themselves. This advice was particularly relevant for the current study, as the statements had to reflect South African GPP standards, as stipulated by the SAPC (South Africa. SAPC, 2010a) and, to the knowledge of the author, no similar study has been conducted in South Africa to date. The statements in the questionnaire are in alignment with those statements covering the core elements of pharmaceutical care posed by Assa-Eley and Kimberlin (2005: 47) in their study of patients' and pharmacists' perceptions of pharmaceutical care in the USA.

The questionnaire was designed by modifying Cant, Gerber-Nel, Nel & Kotzé's (2008: 148) seven-step process, as detailed below. The questionnaire that was developed is subsequently provided, on page 93. In the questionnaires distributed to patients, the name of the pharmacy was included, but this has been omitted from the questionnaire on page 93 because of the confidentiality agreement with the owner-manager of the pharmacy (see 1.6).

#### **4.2.1.1.1 Step 1: Specifying the required information**

The purpose of using questionnaires was to determine if the pharmacy complies with GPP standards for the provision of pharmaceutical care, as stipulated by the SAPC (South Africa. SAPC, 2010a). As discussed in 1.6, the questionnaire focused on standards from Chapters 2-4, Appendix A and sections 1.2.1(e) and 1.6.1(g) in Chapter 1 of the GPP standards.



#### **4.2.1.1.2 Step 2: Specifying the content of questions**

As mentioned in 1.6, emphasis was given to selected GPP standards within the abovementioned chapters that cover analysing a patient's pharmacotherapy and providing patient counselling, as these relate more specifically to the provision of pharmaceutical care instead of the technical aspects of dispensing medication.

It was also deemed useful to ask patients in the questionnaire to indicate whether patients would like the pharmacist to perform the various services involved in pharmaceutical care. This was included in the questionnaire to highlight what patients desire from a pharmaceutical service, which could provide useful feedback to the owner-manager of the pharmacy, who believes that patients do not want to receive pharmaceutical care (see 2.3.1). Patients were also asked whether they would like to receive these services so that the questionnaire does not appear to be a fault-finding checklist, but rather as something more positive that serves a purpose as it attempts to convey what patients' needs are.

It was also decided to include questions and statements relating to the scope of practice of various pharmacy employees, for the following reasons:

- (i) To ascertain whether the distinction in identity and role between pharmacists and the pharmacist's assistant in the pharmacy is clear to patients. According to sections 1.2.1(e) and 1.6.1(g) of the GPP standards (South Africa. SAPC, 2010a), pharmacists and post-basic pharmacist's assistants must wear a name tag identifying them and their designation to members of the public;
- (ii) To determine whether or not the pharmacist's assistant always works under the direct supervision of a pharmacist, as perceived by patients. This supervision is compulsory under sections 1.1 and 1.2 of Appendix A in the GPP standards (South Africa. SAPC, 2010a);
- (iii) To determine whether OTC medication is being selected for patients by front-shop assistants. This would constitute an infringement of sections 1.5.1(a)(v) and 1.2(a) of Appendix A of the GPP standards (South Africa. SAPC, 2010a),

which state that pharmacists and post-basic pharmacist's assistants working under the direct personal supervision of a pharmacist are responsible for the sale of Schedule 1 and 2 medication<sup>14</sup>; and

- (iv) Adherence by various pharmacy employees to their scope of practice, so that pharmaceutical care can be provided, is an important component of the GPP standards, as outlined by the SAPC (South Africa. SAPC, 2010a).

Finally, it was decided to include a short demographic section, in order to:

- (i) Achieve the second research objective (see 1.4), namely to assess whether patients' perceptions of the pharmaceutical services provided by the pharmacy as well as patients' expectations of pharmaceutical services differ, depending on the race or gender of the patient. A sentence was included explaining the reason for asking patients to disclose their race, and permission for this was also obtained in the written consent forms that patients signed prior to completing the questionnaire (see 4.2.1.7). Other demographic details could not be ascertained, as it was deemed important to keep the questionnaire as short as possible (see Step 6). Asking patients for their demographic details has also been performed by other researchers, such as Hanna, *et al.* (2010), in their Willingness To Pay study (see 3.5.3);
- (ii) Demonstrate a measure of the internal validity of the questionnaire (see 4.2.1.6) by showing that the questionnaire was used by respondents with different demographic profiles; and
- (iii) Allow for sample representivity to be assessed (see 4.2.1.2.2).

#### **4.2.1.1.3 Step 3: Specifying the structure of questions**

A closed-ended question structure was chosen, in order to make it quicker for patients to complete the questionnaire. It was anticipated that given the busy nature of the pharmacy, the time commitments of patients and the likelihood that many

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<sup>14</sup> Schedule 1 and 2 medication is OTC medication (see glossary).

patients may not be feeling physically well when approached to complete the questionnaire, a questionnaire that was as quick and easy as possible to complete would most likely be associated with a higher response rate.

It was decided to have as many “dichotomous close ended questions” as possible; these are described by Cant, *et al.* (2008: 151) as questions that only have two answers, such as “Yes” and “No”. Where it would be necessary to have more than two response options, “multiple category close ended questions” (Cant, *et al.*, 2008: 151) were used. An example of the latter included a question asking respondents for their race. It was also recognised that particular pharmaceutical care services may be provided occasionally, instead of “Yes, always provided” or “No, never provided”, thus necessitating such questions having three possible responses.

The questions relating to whether patients receive various pharmaceutical care services were formulated as statements, and patients had to indicate whether they had received these. This question thus resembled a checklist of various GPP standards for pharmaceutical care. In order to conserve space, additional columns were added to the right of patients’ responses to each statement, asking patients to indicate whether they wanted to receive each of these services.

It was decided to structure the questionnaire into three components, covering demographics, pharmaceutical care services and the scope of practice of pharmacy employees. The ordering of these is discussed in Step 5.

#### **4.2.1.1.4 Step 4: Careful wording of questions**

As mentioned in Step 3, a checklist of statements, each describing a core feature of pharmaceutical care, was developed. The statements and possible responses were kept short, simple and specific. An example of the latter is that instead of stating that

a service was provided “occasionally” or “sometimes”, this was defined as “once or twice”, as suggested by Cant, *et al.* (2008). This minimised the risk of different interpretations by respondents. The final pharmaceutical service mentioned in section 2 was formulated as a close-ended question instead of a statement, as patients were asked whether they had ever requested a pharmacist to perform a medication review. A short description of what a medication review entails was included, as patients may be unfamiliar with this phrase.

Leading statements making inferences on the quality of pharmaceutical services provided to patients were avoided, so as to decrease the potential to evoke emotional responses from patients or to pre-empt particular responses. Due to the space limitations in the questionnaire (see Step 6), the questions related to demographic details were formulated as asking the respondent to tick the relevant box. Laxton (2004) mentions that asking respondents to tick a box leads to less confusion than asking respondents to circle their chosen response. The statement explaining why patients were asked to disclose their race, namely to determine if patients from different racial groups have differing experiences or expectations of pharmaceutical services, had to be worded carefully in order not to offend patients.

#### **4.2.1.1.5 Step 5: Determining the sequence of questions**

It was decided to start with the demographic details of the respondent, to encourage respondents to provide this data and also because this section was very short and starting with personal information, instead of questions that require the respondent to think deeply, may make the respondent feel more at ease. There is disagreement amongst various authors over where demographic details should be asked in a questionnaire. Laxton (2004), for example, states that demographic questions should be placed at the beginning of a questionnaire, whereas Cant, *et al.* (2008) feel that these and other personal questions should be placed later on in the questionnaire.

The second section of the questionnaire included the statements describing various pharmaceutical care services. Statements related to analysing a patient's pharmacotherapy were grouped together first, and then statements related to patient counselling were listed. This was done to introduce some order into the sequencing of statements, and to make the sequence reflective of the steps that could potentially be followed by pharmacists in providing pharmaceutical care to patients. The third and final section of the questionnaire comprised statements specifically related to the scope of practice of pharmacy employees.

#### **4.2.1.1.6 Step 6: Determining the layout of the questionnaire**

It was decided to make the questionnaire not longer than one page, in order to make it more user-friendly and encourage completion. Dividing the questionnaire clearly into three thematic sections (see Step 3) was thought to make the questionnaire appear less crowded. The words "demographic details" in the first section were emboldened, so respondents could more easily see what this first section was about. Similarly, the questions asked in the second section and possible responses in the third section were emboldened. The phrase "medication review" in part 11 of section 2 was also emboldened, in order to make it stand out from the description of what this is. The questions asking whether patients wanted to receive the various pharmaceutical services were placed in boxes with extra thick borders, in order to clearly separate these from the questions as to whether these services are being provided, thus minimising ambiguity and the potential for confusion.

An introductory section at the beginning of the questionnaire explained to respondents the author's motivation for conducting the research, and emphasised that patients' responses were anonymous and confidential. Likewise, after the third section of the questionnaire, a note of gratitude to respondents for participating in the research was included, as well as the author's contact telephone number. The latter was also provided in the written one-page summary of the project that all respondents received (see 4.2.1.7), in case patients desired further information.

Due to the one-page limitation on the length of the questionnaire, the introductory and concluding sections had to be kept short. It was, nevertheless, believed important to include these sections, in order to make the questionnaire less impersonal. Laxton (2004) also includes these sections as necessary components of a questionnaire. The margins on the questionnaire were reformatted, to allow the content to fit into one page and to allow the font size in section 2 to be slightly larger than the rest of the questionnaire. This was to allow respondents to read this section, the main component of the questionnaire, more easily.

#### **4.2.1.1.7 Step 7: Pilot testing the questionnaire**

Pilot testing of questionnaires is essential in checking whether individuals from the same sample group (see 4.2.1.2.2) as those who will be administered the questionnaire understand the contents of the questionnaire in the manner intended by the researcher (Cant, *et al.*, 2008). Pilot testing is also useful in detecting layout and presentation problems that could contribute to the target group misunderstanding statements or questions and/ or being reluctant to complete the questionnaire. Pilot studies thus play an important role in proactively detecting and correcting errors and ambiguities in questionnaires, as described by Cant, *et al.* (2008), which could adversely influence the quality of data that will be collected.

The questionnaire that was developed through the previous six steps was pilot tested to ten patients of the pharmacy under study over a period of one day, through convenience sampling, as described later in 4.2.1.2.3. Six patients were approached individually as they waited in or were leaving the pharmacy, and asked to participate in the pilot study. Four patients were approached as they waited in the consultation rooms of nearby doctors in the medical complex in which the pharmacy is situated (see 4.2.1.2.2). Permission from the owner of the pharmacy and the relevant doctors was obtained prior to the pilot study (see Appendices A and B). The greater proportion of patients approached in the pharmacy, as opposed to in the doctors'

rooms, reflects the sample group having a higher proportion of patients sampled in the pharmacy (see 4.2.1.2.2).

Patients agreeing to participate in the pilot study were asked to sign a written consent form (see Appendix C) and were handed a one-page summary explaining the project (see Appendix D), before they were handed the questionnaire to assess (see 4.2.1.7). The participants of the pilot study were assured of the anonymity and confidentiality of their feedback and participation in the pilot study. Participants were asked how they interpreted the various questions and sections in the questionnaire, whether the questionnaire was clear and easy to understand, and whether the presentation and format were user-friendly and encouraged completion. Patients were also asked to comment on the appropriateness of questions, and whether they thought that additional questions should be included. Several patients thought that they were required to complete the questionnaire, and the author thus had to explain to them that this was not so, and that their role was to evaluate the questionnaire.

All ten pilot participants agreed that the questionnaire was simple and easy to understand. Participants agreed that the questions were clear, straight-forward and appropriate. Nine out of the ten pilot participants did not have any changes to recommend, or problems with the questionnaire presentation or content. The remaining participant felt that certain questions were not appropriate, as in his view doctors perform these tasks, not pharmacists. This reflects inadequate awareness of the roles and responsibilities of pharmacists in providing pharmaceutical care-related services, as found by Assa-Eley and Kimberlin (2005) (see 3.5.2). The author thus explained the concept of GPP standards, as outlined by the SAPC (South Africa. SAPC, 2010a), to this particular participant and informed him that pharmacists were thus supposed to perform all the particular tasks referred to in the questionnaire. Based on pilot participants having difficulty in easily seeing the author's telephone number on the written summary sheet of the project (see 4.2.1.7 and Appendix D), it was decided to underline and embolden this. From the seven-step model described by Cant, *et al.* (2008: 148) thus far, the questionnaire on the next page emerged and was subsequently used in the research.

Dear Respondent, thank you for being part of this research. As part of my MBA studies, I would like to ask you to please complete the following short questionnaire. Your responses are confidential and anonymous.

1 **Demographic details:** please tick the appropriate box.

Gender	Male	Female		
Race*	African	Indian/ Asian	Coloured	White

\* Included to determine if patients from different racial groups have different experiences or expectations.

2 Please tick below whether you have received the following services at **XXX Pharmacy**, and whether you would like to receive these services.

	Do you receive this service at XXX Pharmacy?			Would you like to receive this service?	
	Yes, always	Yes, once or twice	No, never	Yes	No
1. The pharmacist asks me whether I am allergic to any medication.					
2. The pharmacist contacts my doctor to clarify my prescription, or discuss my medication.					
3. The pharmacist asks me what other medication I am taking.					
4. The pharmacist asks me what other illness or medical conditions I have.					
5. The pharmacist offers me generic medication.					
6. The pharmacist asks me whether I am experiencing any side-effects to my medication.					
7. The pharmacist asks me how often I am taking my medication.					
8. The pharmacist asks me whether my medical condition is improving or is controlled.					
9. The pharmacist or pharmacist's assistant explains to me how to take my medication correctly.					
10. The pharmacist or pharmacist's assistant gives me advice or information about my medication.					
11. Have you ever requested a pharmacist to perform a <b>medication review</b> for you? In a medication review, the pharmacist assesses the appropriateness of all your medication, develops a care plan for you and does a follow-up evaluation to see if your condition is improving.	Yes		No		

3 Please tick the appropriate box.

1. I know who the pharmacists are.	Yes	No	
2. I know who the pharmacist's assistant is.	Yes	No	
3. The pharmacist's assistant always prepares my prescription under the direct supervision of the pharmacist.	Yes	No	Not sure
4. The pharmacist or pharmacist's assistant always selects over-the-counter medication for me.	Yes	No. Front-shop assistant selects this.	

Thank you very much for your participation. Dr Layla Cassim 074 999 5847



#### **4.2.1.2 The sampling process**

Sampling is used as it is often too resource-intensive to include all the members of a target population in a study. A sample is a smaller group of members from this target population, and should be representative of this population (Laxton, 2004; Cant, *et al.*, 2008). In order for a sample to be representative of the target population, it has to adequately reflect the latter's heterogeneity, for example in terms of geographic, demographic, biological and other variables, as described by Taylor (2003). Cant, *et al.* (2008) have developed a five-step model to describe the sampling process. This model was used, as described below, to define the sample group of patients asked to complete the questionnaire developed in 4.2.1.1.

##### **4.2.1.2.1 Step 1: Defining the target population**

The target population in this study is all the patients of XXX Pharmacy. "Patients" are defined as all individuals who have bought medication, namely prescription and/or OTC medication, from this pharmacy. The pharmacy is located in a residential area, but patients from outside this area also frequent the pharmacy, due to its location in a medical centre and opposite a hospital. As mentioned in Step 4, this target population is an infinite one, as the pharmacy gains new patients daily.

##### **4.2.1.2.2 Step 2: Determining the sampling frame**

A sampling frame is the sample group that is drawn from the target population and, as mentioned in 4.2.1.2, needs to be representative of this larger population. The sampling frame to be used in this study should thus include as many different types of patients as are found in the target population. The demographic profile of the

sampling frame, for example in terms of gender, race, age, educational level and socioeconomic status, should ideally mirror the profile of the target population.

This may be difficult to achieve in practice. It may be challenging to determine the socioeconomic status of patients, for example, and personal questions to this effect may be perceived as offensive by patients. Another challenge in obtaining a sampling frame that is well representative of the target population is that the method and timing of sampling may influence when particular groups of patients are likely to visit the pharmacy, which could result in bias (see 4.2.1.3). Elderly patients, for example, may be more likely to visit the pharmacy in the morning whereas younger people might be at work and may be more likely to visit later in the day after work.

The sampling frame in this study included patients visiting the pharmacy during the approximately two weeks of the study, as well as patients waiting in the adjacent doctors' rooms who have also bought medication from the pharmacy under study. The reason for this was to counter the risk of relying solely on patients in the pharmacy, who might be unwilling to complete the questionnaire. Patients were sampled in the adjacent consultation rooms of three doctors (one general practitioner and two specialists) and one dentist, in the same medical complex as the pharmacy. As mentioned in 1.6, patients had to be functionally literate in English and eighteen years or older. Employees of the pharmacy were not permitted to complete a questionnaire, in order to decrease the potential for bias.

#### **4.2.1.2.3 Step 3: Selecting a sampling technique**

There are many different possible sampling techniques, or ways in which the sample group can be selected. Cant, *et al.* (2008) describe various probability and non-probability sampling methods, single stage and multistage methods, single-unit and cluster sampling, equal unit probability and unequal probability sampling, and stratified and unstratified methods of sampling.

It was decided to use convenience sampling in this study. This is an example of a non-probability sampling method, in which respondents happen to be at the place of sampling when this occurs (Cant, *et al.*, 2008). In this study, the author was physically present at the pharmacy and adjacent medical rooms for a period of approximately two weeks, and the stipulated number of questionnaires (see Step 4 for sample size) was given to patients for completion during this period. This is a non-probability method, as patients who did not visit the pharmacy or adjacent medical rooms during this period did not have the opportunity to be included in the sample. Patients were also selected at the convenience of the author, for example when she had finished talking to the previous respondent (see Step 5).

As noted by Cant, *et al.* (2008), the advantage of convenience sampling is that it is the most convenient and the least time-consuming and costly sampling method. The main disadvantage of this method, however, is the potential for bias in the selection of the sample (Cant, *et al.*, 2008), as those patients selected may not be representative of the target population. It was mentioned in Step 2, for example, that if sampling was performed in the morning, there may possibly be a larger proportion of elderly people as opposed to younger, working people included in the sample. The issue of bias and how this was addressed is discussed in detail in 4.2.1.3.

In addition to the advantages of convenience sampling mentioned previously, this method was also chosen instead of the other sampling methods described by Cant, *et al.* (2008), for the following reasons:

- (i) Quota sampling, another non-probability method, could not be performed as the characteristics of the target population, such as the demographic profile, were not known and would have taken time to investigate. This would have been made more difficult by the target population being infinite (see Step 4);
- (ii) Judgement sampling, a non-probability method, was not chosen as it was believed to have a greater potential for subjectivity and selection bias on the part of the author;

- (iii) Snowball sampling, also a non-probability method, was not selected as it would have taken time to follow up on potential respondents suggested by current respondents;
- (iv) Simple random sampling and systematic sampling, both examples of probability sampling methods, were also not chosen. In the case of simple random sampling, each member of the population has an equal chance of being selected in the sample group; this would have been time-consuming and may have involved having to make house visits to patients, as these patients may not have visited the pharmacy during the approximately two weeks of the study. Systematic sampling, for example of every fifth or tenth patient, was not chosen as the waiting involved may have been more time-consuming and it may be difficult to monitor the order in which patients enter or leave XXX Pharmacy, since there are multiple entrances; and
- (v) Stratified and cluster sampling, both probability methods, were not selected as the characteristics of the target population were not well known by the author (see (i) above), thus making it difficult to define different strata and clusters of patients, respectively. The computer software used to process prescriptions and the sale of OTC medication also does not readily facilitate the classification of the target population in terms of strata, for example demographic profiles, or clusters, such as patients residing in different areas.

#### **4.2.1.2.4 Step 4: Determining an appropriate sample size**

In order for a sample to accurately represent the target population, it has to be of an appropriate size (Laxton, 2004). As the sample size increases, its representivity of the target population is enhanced. The following factors influence the choice of sample size (Laxton, 2004):

- (i) Whether the target population is infinite or finite. In this study, the target population can be regarded as infinite, as the pharmacy gains new patients every day and the target population is thus continually expanding;

- (ii) Resource constraints, for example time. As mentioned in Step 3, the author only had approximately two weeks to pilot test the questionnaire and collect all data, due to her employment commitments in another province;
- (iii) The number and complexity of characteristics or variables that have to be reflected in the sample. Patients have many differing characteristics, for example demographic profiles and medical conditions. The characteristics of the target population have not been defined (see Step 3), but the population is expected to be heterogeneous and have a complexity of characteristics; and
- (iv) The desired precision and accuracy of sample results. Precision refers to the variability in responses within the sample group, whereas accuracy refers to how closely sample responses reflect the truth in the target population. Larger sample sizes increase precision and accuracy, thereby enhancing data integrity. Cant, *et al.* (2008) state that in probability sampling, appropriate sample sizes are calculated mathematically using formulae, whereas with non-probability sampling, additional considerations such as the resources available and the number of subgroups to be included, are important.

In light of the abovementioned considerations, a sample size of 200 was chosen. A total of 200 questionnaires thus had to be completed by different patients. This is above the minimum sample size of 30 suggested by Taylor (2003) as being suitable for management research, and also more than the sample size of 150 patients used in Assa-Eley and Kimberlin's (2005) study.

#### **4.2.1.2.5 Step 5: Carrying out the sampling process**

In this stage, the data collection was performed by the author over a period of approximately two weeks, at two sites, namely: (i) the pharmacy; and (ii) adjacent consultation rooms of three doctors and one dentist (see Step 2). A total of 160 questionnaires, representing 80% of the sample, were completed by patients in the pharmacy. A total of 40 questionnaires, representing 20% of the sample size, were

completed by patients in the adjacent consultation rooms. The author was the only individual who administered questionnaires.

At the pharmacy, convenience sampling was carried out at different times between 08h00 and 21h00, the pharmacy's trading hours from Monday to Saturday, for a period of seven consecutive days. The trading hours on the Sunday on which patients were sampled were from 09h00 to 21h00. Patients were approached either whilst waiting in the pharmacy or after they had paid for their medication and were about to exit the pharmacy. Patients were asked to complete the questionnaire there and then, as this would ensure a 100% response rate. The response rate is likely to have been lower if patients were allowed to take the questionnaire away, complete it in their own time and then return it to the author. Patients approached in the pharmacy were approached individually, as soon as the previous respondent had returned his/ her questionnaire to the author, so that the author could keep track of who was completing a questionnaire, in order to ensure a 100% response rate.

Patients in the adjacent doctors' and dentist's rooms in the medical complex, the second site of data collection, were sampled after the above week, for a period of three consecutive days. Sampling was performed at various times from 08h00 to 18h00. These hours were fewer than those in which patients were sampled in the pharmacy, as the doctors' and dentist's rooms were open for a shorter period each day than the pharmacy. Patients were asked if they had bought medication from the pharmacy under study. Only those answering in the affirmative were then asked to participate in the study and it was mentioned to them that the owner-manager of the pharmacy as well as the relevant doctor or dentist had given permission for patients to be approached in this manner. Patients were also asked to complete the questionnaire at that moment, instead of returning it to the author at a later time.

All patients signed a consent form (see Appendix C) and were given a one-page summary of the project (see Appendix D) before they completed the questionnaire (see 4.2.1.7).

#### **4.2.1.3 Addressing issues of sampling error and sampling bias**

As described by Laxton (2004), sampling bias is the tendency to choose certain individuals over others for inclusion in a sample group. The sample group is thus not reflective of the target population, as some types of individuals may be over- or under-represented. In this study, examples of sampling bias would be if the researcher preferentially approached female patients, or elderly patients, to complete the questionnaire. This bias could occur intentionally, as a result of the researcher's prejudices or perhaps ulterior motives; or subconsciously. Sampling bias has the potential to seriously undermine the integrity of data that is collected.

Sampling bias is a cause of sampling error (Laxton, 2004). As described by Laxton (2004), sampling error reflects the variance in data obtained from a sample group, with a high sampling error indicating that there is high intra-sample variability. Sampling error decreases the accuracy with which a sample represents the target population and can also be caused by chance or random error (Laxton, 2004). Sampling bias can be minimised by carefully designing a sampling method that attempts to consciously include as many different types of members of the target population in the sample group (Laxton, 2004). Sampling error can be decreased by using a large sample. As sample size increases, the variation in data decreases, as the increasing frequency of data falling within the normal sampling distribution and aggregating around the mean dilutes the effects of outliers (Laxton, 2004).

The potential for sampling bias was addressed by approaching as many different subgroups of patients as possible. Patients of both genders, all the racial groups indicated on the questionnaire and across a range of ages from eighteen years of age to the elderly, were selected. Patients who had purchased OTC medication as well as those who had purchased prescription medication at the time of sampling were selected, in order to enhance representivity. In order to minimise the risk of only sampling during a particular period in the day or only on one day, which may be associated with over- or under-representation of a particular subgroup of patients

(see 4.2.1.2.2), sampling was conducted at both the pharmacy and adjacent doctors' rooms at different times over an entire working day, for several days.

Sampling was conducted at the pharmacy for seven consecutive days, in order to include particular subgroups of patients who might prefer to frequent the pharmacy on particular days; an example of this may be mothers of young children, who might be attracted to the nursing service, which includes administering vaccinations, provided by the pharmacy on Saturday mornings (see 2.3.4). The potential for sampling error was addressed by attempting to have as large a sample size as was considered feasible. As mentioned in 4.2.1.2.4, a sample size of 200 was used.

#### **4.2.1.4 Addressing issues of non-sampling error**

Non-sampling, or measurement, error occurs from the way in which responses or data are obtained and can also result in samples being unrepresentative of the target population (Laxton, 2004). This error can arise from the following (Laxton, 2004):

- (i) Biased observations, for example in the data-measurement tools used;
- (ii) Biased communication, such as patients providing incorrect responses to favourably influence the researcher. Biased communication can also result from the perceived purpose of the study. If patients, for example, perceived that the study aimed to discredit the pharmacy at which they are loyal patrons, they may be less willing to be truthful in their responses; and
- (iii) Induced bias. The researcher, for example, due to his/ her personal preferences and prejudices, may have designed the questionnaire so as to focus only on specific types of questions, thus potentially distorting the impression that is gained of the respondent's experiences or perceptions.

The potential for non-sampling error was addressed by spending a few minutes explaining the purpose of the study to all potential respondents before handing respondents a questionnaire for completion, in order to minimise biased



communication. It was explained to patients that the owner-manager was in full support of the study and that their responses were anonymous and confidential. The fact that different patients were used in the pilot study and in the actual survey also decreases the potential for bias. Pilot study participants were requested not to complete the questionnaire but rather to assess it (see 4.2.1.1.7); the author had interacted with pilot study participants, explaining the project and discussing the various questions or the rationale for including these. This may have influenced these participants' responses, leading to bias, had they completed the questionnaire. The risk of induced bias was addressed by holistically covering various components of pharmaceutical care in the questionnaire and by discussing the appropriateness of questions and statements with pilot study participants. This also enhanced content validity (see 4.2.1.6).

#### **4.2.1.5 Enhancing the reliability of data**

Data is reliable if it is without bias (Lawton, 2003) and, importantly, if it is consistent (Laxton, 2004). Reliability is thus improved if sampling bias and sampling error are minimised. It should be noted that although reliability contributes to data integrity, it does not necessarily always lead to accuracy (Guler, 2004) and validity (see 4.2.1.6). Data may be highly precise and consistently reflect a certain response, but may be inaccurate, perhaps because the data-gathering tool has been incorrectly designed, as described by Guler (2004). In order to enhance the reliability of the data to be collected, a sample size that was as large as possible, given the resource constraints of the author, was chosen, namely 200 completed questionnaires.

#### **4.2.1.6 Enhancing the validity of data**

Validity, a reflection of the accuracy of data obtained from a sample, can be classified into two types, namely (Guler, 2004; Laxton, 2004):

- (i) Internal validity, which refers to the accuracy of a specific study's findings and the clear illustration of cause-and-effect relationships (Laxton, 2004). Concerns related to internal validity could include whether each respondent had only completed one questionnaire, whether any questionnaires were spoilt and whether the survey was conducted in a manner that did not pre-empt or influence respondents to provide certain responses. Internal validity may be undermined by several factors, as suggested by Laxton (2004):
  - a. Testing effects such as the placebo effect, in which a particular psychological response, which may be unjustifiable, is elicited;
  - b. Respondents dropping out of the study, or not completing a questionnaire;
  - c. Bias in the selection of the sample group; and
  - d. Environmental changes occurring after the study has begun. An example of this in the current study could be publicity in the media about a mistake that a pharmacist made, which has impaired the quality of life of a patient. Such media reports could generate feelings of suspicion amongst patients, which may influence how they respond to the questionnaire; and
- (ii) External validity, which reflects the extent to which the findings of a study can be extrapolated or applied to other situations (Laxton, 2004). External validity could be undermined by the nature of study participants, the time-period or place at which the study is conducted, which all have the potential to make the data obtained unrepresentative of the target population (Laxton, 2004).

The validity of the current study was enhanced by:

- (i) Educating prospective study participants about the nature and purpose of the study (see 4.2.1.4). Such participant education was conducted to encourage respondents to complete the questionnaire. The phrase "pharmaceutical care" was avoided, as this may have influenced patients' responses. Patients may also not be aware of what pharmaceutical care is, and if discussions occurred with the researcher on the nature of this, patients' responses may well have been influenced, thus introducing bias into the sample data;
- (ii) Consciously attempting to minimise bias in the selection of the sample group, by including as many different types of patients as possible and sampling patients throughout the working day and week (see 4.2.1.3); and

- (iii) Improving the questionnaire's content validity, or the ability of the research instrument to comprehensively assess the area it purports to investigate (Guler, 2004). Content validity was enhanced by the questionnaire holistically covering various aspects of pharmaceutical care (see 4.2.1.4).

#### **4.2.1.7 Guiding ethical principles and considerations**

All research was designed and conducted in accordance with UNISA's Policy on Research Ethics, in particular part 2 ("Guidelines for research involving human participants") (UNISA, 2007: 9-17). Patient privacy was protected by making the questionnaires anonymous and confidential; and patients were informed of this at the outset, in the questionnaire and again after completing the questionnaire. In order to further protect patient privacy, patients were asked to fold and drop the completed questionnaire into a thick opaque envelope that the researcher was holding, containing all completed questionnaires from that day, so that the researcher could not see an individual patient's responses. Furthermore, the researcher stood at a distance of several metres from the respondent whilst the latter completed the questionnaire, thus protecting the confidentiality of the patient's responses.

As mentioned in 4.2.1.6, patients were informed of the nature and purpose of the study, and were told that it was a component of the researcher's MBA degree. Patients were also informed that the study had the permission of the owner of the pharmacy; as well as the relevant doctors, in the case of patients sampled in the doctors' and dentist's waiting rooms. The above was explained so that patients would not feel as though a study was being performed to find fault with the pharmacy and that their responses would be used to incriminate the pharmacy's employees.

The permission granted from the owner-manager of the pharmacy to conduct the research at his pharmacy, and from the adjacent doctors and dentist to approach patients in their waiting rooms, was obtained in writing (see Appendices A and B).

The names of the individuals concerned and the pharmacy have been blocked out, in order to protect the confidentiality of the owner-manager and his pharmacy, and the relevant doctors and dentist. These letters of permission were carried with the author when conducting sampling, in case patients requested proof that the owner-manager and relevant doctors and dentist had granted such permission.

In compliance with UNISA's (2007) Policy on Research Ethics, written informed consent was obtained from all the patients who completed questionnaires, prior to patients filling out the questionnaire. Appendix C contains the statement of informed consent that each patient who was willing to participate in the study signed; this statement also included specific consent for the author to ask the patient about his/her gender and race in the questionnaire, for the purposes of the research. This statement of informed consent was not attached to the questionnaire, in order to prevent patients' questionnaire responses from being identified.

Patients were told about the nature and purpose of the research, and also provided with written information providing further details of the research project, as stipulated by UNISA's (2007) Policy on Research Ethics. The kind of written information provided is in accordance with section 3.6 of Part 2 of UNISA's Policy on Research Ethics (2007: 12), in particular. This written information is included in Appendix D, and includes the potential risks and benefits of the study, as well as the details of the researcher and the reasons why XXX Pharmacy had been chosen for the study. Patients were also told that they did not have to participate in the research, or complete the whole questionnaire once they had started.

No coercion was used or inducements provided to patients, and patients thus provided free and informed consent as defined by UNISA's (2007) Policy on Research Ethics. It was only once patients had been told about the project and had signed the informed consent form that they were given the questionnaire to complete. All the above measures to protect patient privacy, confidentiality and anonymity also applied to those patients who participated in the pilot study.

#### 4.2.1.8 Data analysis

The 200 completed questionnaires yielded a combination of nominal and interval data. Nominal data is described by Laxton (2004) and Taylor (2002) as data that falls into categories that are discrete, not in any order and without any quantifiable differences between the various categories. Nominal data thus yields the least amount of information (Laxton, 2004). The demographic questions in section 1 of the questionnaire provided nominal data. Interval data, on the other hand, allows for differences between data to be made with greater precision (Taylor, 2002), and thus yields more information than nominal data (Laxton, 2004). Interval data occurs on a scale or continuum, in this case from “Yes, this service is always provided”, to “Yes, it is provided once or twice”, to “No, it is never provided”. The interval scales used in sections 2 and 3 of the questionnaire were “semantic” interval scales (i.e. in word form), as opposed to “numerical” interval scales, as described by Laxton (2004: 65).

The above primary data was first analysed using descriptive statistics, performed using Microsoft Office Excel 2007. The demographic profile of the sample group was determined, in terms of the proportion of men and women and the races listed in the questionnaire. Pie graphs were used to illustrate these profiles. For sections 2 and 3 of the questionnaire, the proportion of respondents who ticked the various responses for each statement was illustrated through the use of bar graphs.

Composite bar graphs were constructed for Statements 1-10 in section 2 and Statements 1-4 in section 3 of the questionnaire, to determine the mean percentage of responses for these sections. Inferential statistical analysis was then performed. In particular, a one-way analysis of variance (ANOVA), followed by the Newman-Keuls multiple comparison test, a commonly-used post-hoc test, was performed on the composite results to determine if there is a statistically significant difference in mean responses. ANOVA is performed if there are more than two groups to be compared. An unpaired t-test was used to determine if there is a statistically significant difference in the mean percentage of respondents who state that they

have not received the combined services and those who would like to receive these services. ANOVA could not be used here as there were only two sample groups.

GraphPad Prism 5 software was used to perform the inferential statistical analysis. The chi-squared test could not be performed for the composite race and gender results, even though it is the most commonly-used inferential statistical test for such data (Gani, 2004), as there were respondents who did not indicate their race or gender, thus making the race and gender categories used not mutually-exclusive and thereby undermining the validity of this test (see 5.1.2.3).

#### 4.2.1.9 Summary of the research methodology employed in administering questionnaires to patients

Patient questionnaire was developed by the author by following Cant, *et al.*'s (2008: 148) seven-step model, which included a pilot study of ten patients conducted over one day (15 February 2011). Participants of the pilot study were assured of the anonymity and confidentiality of their feedback and participation. Participants were provided with written information about the project and asked to sign an informed consent form.

Patients were sampled using convenience sampling over a period of approximately two weeks (16-25 February 2011), at the pharmacy (for seven days) and in the adjacent rooms of three doctors and one dentist (for three days). Sampling was carried out at different times during the day. Patients were asked whether they would like to participate in a study by completing a questionnaire; they were told about the nature and purpose of the study, that the owner of the pharmacy (and relevant doctor/dentist, if applicable) had granted permission, and assured that their responses would be anonymous and confidential. Patients were provided with written information about the project and asked to sign an informed consent form.

Patients then completed the questionnaire after being given it, folded and dropped the completed questionnaire into an opaque envelope held by the author.

Patients were thanked for their participation and once again assured of the confidentiality and anonymity of their responses.

Questionnaires were analysed by the author using descriptive and inferential statistics.

Figure 5: Summary of the use of questionnaires administered to patients

## **4.2.2 Semi-structured interviews with dispensary employees**

### **4.2.2.1 Design of interview questions**

As mentioned in 4.1.2, a semi-structured interview format was selected, as described by Charlesworth (2003b), as this provided consistency and standardisation between interviews, and also allowed flexibility in probing individual interviewee's responses further or in explaining particular questions to interviewees. Laxton (2004) also notes that having standardised questions promotes quicker interviews and makes it easier to compare responses obtained in different interviews.

The aim of these interviews was to determine whether interviewees perceived that the provision of pharmaceutical care was a key performance area and their perceptions of whether the implementation of various components of the PMS facilitated or undermined the provision of pharmaceutical care. Another aim of the interviews was to ask interviewees whether they perform various components of pharmaceutical care in their everyday practice. Interviewees' responses could then be compared to patients' responses to the questionnaire.

Asking both patients and dispensary employees whether certain services are provided thus provides a useful cross-check, and allows possible inconsistencies to be detected. Pharmacists, for example, could state that they always ask patients whether patients would prefer generic medication, but the patient questionnaires could reveal that patients have indicated that they were not asked this question. This cross-checking technique, an advantage of adopting a triangulation approach, thus has the potential to highlight areas of inconsistency and possible bias in study participants' responses and thereby improve the validity of the overall research (see 4.1.2). A possible limitation is that patients were not matched to particular pharmacists or the pharmacist's assistant, as suggested by Assa-Eley and Kimberlin (2005); this would have allowed inconsistencies to be shown more conclusively.

However, it would have been difficult to perform this practically, as pharmacists would have had to be interviewed after each patient encounter, and patients would also have to have been approached then, in order to assess if there were differences in responses to whether the patient had received pharmaceutical care services. Given the busy nature of the pharmacy and the fact that there was only one researcher involved, this would not have been feasible.

Pharmacists and the pharmacist's assistant were not shown the patient questionnaire, in order to decrease the potential for bias, as explained in 4.2.2.3. This could have arisen due to interviewees potentially changing their behaviour, in order to provide the kinds of services patients were asked about in the questionnaire.

#### **4.2.2.1.1 Topics covered in the interview questions**

In order to elicit the kind of information described above, the following topics were covered in the interviews, as described by Laxton (2004):

- (i) Behaviours of the interviewee, the owner-manager and other pharmacy employees. Examples of this include how pharmacists and the pharmacist's assistant practise pharmacy;
- (ii) Knowledge of GPP standards and pharmaceutical care, as outlined by the SAPC (South Africa. SAPC, 2010a);
- (iii) Perceptions, values and opinions, for example of the PMS and whether certain components facilitate the provision of pharmaceutical care or not; and
- (iv) Some background information, such as how long the dispensary employee has been practising as a pharmacist or pharmacist's assistant and, in the case of the latter, whether she is a basic or post-basic pharmacist's assistant. Questions asking for demographic information, such as age, gender or race, were not asked, as this would have made the interview longer.



#### **4.2.2.1.2 Structure of the interviews**

The interviews started with the author thanking the interviewee for agreeing to be interviewed, briefly explaining the purpose of the research, and assuring the interviewee that his/ her responses would be completely confidential and anonymous. Interviewees were informed that they did not have to participate in or complete the interview, and that the study was conducted in accordance with UNISA's Policy on Research Ethics, which could be made available to them. Interviewees were then asked if they had any questions, before the interview commenced. Further ethical considerations are discussed in detail in 4.2.2.4.

In sequencing the interview questions, Laxton's (2004) advice of starting with fact-based questions before asking interviewees for their perceptions, in order to allow interviewees to feel more at ease, was followed. The initial questions asked were thus the background questions. Questions relating to past events were also asked later in the interview, as it is easier for interviewees to start by discussing current issues and then remembering historical ones (Laxton, 2004). The interviews ended with interviewees being asked if they wished to mention anything else, as suggested by Laxton (2004), so that issues that the author had not considered or been aware of that may be relevant to the research problem could have surfaced.

It was decided to keep the interviews to approximately one and a half hours in duration. This was to allow the author to comprehensively probe the many different aspects of an integrated PMS with interviewees, without encroaching too much on interviewee time. Interviewees were informed of this time-period when the author set up the dates and times for the interviews (see 4.2.2.2). These one-and-a-half hour interview sessions were shorter than the two-hour interview sessions conducted by Naudé (2007) in his research on performance measurement in the information and communications technology sector.

#### **4.2.2.1.3 Wording of interview questions**

In wording the interview questions, a combination of close- and open-ended questions was used. Many questions were first posed as close-ended questions, requiring a “Yes” or “No” response; this was then followed up by asking the interviewee to motivate his/ her response. This was done to keep the interview questions as simple and clear as possible, and to facilitate later analysis of interviewee responses. Questions were asked one after the other, as suggested by Laxton (2004); for certain questions with multiple parts, one part at a time was asked, in order to minimise interviewee confusion and possible ambiguity. Questions were kept neutral, and leading or emotive questions were avoided.

There were minor differences between the interview questions for the owner-manager, the other pharmacists and the pharmacist’s assistant, to reflect their different roles and responsibilities. It was decided not to over-emphasise patient counselling in the pharmacist’s assistant’s interview, as this might introduce non-sampling error (see 4.2.2.3) by making it appear as though her primary role is to provide patient counselling, whereas her scope of practice, outlined in s1.2 of Appendix A of the GPP standards (South Africa. SAPC, 2010a), includes primarily technical roles. The author designed the interview questions herself. As mentioned in 1.5, there have been no reported studies, to the author’s knowledge, investigating the impact of a PMS on the provision of pharmaceutical care in South Africa.

#### **4.2.2.1.4 Pilot study of interview questions**

A small pilot study was performed, to assess the appropriateness of interview questions, on two interviewees with a similar background to those who would later be interviewed by the author. One of these interviewees is a practising pharmacist, who does locum work in the retail sector. The second interviewee has a pharmacy degree but is not registered with the SAPC as a pharmacist, as she has not

performed her community service<sup>15</sup>. She has, however, worked as a pharmacist's assistant in the retail sector in South Africa. These particular individuals were chosen for the pilot study due to their experience in retail pharmacy. The second individual also has extensive experience in qualitative research involving patients and health-care professionals. The pilot study participants were assured of the anonymity and confidentiality of their feedback and participation, and provided the author with written informed consent to participate in the pilot study (see 4.2.2.4).

The pilot study was considered important in enhancing the ability of the interview questions to elicit the desired information from the pharmacists and pharmacist's assistant who would later be interviewed. In the pilot study, which was conducted separately with each participant, participants were asked how they interpreted the various questions, and whether these were simple, easy to understand, clear and appropriate. Participants were asked whether there were any further questions that should be added to the interview. The length of the interview was also discussed. The pilot study was conducted telephonically, as both participants were located at considerable geographical distance from the author. It was also beneficial to perform the pilot studies telephonically as the pharmacists and pharmacist's assistant who were interviewed later were interviewed telephonically (see 4.2.2.2), so it was deemed useful to try this method of interviewing beforehand.

Based on the abovementioned pilot study and the feedback obtained from the two participants, the modifications listed in the next two pages were made to the interview questions, content and structure of the interviews. The interview questions for pharmacists other than the owner-manager were used as the focal point of the pilot studies. Similar questions in the interview questions for the owner-manager and pharmacist's assistant were subsequently modified. It should be noted that the question numbers referred to in the next few pages were those used in the interview questions originally used for the pilot study; these do not correspond to the final

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<sup>15</sup> Community service for pharmacists is a year of working as a pharmacist in the public sector in South Africa, which is a prerequisite for registration as a pharmacist in the country, according to s14A(1) of the Pharmacy Act 53 of 1974 (South Africa. National Parliament, 1974).

numbering of the interview questions in Appendices E-G, as the interview questions in the appendices are the final interview questions and include questions that were added as a result of feedback from the pilot study. The inclusion of these questions necessitated a renumbering of the interview questions.

The modifications made to the interview questions thus included the following:

- (i) Questions 17 and 18 were reworded, as it was felt that there was repetition;
- (ii) A question asking pharmacists to quantify their working hours was added, as pilot study participants felt that having to work long hours and thus being tired could discourage pharmacists from providing pharmaceutical care;
- (iii) A question asking interviewees whether they think that the number of pharmacists and pharmacist's assistants is adequate was added, as the number of dispensary employees present could play an important role in determining whether pharmaceutical care can be provided;
- (iv) A question on the number of pharmacists on duty at any point in time was added. Follow-up questions on whether interviewees believe that this is sufficient to provide pharmaceutical care, and to directly supervise the pharmacist's assistant, were also included;
- (v) Question 4 was reworded to include a statement that the author was not looking for a technical definition of pharmaceutical care, but rather the practices involved in providing pharmaceutical care. One of the pilot study participants thought that this was important to clarify, as some interviewees may not remember the technical definition of pharmaceutical care and this might lead them to feeling judged. Since this question occurs relatively early in the interview, any alienation of interviewees could potentially adversely affect the nature and quality of their responses for the remainder of the interview;
- (vi) An introductory comment was included informing interviewees that the interview was not being recorded, but that the author was taking notes and that she could send a copy of this to the interviewee, for the interviewee to verify the responses ascribed to the interviewee, if the interviewee wished;
- (vii) A question was included asking whether the design or layout of the pharmacy promotes or hinders the provision of pharmaceutical care. This was not

addressed in further detail, because Chapter 1 of the GPP standards (South Africa. SAPC, 2010a), which includes standards for pharmacy premises, falls outside the scope of the current study, with the exception of the two standards mentioned in 1.6 and 4.2.1.1.1;

- (viii) The phrase “managing style” in question 23 was removed, as interviewees may not be familiar with what this means. The question was reworded to explain this concept in simpler language;
- (ix) After the culture-related questions, an additional question asking interviewees whether they had good working relationships with their colleagues and the managing pharmacist was added, and what factors promoted or hindered this. A follow-up question asked whether these working relationships promoted or hindered the interviewee in providing pharmaceutical care;
- (x) A question asking interviewees whether they were able to develop good relationships with patients was added, and what factors promoted or hindered this. A follow-up question asked whether these relationships with patients promoted or hindered the interviewee from providing pharmaceutical care;
- (xi) Greater variety was introduced in the wording of questions. Instead of saying “Please elaborate” for almost all of the questions, it was decided to sometimes say, “Please motivate your response”, “Please tell me more about this” or “Please provide me with an example of...” The latter option also had the advantage of allowing interviewees to provide more details to the author;
- (xii) A specific question asking interviewees to describe the questions they ask patients and the counselling they provide, if any, in providing OTC medication to patients was added;
- (xiii) Question 48 was reworded so that it was more positive, as one pilot study participant felt that the current wording was judgemental. The wording was thus changed to ask interviewees for suggestions on how the PMS could be improved, rather than focusing on what was problematic about it; and
- (xiv) At the point in the interview when there are ten questions left, interviewees were informed that the interview was almost over and thanked for their participation thus far. This was included to attempt to focus interviewees, in case they were getting impatient or were losing concentration.

Apart from the above concerns, both the pilot study participants were satisfied that the interview questions were clear, simple and easy to understand. They also agreed that the interview could be conducted in approximately an hour and a half.

From the interview design process described thus far, including the feedback received in the pilot study, the interview questions in Appendices E, F and G were formulated for pharmacists other than the owner-manager, the owner-manager and the pharmacist's assistant, respectively, and later used in the research (see 4.2.2.2). These questions have been placed in the appendices due to their length.

#### **4.2.2.2 The census procedure**

Since all the members of the target population, namely the pharmacists and pharmacist's assistant, were interviewed, a census was performed, according to Cant, *et al.* (2008). This was possible, due to the small target population size, namely three pharmacists, including the owner-manager, and one pharmacist's assistant. The advantage of having performed a census is that the results obtained are completely representative of the target population, as all members were included. Often target populations are larger, which makes it difficult, time-consuming and costly to perform a census (Cant, *et al.*, 2008).

All interviewees were told by the author about the research study and asked whether they would be willing to be interviewed. All interviewees were keen to be interviewed and indicated that they would prefer being interviewed after hours, as it was very busy in the pharmacy. The interviews had to be conducted telephonically, as the author was in a different province due to work commitments and was not able to come to Johannesburg to conduct the interviews. This was agreeable to all interviewees, and the author then made arrangements to telephone each interviewee after hours, at a time convenient to the interviewee. All interviews were conducted over a period of one week. Interviewees were told that the interview would not

exceed approximately one and a half hours. When the interviews were conducted, all the interviews were approximately this duration, with the shortest interview being that with the locum pharmacist, which was one hour long. The interview questions used were those designed in 4.2.2.1 and provided in Appendices E, F and G.

Potential disadvantages of conducting an interview telephonically, instead of face-to-face, are that the interviewer cannot see the reactions of interviewees; it might be more difficult to build up rapport between interviewer and interviewee; and the telephone costs involved. However, it was the only method of interviewing available to the author, given the impossibility of her travelling to Johannesburg during that period. The author did not wish to conduct the interviews whilst she was in Johannesburg later on, in the last two weeks of February, as this time was set aside to pilot test the questionnaire and administer questionnaires to patients (see 4.2.1) and there would not have been sufficient time to also conduct interviews with the dispensary employees then. Finally, the interviews were not recorded, as the author made copious shorthand notes of interviewees' responses during the interviews, which were typed up immediately after the interview, as suggested by Laxton (2004).

#### **4.2.2.3 Addressing issues of non-sampling error**

By definition, it was not possible for sampling error to occur, as a census was performed and no samples were used. It was still possible, however, for non-sampling error (see 4.2.1.4) to occur. This was addressed by explaining the purpose of the study to interviewees at the start of the interview, so as to minimise biased communication. Interviewees were informed that the owner-manager was in full support of the study and that their responses were anonymous and confidential.

An advantage of conducting the interviews when the interviewees were off-shift is that interviewees may have felt more forthcoming and at ease, knowing that the owner-manager was not in earshot. Similarly, the owner-manager may also have felt

more at ease, knowing that his employees were not in earshot. This could also have minimised biased communication, and interviewees feeling under pressure to respond to questions in a particular manner. Interviewees were also not shown the questionnaire that would later be distributed to patients (see 4.2.1), and were thus unaware of the contents of this questionnaire. This was to prevent influencing interviewees' responses, which could have introduced bias (see 4.2.2.1).

The risk of induced bias was addressed by holistically covering the various components of pharmaceutical care and an integrated PMS in the interview questions, instead of only probing specific components, and in discussing the appropriateness of the choice of questions with the participants of the pilot study. This also enhanced the content validity (see 4.2.1.6) of the interview questions.

The above measures addressing possible non-sampling error contributed towards enhancing the reliability and validity of interview data. The validity of the research method chosen was also enhanced by the way in which content analysis was applied in analysing interview data (see data analysis later in 4.2.2.5).

#### **4.2.2.4 Guiding ethical principles and considerations**

The interviews were conducted in accordance with UNISA's Policy on Research Ethics, in particular part 2 ("Guidelines for research involving human participants") (UNISA, 2007: 9-17) (see 4.2.1.7). The privacy of interviewees was protected by keeping their responses anonymous and confidential; and interviewees were informed of this at the outset and end of the interview. It was correctly anticipated that the pharmacist's assistant might be particularly concerned about the confidentiality of her responses, since she is the only pharmacist's assistant working at the pharmacy and she could thus be identified easily. All interviewees were told that the owner-manager would not find out their responses, and that the author



would provide him with a summary of the general research findings at the end of the project, but would not disclose specific employees' responses.

Interviewees were told that they did not have to participate in the interview, and that they did not have to complete the interview, if they did not wish to do so. When asked whether the author should send interviewees a typed copy of that interviewee's responses, for the interviewee to check its accuracy, only the owner-manager and pharmacist's assistant said that they wished to receive this. The interview questions and responses were emailed to these individuals within a few hours of the interview concluding and neither the owner-manager nor the pharmacist's assistant made any changes. As mentioned in 4.2.2.5, no interviewee names were included in the typed interview notes, to protect interviewee anonymity.

Interviewees and the pilot study participants provided the author with written informed consent and interviews were only arranged after this permission was received. The written informed consent was in the form of cellular phone text messages sent to the author. Written permission had to be obtained in this manner, as the interviews were to be conducted telephonically and the author thus did not have the opportunity to ask the interviewee to sign a form. As mentioned in 4.2.2.2, it was not possible for the author to travel to Johannesburg any earlier. The interviewees also did not all have ready access to email facilities or private facsimile facilities. According to UNISA's (2007) Policy on Research Ethics, permission had to be obtained prior to participant involvement in the research. Cellular phone text messages were thus seen as the most practical, convenient and appropriate method of obtaining written informed consent, given the circumstances. UNISA's (2007) Policy on Research Ethics does not stipulate what form the written informed consent should take, and it is thus the view of the author that this does not exclude the use of cellular phone text messages.

Participants were also provided with information about the project from the author, both verbally and via text message. As no demographic details were asked, as

described by UNISA's (2007) Policy on Research Ethics, no specific written informed consent relating to such questions had to be obtained.

No coercion was used or inducements provided to interviewees, and interviewees thus provided free and informed consent as described by UNISA's (2007) Policy on Research Ethics. Finally, all the measures to protect the privacy, confidentiality and anonymity of interviewees described in 4.2.2.4 also applied to the participants of the pilot study.

#### **4.2.2.5 Data analysis**

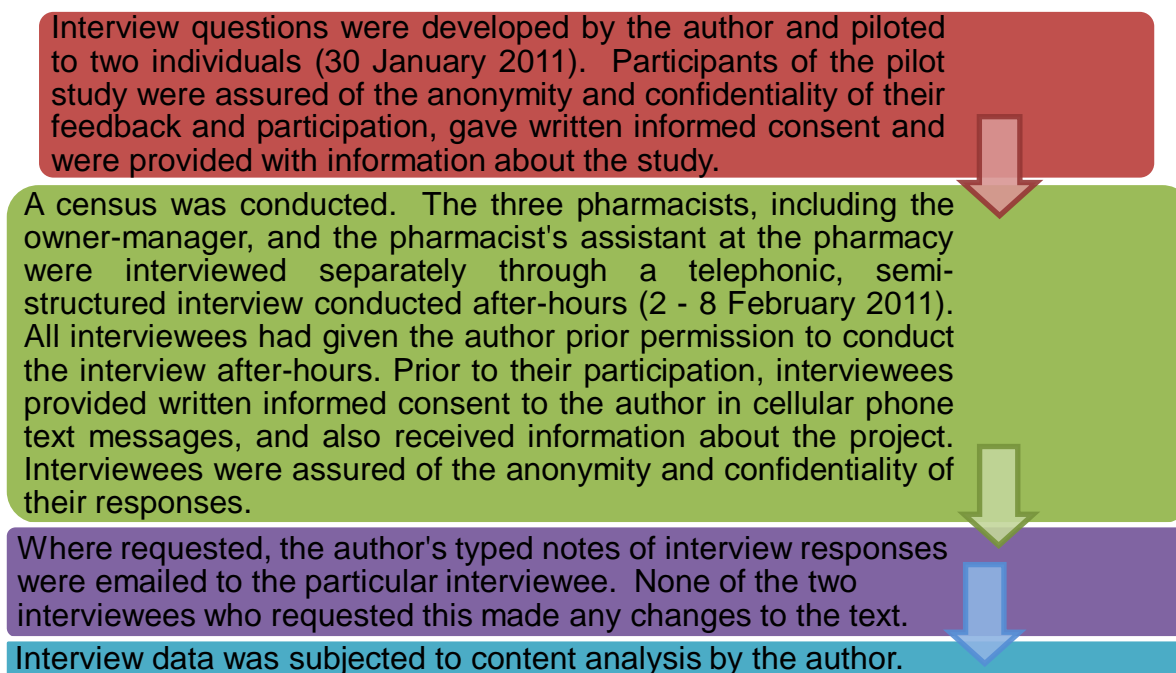
As mentioned in 4.2.2.2, shorthand interview notes containing the primary data collected in the interviews were typed up in full immediately after each interview. The typed data was then subjected to content analysis, a technique often used to analyse qualitative data. The following steps were used, based on Charlesworth (2003a: 14):

- (i) In each response to each question, key words were highlighted. This included "Yes" and "No" responses, as well as words relating to particular issues, topics or themes. The author decided not to have a predetermined list of themes or words and check interviewees' responses against this, as this might have introduced bias and overlooked issues that interviewees may have raised but which were not on the author's list. Instead, it was decided to use interviewees' responses as a starting point and distil the key words from these. Succinct direct quotations were also included where possible, as Charlesworth (2003a) suggests that including these in the final research report could play a role in substantiating the findings and conclusions made by the author. Different individuals' responses were highlighted in different colours, in order to allow the author to keep track of interviewees' responses, as no names were typed, in order to protect participants' anonymity;

- (ii) A table was created using Microsoft Office Word 2007, in which all the key words by all interviewees for each question were placed in a different cell. Various key words of a similar nature or theme were then grouped together, leading to a number of different subgroups. Each subgroup was then given a name, based on its theme. These names were regarded as codes;
- (iii) The various codes that emerged from all interviewees' responses were listed. Codes that covered similar issues were put together, creating a broader code, in order to make the analysis easier. Categories were then defined for each code, into which data could easily be assigned;
- (iv) All the interview data from all interviewees was then gone through again carefully, with data assigned to the appropriate code and category. Each piece of data was assigned to only one category. Charlesworth (2003a) acknowledges that this step is particularly time-consuming, but being thorough here allowed a greater yield of information to be obtained from the interview data; and
- (v) Finally, a coding frame was constructed, in which the various categories were listed, as well as the frequency with which data fell into each category. This allowed nominal or categorical data to be obtained (see 4.2.1.8). The top five categories with the highest frequency counts were also listed in a separate table. Comparisons and conclusions were then made based on the data obtained from the coding frame and the list of the top five-ranked categories.

There are some limitations to the use of content analysis. Robson (1993) and Scott (1990), both cited in Charlesworth (2003a), for example, highlight that a particularly important piece of data may only have occurred once and could be diluted if emphasis was placed on comparing the frequency with which data fell into each defined category. Bias and other weaknesses in the identification of codes and definition of categories could also undermine the accuracy and validity of research findings. It was thus important that the author did not predetermine what the codes should be, but rather used interviewees' responses as a starting point to determine these. This approach enhanced the validity of the chosen research method.

#### 4.2.2.6 Summary of the research methodology employed in interviewing pharmacists and the pharmacist's assistant



**Figure 6: Summary of the use of interviews with dispensary employees**

### 4.3 Conclusions

In this chapter, the research design and methodology chosen for this study were described in detail and justified. A triangulation approach was used. This comprised a quantitative method investigating whether the pharmacy complies with selected GPP standards for pharmaceutical care, from patients' perspectives, and whether patients' responses vary with certain demographic variables. This was determined using questionnaires administered to patients, which were later analysed by descriptive and inferential statistics. The qualitative method used involved conducting telephonic, semi-structured interviews with all the pharmacists and the pharmacist's assistant, to determine their views on whether pharmaceutical care is a key performance area and whether the implementation of various components of the PMS facilitates or undermines the provision of pharmaceutical care. Content analysis was used to analyse interviewee responses.

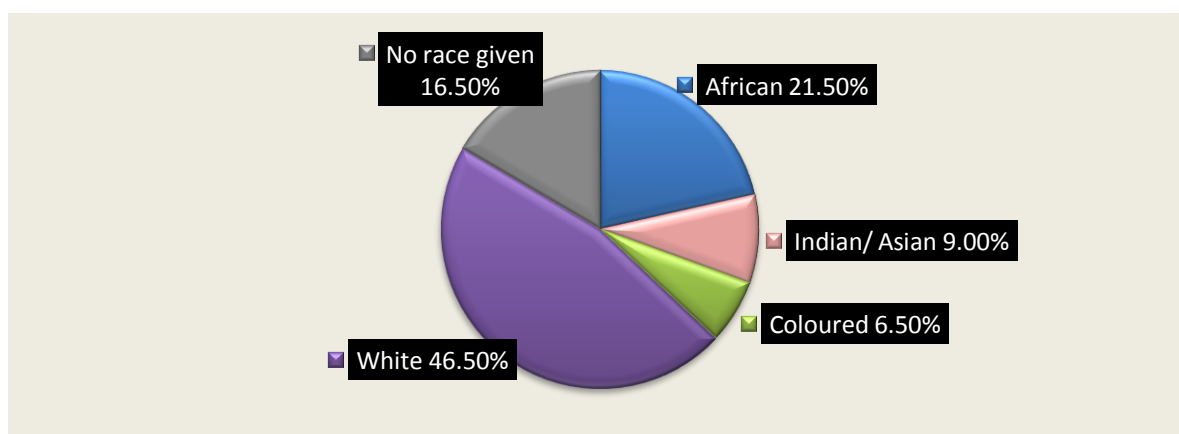
## CHAPTER FIVE: RESULTS

In this chapter, the results of the 200 completed patient questionnaires and the interviews with pharmacists and the pharmacist's assistant will be presented, in 5.1 and 5.2 respectively. These results will be discussed in the next chapter.

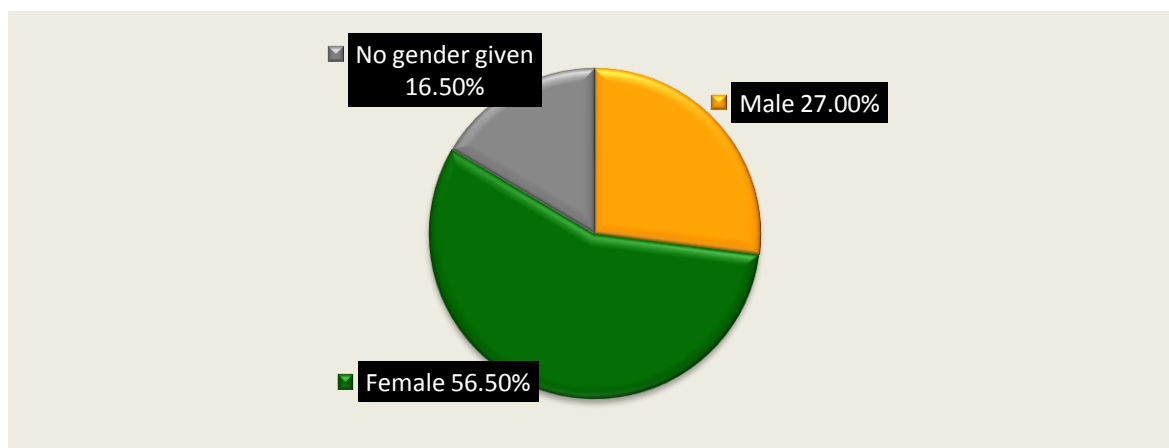
### 5.1 Patient questionnaires

#### 5.1.1 Demographic profile

Figures 7 and 8 show the demographic profile of the sample group in terms of race and gender respectively, which was asked for in section 1 of the questionnaire. As shown in Figure 7, the majority of respondents are White (46.50%), followed by African (21.50%). Coloureds make up the lowest proportion, namely 6.50%. Figure 8 on the next page shows that the sample group is predominantly (56.50%) female. This is more than double the proportion of males (27.00%). Sixteen and a half percent of respondents did not indicate their race or gender, thus limiting the accuracy of the abovementioned figures, as these could have been higher.



**Figure 7:** A pie graph showing the percentage of respondents from different racial groups

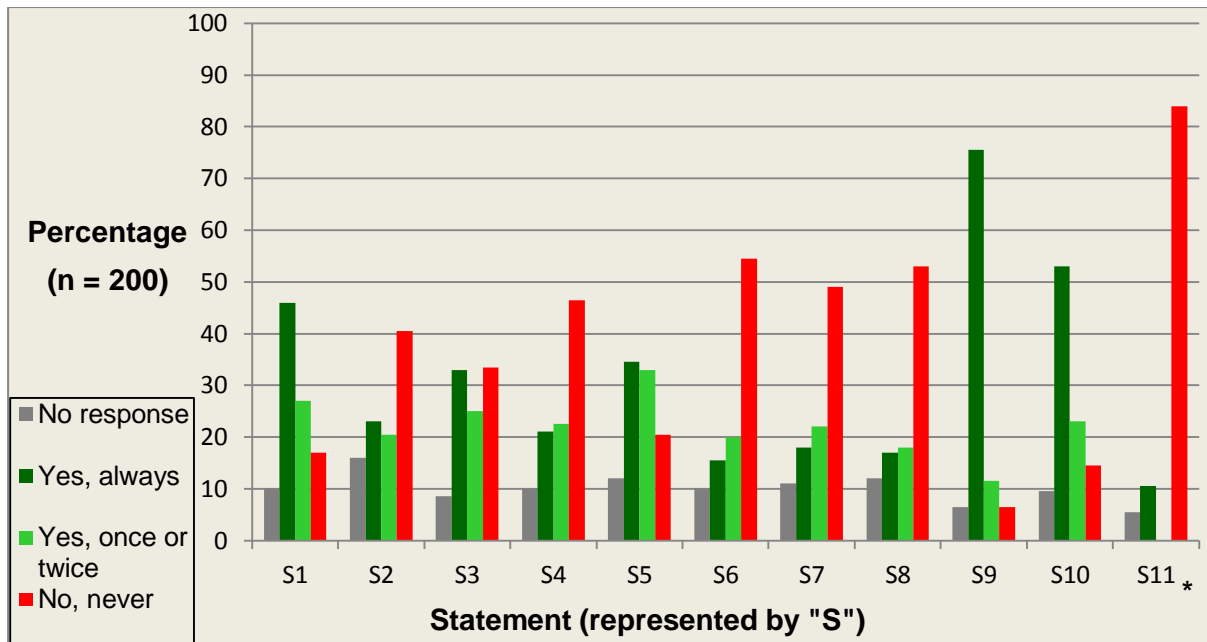


**Figure 8:** A pie graph showing the percentage of respondents of different genders

## 5.1.2 Compliance with GPP standards for pharmaceutical care

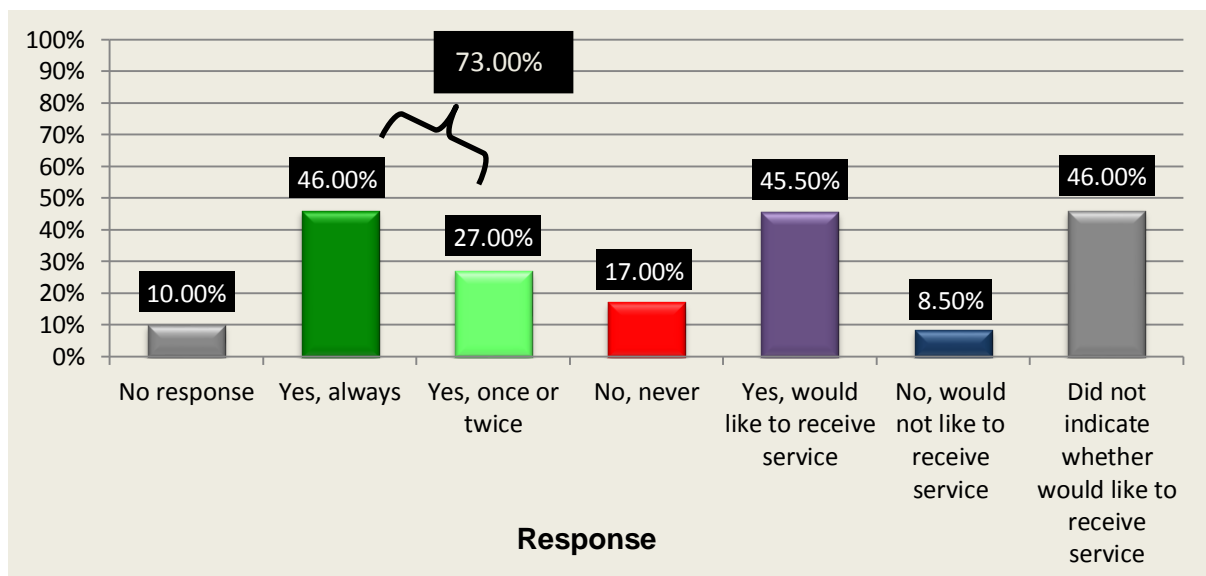
### 5.1.2.1 Overall results per statement

Figure 9 on the next page shows the total percentage of respondents indicating whether the services provided in Statements 1-11 of section 2 of the questionnaire had been provided to them. A bar graph for each statement is subsequently provided in Figures 10-20 (pages 124-129), and also illustrates whether respondents would like to receive that particular service. In Figures 10-19, the favourable responses to whether a service is provided, namely “Yes, always” and “Yes, once or twice”, are shown individually as well as in combination. As discussed in 6.1, such combination of responses should be used with caution. The results depicted in the abovementioned graphs are described on page 130, and discussed in the next chapter.

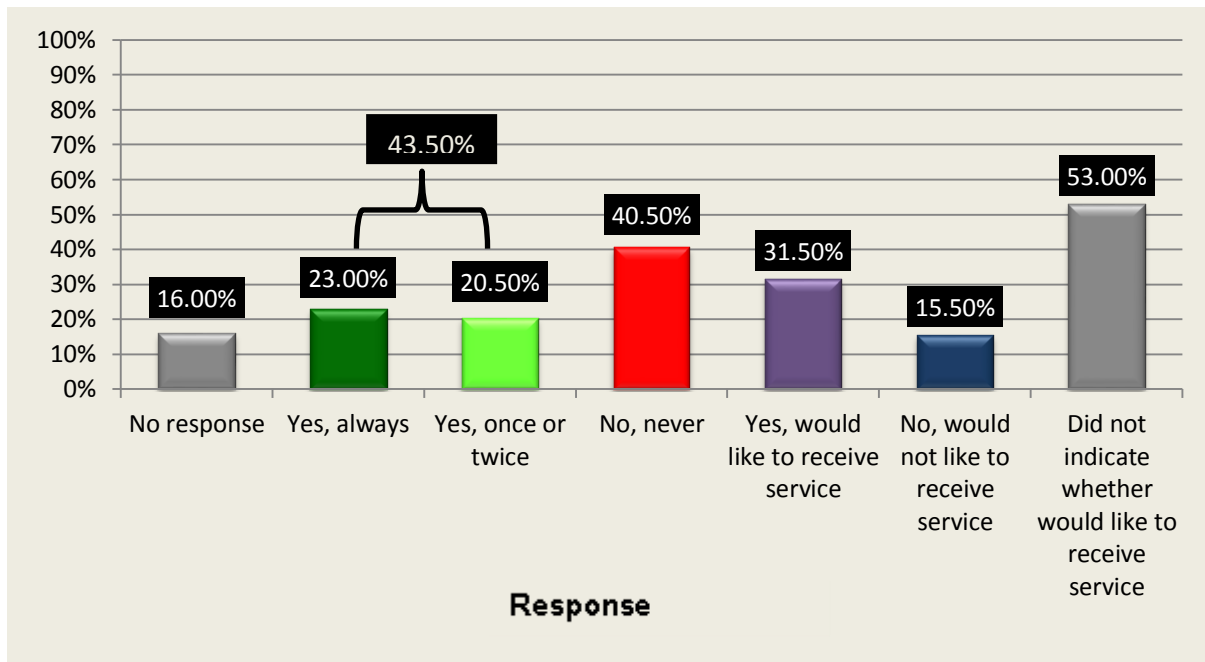


**Figure 9: A bar graph illustrating patients' responses to whether they receive each of the pharmaceutical care services listed in section 2 of the questionnaire**

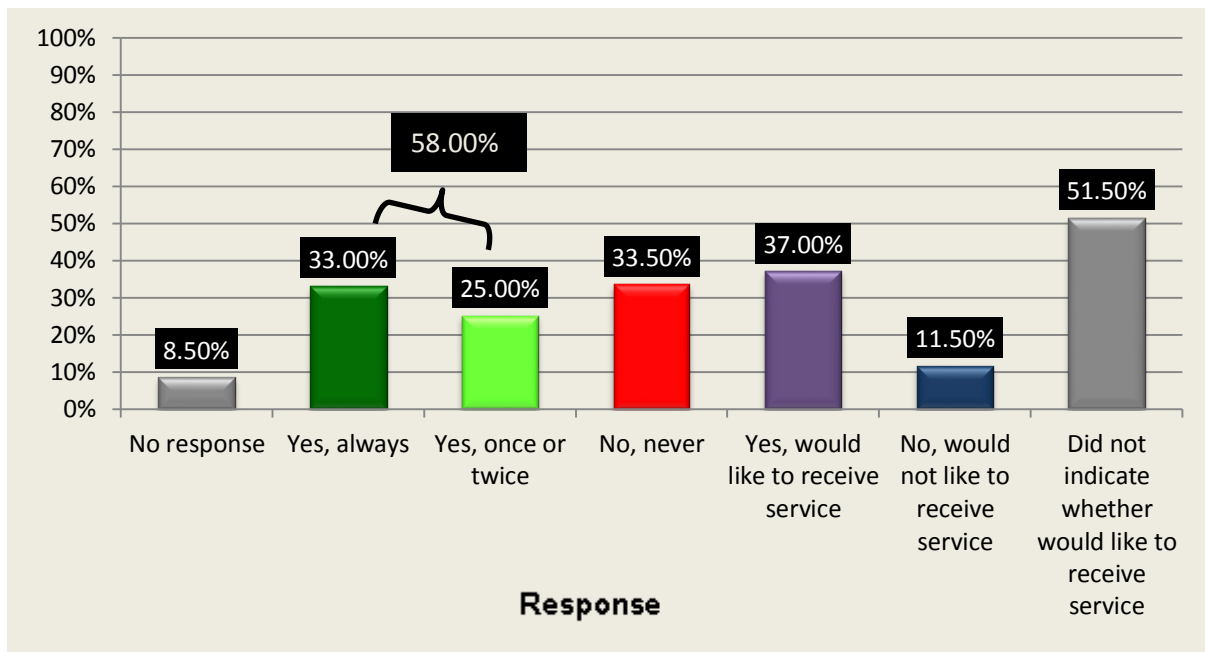
\* S11 was a question asking patients whether they had requested a medication review, not whether this service is provided. The possible responses for this statement were "Yes" or "No" only.



**Figure 10: A bar graph showing patients' responses to statement 1, "The pharmacist asks me whether I am allergic to any medication"**

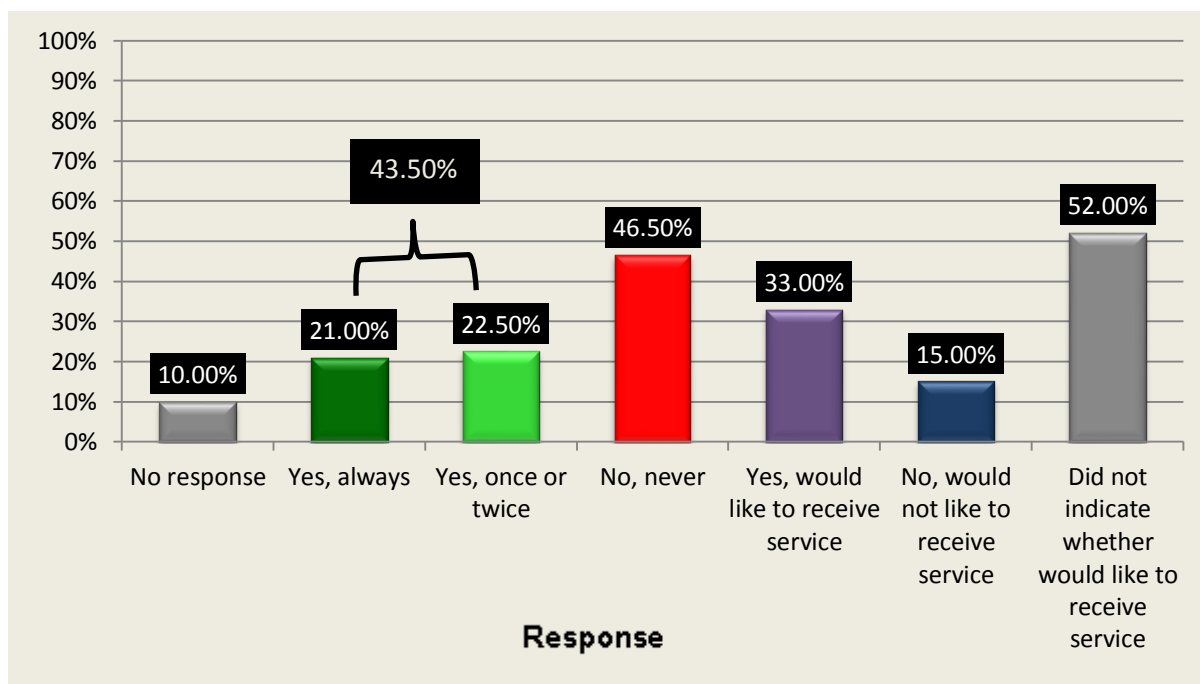


**Figure 11: A bar graph showing patients’ responses to statement 2, “The pharmacist contacts my doctor to clarify my prescription, or discuss my medication”**

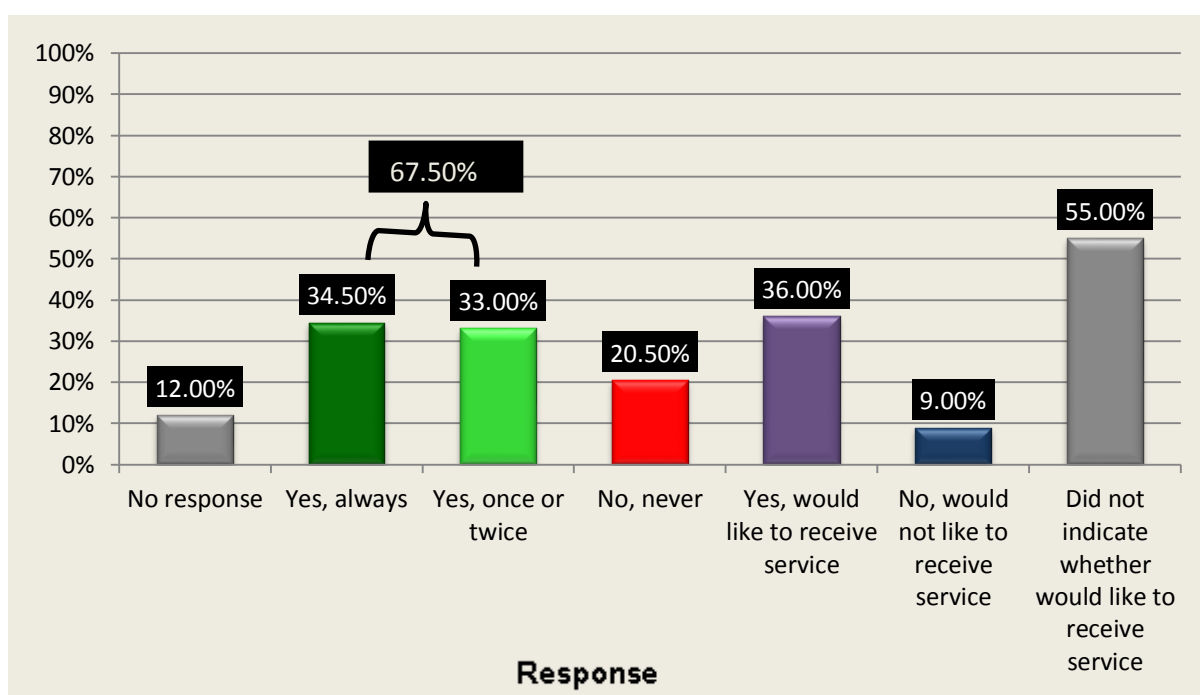


**Figure 12: A bar graph showing patients’ responses to statement 3, “The pharmacist asks me what other medication I am taking”**

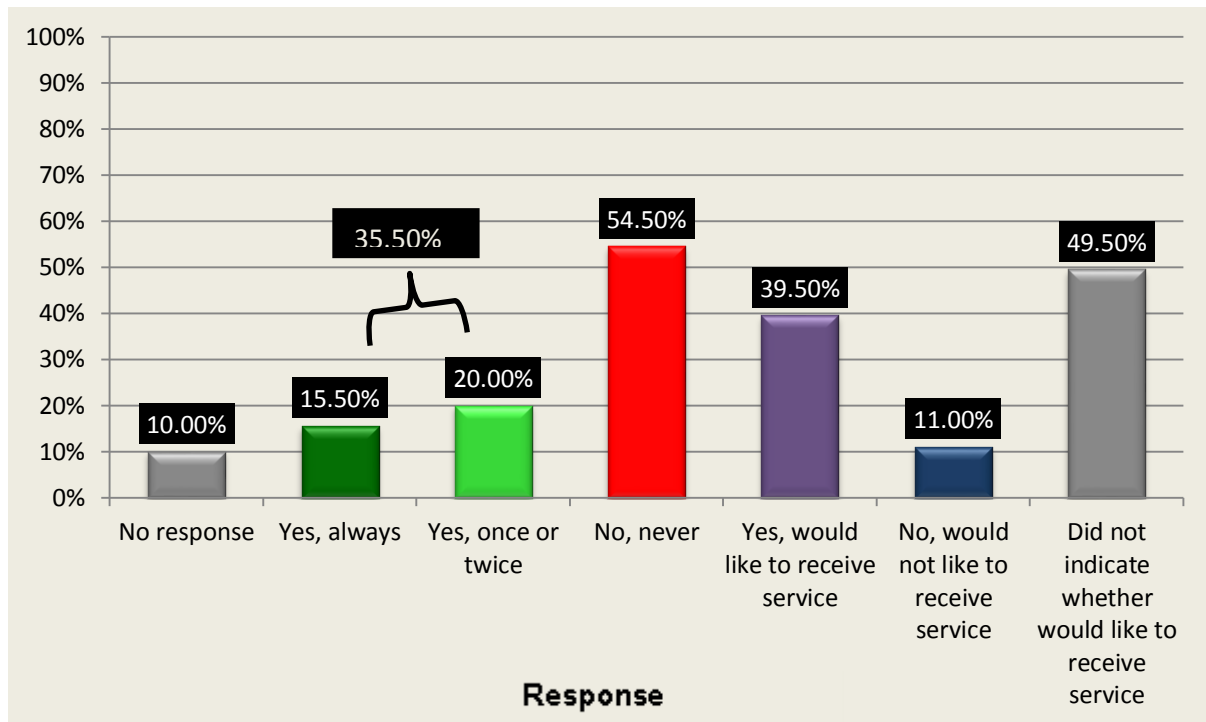




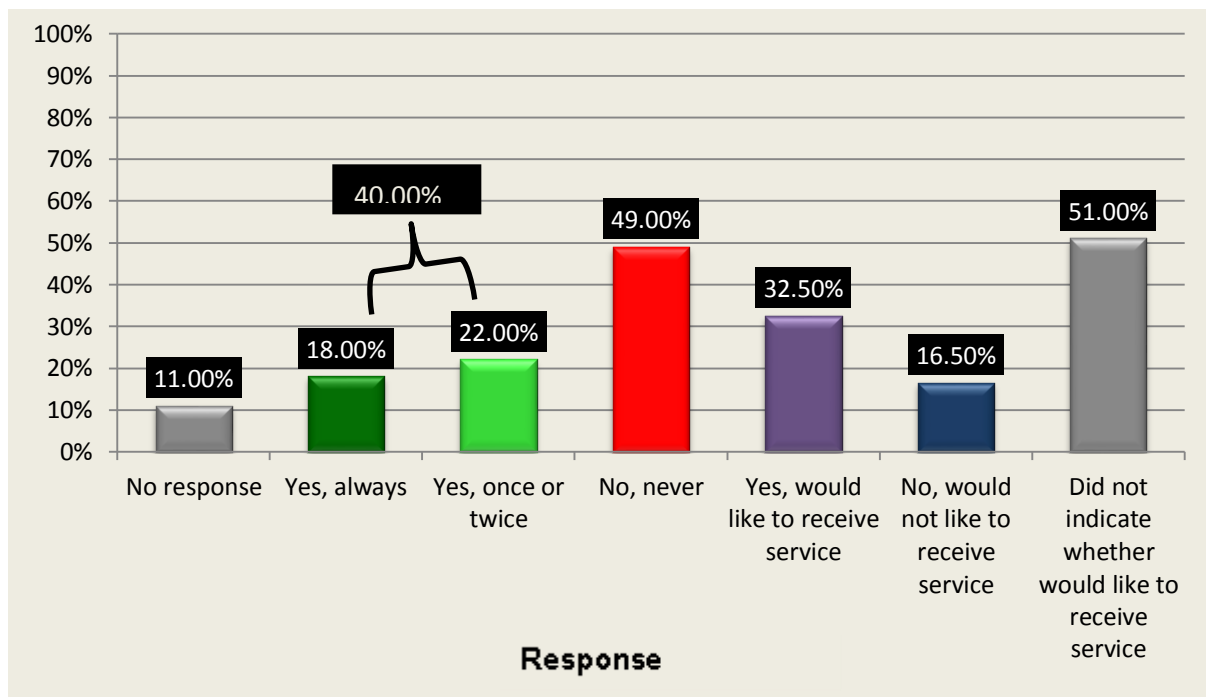
**Figure 13: A bar graph showing patients' responses to statement 4, "The pharmacist asks me what other illness or medical conditions I have"**



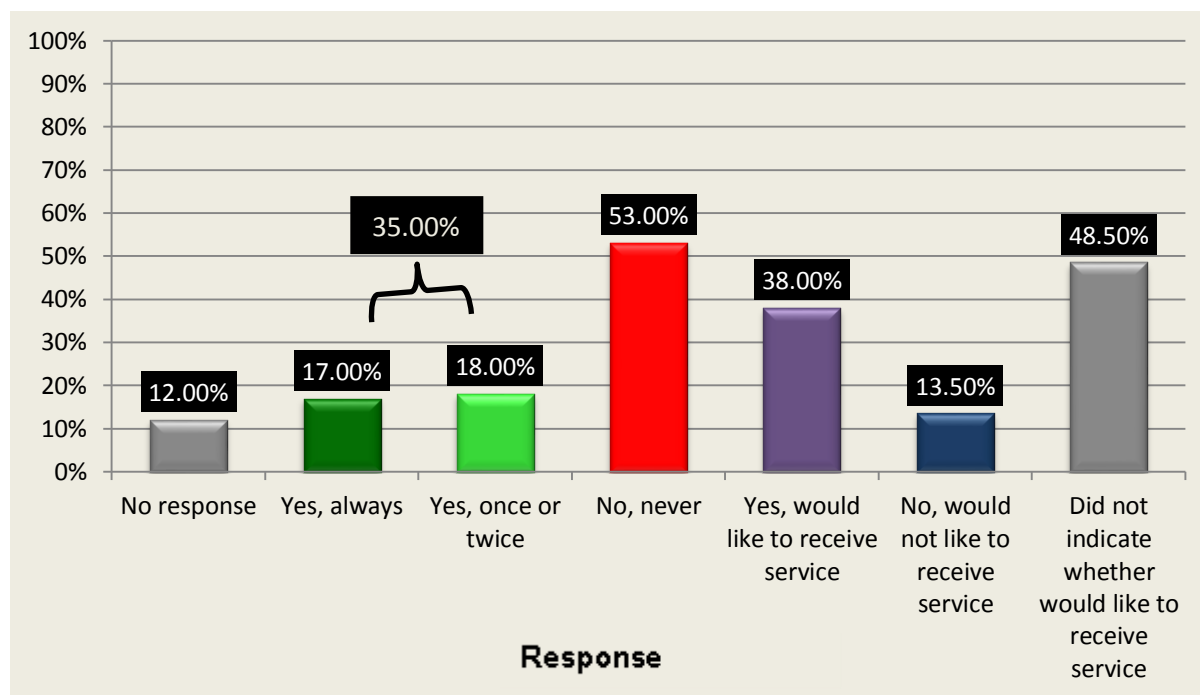
**Figure 14: A bar graph showing patients' responses to statement 5, "The pharmacist offers me generic medication"**



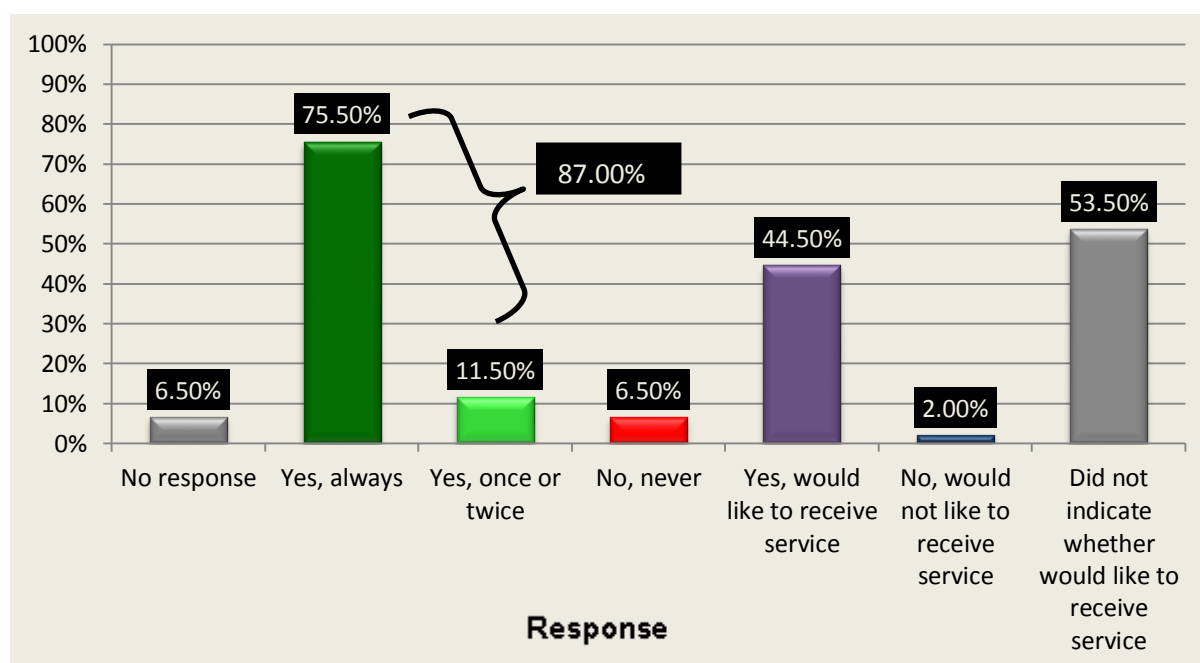
**Figure 15: A bar graph showing patients’ responses to statement 6, “The pharmacist asks me whether I am experiencing any side-effects to my medication”**



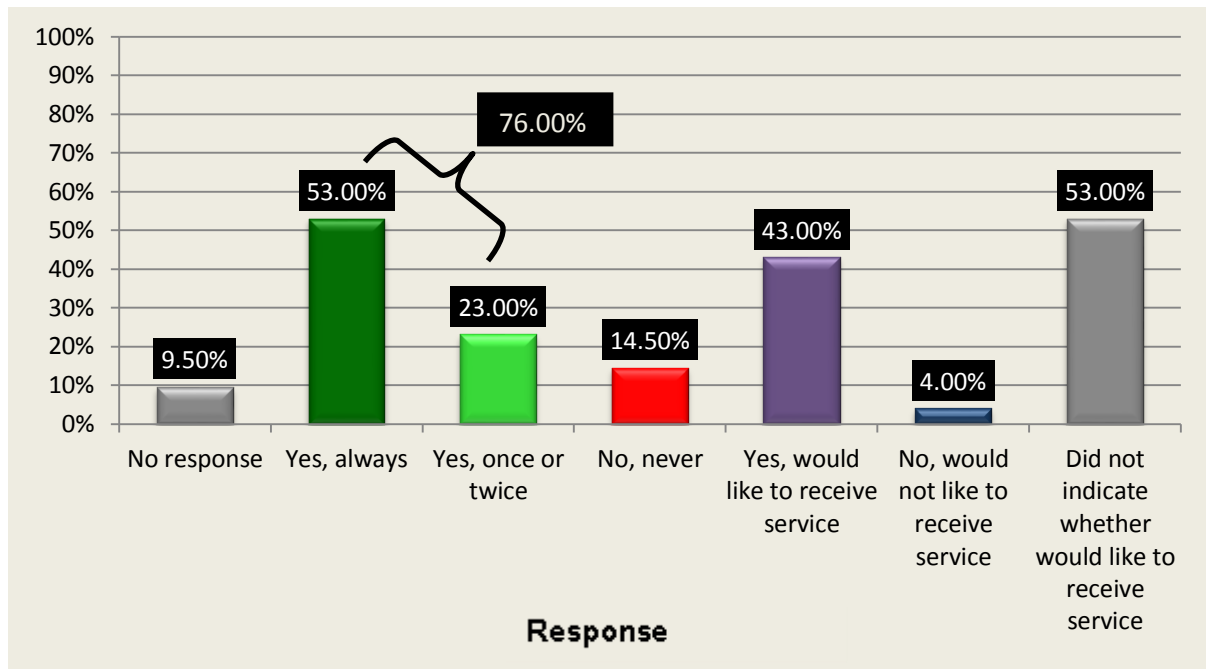
**Figure 16: A bar graph showing patients’ responses to statement 7, “The pharmacist asks me how often I am taking my medication”**



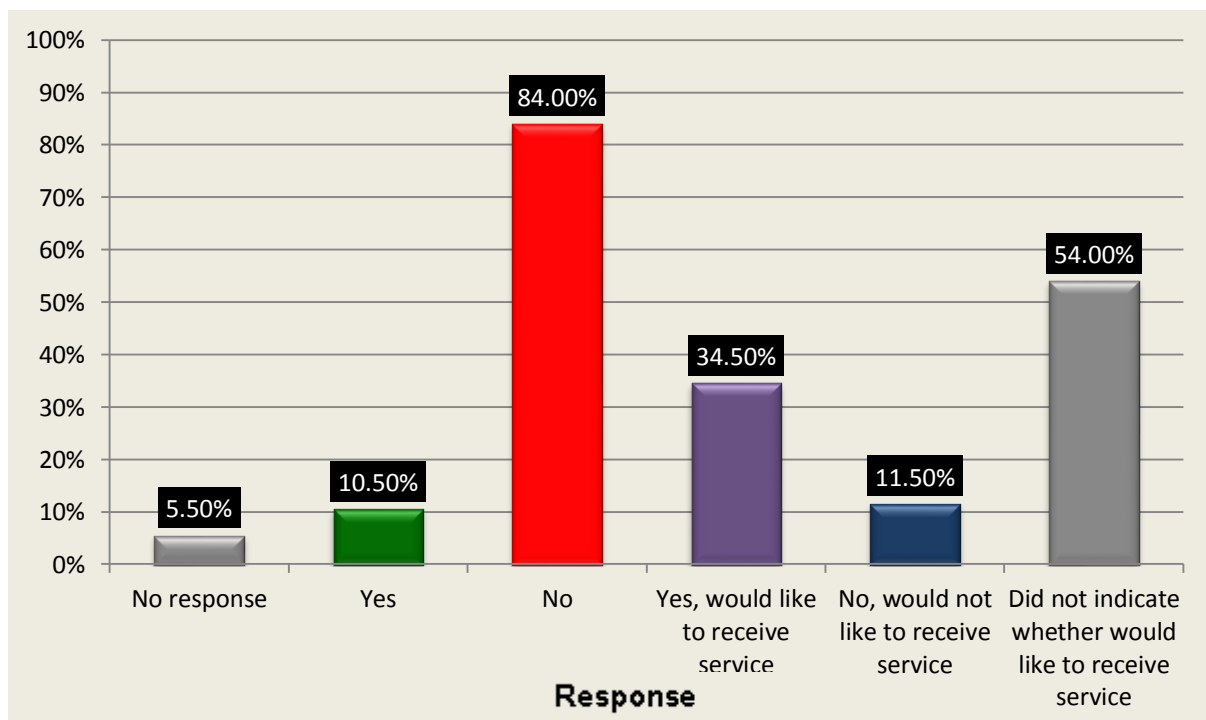
**Figure 17: A bar graph showing patients' responses to statement 8, "The pharmacist asks me whether my medical condition is improving or is controlled"**



**Figure 18: A bar graph showing patients' responses to statement 9, "The pharmacist or pharmacist's assistant explains to me how to take my medication correctly"**



**Figure 19: A bar graph showing patients’ responses to statement 10, “The pharmacist or pharmacist’s assistant gives me advice or information about my medication”**



**Figure 20: A bar graph showing patients’ responses to question 11, “Have you ever requested a pharmacist to perform a medication review for you?”**

As shown in Figure 9, a greater percentage of respondents view the following four pharmaceutical care services, ranked in descending order, as always being provided, compared to the percentage who view these services as not being provided:

- (i) Statement 9: The pharmacist or pharmacist's assistant explains to me how to take my medication correctly. As shown in Figure 18, 75.50% of respondents view this service as always being provided, compared to 6.50% who view this service as not being provided;
- (ii) Statement 10: The pharmacist or pharmacist's assistant gives me advice or information about my medication. Figure 19 illustrates that 53.00% of respondents view this service as always provided, whereas 14.50% do not;
- (iii) Statement 1: The pharmacist asks me whether I am allergic to any medication. A total of 46.00% of respondents indicate that this service is always provided, compared to 17.00% of respondents who indicate that this service is not provided, as revealed in Figure 10; and
- (iv) Statement 5: The pharmacist offers me generic medication. A total of only 34.50% of respondents state that this service is always provided, compared to 20.50% who indicate that this service is not provided, as shown in Figure 14.

On the other hand, the following six pharmaceutical care services, ranked in descending order, are viewed by a greater proportion of respondents as not being provided:

- (i) Statement 6: The pharmacist asks me whether I am experiencing any side-effects to my medication. As shown in Figure 15, 54.50% of respondents indicate that this service is not provided, compared to 15.50% who state that this service is always provided;
- (ii) Statement 8: The pharmacist asks me whether my medical condition is improving or is controlled. A total of 53.00% of respondents view this service as not being provided, whereas 17.00% view this service as always being provided, as illustrated in Figure 17;
- (iii) Statement 7: The pharmacist asks me how often I am taking my medication. Figure 16 reveals that 49.00% of respondents view this service as not being provided, compared to 18.00% who state that this service is always provided;

- (iv) Statement 4: The pharmacist asks me what other illness or medical conditions I have. A total of 46.50% of respondents reveal that this service is not provided by the pharmacy, whereas less than half of this percentage (i.e. 21.00%) state that this service is always provided, as shown in Figure 13;
- (v) Statement 2: The pharmacist contacts my doctor to clarify my prescription, or discuss my medication. Figure 11 illustrates that 40.50% of respondents view this service as not provided, whereas only 23.00% of respondents view this service as being provided; and
- (vi) Statement 3: The pharmacist asks me what other medication I am taking. Approximately one third of respondents (33.50%) state that this service is not provided. This is marginally more than the 33.00% of respondents who state that this service is always provided.

A large majority of respondents (84.00%) indicate that they have not requested a medication review (Statement 11), as illustrated in Figures 9 and 20. For each of the eleven pharmaceutical care services in section 2 of the questionnaire, and as shown in Figures 10-20, a greater proportion of patients indicate that they wish to receive these services, compared to the proportion who do not wish to receive these services. Nevertheless, the former is below 50% for each statement. There is, in general, a high non-response rate for the questions asking patients whether they would like to receive each pharmaceutical care service, evidenced in the proportion of "Did not indicate" responses being greater than 50% for statements 2-5, 7 and 9-11 (see Figures 11-14, 16 and 18-20).

The three pharmaceutical care services drawing the largest proportion of respondents indicating that they wish to receive these services are, in descending order:

- (i) Statement 1: The pharmacist asks me whether I am allergic to any medication. As shown in Figure 10, 45.50% of respondents wish to receive this service, compared to 8.50% who do not;
- (ii) Statement 9: The pharmacist or pharmacist's assistant explains to me how to take my medication correctly. Figure 18 illustrates that this service is desired

- by 44.50% of respondents, whereas 2.00% of respondents do not wish to receive this service; and
- (iii) Statement 10: The pharmacist or pharmacist's assistant gives me advice or information about my medication. A total of 43.00% of respondents wish to receive this service, whereas only 4.00% do not wish to receive this service, as revealed in Figure 19.

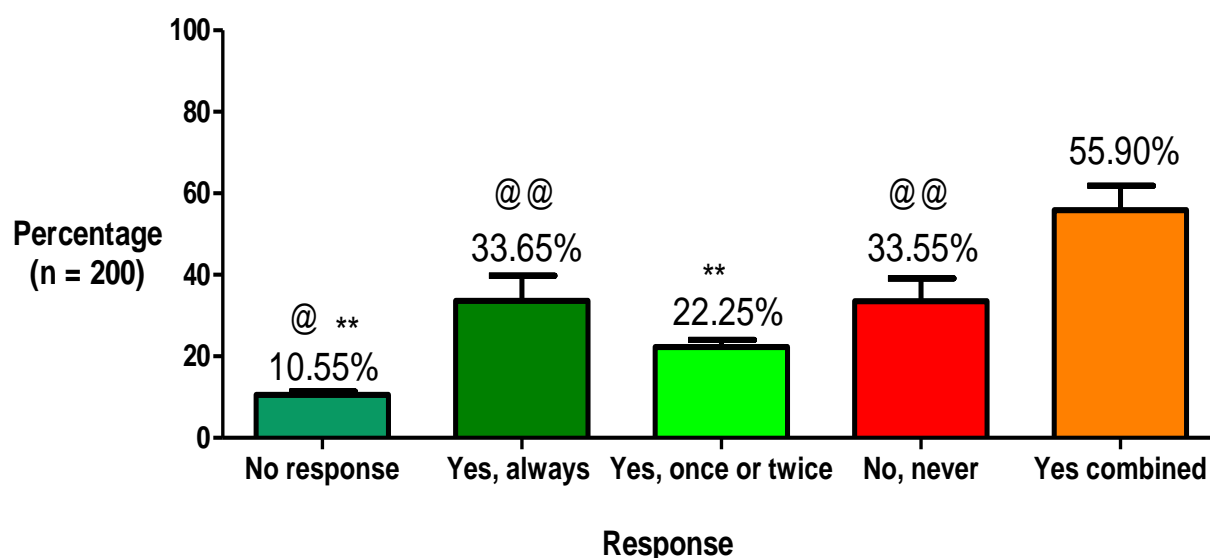
The lowest proportion of respondents desires the service in Statement 2, namely the pharmacist contacting the patient's doctor to discuss a prescription. A total of 31.50% of respondents would like to receive this service, whereas 15.50% of respondents would not, as evidenced in Figure 11.

The service that the highest proportion of respondents do not wish to receive is that in Statement 7, namely the pharmacist asking the patient how often he/ she is taking his/ her medication. Figure 16 shows that a total of 16.50% of respondents do not wish to receive this service, whereas almost double this percentage of respondents (32.50%) wishes to receive this service.

#### **5.1.2.2 A composite of Statements 1-10**

Figure 21 on the next page shows a composite bar graph, in which Statements 1-10 have been grouped together and the mean percentage for each response has been calculated. For example, the mean percentage of all ten "Yes, always" percentages was determined; the same was done for "Yes, once or twice", "No, never" and "No response". Statement/ question 11 has not been included, as this reflects a service requested by patients, rather than one necessarily initiated by pharmacists. A composite graph has been drawn in order to arrive at an overall assessment of whether XXX Pharmacy complies with the GPP standards for the provision of pharmaceutical care in section 2 of the questionnaire.

Inferential statistical analysis has been performed to determine if there is a statistically significant difference in mean patient responses. The statistical test used is a one-way ANOVA, followed by the Newman-Keuls multiple comparison test (see 4.2.1.8). This analysis was performed using GraphPad Prism 5 software, and the level of significance was accepted as  $p < 0.05$ .



**Figure 21:** A composite bar graph showing the mean percentage of responses to Statements 1-10 in section 2 of the questionnaire

“Yes combined” is the sum of “Yes, always” and “Yes, once or twice” responses.

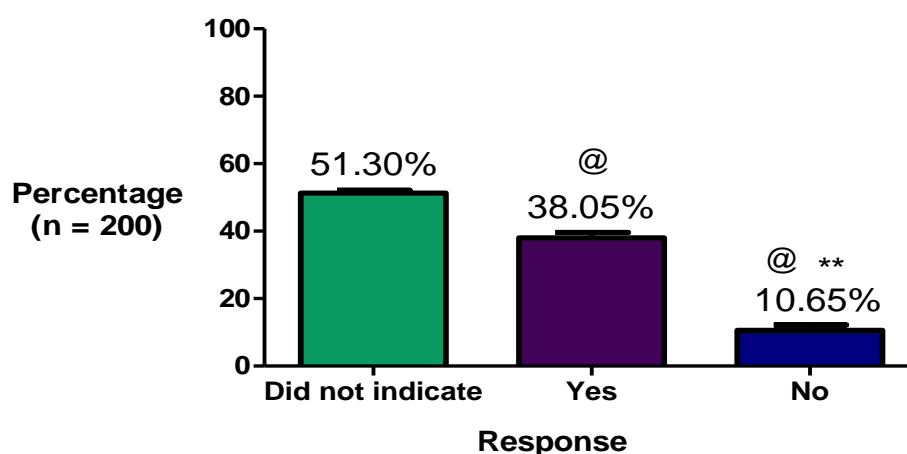
@  $p < 0.05$  compared to “Yes, always” and “No, never”; \*\*  $p < 0.001$  compared to “Yes combined”; @@  $p < 0.05$  compared to “Yes combined”, after analysis by ANOVA followed by the Newman-Keuls multiple comparison test. Each bar represents the mean  $\pm$  standard error of the mean (SEM)

As shown in Figure 21, a mean percentage of 33.65% of respondents indicate that the composite pharmaceutical care services are always provided, whereas a similar mean percentage (33.55%) state that these services are not provided. This difference of 0.10% is not statistically significant, as revealed by the ANOVA analysis. There is also no statistically significant difference between the mean percentage of “Yes, once or twice” responses and the mean percentage of “No, never” responses. However, when the “Yes, always” and “Yes, once or twice” mean percentages are combined, giving a mean percentage of 55.90%, there is a



statistically significant difference between this mean combined favourable response and the mean percentage of respondents who state that these pharmaceutical care services are not provided. Likewise, there is a statistically significant difference between the mean percentage of this “Yes combined” column and the individual mean percentages of “Yes, always” and “Yes, once or twice”.

A composite graph, Figure 22, was also similarly created of patients’ responses to whether they would like to receive the combined pharmaceutical care services in Statements 1-10. Although Statement 11 could have been included as well, it was decided not to do so in this graph, in order to allow for easier direct comparison with Figure 21, which does not include responses to Statement 11. A one-way ANOVA, followed by the Newman-Keuls multiple comparison test, was used to detect any statistically significant differences in the mean percentages of responses. As shown in Figure 22 below, there is a statistically significant difference in the mean percentage of respondents who wish to receive the combined services (38.05%) and the mean percentage of those who do not desire these services (10.65%).

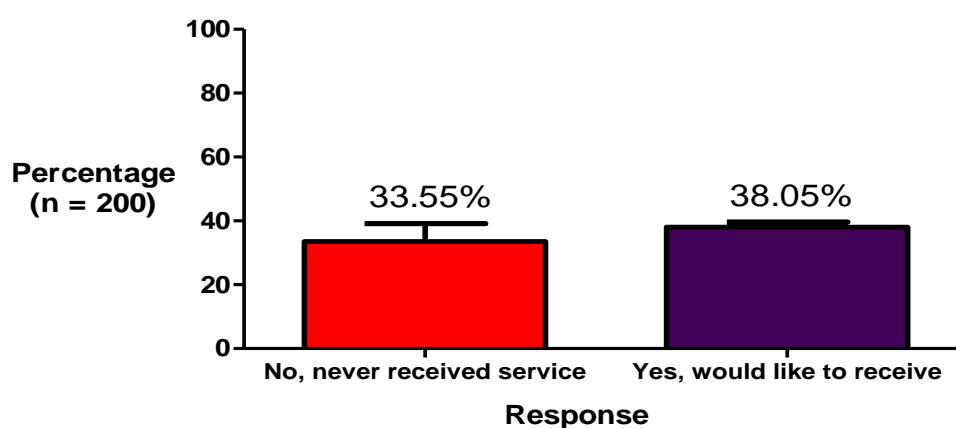


**Figure 22: A composite bar graph showing the mean percentage of responses to whether patients would like to receive the services in Statements 1-10 in section 2 of the questionnaire**

@  $p < 0.001$  compared to “Did not indicate whether would like to receive service”;

\*\*  $p < 0.001$  compared to “Yes”, after analysis by ANOVA followed by the Newman-Keuls multiple comparison test. Each bar represents the mean  $\pm$  SEM

In order to identify whether a gap exists between whether patients state that they have not received a particular service and whether they would like to receive this service, the mean percentage of “No, never” responses shown in Figure 21 is compared to the mean percentage of “Yes, would like to receive services” indicated in Figure 22. These two groups are analysed using an unpaired t-test (see 4.2.1.8). The confidence level was set at 95%, and GraphPad Prism 5 software was used to perform the analysis. The t-test reveals that there is no statistically significant difference between the two groups shown in Figure 23 below, with the p value being 0.4487. A p value of less than 0.05 is required for statistical significance.

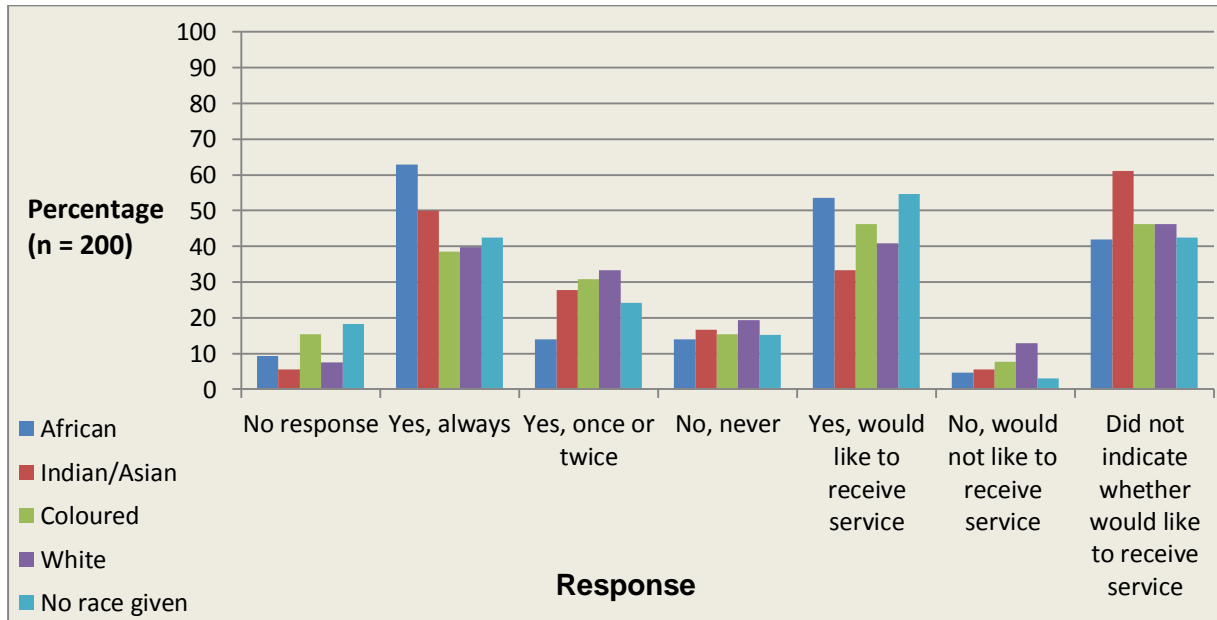


**Figure 23:** A bar graph showing the mean proportion of respondents who state that the combined pharmaceutical care services in Statements 1-10 are not provided, compared to the mean proportion who would like to receive these combined services

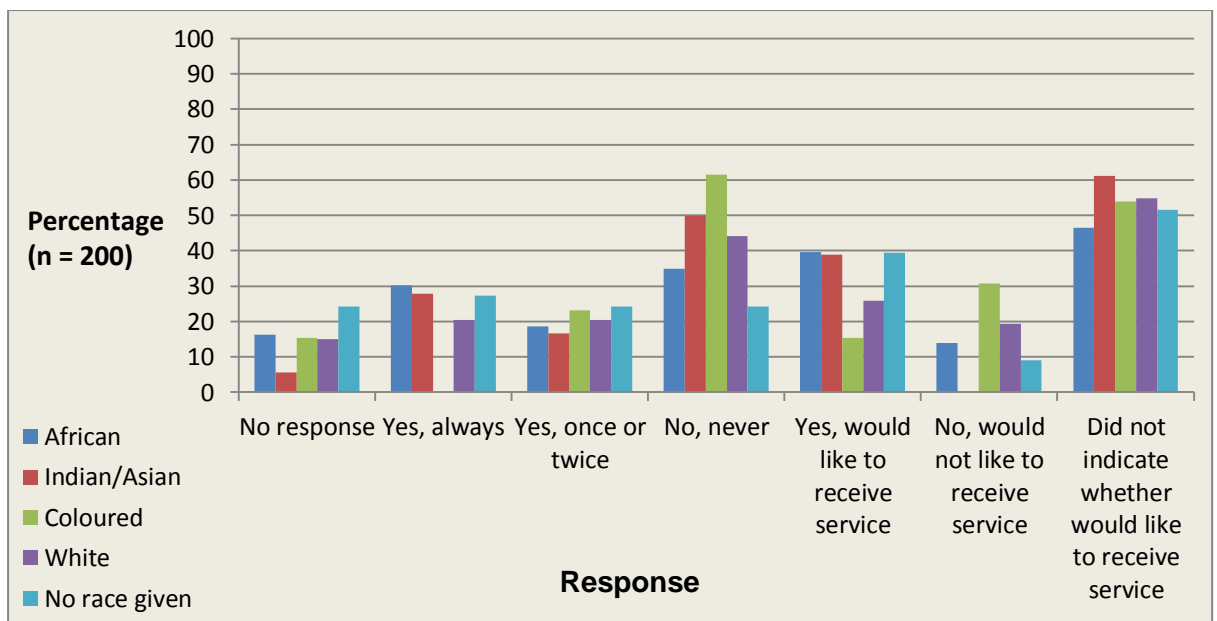
### 5.1.2.3 Results per racial group

Figures 24-34, on pages 136-141, show the various races' responses to individual statements in section 2. A composite graph is provided in Figure 35. It is not possible to perform the chi-squared test, the most commonly-used inferential, non-parametric statistical test for one-sample cases involving nominal categories (Gani, 2004) because some respondents have not indicated their race. This decreases the extent to which the categories of races used are mutually exclusive, as the data

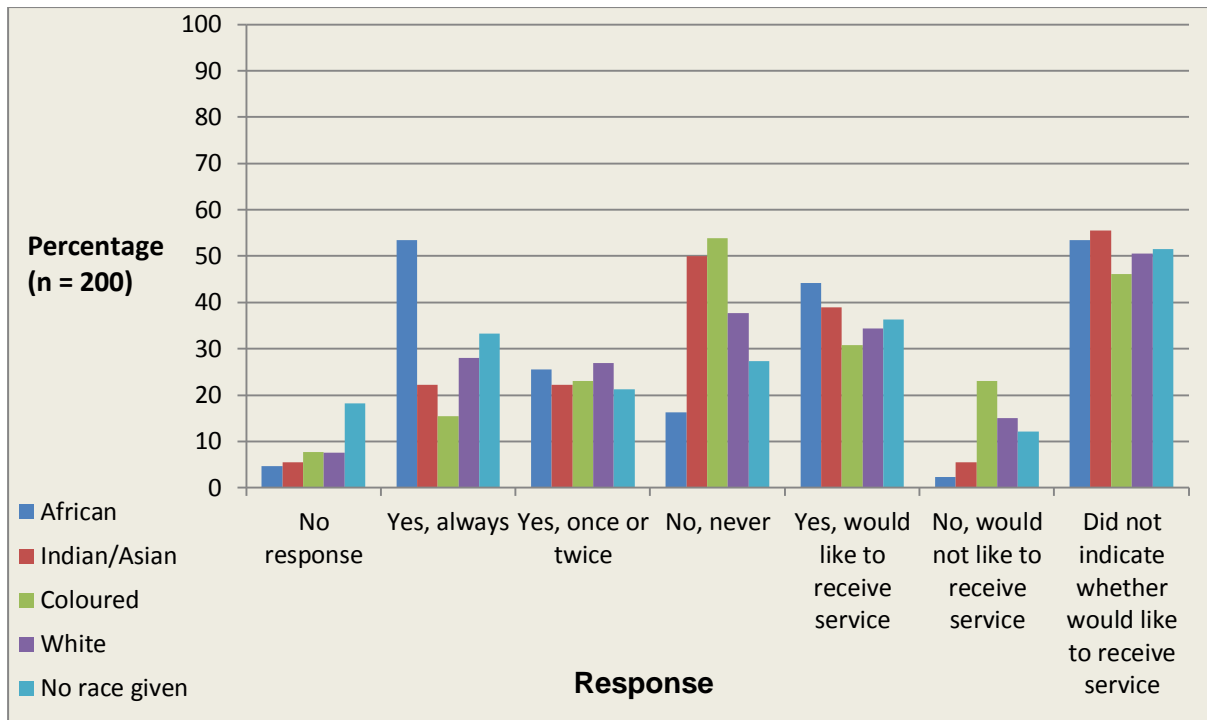
captured under “No race given” should be allocated to one of the racial categories provided. Mutually-exclusive categories are required for the chi-squared test to be performed (University of Pennsylvania, 2008).



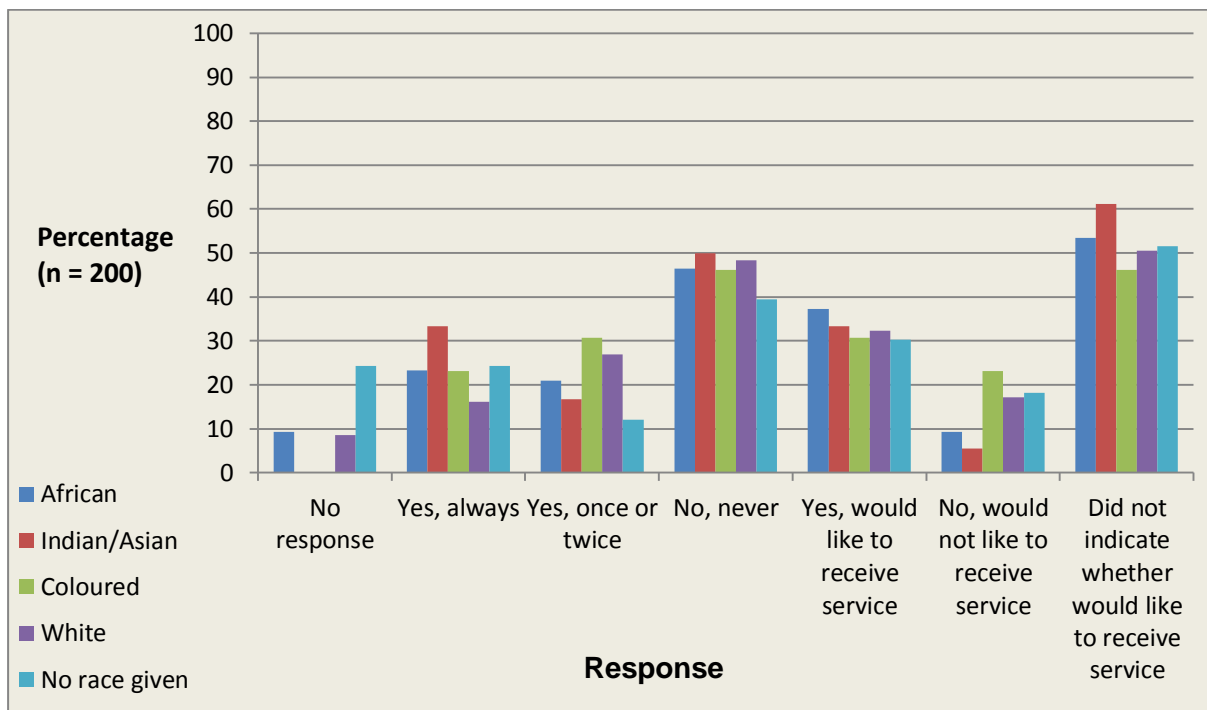
**Figure 24:** A bar graph showing the responses of patients from different racial groups to statement 1, “The pharmacist asks me whether I am allergic to any medication”



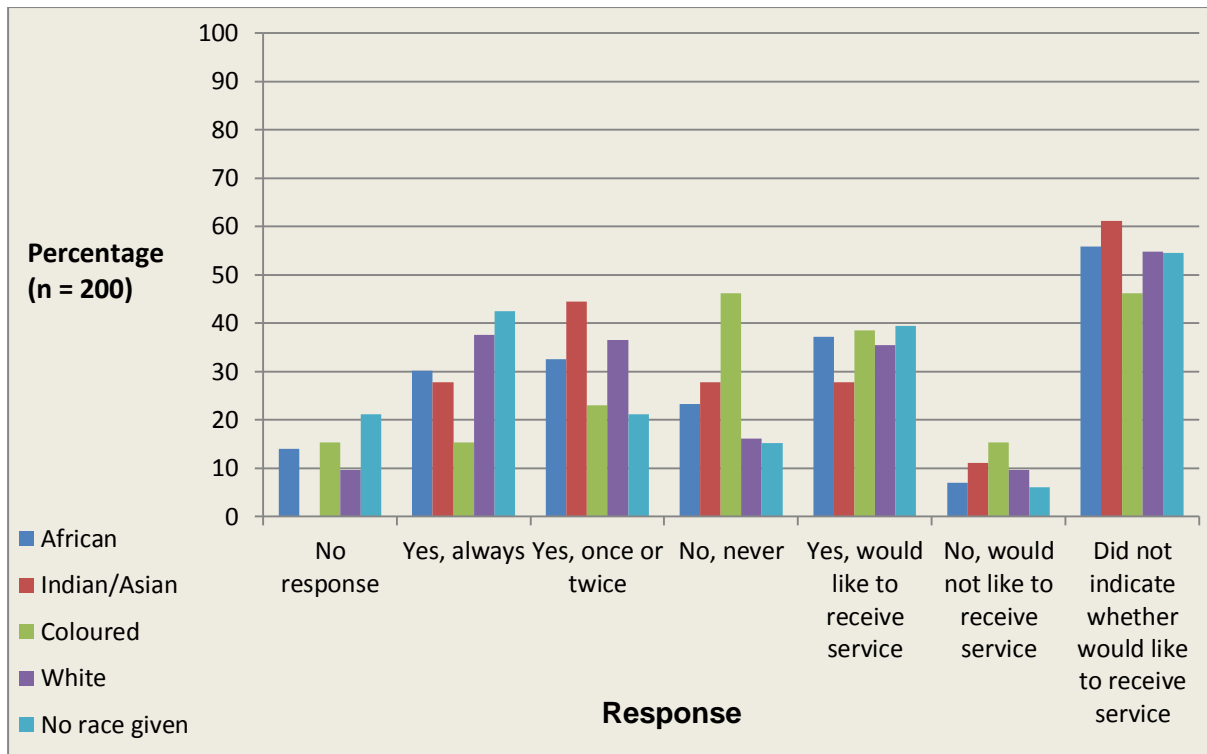
**Figure 25:** A bar graph showing the responses of patients from different racial groups to statement 2, “The pharmacist contacts my doctor to clarify my prescription, or discuss my medication”



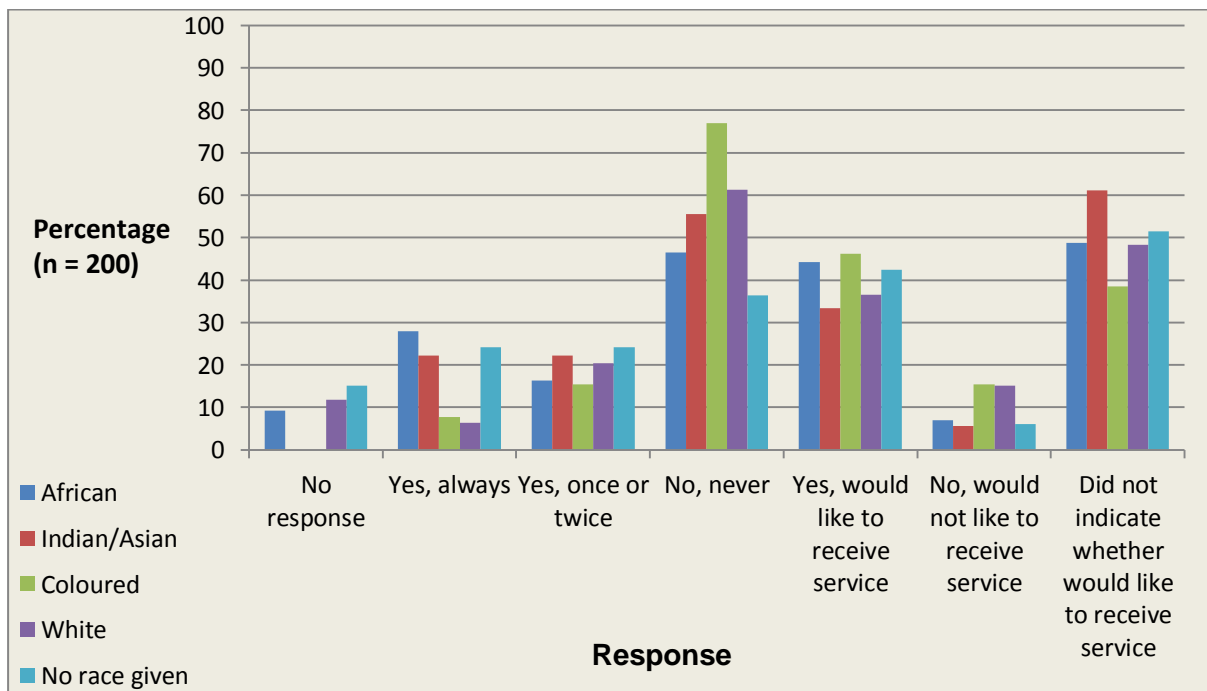
**Figure 26:** A bar graph showing the responses of patients from different racial groups to statement 3, “The pharmacist asks me what other medication I am taking”



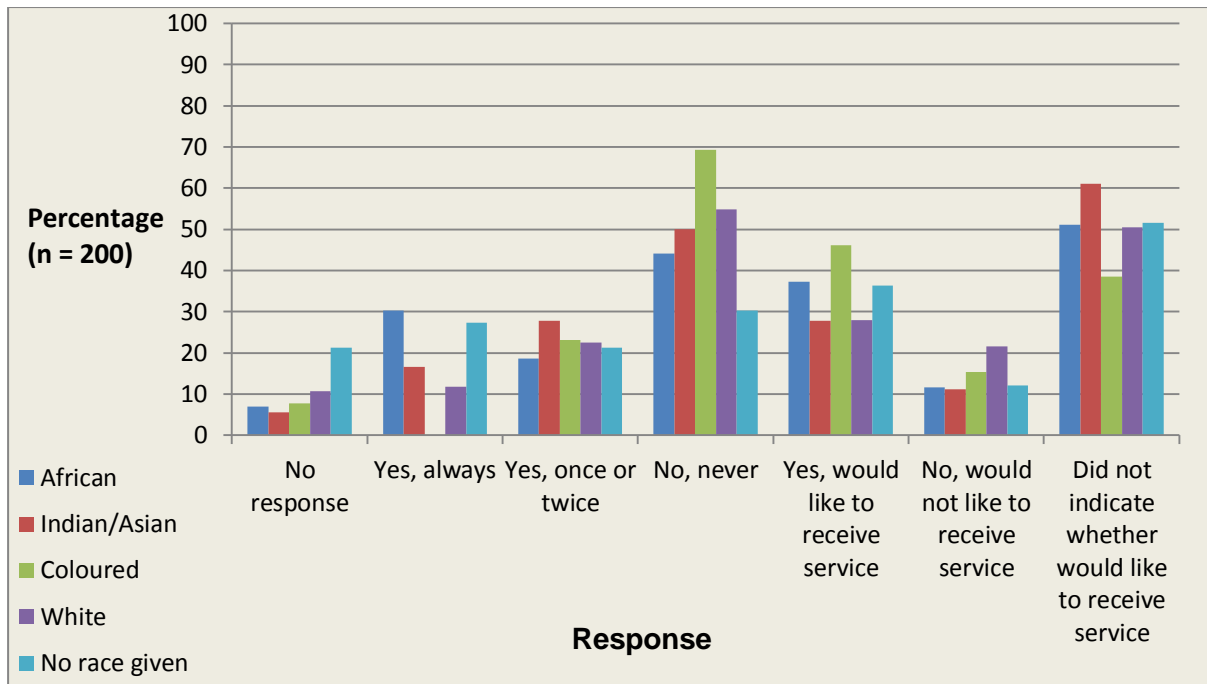
**Figure 27:** A bar graph showing the responses of patients from different racial groups to statement 4, “The pharmacist asks me what other illness or medical conditions I have”



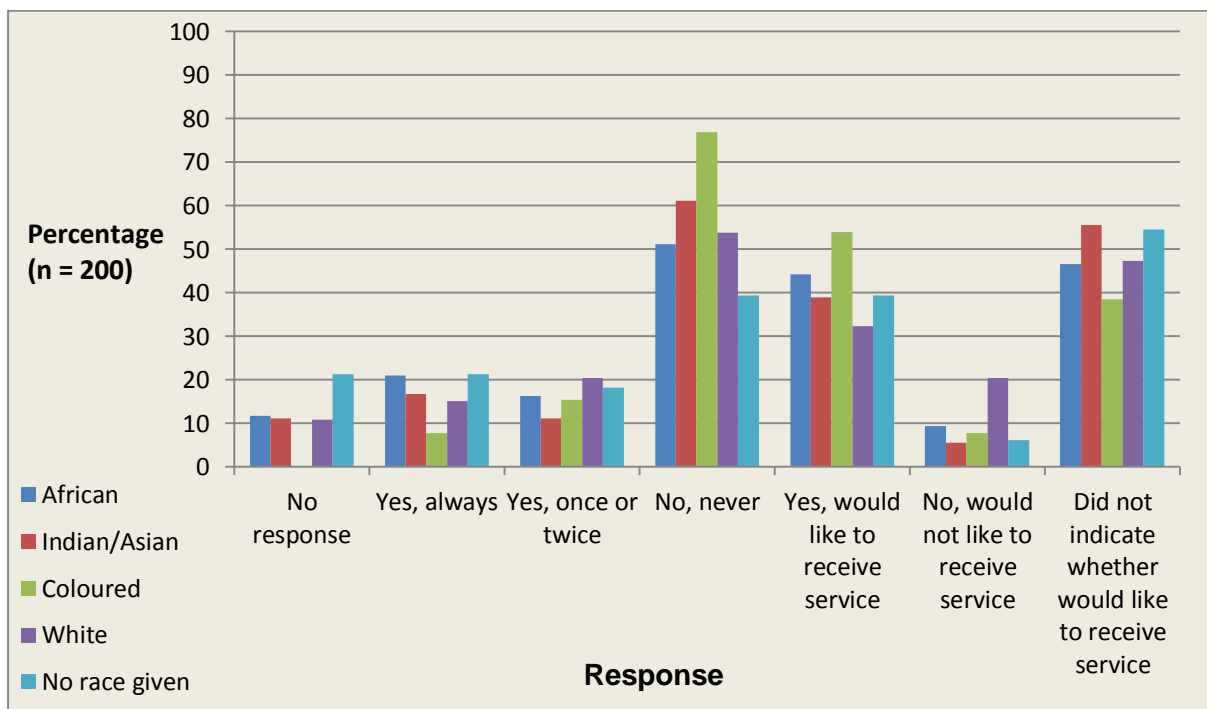
**Figure 28:** A bar graph showing the responses of patients from different racial groups to statement 5, “The pharmacist offers me generic medication”



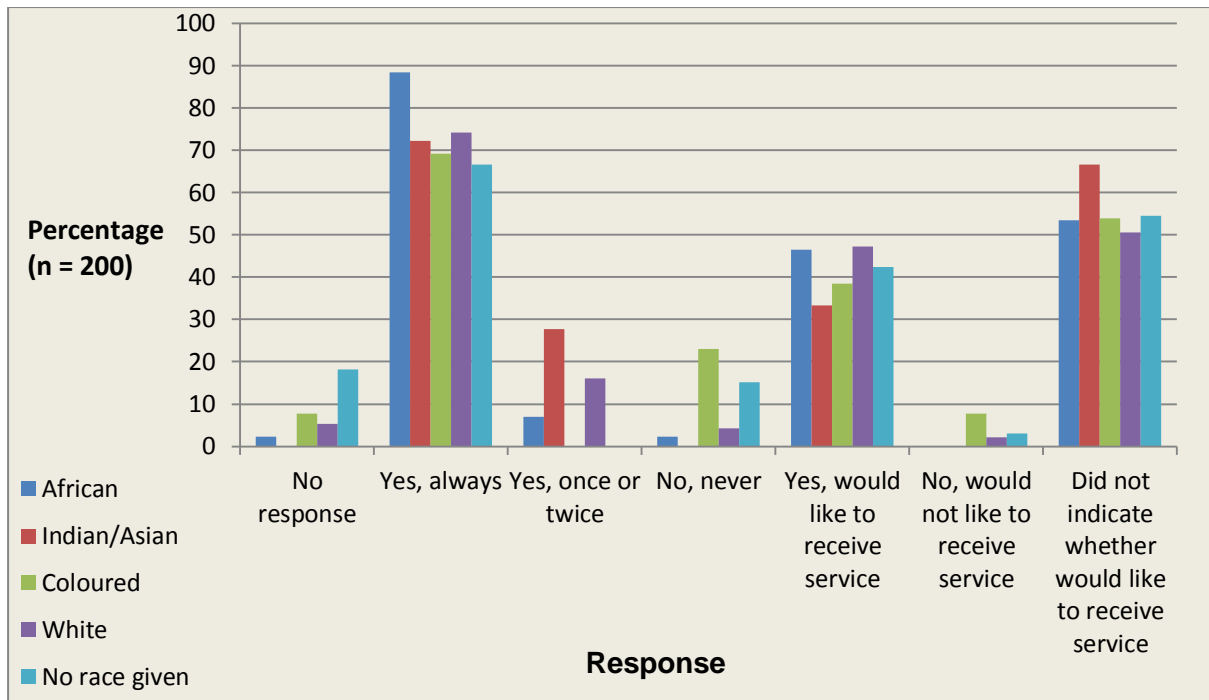
**Figure 29:** A bar graph showing the responses of patients from different racial groups to statement 6, “The pharmacist asks me whether I am experiencing any side-effects to my medication”



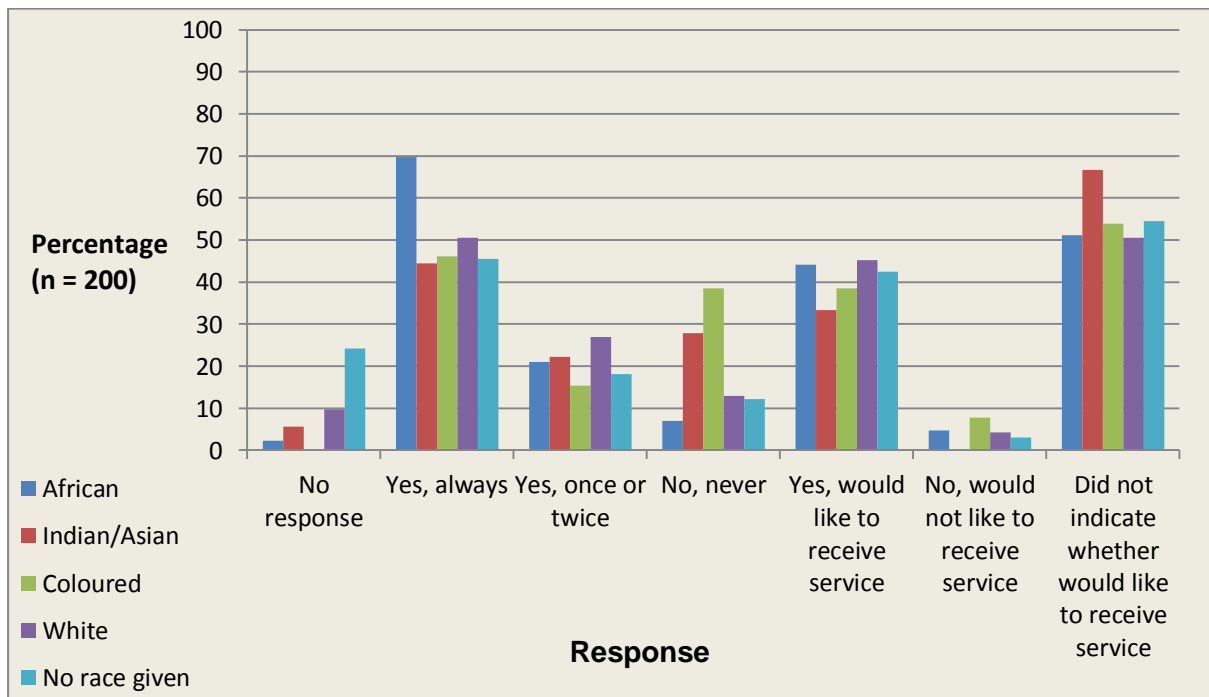
**Figure 30:** A bar graph showing the responses of patients from different racial groups to statement 7, “The pharmacist asks me how often I am taking my medication”



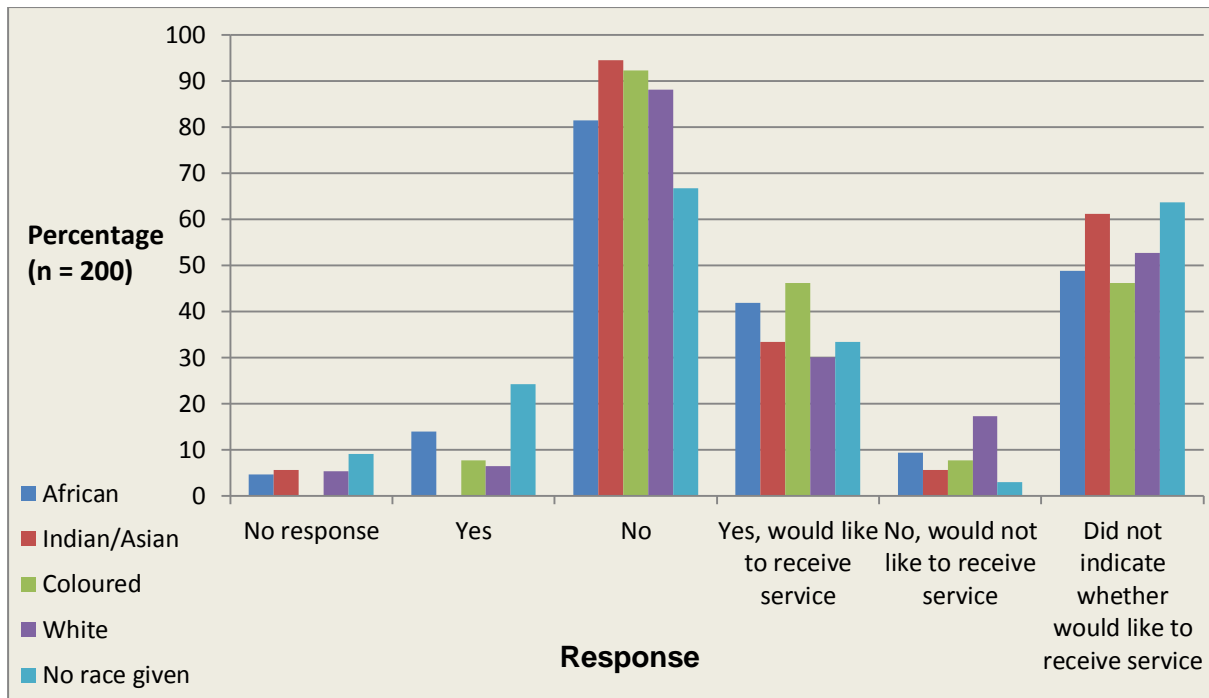
**Figure 31:** A bar graph showing the responses of patients from different racial groups to statement 8, “The pharmacist asks me whether my medical condition is improving or is controlled”



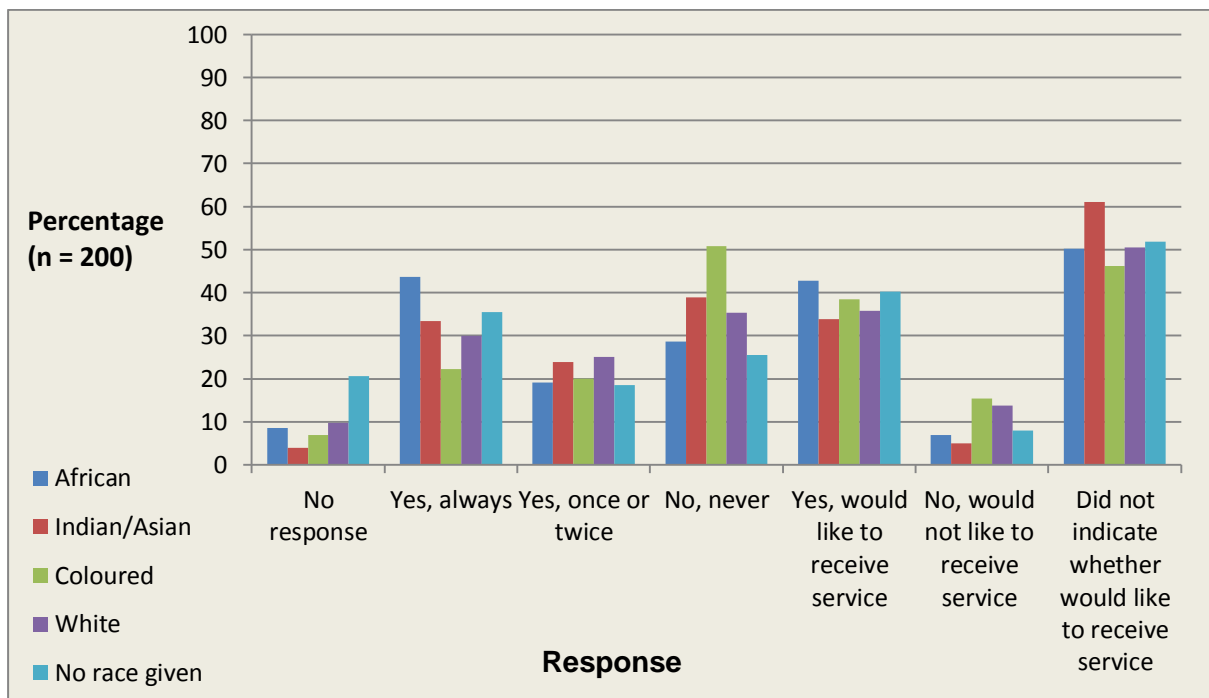
**Figure 32:** A bar graph showing the responses of patients from different racial groups to statement 9, “The pharmacist or pharmacist’s assistant explains to me how to take my medication correctly”



**Figure 33:** A bar graph showing the responses of patients from different racial groups to statement 10, “The pharmacist or pharmacist’s assistant gives me advice or information about my medication”



**Figure 34:** A bar graph showing the responses of patients from different racial groups to question 11, “Have you ever requested a pharmacist to perform a medication review for you?”



**Figure 35:** A composite bar graph showing the mean percentages of responses from the different racial groups to whether they receive the pharmaceutical care services in Statements 1-10, as well as whether they would like to receive these services



Figure 35 shows that there are generally few large variations in the mean percentages of responses per race. Some prominent results in Figures 24-35, which are limited by the non-exclusivity of the racial categories, include the following:

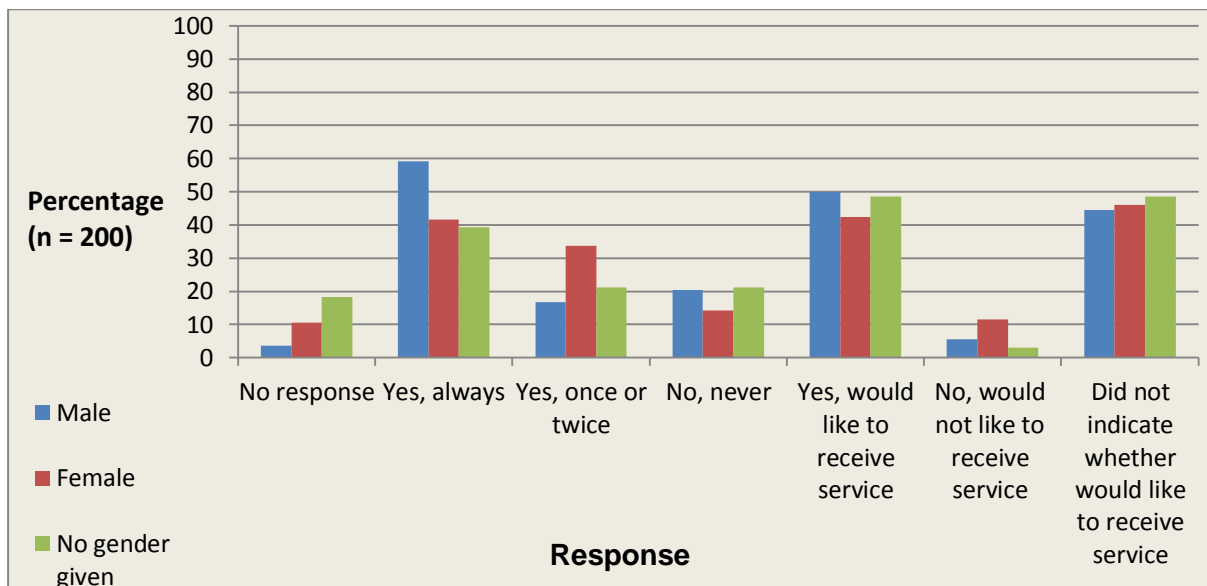
- (i) The lowest proportion of patients who state that they always receive the combined pharmaceutical care services (22.31%), as well as the highest proportion of patients who state that they do not receive these services (50.77%), are Coloured, as shown in Figure 35;
- (ii) The highest mean percentage of patients who state that they always receive the combined pharmaceutical care services are African (43.72%) (see Figure 35);
- (iii) All the racial groups have a higher percentage of respondents stating that the services in Statements 1, 9 and 10 are always provided, compared to the percentage of respondents stating that these services are not provided, as illustrated in Figures 24, 32 and 33, respectively;
- (iv) There is also consistency in all the racial groups having a higher proportion of respondents stating that the services in Statements 2, 4, 6, 7 and 8 are not provided, compared to the proportion stating that these services are always provided. This is shown in Figures 25, 27, 29, 30 and 31, respectively;
- (v) There is inconsistency in the different races' responses to whether the services in Statements 3 and 5 are always provided or not. A higher proportion of Africans (53.49%) indicate that the service in Statement 3 is always provided, whereas the other races disagree with this, as reflected in Figure 26. With regard to Statement 5 (see Figure 28), a higher proportion of Africans (30.23%) and Whites (37.63%) state that this service is always provided, whereas a higher percentage of Coloureds (46.15%) state that this service is not provided, and an equal percentage (27.78%) of Indians/ Asians have ticked each of these two responses;
- (vi) Figure 34 reveals that all racial groups have a larger proportion of respondents indicating that they have not requested a pharmacist to perform a medication review;
- (vii) There is consistency amongst all racial groups that a higher proportion of each would like to receive each of the services in Statements 1-11, with the exception of Statement 2. A higher proportion of Coloureds do not wish for

the service in Statement 2 (30.77%), compared to the proportion of Coloureds who do (15.38%), as reflected in Figure 25; and

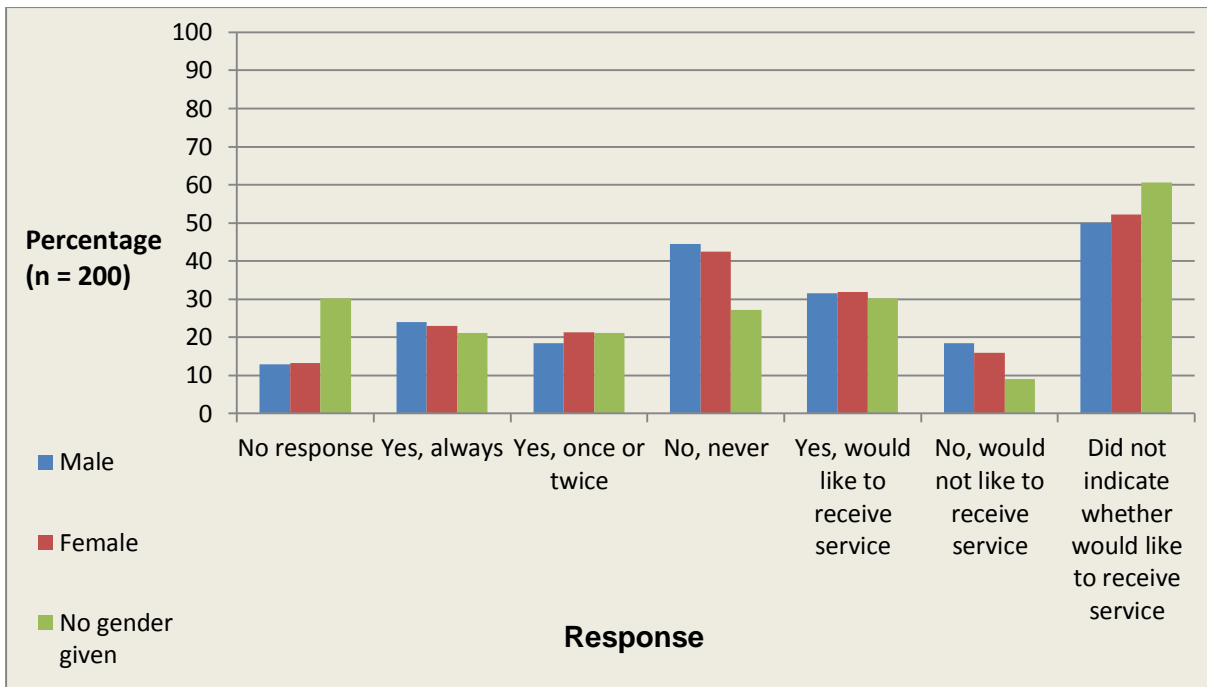
(viii) There is an overall low response rate across the races to whether patients would like to receive the various pharmaceutical care services, as shown in the relatively high percentages of the “Did not indicate” columns in the extreme right-hand corner in Figures 24-35.

**5.1.2.4 Results per gender**

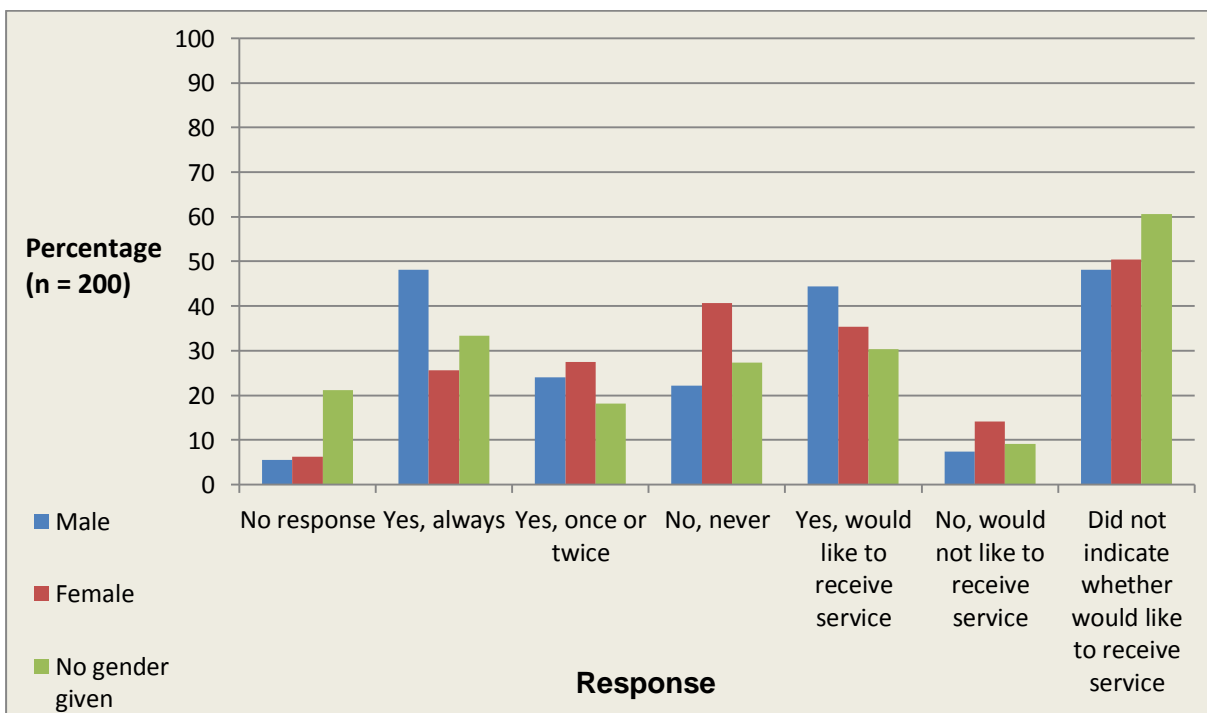
Figures 36-46, on pages 143-148, show the different genders’ responses to individual statements in section 2 of the questionnaire. A composite graph is provided in Figure 47 on page 149. Key results are subsequently highlighted. As with the results per race in 5.1.2.3, it is not possible to perform a chi-squared test, because some respondents have not indicated their gender, thus making the gender categories not mutually-exclusive.



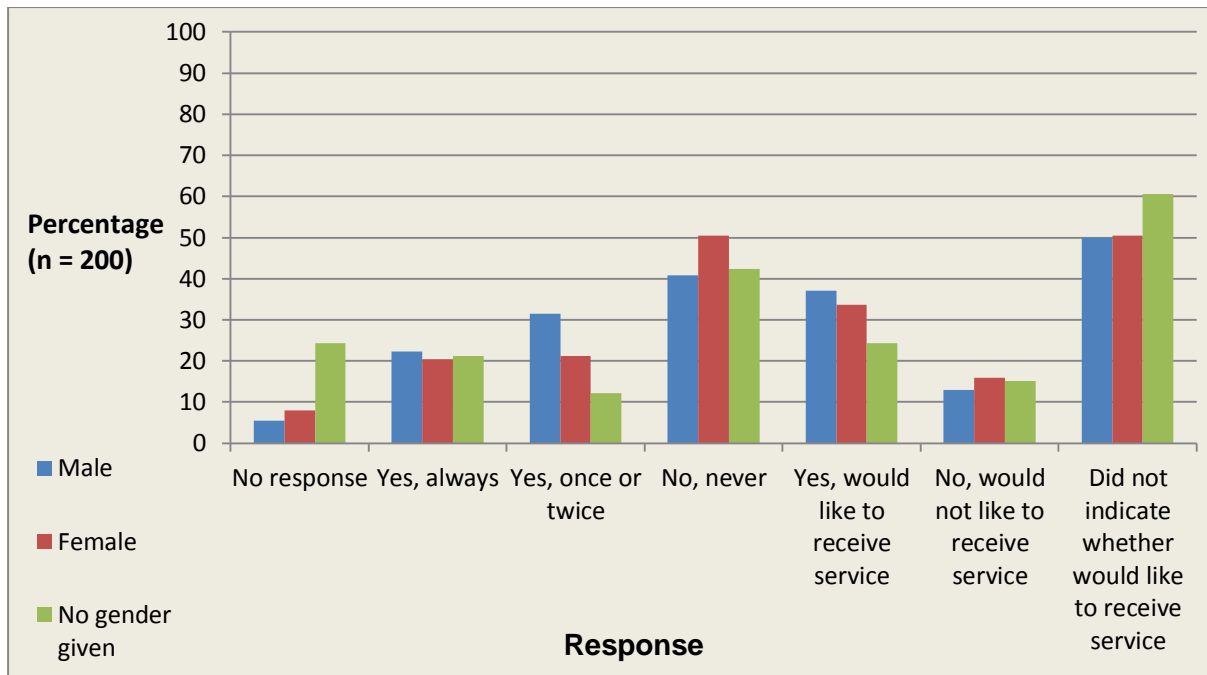
**Figure 36: A bar graph showing the responses of patients of different genders to statement 1, “The pharmacist asks me whether I am allergic to any medication”**



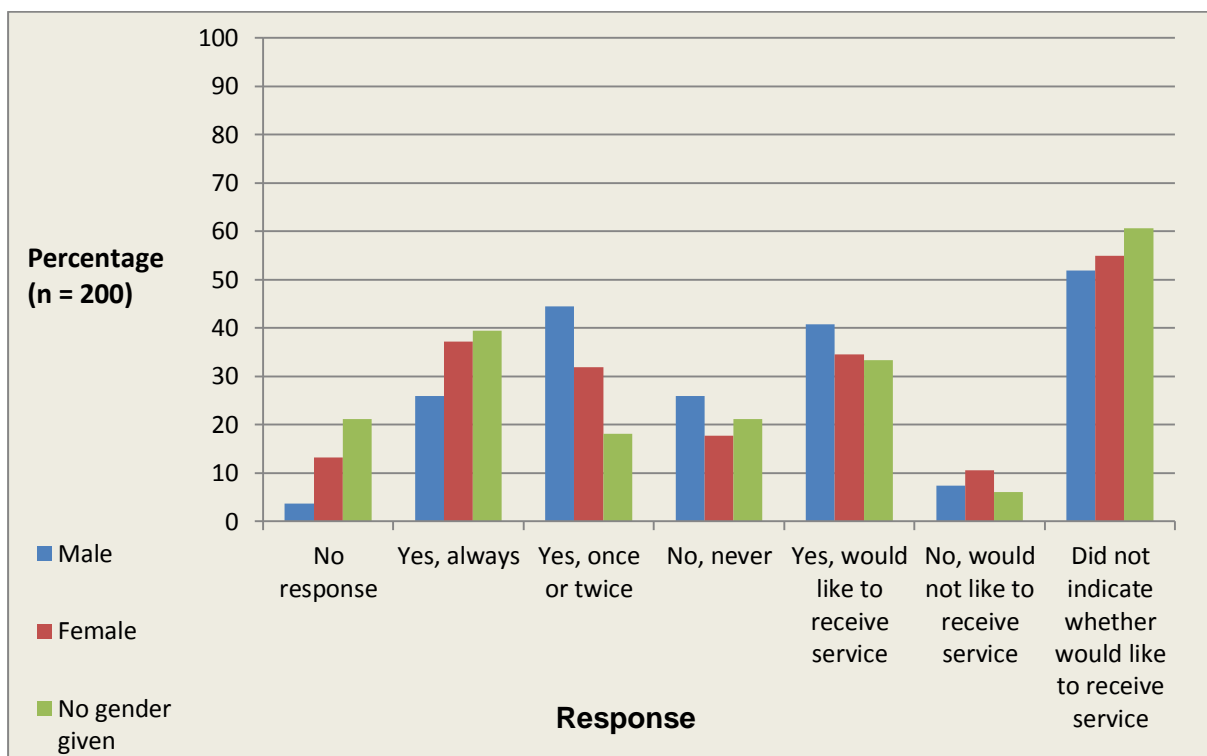
**Figure 37:** A bar graph showing the responses of patients of different genders to statement 2, “The pharmacist contacts my doctor to clarify my prescription, or discuss my medication”



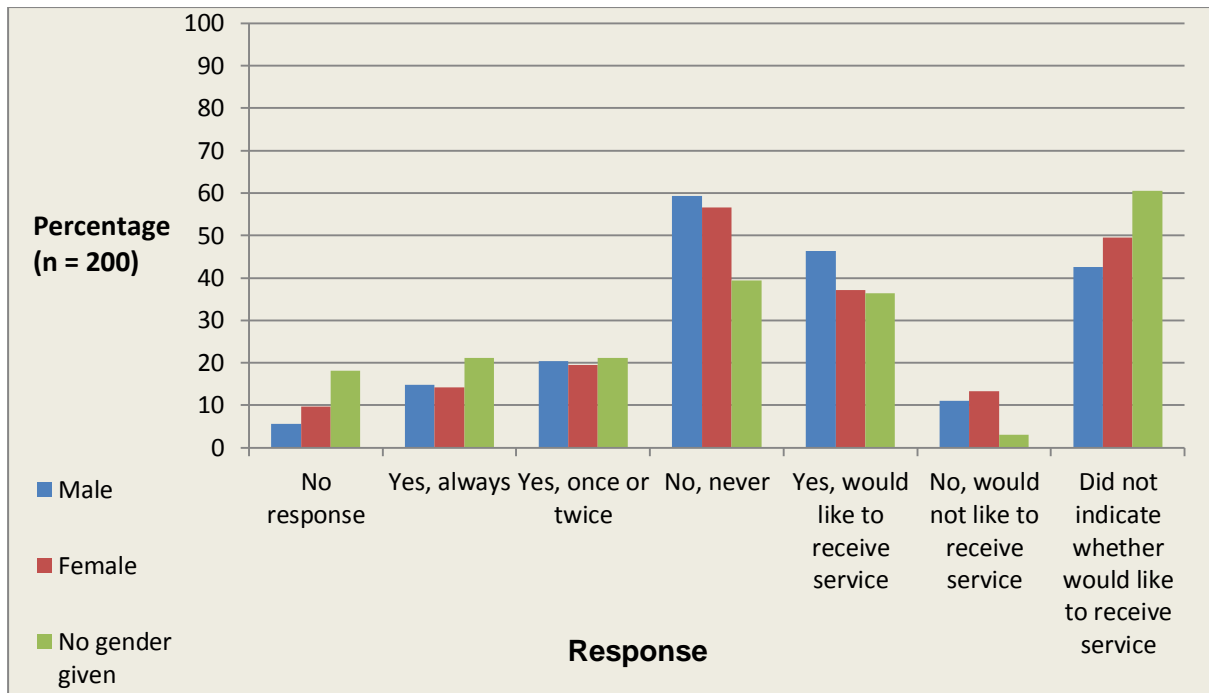
**Figure 38:** A bar graph showing the responses of patients of different genders to statement 3, “The pharmacist asks me what other medication I am taking”



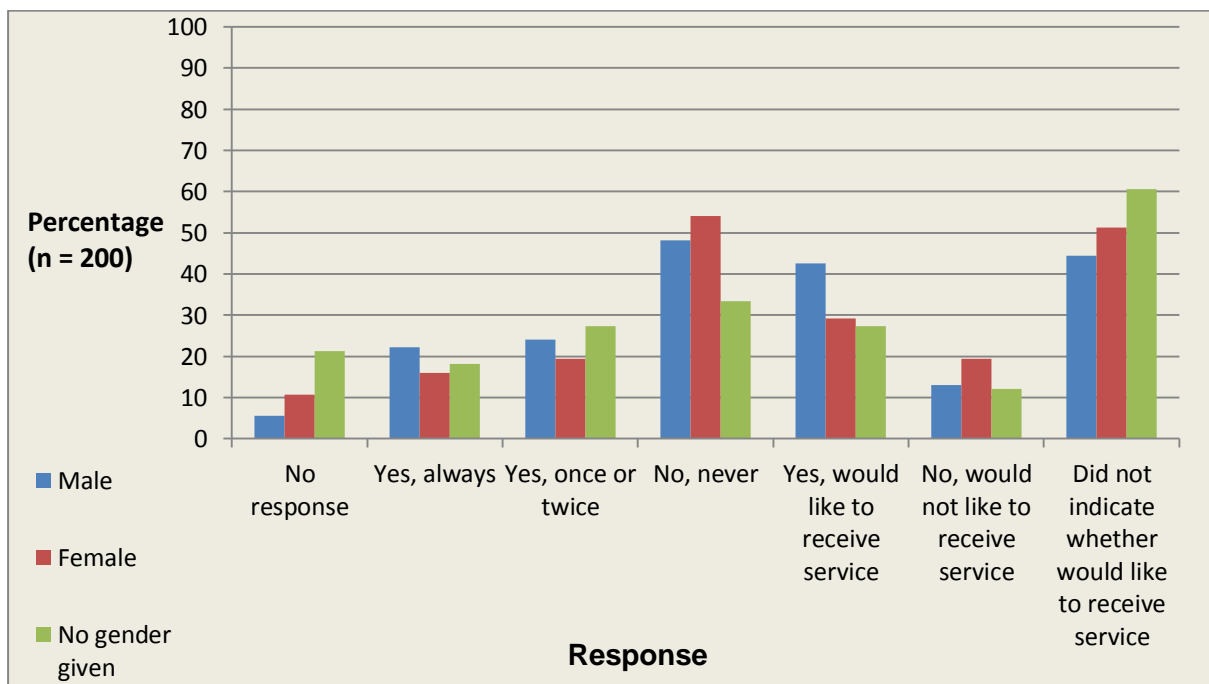
**Figure 39: A bar graph showing the responses of patients of different genders to statement 4, “The pharmacist asks me what other illness or medical conditions I have”**



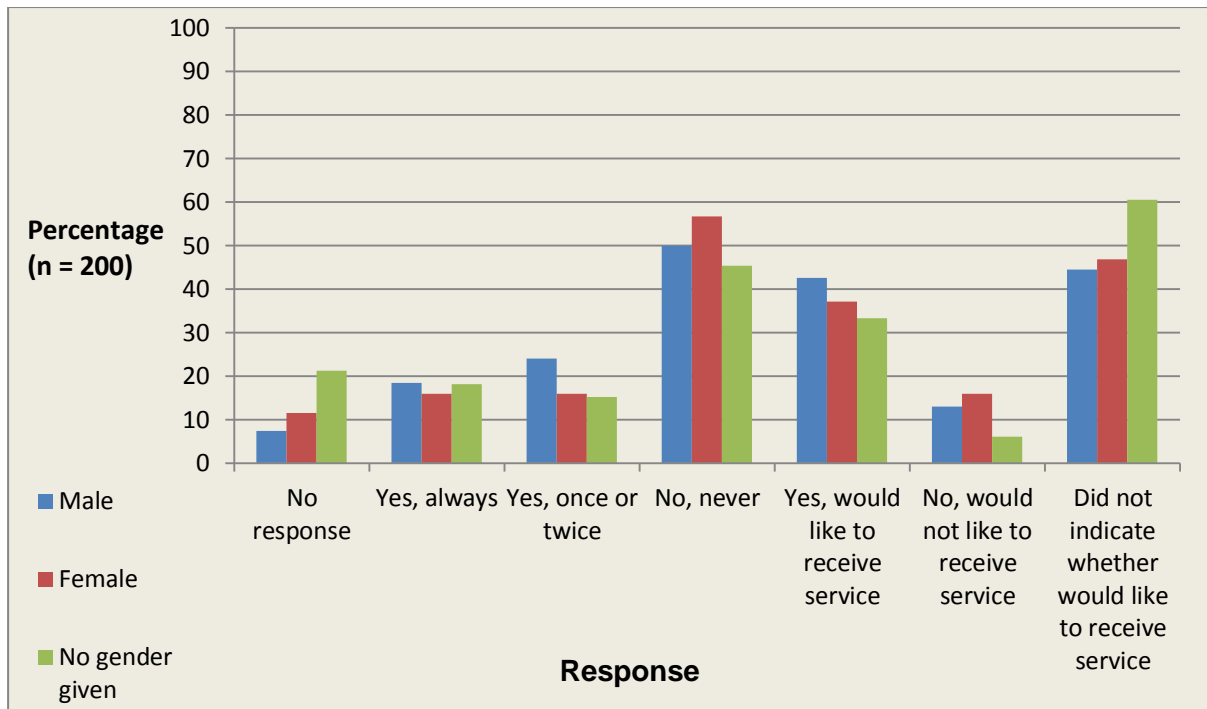
**Figure 40: A bar graph showing the responses of patients of different genders to statement 5, “The pharmacist offers me generic medication”**



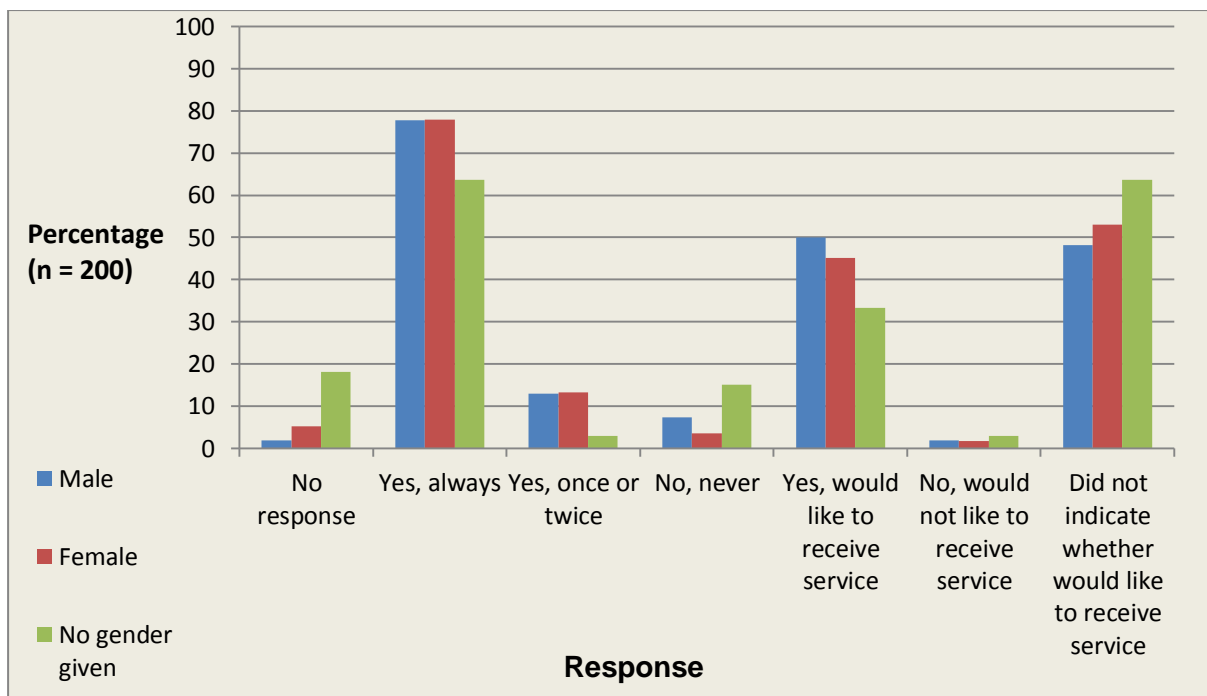
**Figure 41: A bar graph showing the responses of patients of different genders to statement 6, “The pharmacist asks me whether I am experiencing any side-effects to my medication”**



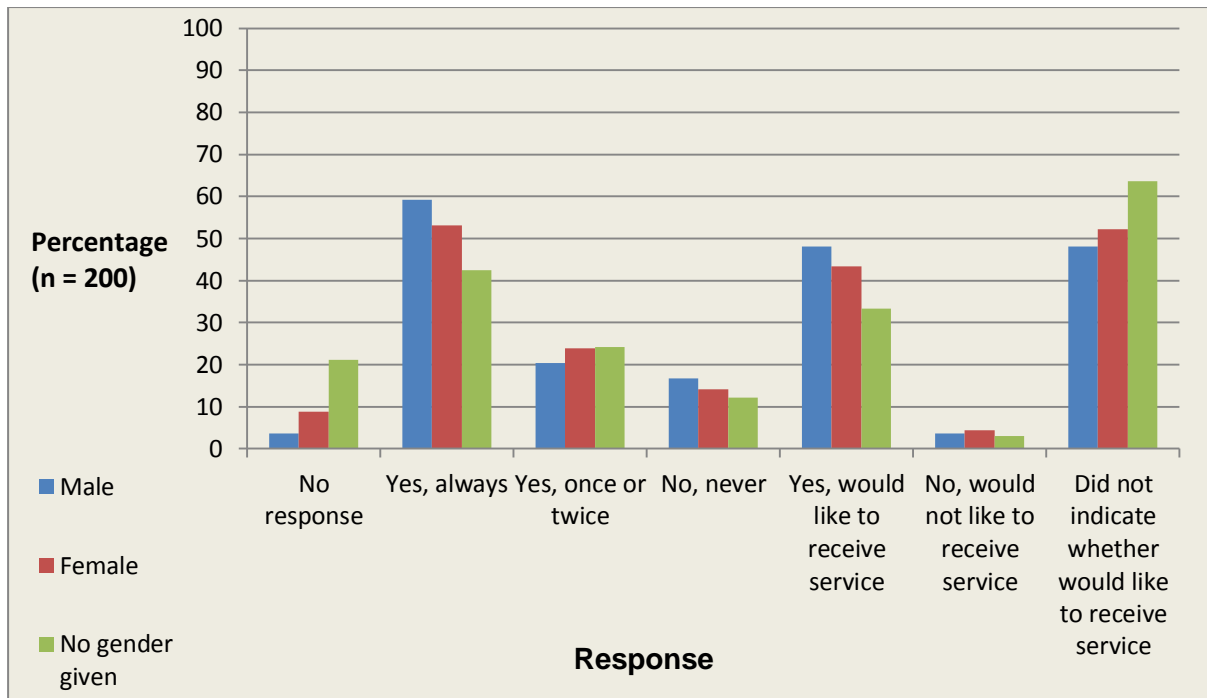
**Figure 42: A bar graph showing the responses of patients of different genders to statement 7, “The pharmacist asks me how often I am taking my medication”**



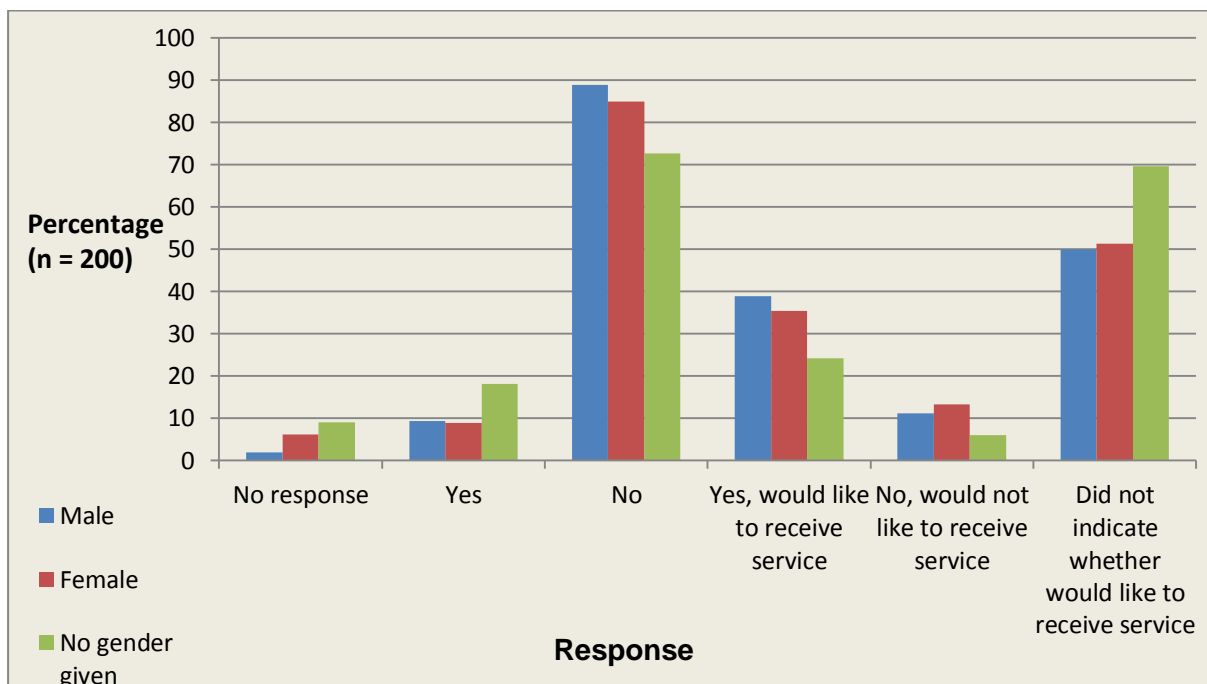
**Figure 43: A bar graph showing the responses of patients of different genders to statement 8, “The pharmacist asks me whether my medical condition is improving or is controlled”**



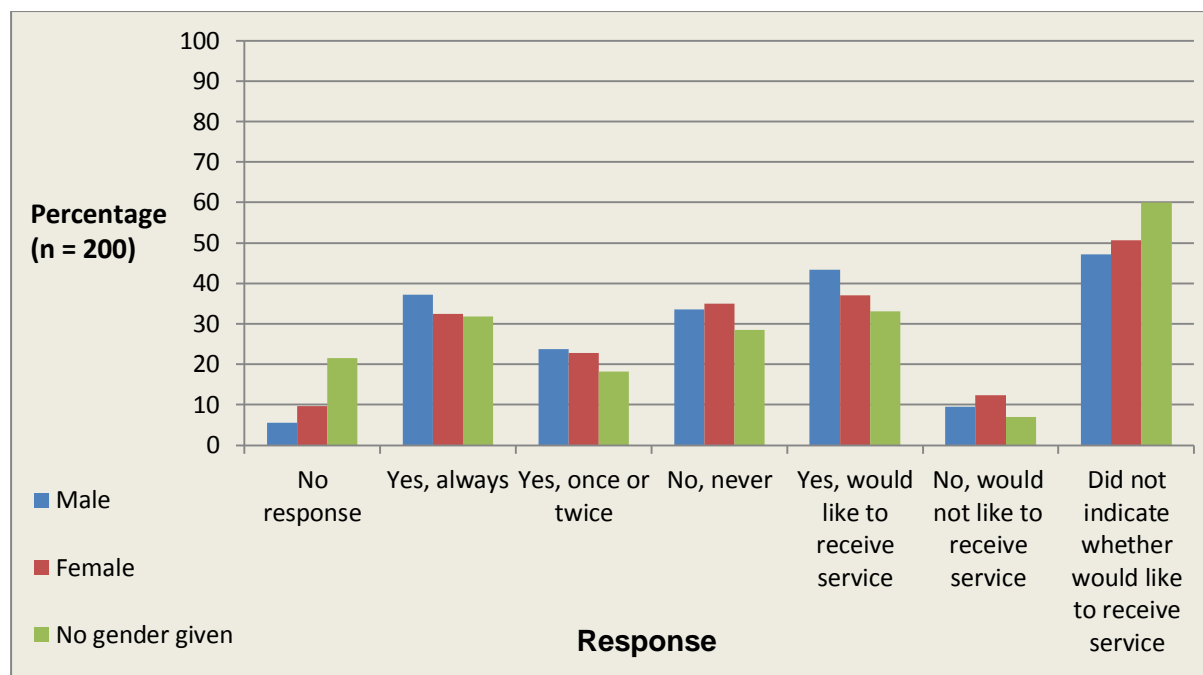
**Figure 44: A bar graph showing the responses of patients of different genders to statement 9, “The pharmacist or pharmacist’s assistant explains to me how to take my medication correctly”**



**Figure 45:** A bar graph showing the responses of patients of different genders to statement 10, “The pharmacist or pharmacist’s assistant gives me advice or information about my medication”



**Figure 46:** A bar graph showing the responses of patients of different genders to question 11, “Have you ever requested a pharmacist to perform a medication review for you?”



**Figure 47: A composite bar graph showing the mean percentages of responses from the different genders to whether they receive the pharmaceutical care services in Statements 1-10, as well as whether they would like to receive these services**

As shown in Figure 47, there are generally few large variations in the mean percentages of responses per gender. Prominent results in Figures 36-47, which are limited by the non-exclusivity of the gender categories, include the following:

- (i) A greater mean percentage of males indicate that the composite pharmaceutical care services are always provided (37.22%) compared to the proportion of males who believe that these services are not provided (33.52%). Meanwhile, a slightly higher mean percentage of females indicate that these services are not provided (35.04%), compared to the 32.48% of females who indicate that these services are always provided (see Figure 47);
- (ii) There is consistency in both genders having a higher percentage of respondents stating that the services in Statements 1, 9 and 10 are always provided, compared to the percentage of respondents stating that these services are not provided, as illustrated in Figures 36, 44 and 45, respectively;
- (iii) There is also consistency in both genders having a higher proportion of respondents stating that the services in Statements 2, 4, 6, 7 and 8 are not

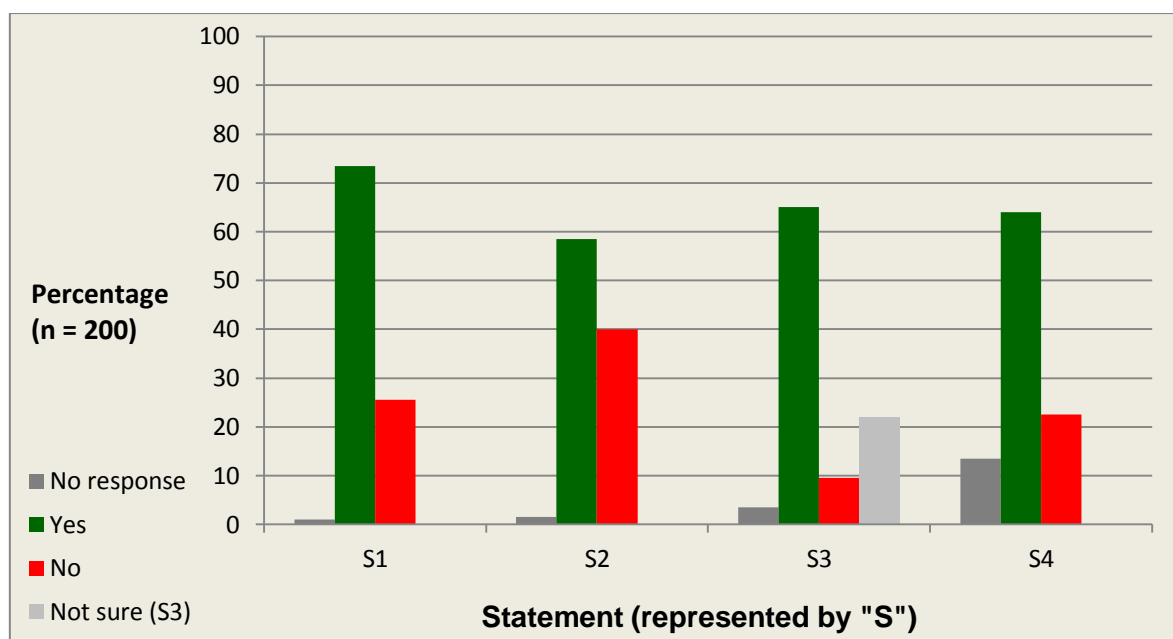


- provided, compared to the proportion stating that these services are always provided. This is shown in Figures 37, 39, 41, 42 and 43, respectively;
- (iv) There is inconsistency in the different genders' responses to whether the service in Statement 3 is always provided or not. A higher proportion of males (48.15%) indicate that this service is always provided, whereas 22.22% of males state that this service is not provided. A higher proportion of females (40.71%), however, state that this service is not provided compared to the proportion stating that it is always provided (25.66%) (see Figure 38);
  - (v) With regard to Statement 5 (see Figure 40), a higher proportion of females (37.17%) state that this service is always provided compared to the proportion of females who state that this service is not provided (17.70%), whereas an equal percentage of males (25.93%) tick each of these two responses;
  - (vi) Figure 46 reveals that both genders have a larger proportion of respondents indicating that they have not requested a medication review;
  - (vii) There is consistency amongst both genders that a higher proportion of each gender would like to receive each of the services in Statements 1-11; and
  - (viii) There is an overall low response rate across genders as to whether patients would like to receive the various pharmaceutical services listed in section 2 of the questionnaire, as shown in the relatively high percentages of the "Did not indicate" columns in the extreme right-hand corner in Figures 36-47.

### **5.1.3 Scope of practice**

#### **5.1.3.1 Overall results per statement**

Figure 48 on the next page shows the total results for each of the four statements in the final, third section of the questionnaire, which relates to the scope of practice of pharmacists and the pharmacist's assistant.

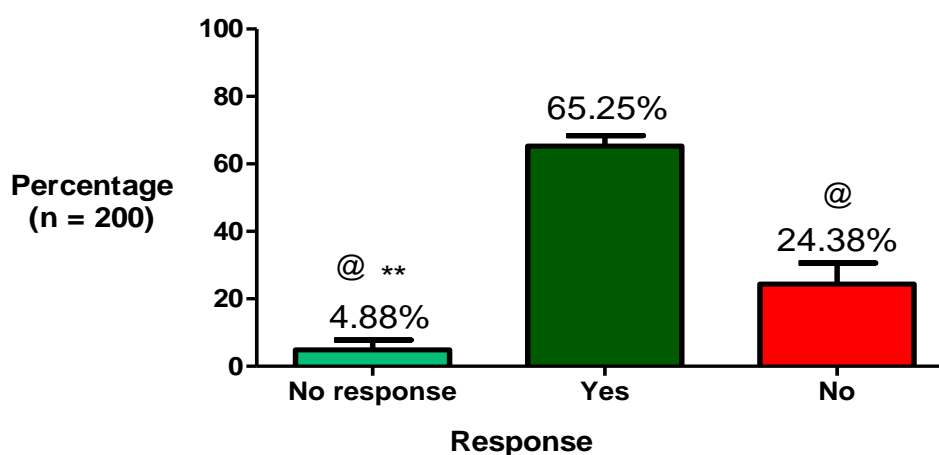


**Figure 48: A bar graph illustrating patients' responses to Statements 1-4 related to the scope of practice of pharmacists and the pharmacist's assistant in section 3 of the questionnaire**

Figure 48 shows that the majority of patients respond favourably to each statement. A total of 73.50% of respondents know who the pharmacists are (Statement 1), whereas a lower percentage (58.50%) indicate that they know who the pharmacist's assistant is (Statement 2) and 40.00% indicate that they do not know who the pharmacist's assistant is. Whilst almost two-thirds of respondents (65.00%) state that the pharmacist's assistant always prepares their prescription under the direct supervision of a pharmacist (Statement 3), a total of 9.50% disagree and 22.00% of respondents are not sure whether this direct supervision occurs. A similar total percentage of 22.50% of respondents indicate that front-shop assistants select OTC medication, whereas 64.00% of respondents indicate that this is always performed by a pharmacist or pharmacist's assistant (Statement 4).

A composite graph showing the mean percentages of responses for all four statements is provided next and analysed by a one-way ANOVA followed by the Newman-Keuls multiple comparison test. The level of significance was accepted as  $p < 0.05$ . The "Not sure" response in Statement 3 was omitted, as there is no such

option for the other statements and ANOVA cannot be performed on a group size of one.



**Figure 49: A composite bar graph showing the mean percentage of responses to the scope-of-practice-related Statements 1-4 in section 3 of the questionnaire**

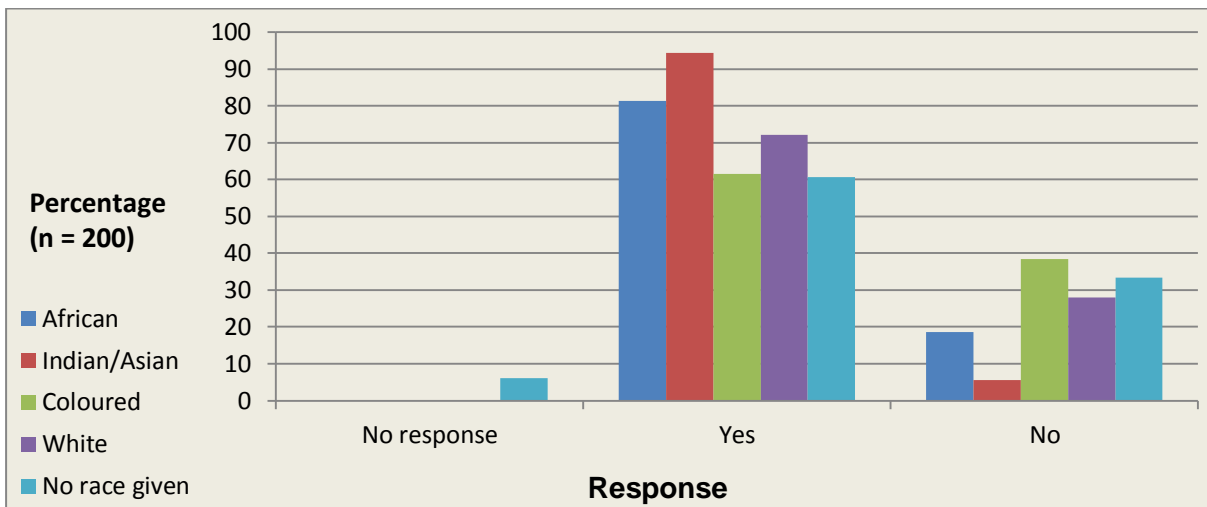
@  $p < 0.001$  compared to “Yes”; \*\*  $p < 0.05$  compared to “No”, after analysis by ANOVA followed by the Newman-Keuls multiple comparison test. Each bar represents the mean  $\pm$  SEM. Responses do not total 100%, as there was an option of “Not sure” for Statement 3, which has been omitted from the graph.

As reflected in Figure 49, there is a statistically significant difference in the mean percentage of respondents who agree with the composite four statements (65.25%), compared to the mean percentage of respondents who disagree (24.38%).

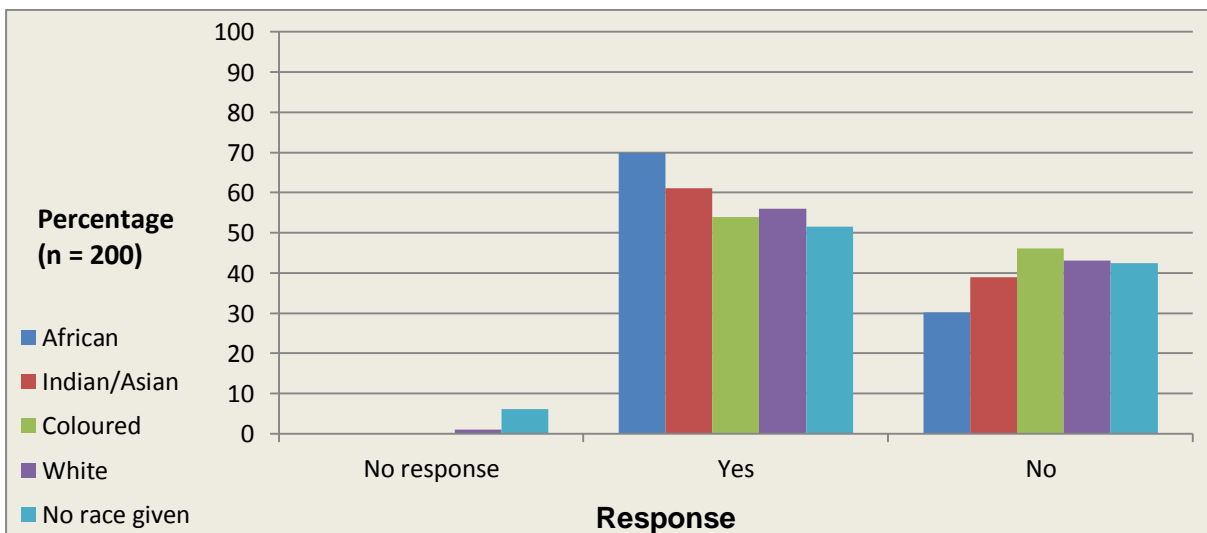
### 5.1.3.2 Results per racial group

Figures 50-53 in the next few pages illustrate the responses of the various racial groups to the four statements in section 3. As shown in these Figures, there is consistency in the responses of the various racial groups, with over 50% of all racial groups agreeing with each statement. The statement drawing the highest percentage of “Yes” responses across all the racial groups, with the exception of

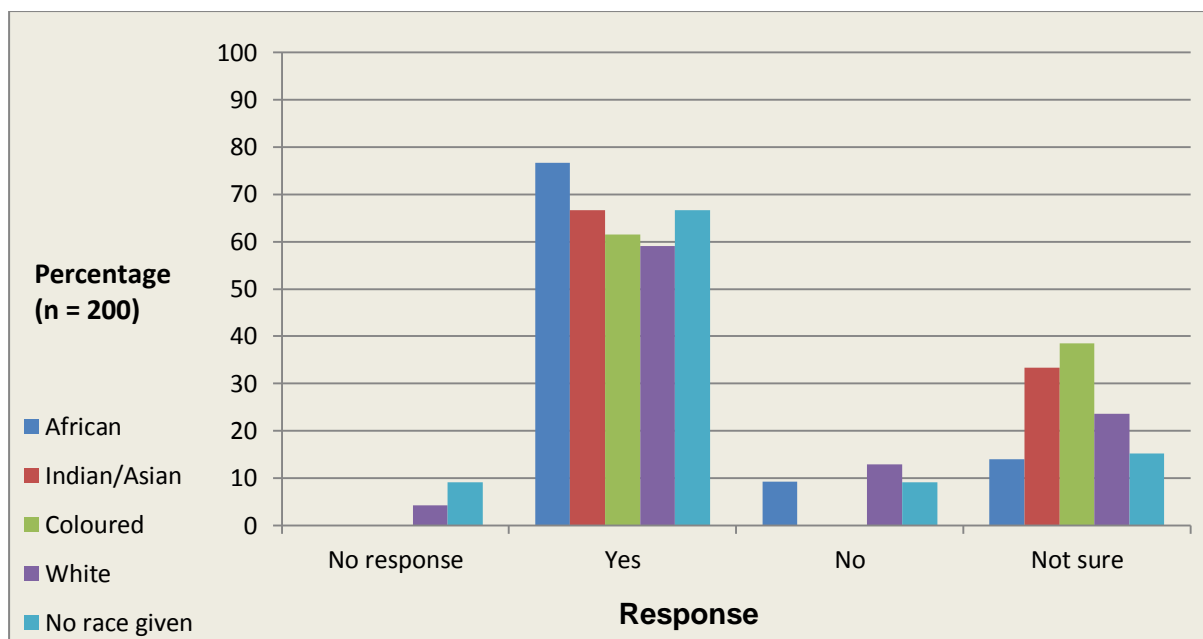
Coloureds, is Statement 1 (see Figure 50), namely that patients know who the pharmacists are. Coloureds respond most favourably (84.62%) to Statement 4 (see Figure 53), namely that pharmacists or the pharmacist’s assistant always selects OTC medication for them. All racial groups are unanimous in responding most negatively to Statement 2, which has the highest percentage of “No” responses (over 30% for all categories) amongst the four statements. This shows that over 30% of all categories of respondents shown in Figure 50 do not know who the pharmacist’s assistant is. A composite graph is shown in Figure 54 on page 155.



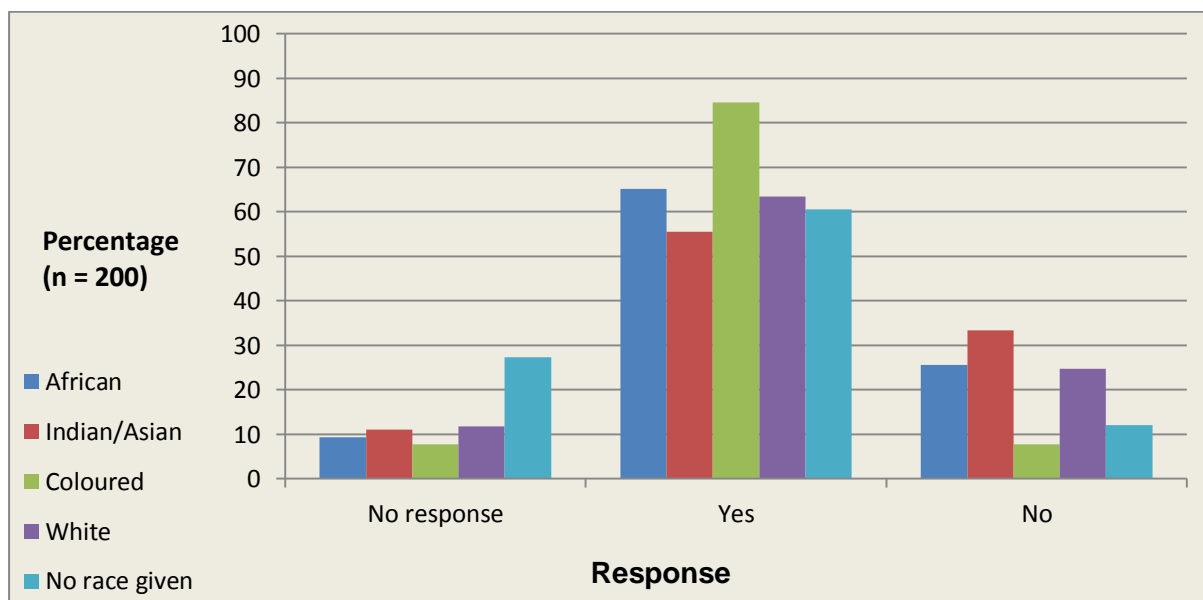
**Figure 50:** A bar graph illustrating the responses of patients of various racial groups to Statement 1, “I know who the pharmacists are”



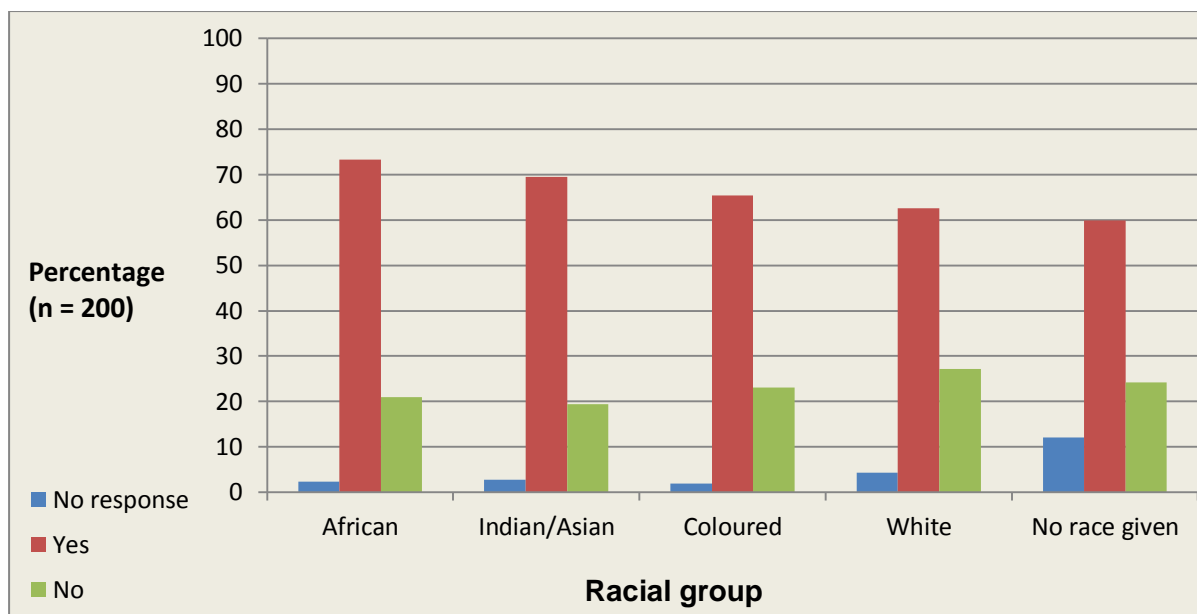
**Figure 51:** A bar graph illustrating the responses of patients of various racial groups to Statement 2, “I know who the pharmacist’s assistant is”



**Figure 52:** A bar graph illustrating the responses of patients of various racial groups to Statement 3, “The pharmacist’s assistant always prepares my prescription under the direct supervision of the pharmacist”



**Figure 53:** A bar graph illustrating the responses of patients of various racial groups to Statement 4, “The pharmacist or pharmacist’s assistant always selects over-the-counter medication for me”

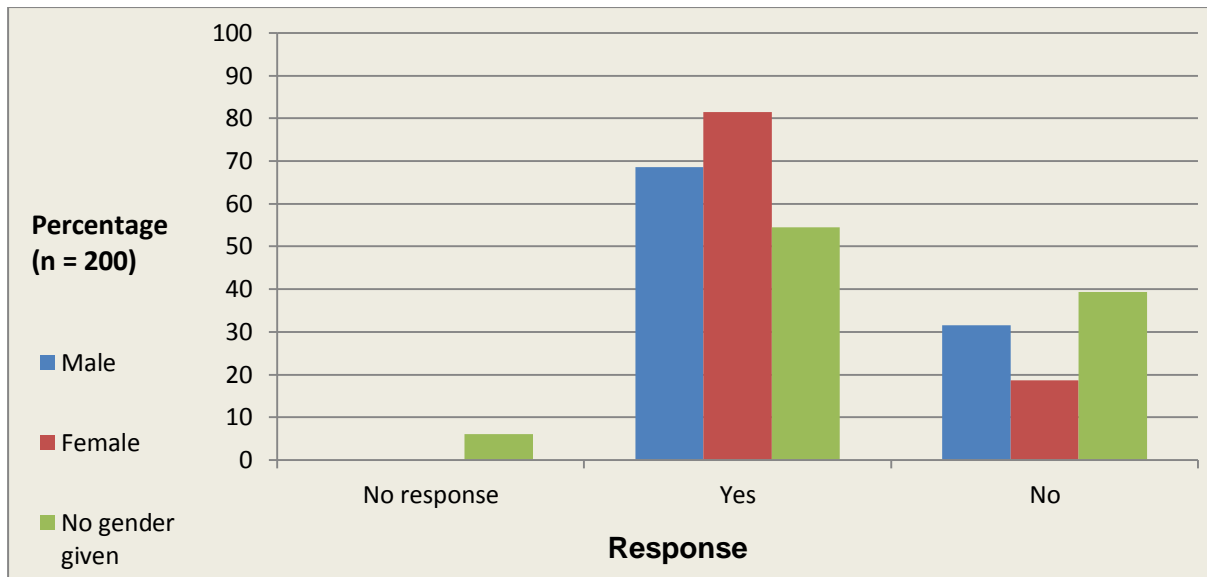


**Figure 54: A composite bar graph showing the mean percentage of responses of the various racial groups to all the scope of practice statements in section 3 of the questionnaire**

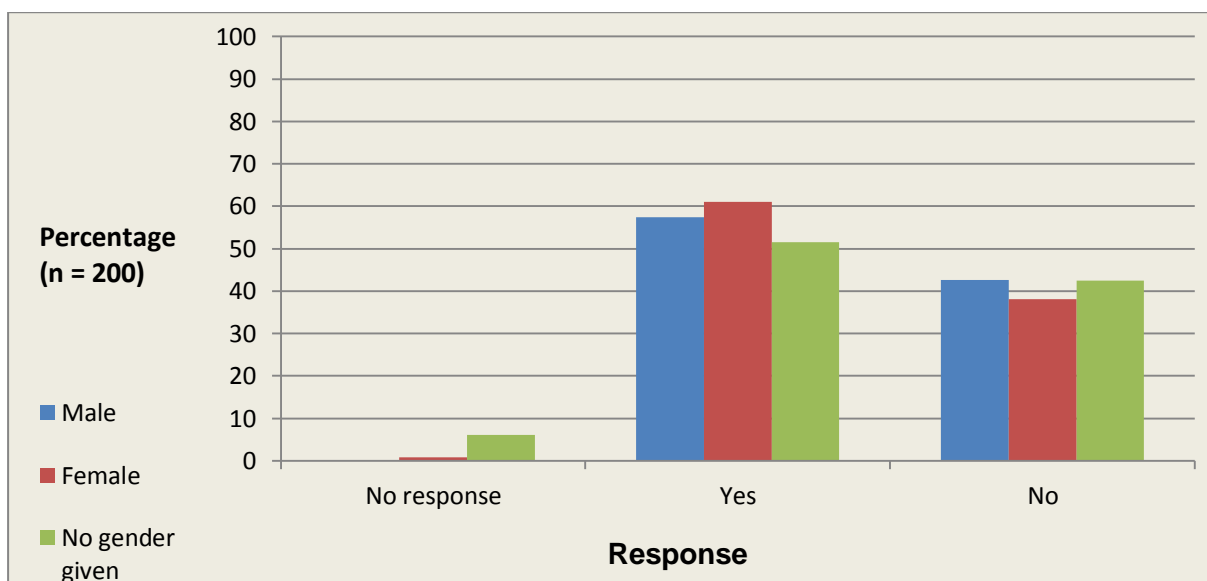
Figure 54 above, which gives the mean percentage of responses to a combination of the four statements, shows that the highest mean percentage of “Yes” responses comes from Africans (73.26%), whereas the lowest comes from White respondents (62.63%). As shown in Figures 50-54, a number of respondents do not provide their race, thus making the categories non-exclusive (see 5.1.2.3). For this reason, a chi-squared test has not been performed on the composite results.

### 5.1.3.3 Results per gender

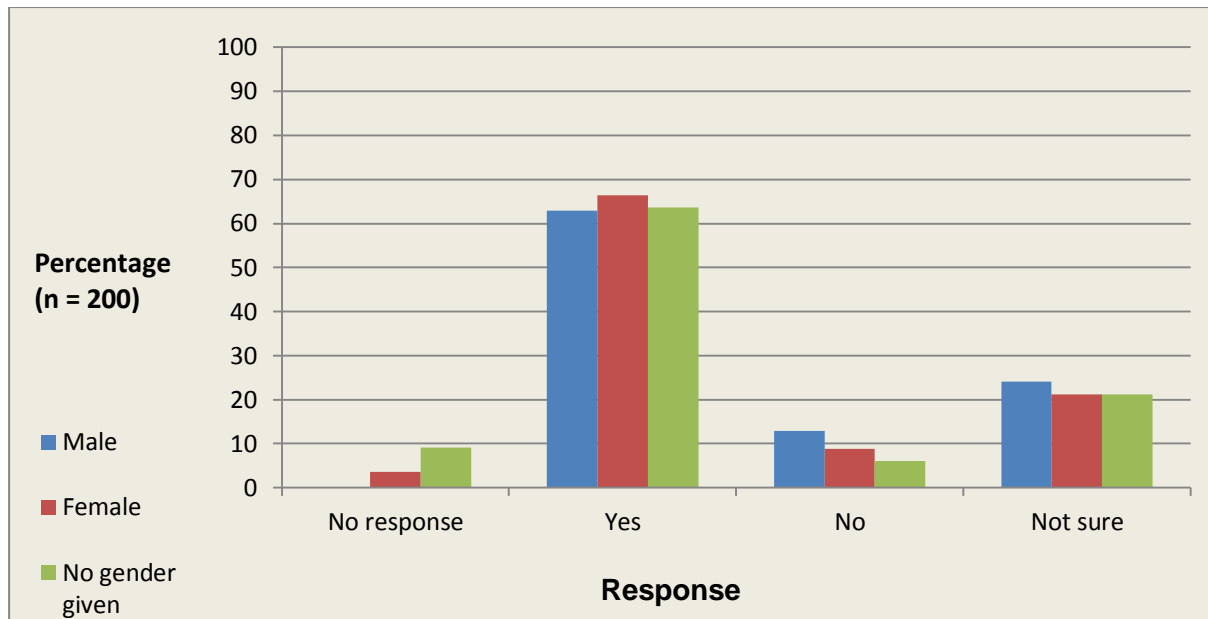
The responses of the different genders to each statement in section 3 are shown in Figures 55-58 in the next few pages. A composite of the mean responses to all these statements is subsequently illustrated in Figure 59 on page 158.



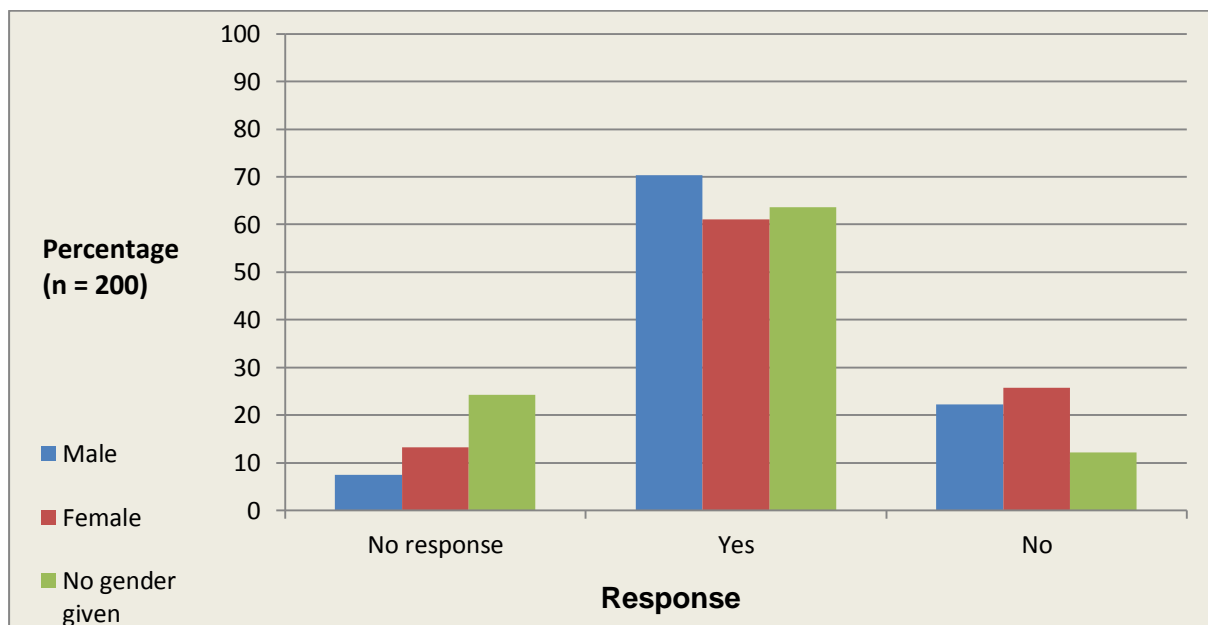
**Figure 55:** A bar graph illustrating the responses of patients of different genders to Statement 1, “I know who the pharmacists are”



**Figure 56:** A bar graph illustrating the responses of patients of different genders to Statement 2, “I know who the pharmacist’s assistant is”

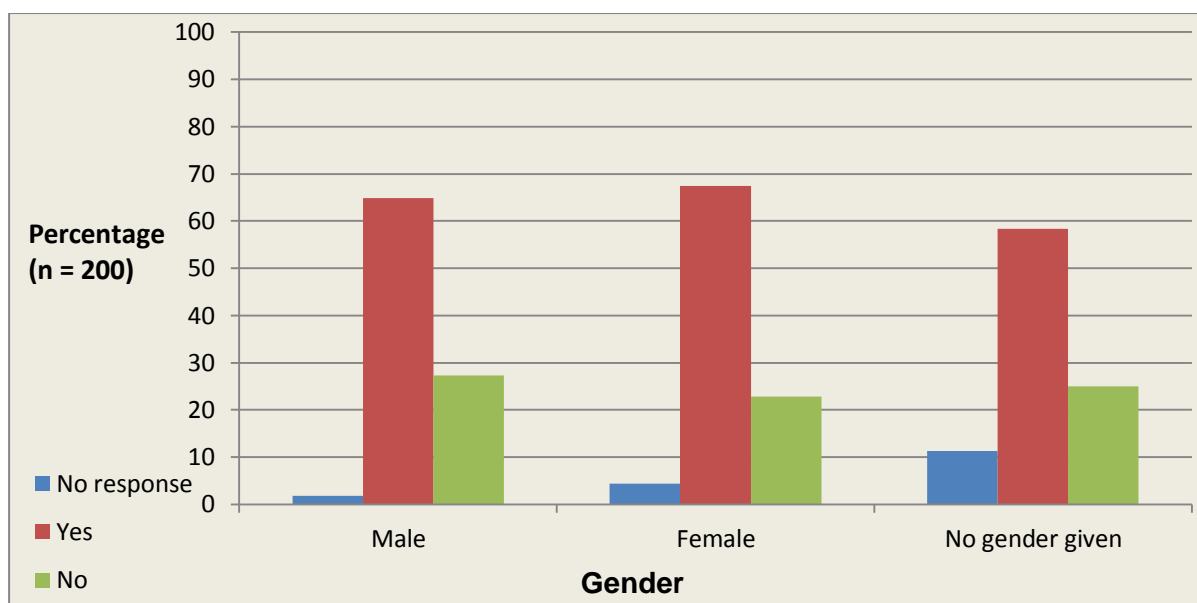


**Figure 57:** A bar graph illustrating the responses of patients of different genders to Statement 3, “The pharmacist’s assistant always prepares my prescription under the direct supervision of the pharmacist”



**Figure 58:** A bar graph illustrating the responses of patients of different genders to Statement 4, “The pharmacist or pharmacist’s assistant always selects over-the-counter medication for me”





**Figure 59: A composite bar graph showing the mean percentage of responses of the different genders to all the scope of practice questions in section 3 of the questionnaire**

As shown in Figures 55-58, there is consistency among the genders with more than 50% of each gender indicating that all of the statements in section 3 of the questionnaire are correct. The highest proportion of males (70.37%) respond favourably to Statement 4, as shown in Figure 58, agreeing that pharmacists or the pharmacist's assistant selects OTC medication for them. On the other hand, the highest proportion of females (81.42%) agree with Statement 1 (see Figure 55), namely that they know who the pharmacists are. The highest proportion of both males (42.59%) and females (38.05%) disagree with Statement 2, as reflected in Figure 56, indicating that they do not know who the pharmacist's assistant is.

Figure 59 illustrates that the highest mean percentage of favourable responses to the combined statements is from females (67.48%); this is slightly greater than the mean percentage of males who agree with these statements (64.81%). As with the composite results per race (see 5.1.3.2), a chi-squared test was not performed on these results, as there are respondents who do not indicate their gender.

## 5.2 Interviews with the pharmacists and pharmacist's assistant

Content analysis as described by Charlesworth (2003a) was applied to interview data (see 4.2.2.5). The table used, which included all interviewee responses and key quotations, with the responses of different individuals highlighted in different colours, is not provided in this dissertation, due to its length. This table was used to construct a coding frame (see 4.2.2.5), which is shown below in Table 1. The percentage frequencies in the column in the extreme right are low, as the total number of data counts (i.e. 480) and the number of categories is large. Each frequency count is expressed as a percentage of the total number of data counts. Those categories with frequency counts of four and more, representing the top 19 categories that data falls into most frequently, are ranked in descending order in Table 2 on pages 171-172. Key findings, and data with a low frequency count but which may nevertheless be important, are subsequently highlighted on page 172.

**Table 1: A coding frame of the categories of responses emerging from semi-structured interviews with three pharmacists and the one pharmacist's assistant at XXX Pharmacy, and the frequency of data counts in each category**

Theme/ code	Category	Frequency (count)	Frequency (%)
<b>1. Years of practice</b>	Less than 5 years	1	0.21
	Between 5 and 10 years	1	0.21
	More than 10 years	2	0.42
<b>2. Length of service at XXX Pharmacy</b>	Less than 5 years	1	0.21
	Between 5 and 10 years	2	0.42
	More than 10 years	1	0.21
<b>3. Understanding of pharmaceutical care</b>	Diagnosis	1	0.21
	Patient counselling	6	1.25
	Evaluation of pharmacotherapy	4	0.83
	Providing a professional service	1	0.21
	Giving correct medication	1	0.21
	Patient outcomes and safety	3	0.63

<b>4. Whether pharmaceutical care is a key responsibility</b>	Yes	5	1.04
	No	0	0
	Is a core professional duty	3	0.63
	To comply with law	0	0
	For customer service	1	0.21
<b>5. Awareness of GPP standards for pharmaceutical care</b>	Yes	3	0.63
	No	0	0
	Can give example(s)	0	0
	Cannot give example(s)	3	0.63
	Pharmacist's assistant is aware of GPP standards, which outline her scope of practice	1	0.21
<b>6. Compliance with GPP standards for pharmaceutical care</b>	Yes	4	0.83
	No	0	0
	There is nothing that prevents me from fully complying with GPP standards	2	0.42
<b>7. Patient counselling (pharmacist's assistant)</b>	Is a key responsibility	1	0.21
	Is not a key responsibility	0	0
	Important for customer service	1	0.21
	I add more details to labels	1	0.21
	Promotes patients trusting you	1	0.21
	Barrier is patients on cellular phones	1	0.21
	Barriers are racism and/ or sexism	1	0.21
	Providing a personal, clinical service	1	0.21
<b>8. Knowledge of pharmacy's vision</b>	Sustainability and providing good quality care	1	0.21
	Does not know what the vision is	2	0.42
	Yes there is a mission statement	2	0.42
<b>9. Knowledge of pharmacy's mission statement</b>	No there is no mission statement	2	0.42
	I do not know what the mission statement is	1	0.21
	Expected to be present for shifts	1	0.21
<b>10. How performance is managed</b>	Expected to do things correctly and comply with pharmacy law	1	0.21
	Yes	0	0
<b>11. Whether there are job descriptions</b>			

	No	3	0.63
	Using job description from previous owner, six years ago	1	0.21
<b>12. Awareness of roles and responsibilities</b>			
	Dispensing prescriptions	2	0.42
	Patient counselling	2	0.42
	Ordering stock	2	0.42
	Supervision of front-shop assistants	1	0.21
	Maintaining GPP standards	1	0.21
	The pharmacist's assistant's role is seen as like a pharmacist's, but under supervision	1	0.21
	Providing quick, efficient service	1	0.21
	Providing professional service	1	0.21
	Compliance with law	0	0
	Compliance with owner-manager's standards	2	0.42
	Told employees verbally about their roles and responsibilities	1	0.21
<b>13. Awareness of SOPs</b>			
	Yes	2	0.42
	No	2	0.42
	Only pharmacists know, not the pharmacist's assistant	1	0.21
<b>14. Compliance with SOPs</b>			
	Yes	2	0.42
	No	0	0
	Comply because it's law	1	0.21
	Comply because it helps us be sustainable	1	0.21
	Difficult to comply with SOPs	1	0.21
	Have been told by the managing pharmacist to comply with these SOPs	1	0.21
	Have not been told by the managing pharmacist to comply with these SOPs	2	0.42
<b>15. Usefulness of SOPs</b>			
	Provide standardisation	1	0.21
	Only a guideline, are sometimes non-compliant	2	0.42
	Compliance helps me to perform my job better and provide a more efficient, beneficial service	1	0.21
<b>16. Whether there was training, orientation and induction</b>			
	Yes	2	0.42
	No	2	0.42
	Not much information is provided	1	0.21
<b>17. Impact of training, orientation and induction, or the lack of this</b>			
	Lack of this has not had an impact, as I have my professional knowledge	1	0.21
	Contributes to enhancing services	1	0.21

<b>18. Whether there are performance appraisals and the impact of these</b>	Yes	0	0
	No	4	0.83
	Difficult to perform for pharmacists	2	0.42
	Having performance appraisals would lead to clarity and eliminate hassles	1	0.21
	Lack of performance appraisals does not compromise standards	1	0.21
	I challenge myself to go beyond my contract, SOPs	1	0.21
	Have phased out people with different working style	2	0.42
<b>19. Whether dispensary employees give input in performance appraisal</b>	Yes	0	0
	No	2	0.42
<b>20. Performance objectives</b>	Accuracy in dispensing prescriptions	1	0.21
	Patient counselling and care	2	0.42
	Customer service	1	0.21
	Figures	1	0.21
	I do not know; no guidance provided	1	0.21
	Providing pharmaceutical care	1	0
	Following the working style of the owner-manager	1	0.21
<b>21. Performance targets</b>	Yes	0	0
	No	3	0.63
	I do not know; no guidance provided	1	0.21
	Expected to think in the same way as the owner-manager	1	0.21
	Ensure no unprofessional service	1	0.21
	Employees give input in developing performance targets/ objectives	1	0.21
	Employees do not give input in developing performance targets/ objectives	1	0.21
	Does not say whether employees give input in developing performance targets/ objectives	1	0.21
	Provide total care	1	0.21
	Serve customers as quickly and efficiently as possible	5	1.04
	Acknowledgement of patients	1	0.21
	Paediatric care	1	0.21
<b>22. Working hours</b>	Working hours are fine	3	0.63
	Working hours are not fine	0	0
	I have to sometimes work overtime	1	0.21
	Long hours hinder pharmaceutical care	0	0
	Hours do not affect the provision of		

	pharmaceutical care	3	0.63
<b>23. Whether number of dispensary employees is sufficient to provide pharmaceutical care</b>			
	Yes	2	0.42
	No	4	0.83
	Shortage of dispensary employees makes it more difficult to provide pharmaceutical care	2	0.42
	Whether employee fits in with our working style is more important than just getting another employee	1	0.21
	Number of pharmacists is sufficient to supervise pharmacist's assistant	4	0.83
	Number of pharmacists is not sufficient to supervise pharmacist's assistant	0	0
<b>24. Training and development</b>	The managing pharmacist identifies an employee's T&D needs	0	0
	The managing pharmacist has not identified any T&D needs on an employee's part	3	0.63
	I identify my own T&D needs	2	0.42
	The managing pharmacist has sent me on T&D activities	0	0
	The managing pharmacist has not sent me on T&D activities	1	0.21
	The managing pharmacist has done something about the T&D needs I told him about	0	0
	The managing pharmacist has not done anything about the T&D needs I told him about	1	0.21
	I encourage dispensary employees to tell me about their T&D needs	1	0.21
	I try to get in-house training organised	1	0.21
	Quality of in-house training is questionable	1	0.21
	I think that sending my employees for T&D activities in itself is insufficient; employees must be able to apply their knowledge	1	0.21
<b>25. Self-development plans</b>			
	I have a self-development plan	2	0.42
	I do not have a self-development plan	2	0.42
	This self-development plan is beneficial to me	1	0.21
	This self-development plan is not beneficial to me	0	0
	I know if my dispensary employees have a self-development plan	0	0
	I do not know if my dispensary employees have a self-development plan	1	0.21
<b>26. Problem with performance</b>	The managing pharmacist has told a dispensary employee that he had a problem with his/ her performance	2	0.42

	The managing pharmacist has not told a dispensary employee that he had a problem with his/ her performance	2	0.42
	I manage by direct supervision	1	0.21
	I deal with situations of performance-related problems there and then	1	0.21
	Current pharmacists require much supervision	0	0
	Current pharmacists do not require much supervision	1	0.21
<b>27. Staff meetings</b>	There are regular staff meetings	2	0.42
	Staff meetings only occur if there is a problem	2	0.42
	Staff meetings primarily deal with front-shop matters	3	0.63
	Staff meetings deal with all issues facing the pharmacy	1	0.21
	Staff meetings are useful	1	0.21
	Staff meetings are not useful	1	0.21
<b>28. Dispensary-related meetings</b>	There are meetings that specifically deal with dispensary-related issues	1	0.21
	There are no meetings that specifically deal with dispensary-related issues	3	0.63
	There are no such meetings because there are no major dispensary-related problems	1	0.21
	Lack of dispensary-related meetings makes it difficult to provide pharmaceutical care	0	0
	Lack of dispensary-related meetings does not affect the provision of pharmaceutical care	2	0.42
<b>29. Management style</b>	The managing pharmacist treats all employees the same	0	0
	The managing pharmacist does not treat all employees the same	3	0.63
	The managing pharmacist's management style encourages pharmacists to provide pharmaceutical care	3	0.63
	The managing pharmacist's management style does not encourage pharmacists to provide pharmaceutical care	0	0
	I lead by example, not by giving advice	2	0.42
	Managing pharmacist's management style could be improved	1	0.21
	The managing pharmacist does not take time to explain objectives or tell us things	2	0.42
	Managing pharmacist treats employees as friends, rather than as employees, and this leads to problems	1	0.21
	There is inadequate control over patients' access to scheduled medication	2	0.42
	The managing pharmacist does not rush me if I am dealing with a sensitive issue	1	0.21
	I ask employees for feedback on my management style	0	0

<b>30. Whether pharmacists have to follow working style of managing pharmacist</b>	Yes	1	0.21
	No	2	0.42
	I have had to adapt to the working style of the managing pharmacist	1	0.21
	Following the working style of the managing pharmacist helps pharmacists provide pharmaceutical care	1	0.21
<b>31. Culture</b>	Culture is positive, enjoyable, easygoing and/ or flexible	2	0.42
	Tasks fulfilled without nagging employees	1	0.21
	Family culture	2	0.42
	We learn from each other	1	0.21
	Problems are not addressed	3	0.63
	No gratitude for what you do	1	0.21
	I get sly comments from colleagues if I spend time talking to patients	2	0.42
<b>32. Working relationships</b>	I have good working relationships	6	1.25
	I do not have good working relationships	0	0
	I have had problems in my working relationships	1	0.21
	I was depressed due to the way the pharmacy operates, but had to learn to adapt	1	0.21
	We accommodate each other	2	0.42
	There is mutual respect	1	0.21
	I am not respected sufficiently	1	0.21
	We understand each other	2	0.42
	Communication promotes good working relationships	2	0.42
	I make time for my employees if they want to talk	1	0.21
	The greatest reward is the professionalism of colleagues	1	0.21
	My working relationships promote the provision of pharmaceutical care	4	0.83
	My working relationships do not promote the provision of pharmaceutical care	1	0.21
<b>33. Relationships with patients</b>	I have good relationships with patients	3	0.63
	I do not have good relationships with patients	0	0
	I have had difficulty in developing good relationships with patients	1	0.21
	Relationships with patients promotes patients having trust in me and me feeling more confident	2	0.42
	Your level of knowledge assists in developing relationships with patients	1	0.21
	Relationships with patients promotes the provision of patient counselling and/ or other aspects of pharmaceutical care	4	0.83



	Relationships with patients promotes growth of the pharmacy	1	0.21
	Making time for patients promotes the development of relationships	2	0.42
	Patients sometimes wish to speak to me on female matters as I am the only female in the dispensary, and this promotes the development of relationships	1	0.21
	I know patients well	3	0.63
	I don't know patients well	1	0.21
<b>34. Satisfaction with remuneration</b>	I am satisfied with my remuneration	1	0.21
	I am not completely satisfied with my remuneration	2	0.42
	Pharmacists are underpaid generally	1	0.21
	My dispensary employees are satisfied with their remuneration	1	0.21
	My remuneration adequately reflects the extra responsibilities in providing pharmaceutical care (or the patient counselling aspect of this)	1	0.21
	My remuneration does not adequately reflect the extra responsibilities in providing pharmaceutical care (or the patient counselling aspect of this)	2	0.42
	Remuneration amongst different employees is perceived as unfair	1	0.21
	Front-shop staff were given an extra cash reward, whilst dispensary employees did not receive this	1	0.21
	If I provided more pharmaceutical care (or more of the patient counselling component of this), I would like my financial rewards to increase	2	0.42
	If I provided more pharmaceutical care (or more patient counselling), I would not expect my financial rewards to increase	2	0.42
<b>35. Whether remuneration is regular</b>	Yes	1	0.21
	No	2	0.42
<b>36. Other financial rewards</b>	Yes	1	0.21
	No	4	0.83
	Financial rewards are a motivating factor	2	0.42
	Financial rewards are not a motivating factor	4	0.83
<b>37. Non-financial rewards</b>	There are some non-financial rewards	2	0.42
	There are no non-financial rewards	2	0.42
	Non-financial rewards are a motivating factor	1	0.21
	Non-financial rewards are not a motivating factor	3	0.63
<b>38. PSSA activities</b>	Employees are encouraged to participate in PSSA activities	1	0.21
	Employees are not encouraged to participate in PSSA activities	3	0.63

	Involvement in PSSA activities assists in providing pharmaceutical care	3	0.63
	Involvement in PSSA activities does not assist in providing pharmaceutical care	0	0
<b>39. CPD activities</b>	I participate in CPD activities	4	0.83
	I do not participate in CPD activities	0	0
	I encourage dispensary employees to participate in CPD activities	1	0.21
	The need to be involved in CPD activities needs to come from employees as well	1	0.21
	CPD activities promote the provision of pharmaceutical care and/ or help me to do my job better	2	0.42
	We have had a meeting to discuss CPD being compulsory	1	0.21
	We have not had a meeting to discuss CPD being made compulsory	3	0.63
	There is a plan to ensure that employees are compliant with CPD requirements	3	0.63
	There is no plan to ensure that employees are compliant with CPD requirements	1	0.21
<b>40. Professional indemnity</b>	I have professional indemnity	2	0.42
	I do not have professional indemnity	2	0.42
	I do not know whether my dispensary employees have professional indemnity	1	0.21
	The managing pharmacist did nothing when I mentioned my need for professional indemnity	1	0.21
<b>41. Generic substitution</b>	I always offer generics, unless I cannot by law	2	0.42
	I do not always offer generics	2	0.42
	Does not offer a clear answer	1	0.21
<b>42. Analysis of appropriateness of prescribed medication</b>	I routinely analyse the appropriateness of dosages	3	0.63
	I routinely assess the appropriateness of prescribed medication in terms of allergies	3	0.63
	I routinely assess the appropriateness of prescribed medication in terms of drug interactions	2	0.42
	I analyse OTC medication in more detail than I do prescribed medication	1	0.21
	I assume the doctor has performed the analyses	1	0.21
<b>43. Other pharmaceutical care services</b>	I routinely counsel patients	6	1.25
	Some patients do not want to receive counselling	1	0.21
	The time pressures and/ or other practicalities in the pharmacy make it difficult to provide patient counselling and/ or other aspects of pharmaceutical care	10	2.08
	I tend to not counsel patients who have been on chronic medication for a while	1	0.21

	I tend to provide more counselling to patients who receive OTC medication rather than patients on prescribed medication	1	0.21
	I routinely assess whether medication is controlling/ improving a patient's condition	2	0.42
	I do not routinely assess whether medication is controlling/ improving a patient's condition	1	0.21
	I assess whether medication is controlling/ improving a patient's condition, based only on what is prescribed	1	0.21
	I assess whether medication is controlling/ improving a patient's condition, based on what is prescribed as well as by questioning the patient	0	0
	I assume the doctor is assessing whether medication is controlling/ improving a patient's condition	1	0.21
	I routinely assess whether patients are compliant with their pharmacotherapy	2	0.42
	I do not routinely assess whether patients are compliant with their pharmacotherapy	1	0.21
	It is difficult to assess patient compliance	1	0.21
	I have performed a medication review	1	0.21
	I have not performed a medication review	1	0.21
	The usefulness of a medication review is limited by the prescriber having the power not to want to change a patient's prescription	1	0.21
	Performing a medication review assists in patient counselling and leads to greater patient satisfaction	1	0.21
<b>44. Communication with other health-care professionals</b>	I regularly liaise with other health-care professionals	3	0.63
	I do not regularly liaise with other health-care professionals	1	0.21
	The managing pharmacist encourages dispensary employees to liaise with other health-care professionals	3	0.63
	The managing pharmacist does not encourage me to liaise with other health-care professionals	1	0.21
	Liaising with other health-care professionals assists me in doing my job better	1	0.21
	Liaising with other health-care professionals promotes the development of relationships and the provision of pharmaceutical care	1	0.21
	Liaising with other health-care professionals allows one to understand their prescribing behaviour	2	0.42
<b>45. Supervision of pharmacist's assistant</b>	The pharmacist's assistant always works under the direct personal supervision of a pharmacist	3	0.63
	The pharmacist's assistant does not always work under the direct personal supervision of a pharmacist	3	0.63

	The pharmacist's assistant's work is checked only as medication is being dispensed	1	0.21
	The pharmacist's assistant's work is checked on an ongoing basis	2	0.42
	Supervision of the pharmacist's assistant focuses primarily on the patient counselling she provides	2	0.42
	Supervision of the pharmacist's assistant focuses on more than just the patient counselling she provides	0	0
	I am moulding the pharmacist's assistant to ease my load	1	0.21
	The pharmacist's assistant always practices within her scope of practice	1	0.21
	The pharmacist's assistant does not always practice within her scope of practice	1	0.21
	The managing pharmacist is a registered tutor	0	0
	The managing pharmacist is not a registered tutor	1	0.21
<b>46. Identification of dispensary employees</b>	All dispensary employees wear a name tag with their name and designation	2	0.42
	Dispensary employees do not all wear a name tag with their name and designation	3	0.63
	Name tags contain the incorrect designation, which leads to confusion	1	0.21
	Patients can differentiate between the pharmacists and the pharmacist's assistant	2	0.42
	Patients cannot differentiate between the pharmacists and the pharmacist's assistant	0	0
<b>47. OTC sales</b>	OTC medication is always selected by a pharmacist or pharmacist's assistant	3	0.63
	OTC medication is often selected by front-shop assistants	1	0.21
	OTC medication is often selected by patients	1	0.21
	Pharmacists have adequate control over OTC sales	2	0.42
	Pharmacists do not have adequate control over OTC sales	1	0.21
	Dispensary employees always obtain a patient history before OTC medication is sold	1	0.21
	Dispensary employees do not always obtain a patient history before OTC medication is sold	1	0.21
	Dispensary employees ask patients questions before OTC medication is sold	4	0.83
	Dispensary employees do not ask patients questions before OTC medication is sold	0	0
	Front-shop assistants always liaise with pharmacists before selling OTC medication	1	0.21
	Front-shop assistants do not always liaise with pharmacists before selling OTC medication	0	0
	Dispensary employees provide patient counselling regarding OTC medication	4	0.83

	Providing patient counselling regarding OTC medication is relatively easy	1	0.21
	There is a lack of standardisation of practices in providing OTC medication, which acts as a barrier to patient counselling	1	0.21
	Language and cultural differences can serve as barriers in providing patient counselling regarding OTC medication	2	0.42
	Patients insisting on getting certain medication can serve as a barrier in providing patient counselling regarding OTC medication	1	0.21
	A barrier to providing OTC medication according to GPP standards is that some patients expect to just get the medication off the shelf	1	0.21
<b>48. Quality Improvement Plan</b>	Yes, there is	1	0.21
	No, there is not	2	0.42
	I do not know	1	0.21
	I am involved in this	0	0
	My involvement in this is limited	1	0.21
	The lack of a plan affects my ability to do my job	0	0
	The lack of a plan does not affect my ability to do my job	1	0.21
	I have quality control measures and standards in place in the pharmacy	3	0.63
	I do not have quality control measures in place in the pharmacy	0	0
	Trying to expand services	1	0.21
<b>49. Pharmacy layout</b>	Promotes patient counselling and/ or other aspects of pharmaceutical care	2	0.42
	Does not promote patient counselling and/ or other aspects of pharmaceutical care	1	0.21
	Does not affect patient counselling and/ or pharmaceutical care	1	0.21
<b>50. Improvements to PMS</b>	No improvements necessary	1	0.21
	Job descriptions and performance reviews should be instituted	1	0.21
	Follow-up measures could be improved	1	0.21
	Will not answer	1	0.21
<b>51. Problems with PMS</b>	There are problems with the current PMS	3	0.63
	There are no problems with the PMS	0	0
	Changes are not sustained	1	0.21
	Problems with the staff in general	1	0.21
	Problems with front-shop assistants	7	1.46
	Problems with pharmacist's assistant	1	0.21
	<b>TOTAL</b>	<b>480</b>	<b>* 100.60</b>

\* Does not total 100.00% due to rounding

**Table 2: The top five-ranked categories emerging from the coding frame, with frequency counts of four and more, ranked in descending order**

Rank	Theme/ code	Category	Frequency (count)	Frequency (%)
1	Pharmaceutical care services	The time pressures and/ or other practicalities in the pharmacy make it difficult to provide patient counselling and/ or other aspects of pharmaceutical care	10	2.08
2	Problems with PMS	Problems with front-shop assistants	7	1.46
3	Understanding of pharmaceutical care	Patient counselling	6	1.25
3	Working relationships	I have good working relationships	6	1.25
3	Pharmaceutical care services	I routinely counsel patients	6	1.25
4	Whether pharmaceutical care is a key responsibility	Yes	5	1.04
4	Performance targets	Serve customers as quickly and efficiently as possible	5	1.04
5	Understanding of pharmaceutical care	Evaluation of pharmacotherapy	4	0.83
5	Compliance with GPP standards for pharmaceutical care	Yes	4	0.83
5	Whether there are performance appraisals and the impact of these	No	4	0.83
5	Whether number of dispensary employees is sufficient to provide pharmaceutical care	No	4	0.83
5	Whether number of dispensary employees is sufficient to provide pharmaceutical care	Number of pharmacists is sufficient to supervise pharmacist's assistant	4	0.83
5	Working relationships	My working relationships promote the provision of pharmaceutical care	4	0.83
5	Relationships with patients	Relationships with patients promotes the provision of patient counselling and/ or other aspects of pharmaceutical care	4	0.83

5	<b>Other financial rewards</b>	No	4	0.83
5	<b>Other financial rewards</b>	Financial rewards are not a motivating factor	4	0.83
5	<b>CPD activities</b>	I participate in CPD activities	4	0.83
5	<b>OTC sales</b>	Dispensary employees ask patients questions before OTC medication is sold	4	0.83
5	<b>OTC sales</b>	Dispensary employees provide patient counselling regarding OTC medication	4	0.83

From Table 1, the following findings emerge:

- (i) Two interviewees have been practising as pharmacists for more than a decade. Two pharmacists have been working at the pharmacy for between 5-10 years, and the owner-manager has worked there for more than a decade. The pharmacist's assistant is the only interviewee practising for less than 5 years and who has worked at XXX Pharmacy for less than this period of time;
- (ii) In probing interviewees' understanding of pharmaceutical care, patient counselling comes up the most often, with a frequency count of six. The next category, with a frequency count of four, is the evaluation of pharmacotherapy, followed by patient outcomes and safety (count of three);
- (iii) All interviewees unanimously agree that providing pharmaceutical care is a key responsibility, with the most frequently-cited reason for this (frequency count of three) being that pharmaceutical care is a core professional duty;
- (iv) Although all three pharmacists state that they are aware of the GPP standards for pharmaceutical care, none of them can provide any examples of these standards. The pharmacist's assistant, meanwhile, indicates that she is aware of the GPP standards, which outline her scope of practice;
- (v) There is unanimous agreement amongst interviewees that they comply with GPP standards for pharmaceutical care, and two frequency counts indicate that there is nothing preventing such compliance;
- (vi) The pharmacist's assistant acknowledges that providing patient counselling is a key responsibility for her, and mentions that some barriers to providing this service include racism and/ or sexism from patients;
- (vii) There appears to be confusion regarding the pharmacy's vision and mission statement, with two interviewees stating that they do not know what the

- pharmacy's vision is, and two stating that there is no mission statement. The owner-manager says that the vision is "Sustainability and providing good quality care" and that the mission statement is "Passion for health". These responses are not echoed by any of the other interviewees;
- (viii) In terms of how performance is managed, being expected to be present for shifts and doing things correctly each receive a frequency count of one;
  - (ix) There are three frequency counts indicating that there are no job descriptions, and one pharmacist says that he is using a job description from the time of the previous owner of the pharmacy, six years ago;
  - (x) Dispensing prescriptions, patient counselling, ordering stock and complying with the owner-manager's standards all tie at top place for code 12, relating to awareness of roles and responsibilities. The owner-manager states that he has informed his employees of their roles and responsibilities verbally;
  - (xi) There appears to be confusion regarding the pharmacy's SOPs, with two frequency counts indicating that interviewees are aware of these, and two counts indicating that interviewees are not aware of these SOPs. The owner-manager states that only pharmacists are aware of these SOPs, and not the pharmacist's assistant. However, the locum pharmacist states that she is not aware of these SOPs, and the pharmacist's assistant says that she is;
  - (xii) When asked directly about compliance with SOPs (see code 14 in Table 1), there are two frequency counts stating that interviewees are compliant, compared to zero stating that this is not the case. There are also two frequency counts stating that the owner-manager has not told employees to comply with these SOPs, compared to one count stating that he has done so;
  - (xiii) When probed further, there are two counts indicating that interviewees are sometimes non-compliant with SOPs (see code 15 in Table 1). This contrasts with (xii) above, indicating some inconsistency in interviewee responses;
  - (xiv) Two interviewees state that there is training, induction and orientation, and two disagree that this occurs;
  - (xv) There is unanimous agreement (frequency count of four) that there are no performance appraisals. The locum pharmacist says that performance appraisals would help clarify performance-related issues, but the full-time pharmacist (other than the owner-manager) states that he challenges himself to go beyond his employment contract and the SOPs and that the lack of



performance appraisals does not affect his ability to provide pharmaceutical care. There are two frequency counts, by the owner-manager, that he has “phased out” dispensary employees with different working styles;

- (xvi) Patient counselling and care is most frequently cited as a performance objective, with a frequency count of two. Achieving certain financial figures and the provision of pharmaceutical care each have frequency counts of one;
- (xvii) The top-ranked performance target, with a frequency count of five, is serving customers as quickly and efficiently as possible. Other performance targets only have a frequency count of one;
- (xviii) All interviewees agree that their working hours are fine, but the pharmacist’s assistant sometimes has to work overtime. There is agreement that the quantity of working hours does not affect the provision of pharmaceutical care;
- (xix) Whilst the author was in the pharmacy administering questionnaires (see 4.2.1), she noted that for approximately four out of the seven days, there was only one pharmacist on duty;
- (xx) There are four frequency counts indicating that the number of dispensary employees is not sufficient to provide pharmaceutical care, whereas there is only a count of two stating the opposite. All interviewees believe that the number of pharmacists is sufficient to supervise the pharmacist assistant;
- (xxi) There is a frequency count of three indicating that the owner-manager has not identified any employee T&D needs, compared to a frequency count of zero that he has done so. There are two frequency counts stating that employees identify their own T&D needs. The pharmacist’s assistant reveals that the owner-manager did nothing about her T&D needs, which she identified and communicated to him. The owner-manager, meanwhile, states that he has a problem with the quality of in-house training provided by some companies, and that sending employees for T&D activities in itself is not sufficient; he believes that employees must be able to apply what they learn;
- (xxii) Interviewees are split equally between those that have self-development plans and those that do not. The owner-manager is not aware if dispensary employees have such a plan;
- (xxiii) There are two frequency counts stating that the owner-manager has told a dispensary employee that he has a problem with his/ her performance, and an equal frequency count stating that he has not. The owner-manager believes

- that he manages by direct supervision, and that his current pharmacists do not require much supervision;
- (xxiv) There is disagreement over how regularly staff meetings are held and whether these are useful. Two frequency counts indicate that these are held regularly, whereas there are also two counts indicating that these only occur if there is a problem. All interviewees except for the owner-manager state that staff meetings address primarily front shop matters. There are three frequency counts, including from the owner-manager, stating that there are no meetings specifically addressing dispensary-related problems, whereas there is one count stating that there are such meetings. The owner-manager says that dispensary-related meetings are unnecessary because there are no major dispensary problems. There are two counts indicating that the lack of dispensary meetings does not affect the provision of pharmaceutical care;
- (xxv) There is agreement that the owner-manager does not treat all employees in the same manner, evidenced by a frequency count of three for this category, compared to a frequency count of zero for the opposite category. There is consensus that the owner-manager's management style encourages the provision of pharmaceutical care, and one frequency count that he does not rush a pharmacist if she is busy with a sensitive issue. There are two frequency counts stating that the owner-manager does not take time to explain things, such as performance objectives, to dispensary employees, in contrast to his statement that he makes time for employees if they want to talk. There are also two frequency counts indicating that there is inadequate control over patients' access to scheduled medication. The pharmacist's assistant provides an example of a patient speaking to the owner-manager and then obtaining schedule 4 or 5 medication without a prescription;
- (xxvi) There is a frequency count of two supporting the view that pharmacists do not have to follow the owner-manager's working style, compared to one frequency count supporting the opposite view. One pharmacist says that he has had to adapt to the working style of the owner-manager. The owner-manager, meanwhile, says that he expects pharmacists to follow his working style, and that he believes that this helps them to provide pharmaceutical care;
- (xxvii) Although there are two frequency counts stating that the culture is enjoyable and also two counts stating that there is a family culture, there are three

frequency counts stating that problems are not addressed. There is one frequency count for the category stating that there is no gratitude for what employees do and two counts for the category that sly comments from colleagues are received if the interviewee spends time talking to patients;

(xxviii) There is, however, consensus that there are good working relationships, with this category eliciting six frequency counts, compared to zero counts for the category stating that interviewees do not have good working relationships. The pharmacist's assistant acknowledges that she has had problems in her working relationships, and that she feels that she is not respected sufficiently. She also states that she became depressed when she started working at the pharmacy, and that she realised that she had to learn to adapt to the way things were done in the pharmacy. There are two frequency counts each stating that there is accommodation and communication in working relationships, and four frequency counts indicating that these working relationships promote the provision of pharmaceutical care. This is compared to one count stating that working relationships do not promote the provision of pharmaceutical care. Interviewees mention that these relationships promote the development of understanding amongst dispensary employees, and a pleasant working environment that allows employees to give of their best;

(xxix) There are three frequency counts each indicating that interviewees have good relationships with patients and know patients well. One interviewee mentions that she has had difficulty in developing good relationships with patients. There is consensus that patient relationships promote the provision of pharmaceutical care, with two counts stating that such relationships enhance patients having trust in the interviewee and the interviewee's confidence;

(xxx) A greater proportion of interviewees are not completely satisfied with their remuneration, reflected in two frequency counts for this category compared to one frequency count indicating satisfaction. This is in contrast to the owner-manager's perception that his employees are satisfied with their remuneration. One pharmacist believes that pharmacists are underpaid generally. There is also a greater proportion of data supporting the category stating that current remuneration does not adequately reflect the additional responsibilities in providing pharmaceutical care. There is one frequency count stating that remuneration amongst employees is perceived as unfair.

An example is provided of front-shop assistants receiving envelopes with a cash bonus in December 2010. Dispensary employees did not receive this bonus, according to the interviewee, who said that she was hurt by this incident because dispensary employees work hard. There is disagreement amongst interviewees over whether their financial rewards should be increased if they provided more pharmaceutical care, with two frequency counts supporting this and an equal number not expecting an increase;

- (xxxi) There are two frequency counts indicating that remuneration is not regular, compared to one count stating that it is. One interviewee says that she lost her house and her debit orders bounced, and that it took the owner-manager eight days to rectify the latest delayed payment;
- (xxxii) There is also a greater frequency count of four stating that there are no other financial rewards, compared to one count stating that there are. Although the owner-manager believes that financial rewards are a motivating factor for employees, there is consensus amongst all his three dispensary employees that financial rewards are not a motivating factor. A typical response from interviewees is that patients' health is more important than financial rewards;
- (xxxiii) Although the owner-manager says that he encourages his dispensary employees to participate in activities of the Pharmaceutical Society of South Africa (PSSA), a professional body for pharmacists, all his dispensary employees state that they have not been encouraged to do so;
- (xxxiv) There is a greater proportion of data (three frequency counts) stating that there have been no meetings to discuss CPD being made compulsory by the SAPC, compared to one count stating that there have been such meetings. A frequency count of three nevertheless supports the view that there is a plan to ensure employee compliance with CPD requirements;
- (xxxv) Two dispensary employees have professional indemnity and the remaining two, namely the locum pharmacist and the pharmacist's assistant, do not. The pharmacy also has professional indemnity. The owner-manager says that he does not know whether dispensary employees have indemnity. The pharmacist's assistant, however, says that he did nothing when she told him that she would like such indemnity;
- (xxxvi) There is disagreement over whether generic medication is always offered to patients, unless not permitted by law. There are two frequency counts stating

that this always occurs, and two frequency counts stating the opposite. The racial prejudices and stereotypes of one interviewee are also revealed here, as she said that she gives generics to Black patients as she assumes that they cannot pay for original branded products;

(xxxvii) In analysing the appropriateness of prescribed medication, the two categories most frequently cited, with three frequency counts each, are analysing the appropriateness of dosages and whether medication is appropriate given patient allergies. Analysing drug interactions follows, with two frequency counts; one pharmacist says that she does not do this, as drug interactions are detected by the computer software and she assumes that the doctor has performed such analyses. There is one frequency count stating that patients do not want to receive pharmaceutical care;

(xxxviii) There are six frequency counts stating that patients are routinely counselled, and one pharmacist says that he counsels patients about how to take their medication correctly "60-80% of the time". Ten frequency counts support the view that time pressures and/ or other practicalities make it difficult to provide pharmaceutical care. There are two frequency counts stating that patient compliance is routinely assessed, with lower frequency counts for the other pharmaceutical care services. Although there are two frequency counts stating that the efficacy of medication in controlling or improving a patient's medical condition is routinely performed, one pharmacist says he performs this solely based on what the patient is prescribed, and another pharmacist feels that this service could be improved. She states furthermore that she assumes that the doctor is doing this. There is only one frequency count stating that the interviewee has performed a medication review, and one frequency count stating that the interviewee has not. One pharmacist feels that the usefulness of a medication review is limited by the prescriber having the power to not change a prescription;

(xxxix) There are three frequency counts indicating that interviewees regularly liaise with other health-care professionals, compared to one count stating that this does not occur regularly. There are also three frequency counts supporting the view that the owner-manager encourages such liaison, whereas one frequency count does not agree with this;

- (xl) There is disagreement over whether the pharmacist's assistant always works under the direct personal supervision of a pharmacist, with three frequency counts supporting the view that this occurs and three counts disagreeing. One pharmacist says that the pharmacist's assistant "does her own thing". There is also disagreement over whether the pharmacist's assistant always practices within her scope of practice, with one frequency count agreeing and one disagreeing with this. The pharmacist's assistant asserts that she always works under the direct personal supervision of a pharmacist. There are two frequency counts stating that the pharmacist's assistant's work is checked on an ongoing basis, compared to two counts stating that she is supervised primarily in terms of the counselling that she provides and one count stating that her work is only checked as medication is dispensed;
- (xli) Three frequency counts support the view that not all dispensary employees wear a name tag with their name and designation, compared to two frequency counts stating the opposite. The pharmacist's assistant alleges that her designation states "Pharmacist" instead of "Pharmacist's assistant", and says that she tends to not wear her name tag for this reason. She also asserts that the front-shop assistants' name tags state "Pharmacist's assistant". However, when the author was in the pharmacy, she noted that although there were different types of name tags for front-shop assistants, she did not see any that said "Pharmacist's assistant". The author is thus unable to comment on the credibility of this allegation. She also did not see the pharmacist's assistant's name tag and is unable to confirm whether it states "Pharmacist";
- (xlii) There is a greater proportion of frequency counts (two) that, nevertheless, support the view that patients are able to differentiate between the pharmacists and the pharmacist's assistant, compared to zero frequency counts stating that patients are unable to make such differentiation;
- (xlili) There are three frequency counts stating that pharmacists or the pharmacist's assistant always select OTC medication for patients, compared to one frequency count each stating that front-shop assistants or patients do this;
- (xliv) There is one frequency count stating that front-shop assistants always liaise with dispensary employees before selling OTC medication, with the owner-manager stating that this is a policy. However, one pharmacist states that he only has "50% control" over OTC sales and that this needs to be improved.

The locum pharmacist says that the current practice, in which front-shop assistants act as intermediaries between the dispensary and patients, can result in a “break in transmission” between pharmacist and patient;

- (xiv) There is agreement that dispensary employees ask patients questions before OTC medication is sold and provide patient counselling for this, with four frequency counts each for these two categories. There is one frequency count stating that there is a lack of standardisation regarding the practices involved in providing OTC medication, and that this acts as a barrier to patient counselling. There are two frequency counts stating that language and cultural differences also serve as barriers to patient counselling regarding OTC medication. Some patients’ insistence on getting certain OTC products and the expectation of some patients that they can just pick OTC medication off the shelf are also cited as barriers, with one frequency count each;
- (xlv) A greater proportion of interviewees (two frequency counts) state that there is no Quality Improvement Plan, with one frequency count indicating that the absence of such a plan does not affect the interviewee’s ability to perform her job. There are three frequency counts indicating that there are quality control measures and standards in place in the pharmacy;
- (xlvi) There are two frequency counts stating that the pharmacy’s layout promotes patient counselling and/ or other aspects of pharmaceutical care. One pharmacist, however, disagrees, arguing that patient privacy is not protected;
- (xlvii) There are low frequency counts related to suggested improvements to the PMS, with one interviewee declining to answer this question. The introduction of job descriptions and performance reviews receives a frequency count of one, as do measures to follow-up patients’ progress; and
- (xlviii) There are three frequency counts stating that there are problems with the PMS, compared to no frequency counts stating otherwise. The greatest proportion of frequency counts (seven) relates to problems with front-shop assistants. Some of these problems include the frequent turnover of front-shop assistants undermining standardisation in service delivery and hindering front-shop assistants from sharing the vision, professionalism and attitudes of dispensary employees. Other problems cited include front-shop assistants sometimes placing the incorrect medication into packets for patients and not telling patients that certain medication needs to be stored in a fridge.

Table 2 shows the top five-ranked categories, which account for almost one-fifth (19.38%<sup>16</sup>) of all data. The top-ranked category, with ten frequency counts representing 2.08% of all interview data, is, “The time pressures and/ or other practicalities in the pharmacy make it difficult to provide patient counselling and/ or other aspects of pharmaceutical care”. The second-ranked category, with seven frequency counts or 1.46% of data is, “Problems with front-shop assistants”. There is a tie for third place amongst three categories, each representing 1.25% of data points. These three categories include interviewees’ understanding of pharmaceutical care as involving patient counselling, interviewees affirming that they have good working relationships and that they routinely provide patient counselling.

There is also a tie for fourth place, with two categories each having frequency counts of five. These categories are interviewees’ confirmation that pharmaceutical care is a key responsibility and that customers should be served as quickly and efficiently as possible. The remaining 12 categories in Table 2 tie in fifth place, each with four frequency counts representing 0.83% of data. Key categories include interviewees’ assertions that they are compliant with GPP standards for pharmaceutical care, that there are no performance appraisals, that the number of dispensary employees is not sufficient to provide pharmaceutical care, that financial rewards are not a motivating factor and that dispensary employees ask patients questions before selling OTC medication and provide patient counselling regarding OTC medication.

### 5.3 Summary

In this chapter, the results of the two research instruments, namely the 200 completed patient questionnaires and the interviews with the three pharmacists and pharmacist’s assistant, were presented and key findings highlighted. These will be discussed in detail in the next chapter.

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<sup>16</sup> If using the rounded-off percentages in Tables 1 and 2, this figure decreases slightly to 19.33%.



## **CHAPTER SIX: DISCUSSION**

In this sixth chapter, the results presented in the previous chapter will be analysed and discussed.

### **6.1 Research objective 1: To determine whether the pharmacy complies with GPP standards for pharmaceutical care**

As mentioned in 5.1.2.1, although the percentages of “Yes, always” and “Yes, once or twice” responses in Figures 10-19 can be combined to give an overall impression of whether patients believe a certain service is provided, this should be done with caution. This is because some pharmaceutical care services may not need to be provided all the time, whereas others should be provided on a continuous basis. It is thus necessary to distinguish between responses stating that services are always provided and that services are only provided once or twice.

For example, asking patients whether they are allergic to any medication and other aspects of an overall medication review may not need to be performed every time the patient comes to the pharmacy, if such information has already been asked by the pharmacist and captured on the computer system or other records. According to s2.25 of the GPP standards, as outlined by the SAPC (South Africa. SAPC, 2010a), an overall review of pharmacotherapy does not have to be provided to a patient at every pharmacy visit, but rather in certain situations, such as if the patient is on chronic pharmacotherapy; if the patient presents with a new prescription; if the patient has questions regarding his/ her pharmacotherapy or an adverse effect, or requests such a review; and if an actual or potential DRP is detected. Similarly, a pharmacist may only need to contact a patient’s doctor if there is a problem with the patient’s prescription, and the frequency of this may vary. On the other hand, the other pharmaceutical care services in section 2 of the questionnaire, such as asking a patient whether he/ she is experiencing adverse effects, or if his/ her medical

condition is controlled or improving, should be provided on a continuous basis, so that the safety and efficacy, respectively, of pharmacotherapy can be assessed.

Making this distinction and determining when and how often to provide each of the pharmaceutical care services mentioned in the questionnaire, as well as others outlined in the GPP standards (South Africa. SAPC, 2010a) might thus be difficult for pharmacists, especially considering the fact that, as pointed out in 2.2.4, the GPP standards do not specify that a pharmacy should have an SOP for the provision of pharmaceutical care, or SOPs on how to dispense a prescription (including all three phases of dispensing, as described in 2.2.4) or OTC medication. This lack of standardisation in practices is highlighted by one of the interviewees, who mentions, in particular, the difficulties associated with not having standardised practices for the sale of OTC medication (see (xiv) in 5.2). This supports the argument made by Al-Shaqha and Zairi (2001), highlighted in 3.6.3, that it is necessary to have standardised practices in providing pharmaceutical care so that all patients receive the same quality and continuity of care.

In comparing the results of the patient questionnaires and the interviews with pharmacists and the pharmacist's assistant, there is broad agreement amongst both patients (at least 50% of patients) and interviewees that the following two pharmaceutical care services are always provided:

- (i) Pharmacists or the pharmacist's assistant providing patient counselling regarding how to take medication correctly (Statement 9); and
- (ii) Pharmacists or the pharmacist's assistant giving advice or information about the medication (Statement 10).

The first statement elicits a response of 75.50% of patients saying that this service is always provided (see Figure 18), whilst 53.00% state that the service in Statement 10 is always provided (see Figure 19). These findings are supported by interview data, in which the category stating that patient counselling is routinely provided has a frequency count of six, the third highest frequency count (see Table 2). Furthermore,

an interviewee states that he counsels patients on how to take their medication correctly (Statement 9) about “60-80% of the time” (see (xxxviii) in 5.2).

In addition to the above two pharmaceutical care services, there is agreement amongst patients (at least 50% of patients) and pharmacists that pharmacists ask whether the patient is allergic to any medication (Statement 1). This statement has a combined favourable response of 73.00% from patients (see Figure 10) and three frequency counts for this category from interview data (see code 42 in Table 1). Patients' favourable responses have been combined for this service, as this service does not need to be provided every time to a patient.

Reinforcing the highly favourable responses from patient questionnaires, the provision of patient counselling emerges strongly from the interview data. Table 1 shows, for example, that providing patient counselling has the highest frequency count (of six) in code 3, relating to interviewees' understanding of pharmaceutical care in code 3. The pharmacist's assistant also states that providing patient counselling is a key responsibility for her (see code 7 in Table 1). Furthermore, Table 2 reflects that, according to interviewees, patient counselling regarding OTC medication is also routinely provided, with two categories relating to this ranked fifth out of all categories, with four frequency counts each. Interestingly, Statement 9 corresponds to Assa-Eley and Kimberlin's (2005: 47) “Item A”, and these authors found that this item ranked highest in terms of both patients and pharmacists agreeing on the benefits of this service.

Consideration should be given to the proportion of patients who state that the services in Statements 9, 10 and 1 are not provided. Almost one fifth of respondents (17.00%), for example, indicate that pharmacists have not asked them whether they are allergic to any medication (see Figure 10). The question is raised whether any of this 17.00% of patients are allergic to any medication that they have been dispensed, which could result in a DRP (see 3.3) and could result in patient morbidity or mortality.

As mentioned, patients and interviewees agree that patient counselling is provided. This is in contrast to what was expected by the author in the first two chapters of this dissertation, in which it was argued that the heavy patient load, shortage of dispensary employees and the strategic focus on efficiency do not promote dispensary employees having sufficient time to provide adequate patient counselling. The results found thus appear to disprove this expectation. However, the top-ranked category from the interview results, with ten frequency counts as shown in Table 2, affirms that time pressures and/ or other practicalities in the pharmacy make it difficult for interviewees to provide patient counselling and/ or other aspects of pharmaceutical care. This confirms Al-Shaqha and Zairi's (2001) point that insufficient time is a common barrier to providing pharmaceutical care (see 3.5.2). The owner-manager also suggests that following up patients' progress or outcomes could be improved (see xviii in 5.2). This suggests that the aforementioned preliminary analysis by the author may still have relevance.

A total of 6.50% of respondents indicate that the service in Statement 9 is not provided, whilst 14.50% of respondents state that the service in Statement 10 is not provided, as shown in Figures 18 and 19 respectively. This indicates that the patient counselling that occurs tends to focus more on how patients should take medication correctly (Statement 9), with broader counselling regarding the pharmacotherapy (Statement 10), perhaps relating to side-effects that could occur, taking place less often. Considering that time pressures have been ranked as the top category amongst interview data, the above differences in patient responses to Statements 9 and 10 may support d'Ávila, *et al.*'s (2010) finding that as a pharmacy gets busier, less information is provided to patients (see 3.4.1).

Once again, having approximately three quarters of respondents (75.50%, as shown in Figure 18) stating that counselling regarding how medication should be taken correctly is provided should not be regarded as sufficient, as the remaining quarter of respondents either have not received this service or have only received it once or twice, and may thus have taken, or continue to take, their medication incorrectly, resulting in a DRP. This raises an important issue, namely the difficulty in assessing

“compliance” with GPP standards and determining which degree of compliance with these standards is acceptable. In order to prevent the abovementioned problem of a minority of patients perhaps being exposed to the risk of DRP if a particular GPP standard is not adhered to, is it not most correct to desire “full” compliance at all times? How would this be assessed in terms of the proportion of respondents who would be expected to respond “Yes, always”; should this be 80 or 90% instead of the arbitrary 50% used in this analysis, as discussed below? And could not the degree of compliance expected with GPP standards differ amongst different stakeholders? Perhaps patients and the SAPC might expect “full” compliance whereas pharmacists and management might be content with not all standards being adhered to? How possible is it to quantify and measure compliance? How realistic is it to expect “full” compliance and, furthermore, expect this to be reflected in patients’ perceptions? Moreover, there are numerous GPP standards, of which only a selection are probed in the patient questionnaire; what if the pharmacy is compliant with all other GPP standards except for the selected standards?

The above analysis highlights that the results obtained from the patient questionnaires suggest that, according to at least 50% of respondents, the pharmacy always provides only two out of the ten pharmaceutical care services listed in Statements 1-10 in section 2 of the questionnaire. When combining the favourable responses for Statement 1, this is also higher than 50%. This demonstrates a gap, analogous to gap 3 in the adaptation of Parasuraman, *et al.*'s (1985) “quality gaps model” cited in Stapleton (2007: 122) discussed earlier (see Figure 3 and 2.3.3), between patients’ experiences of pharmaceutical services and GPP standards for pharmaceutical care as outlined by the SAPC (South Africa. SAPC, 2010a).

The abovementioned findings contrast with interviewees’ assertions that they are fully compliant with GPP standards for pharmaceutical care; this assertion, with a frequency count of four, is one of the fifth-ranked categories emerging from interview results (see Table 2). It is, however, difficult to understand how the pharmacists could assert that they are compliant with GPP standards for pharmaceutical care, given that none of them can provide examples of these standards (see (iv) in 5.2).

Two of the three GPP standards that the majority of patients state are provided (i.e. Statements 9 and 10) relate to patient counselling, and the other (Statement 1) to analysing the appropriateness of a patient's pharmacotherapy. The remaining seven standards relate to other aspects of analysing the appropriateness of a patient's pharmacotherapy, such as detecting drug-drug and drug-disease interactions; assessing the safety and efficacy of pharmacotherapy and patient compliance; and generic substitution. These standards, with the exception of generic substitution, outlined in s2.7.3.11 of the GPP standards (South Africa. SAPC, 2010a), together reflect sections 2.7.1.1(b)(i), 2.7.1.1(b)(ii) and 2.7.1.3.2(a) of the GPP standards. The finding that less than 50% of respondents indicate that these seven services are always provided suggests that the pharmacy is better at providing patient counselling compared to these other important aspects of pharmaceutical care. This is substantiated by the locum pharmacist, who reveals that she does not routinely analyse prescribed medication for drug interactions (see (xxxvii) in 5.2).

Code 3 in Table 1 shows that the evaluation of pharmacotherapy, although being ranked fifth in Table 2, has fewer frequency counts (a total of four) compared to providing patient counselling (which has six frequency counts), in relation to interviewees' understanding of pharmaceutical care. Patient safety and outcomes has even fewer frequency counts (three). These findings suggest that evaluating the appropriateness of pharmacotherapy, ensuring patient safety and monitoring patient outcomes may be regarded by pharmacists as less important compared to providing patient counselling. This supports the results of the patient questionnaires, which reveal, as mentioned before, that the majority of respondents report that patient counselling is provided, but not other important aspects of evaluating pharmacotherapy (other than pharmacists checking if patients are allergic to medication), patient safety and outcomes. As mentioned in 3.2.1, accepting responsibility for patient outcomes is a key component of Hepler and Strand's (1990) definition of pharmaceutical care cited in Al-Shaqha and Zairi (2001: 286). The potential could thus exist for a variety of DRP to arise from neglecting to always provide the remaining pharmaceutical care services. These DRP could potentially result in patient morbidity and/ or mortality.

Neglecting to check for drug interactions, for example, could result in the occurrence of adverse effects if two drugs have a similar adverse effect profile. Or one drug may interfere with the therapeutic efficacy of another. Not asking patients what other medical conditions they have may result in medication that is contraindicated for use in patients with certain conditions being dispensed. Not asking patients if they are experiencing side-effects could allow these to go undetected. Patients may not be aware of the side-effects associated with particular medication, so it thus becomes important for pharmacists to counsel patients about what kind of side-effects could potentially occur, and what to do in the event of these occurring, for example contacting the prescriber immediately. Asking patients whether their medical condition is controlled (in the case of a chronic condition such as hypertension) or improving (for example in the case of a bacterial infection) allows the pharmacist to assess patient outcomes and whether the patient's pharmacotherapy is effective.

Of the remaining seven services, patients' "Yes, always" and "Yes, once or twice" responses for Statement 2 can be combined, as pharmacists may only need to contact a prescriber if there is a problem with a prescription, as described in s2.7.1.1(c) of the GPP standards (South Africa. SAPC, 2010a). Nevertheless, as shown in Figure 11, the combined favourable response is 43.50%, which is less than 50% and is also only slightly greater than the 40.50% of respondents who state that this service is not provided. It must be noted, however, that these responses are patients' perceptions of whether the service is provided; it could be, for example, that the pharmacist did contact the doctor, but that the patient was unaware of this. Perhaps the patient was busy browsing the shelves in the front shop whilst this service was being performed. The protocol in the pharmacy, however, is to inform patients before the pharmacist contacts the doctor, so that the patient is aware that there may be a delay in receiving his/ her medication. The possibility exists that this protocol may not always be adhered to.

Almost half of respondents (49.00%) state that the pharmacist does not ask them how often they are taking their medication (see Figure 16), an indicator of patient compliance with pharmacotherapy. However, in the interviews with dispensary

employees, there is a frequency count of two for the category that patient compliance is routinely assessed and one frequency count stating that compliance is not routinely assessed (see code 43 in Table 1). This indicates that a higher proportion of pharmacists view this service as being provided. The question is then raised if pharmacists perhaps have another way of assessing patient compliance, if indeed this is performed; an example could be assessing when patients come in to the pharmacy for refills of chronic medication. This question was not probed further in the interviews, which could be a limitation.

As highlighted in Figure 14, a greater proportion of patients (34.50%) indicates that the pharmacist always offers them generic medication, compared to 20.50% who state that this service is not provided. However, 34.50% is relatively low, representing just more than one third of respondents. This is supported by the interview results, in which there is an equal split in the frequency count of data indicating that interviewees always offer generic medication, and data indicating that interviewees do not always offer generics (see code 41 in Table 1).

The implications of this are that the more than one fifth of respondents (20.50%) who do not receive this service, and the approximately one third (33.00%) who state that they are only offered generics once or twice (see Figure 14), may thus have paid more money for original branded products. This could have meant an increased cash cost for the patient, or a greater decrease in the patient's medical aid savings than would have been the case if the patient had received a generic. It would be interesting to perform a pharmacoeconomic analysis, to determine how much extra money patients have paid due to not being offered generics. There is a minority of 9.00% of patients who do not wish to be offered generics (see Figure 14), but for those who would like to receive this service, it would be interesting to investigate how much it has cost them not to be offered generics. Patients may not be aware of generic substitutes, which is why s22F of the Medicines and Related Substances Act 101 of 1965 (South Africa. National Parliament, 1965) makes it compulsory for pharmacists to offer generics, except in certain circumstances (see 1.2.3).



In code 42 in Table 1 there is a frequency count of three for pharmacists indicating that they routinely analyse the appropriateness of dosages. This service was not included in the questionnaire, and thus whether patients perceive that it is provided cannot be commented on. The reason it was not included was that it may be difficult for patients to know whether this service is provided, as a pharmacist usually checks dosages by him-/herself, perhaps mentally or by consulting reference material, and unless the pharmacist actually informs the patient that there is a problem with the dosage, the patient might thus be unaware that this service is provided.

Figure 20 shows that a large majority of respondents (84.00%) have not requested a medication review. Although the reasons for this were not probed in the questionnaire, possible reasons could be that patients are not aware that this service exists, that they can request such a service or furthermore that this service can be provided by pharmacists. This may also be true for the other pharmaceutical care services listed in section 2 of the questionnaire; many patients might be unaware that pharmacists are supposed to perform these services. This emerged in the pilot study, in which one participant expressed his view that some of the statements were not relevant as they relate to functions performed by doctors (see 4.2.1.1.7).

This may contribute to the high non-response rate for the questions asking patients whether they would like to receive these pharmaceutical services. For all eleven services, approximately 50% of respondents do not indicate whether or not they would like to receive the service. A possible reason for this relatively high non-response rate is that patients may not be sure whether they would like pharmacists to perform these services, as this may be outside their paradigms of the services pharmacists normally provide. Patients may also have doubts about the ability and/or willingness of pharmacists to perform these services and utilise the resulting information in a way that enhances patient outcomes. In Hanna, *et al.*'s (2010) Willingness To Pay study, for example, it was found that patients have a neutral opinion of pharmacists' ability to perform diabetes disease management services (see 3.5.3). Cerulli (2002) cited in Hanna, *et al.* (2010) argues that patients have limited interactions with pharmacists, and thus have limited awareness of the latter's

roles and responsibilities. This is supported by others (Chewning and Schommer, 1996 and Schommer, 1997, both cited in Assa-Eley and Kimberlin, 2005). Hanna, *et al.* (2010: 351) suggest that the expertise of pharmacists is thus not utilised optimally by patients, and that the demand for pharmacists to provide a diabetes disease management service, and by extension other pharmaceutical care services, offers pharmacists an opportunity to enhance public awareness of their expertise and “expanding role” as providers of pharmaceutical care.

It is possible that the relatively high non-response rate to the questions asking whether patients would like to receive the various pharmaceutical care services is due to patients perhaps not reading that section of the questionnaire, but this did not emerge as a possible problem in the pilot study. It is interesting that the three pharmaceutical care services drawing the largest proportion of respondents indicating that they wish to receive these services are the three services that draw the most favourable responses from patients and which both patients and pharmacists agree are provided, namely the services in Statements 9, 10 and 1 (see Figures 18, 19 and 10).

This raises the question whether patients want these particular services more because patients have been more exposed to these services and thus have a greater appreciation of their benefits. Assa-Eley and Kimberlin (2005) report that exposure to pharmaceutical care services, notably pharmacists asking patients if they are experiencing any problems, is associated with patients showing a higher level of agreement with pharmacists regarding the advantages of pharmaceutical care compared to patients whose pharmacists do not ask this question.

Assa-Eley and Kimberlin’s (2005) finding that patients who experience pharmaceutical care-related services are more positive about the benefits of pharmaceutical care may also be relevant for other findings of this research. It is interesting, for example, that the lowest proportion of patients (31.50%) want pharmacists to contact their doctor regarding their prescription (see Figure 11).

Perhaps this is due to patients wanting their confidentiality protected. This finding may reflect inadequate awareness by some patients of why such liaison may be necessary, for example to address prescribing errors. Likewise, the highest proportion of patients (16.50%) does not want the pharmacist asking them how often they are taking their medication (see Figure 16). However this question is important for pharmacists to ask in order to detect if a patient is taking medication correctly and is compliant with his/ her pharmacotherapy. Furthermore, although 84.00% of respondents have not requested a medication review, only 34.50% of respondents want this service (see Figure 20); this could be because many respondents are unaware of the benefits of this service, having not experienced it.

Assa-Eley and Kimberlin's (2005) conclusions about exposure to pharmaceutical care services influencing whether patients want to receive these services illustrates the phenomenon of "adaptive preferences", as described by Nussbaum (2001: 77). Nussbaum (2001: 78) argues that in this phenomenon, "individuals adjust their desires to the way of life they know". She cites the work of Sen (1995) in describing how a large proportion of women in a study in Calcutta "do not desire some basic human good [in the case of Sen's work, good health] because they have been long habituated to its absence or told that it is not for such as them" (Nussbaum, 2001: 79). Sen (1995) cited in Nussbaum (2001) points out that the opposite is also true, namely that individuals who have become accustomed to receiving high quality care may become unhappy if this is no longer the case. The possible effects of "adaptive preferences" (Nussbaum, 2001: 77) in patient responses, based on patient race or gender, will be explored in 6.2.

Figure 21 reveals that there is no statistically significant difference in the mean percentage of patients who state that the combined pharmaceutical care services in Statements 1-10 are always provided (33.65%) and those who state that these are not provided (33.55%). There is also no statistically significant difference between these responses and the mean percentage of respondents who state that these services are only provided once or twice (22.25%). These results indicate that one cannot categorically state that XXX Pharmacy is fully compliant with the GPP

standards covered in the questionnaire or not, as only 33.65% of respondents state that these standards are always adhered to. Combining the favourable responses gives a mean percentage of 55.90%, which is significantly higher than the other responses. Comparing this “Yes combined” percentage to the percentage of respondents who state that these services are not provided would thus suggest that the pharmacy is compliant with the selected GPP standards for pharmaceutical care. However, as pointed out earlier, it is misleading to combine the favourable responses, as only two out of the first ten services (i.e. Statements 1 and 2) can be provided once or twice, whilst the rest need to be provided continually.

Assa-Eley and Kimberlin (2005) have used interpersonal perception theory in their study. According to this theory, there may be misunderstandings between parties due to the “assumption of agreement” (Assa-Eley and Kimberlin, 2005: 54). For example, as pointed out by these authors, pharmacists may provide particular services that they believe patients will find beneficial, whilst patients may assume that pharmacists will provide the services that patients find beneficial. Extending this argument, pharmacists may provide services that they believe patients want or expect, whilst patients may assume that pharmacists will provide the services they want or expect. This could give rise to a gap, analogous to gap 1 in Parasuraman, *et al.*'s (1985) “quality gaps model” cited in Stapleton (2007: 122) (see 2.3.1), in which there is a gap between patients' expectations and the owner-manager's perceptions of these expectations. The questionnaire used in this research did not probe whether patients expect to receive various pharmaceutical care services; it focused on whether these are provided and whether patients would like to receive these services, thus reflecting patients' wants. This was in order to keep the questionnaire short. A limitation, however, is thus that patients' expectations were not determined.

Figure 22 shows that, although there is a high non-response rate for the questions asking patients whether they would like to receive the various pharmaceutical care services, the mean proportion of patients who want to receive the combined services in Statements 1-10 (38.05%) is significantly greater than the proportion who do not (10.65%). Furthermore, although a large majority of patients (84.00%) have not

requested a medication review, approximately a third (34.50%) of patients want to receive this service (see Figure 20). This suggests that there is desire on the part of patients to receive the pharmaceutical care services listed in section 2 of the questionnaire. Figure 23 shows that although the mean percentage of respondents who want to receive the combined pharmaceutical care services in Statements 1-10 (38.05%) is greater than the mean percentage who state that they have not received these services (33.55%), statistical analysis shows that this gap is not significant. This indicates that there is no significant gap between what patients are saying they are not receiving, and what they would like to receive. As mentioned before, there is the possibility that what patients want and expect from a pharmaceutical service may be set at a low level, due to patients' experiences.

As mentioned in 4.2.1.1.2, various dispensary employees adhering to their scope of practice, so that pharmaceutical care can be provided, is an important component of the GPP standards, as described by the SAPC (South Africa. SAPC, 2010a). Figure 49 shows that the mean percentage of respondents responding favourably to the combined statements in section 3 of the questionnaire (65.25%) is significantly greater than the mean percentage of respondents responding negatively (24.38%). Almost two-thirds of respondents thus suggest that dispensary employees are practising within their scope of practice. In particular, as shown in Figure 48, a higher proportion of respondents are able to differentiate between pharmacists and the pharmacist's assistant, perceive the pharmacist's assistant as always preparing their prescriptions under the direct supervision of a pharmacist, and state that OTC medication is always selected by pharmacists or the pharmacist's assistant.

Code 46 in Table 1 shows that dispensary employees believe that patients are able to differentiate between pharmacists and the pharmacist's assistant, with two frequency counts in this category compared to zero frequency counts stating that patients cannot differentiate between these dispensary employees. This perception is consistent with patient's responses to Statements 1 and 2; as shown in Figure 48. However, Figure 48 also shows that Statement 2 draws the highest percentage of negative responses (40.00%) and the lowest percentage of favourable responses

(58.50%), suggesting that many patients cannot identify the pharmacist's assistant. This is not surprising, given that in her interview, the pharmacist's assistant says that she tends to not wear her name tag, and alleges that it incorrectly refers to her as a "Pharmacist" and not a "Pharmacist's assistant" (see (xli) in 5.2 and later in 6.4.2.10). It is seemingly inconsistent that although only 58.50% of respondents state that they know who the pharmacist's assistant is, a greater percentage (i.e. 65.00%) of respondents state that the pharmacist's assistant always prepares their prescription under the direct supervision of a pharmacist. If some respondents are unable to identify the pharmacist's assistant, how can they then affirm that she is always working under the direct supervision of a pharmacist?

Code 45 in Table 1 suggests that, from the perspective of pharmacists, the pharmacist's assistant does not always practice within her scope of practice and does not always work under direct personal supervision. As highlighted in (xl) in 5.2, one pharmacist says that the pharmacist's assistant "does her own thing", suggesting inadequate control over her performance, whereas the pharmacist's assistant's asserts that she always works under the direct personal supervision of a pharmacist. This will be discussed later in 6.4.2.3.

If there is substance to the pharmacist's assistant's allegation that front-shop assistants have a name tag that identifies them as a "Pharmacist's assistant" (see (xli) in 5.2), then the possibility arises that some respondents could mistake the front-shop assistants for pharmacist's assistants, and this could have potentially influenced the responses to Statement 4 in section 3. As it is, there is consistency between patients' responses and interview data that pharmacists or the pharmacist's assistant selects OTC medication for patients. Code 47 in Table 1 shows that there is a frequency count of three for the category supporting this, whereas there is only one frequency count each for categories stating that front-shop assistants and patients select OTC medication. As shown in Figure 48, 64.00% of respondents state that pharmacists or the pharmacist's assistant performs this task. This is contrary to the initial analysis of the author in the first two chapters. There are three implications of these findings, as described in the next two pages:

- (i) A relatively high proportion of more than one-fifth of respondents (22.50%) still state that front-shop assistants select OTC medication for them. This is problematic, as the front-shop assistants have no formal training or qualifications in pharmacy, and thus do not possess the knowledge and skills required to ask individual patients the necessary questions to determine if particular OTC medication is safe and appropriate. Some OTC products to treat influenza symptoms, for example, can increase blood pressure, and may thus not be appropriate for hypertensive patients. The front-shop assistants would also not have the knowledge to be able to detect drug interactions or counsel patients adequately about OTC pharmacotherapy. If front-shop assistants select OTC medication for patients, there could thus potentially be an increase in the incidence of DRP. It should also be noted that not all patients who purchase OTC medication may read the package inserts associated with these; some patients, for example, may not be functionally literate in English, to be able to do so. The technical language and pharmaceutical jargon used in these package inserts may also discourage patients from reading these. The latter may be one of the reasons why s2.7.1.3.1(b) of the GPP standards, as outlined by the SAPC (South Africa. SAPC, 2010a), states that patient information leaflets should be available to patients at the point at which dispensing occurs. Such leaflets would, in simpler language, explain important points about a particular product to patients. No patient information leaflets are available in XXX Pharmacy;
- (ii) There appears to be some system in place in which dispensary employees are able to exert some control over the selection of OTC medication. The owner-manager, in his interview, says that there is a policy that no OTC medication can be sold without the front-shop assistant liaising with dispensary employees (see (xliv) in 5.2). Front-shop assistants thus function as intermediaries, exchanging information and questions between the dispensary employees at the back of the pharmacy, and patients at the OTC counter; from the information thus obtained, the pharmacists direct the front-shop assistants as to which OTC product(s) to sell to the patient. A potential problem associated with this approach is highlighted by the locum pharmacist, who says that there is a “break in transmission” or communication between pharmacists and patients (see (xliv) in 5.2). It might take longer, for example,

- for the pharmacist to obtain all necessary information about the patient, or there could be errors in what the front-shop assistant relays between the parties. The full-time pharmacist other than the owner-manager feels that he does not have adequate control over OTC sales (see (xliv) in 5.2), although there is a higher frequency count for the category stating that pharmacists have adequate control over OTC sales (see code 47 in Table 1); and
- (iii) There are legal and professional risks associated with front-shop assistants selecting OTC medication for patients, as described below.

Not complying with all selected GPP standards, the pharmacist's assistant sometimes practising outside her scope of practice and not always under direct personal supervision, and front-shop assistants at times selecting OTC medication for patients all represent potential operational risks, in particular legal and professional risks. These could occur, for example, if a patient experienced a DRP as a result of these occurrences and sued the pharmacy or individual dispensary employee, and/ or laid a complaint with the SAPC. The SAPC may also inspect the pharmacy, detect non-compliance to particular GPP standards and institute penalties against those registered with the SAPC found guilty of misconduct. As outlined in sections 45(1) and 45(2) of the Pharmacy Act 53 of 1974 (South Africa. National Parliament, 1974), these penalties could include a caution, a reprimand, suspension from practising, removal from the register of persons allowed to practise in South Africa and/ or a fine, and public gazetted notification of the offence. Inspections by and complaints to the SAPC do occur, evidenced in the PSSA notifying its members in late April 2011 that two pharmacists were arrested for not complying with regulatory requirements (PSSA, 2011).

Besides the abovementioned professional risk, financial risks could also arise if patients sue the pharmacy or dispensary employees. Although the pharmacy, owner-manager and other full-time pharmacist have professional indemnity, which may provide cover to a particular monetary value in such circumstances, the locum pharmacist and pharmacist's assistant do not (see (xxxv) in 5.2), and may suffer considerable financial costs in obtaining legal representation.



In addition to the above, there is the potential for patient harm to result from GPP standards, as described by the SAPC (South Africa. SAPC, 2010a), not being adhered to, which is difficult to quantify. Such harm could result, for example, from a front-shop assistant selecting inappropriate OTC medication for a patient, or from the pharmacist's assistant not preparing a particular prescription under the supervision of a pharmacist and a prescribing error perhaps being undetected, or from pharmacists not checking whether the patient has any co-morbidities that would exclude a certain prescribed drug from being used. All these scenarios could give rise to DRP, which could result in patient morbidity and/ or mortality.

## **6.2 Research objective 2: To assess whether patients' perceptions of whether pharmaceutical care services are provided varies with demographic profile**

Figure 7 shows that the sample group is relatively diverse in terms of race, with all the racial groups indicated in section 1 of the questionnaire being represented. Likewise, both genders are represented, as shown in Figure 8. This enhances the representivity of the sample group. An advantage of having a large sample size of 200 questionnaires is that such representivity is promoted. As mentioned in 5.1.2.3, however, a limitation of the results is that there are respondents (16.50% for each demographic variable) who do not indicate their race or gender, and for this reason the chi-squared test, the most appropriate inferential statistical test, was not used to determine if there is a statistically significant difference in the responses of patients from different racial groups or genders, as the data categories are not exclusive.

In hindsight, the author should have anticipated this problem of non-response, and its likely impact on the quality of analysis she was able to perform. She could have countered this problem by writing down the race and gender of the patient on the back of the folded questionnaires that she could have asked patients to return to her, instead of asking them to drop directly into the opaque envelope she carried. When capturing the questionnaire results onto computer, she could then have referred to

her written description of the race and gender of the patient on the back of the questionnaire if the patient had not provided these details in the questionnaire.

Another limitation is that only two demographic variables were considered, in order to keep the questionnaire short and encourage completion. It would have been interesting to have investigated the effects of other demographic variables, such as age, educational level and socioeconomic status, on patients' responses. As mentioned in 3.6.8.2, the UKCPA (2009) suggests that patient data should be pooled, so that outcomes can be assessed for patients who have a particular medical condition or fall into a certain demographic profile. This could assist in the design of pharmaceutical care interventions, or the adaptation of pharmaceutical care services, to optimally meet the needs of different patients. Low-literate patients, for example, may benefit from pictograms, as shown by Dowse, Ramela, Barford & Browne's (2010) report on the use of pictograms in HIV/ AIDS patients with low levels of literacy, to communicate information about the side-effects of antiretrovirals.

### **6.2.1 Results per racial group**

Figures 24, 32 and 33 show that all the racial groups have a higher percentage of respondents saying that the services in Statements 1, 9 and 10 are always provided, compared to respondents saying that these services are not provided. This is consistent with the overall findings described in 6.1.

Consideration should be given to the proportion of respondents from each racial group, however, who state that these services are not provided. A total of 19.35% of White respondents and 13.95% of African respondents, for example, state that the pharmacist has not asked them if they are allergic to any medication (see Figure 24). These percentages may well include patients who might be allergic to a particular medication, and who might thus have experienced adverse effects if that medication had been dispensed. Similarly, 23.08% of Coloured respondents indicate that the

pharmacist or pharmacist's assistant has not told them how to take their medication correctly (Figure 32) and 38.46% of Coloured respondents state that they are not given advice or information about their medication (Figure 33). The question is raised as to how many patients took their medication incorrectly, due to inadequate patient counselling by pharmacists or the pharmacist's assistant.

A higher percentage of respondents from all racial groups also agree that five pharmaceutical care services, namely the services in Statements 2, 4, 6, 7 and 8, are not provided (see Figures 25, 27, 29, 30 and 31). If the favourable responses to Statement 2 are combined, as discussed in 6.1, a higher proportion of Indians/Asians (50.00%), Coloureds (61.54%) and Whites (44.09%) still state that this service is not provided, whilst a higher proportion of Africans (48.84%) indicate that this service is provided (see Figure 25).

The services in Statements 2, 4, 6, 7 and 8 relate to the evaluation of the appropriateness of pharmacotherapy, including assessing its safety and efficacy. This confirms the overall results described in 6.1, in which it was highlighted that questionnaire results suggest that the pharmacy is better at providing patient counselling than at evaluating the appropriateness of pharmacotherapy. There is also consensus amongst the different racial groups that patients have not requested a medication review (see Figure 34), which is consistent with the findings in 6.1.

Figure 35 shows that the highest mean percentage (43.72%) of respondents who state that they always receive the combined pharmaceutical care services in Statements 1-10 are African, followed by Indians/Asians (33.33%) and then Whites (30.00%). The lowest mean percentage indicating this belongs to Coloureds (22.31%). It should be noted that the proportion of respondents giving their races as Coloured or Indian/Asian is relatively low, at 6.50% and 9.00% respectively (see Figure 7). These small sizes might amplify certain responses that may be atypical of the normal distribution of responses of the particular racial group, decreasing the accuracy of responses. If the proportion of these racial groups was higher and one

also knew how many of the “No race given” category fell into these racial groups, then one could conclude with more certainty that the responses to the questionnaire are representative of the particular racial group in the target population.

As it is, the highest proportion of respondents to respond favourably that the combined pharmaceutical care services are always provided is African. One wonders if perhaps Nussbaum’s (2001: 77) description of “adaptive preferences” (see 6.1) could possibly play some role in explaining the overall positive responses from Africans. Clearly, further research and statistical analysis on mutually-exclusive categories is necessary to comment on this with any degree of confidence, but let us nevertheless explore this scenario below.

According to Sen (1995) cited in Nussbaum (2001), individuals from vulnerable groups may downplay their problems or the poor quality of care or services they receive, because they have become accustomed to this or may not believe that they deserve better. According to this argument, one could then expect Black patients, which includes Africans, Indians/ Asians and Coloureds<sup>17</sup>, to respond more favourably compared to White patients when asked about a pharmacy that appears to be complying with only three out of ten GPP standards (see 6.1). This would be due to the historical inequalities in health-care services provided to Black patients, which is well-documented. Price (1986), for example, describes these inequalities, such as in health-care expenditure, and argues that these inequalities in health services were used to promote the ideologies of apartheid. More recently, McIntyre, Gilson, Wadee, Thiede & Okarafor (2006) have also highlighted the historical inequalities in health-care services for different racial groups in South Africa, and note that by 2005 not much had changed. McIntyre, *et al.* (2008) and Heywood (2006) have also written on health-care inequalities in South Africa (see 3.5.1).

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<sup>17</sup> “Black” is defined as Africans, Coloureds and Indians in s1 of the Employment Equity Act 55 of 1998 (South Africa. National Parliament, 1998). This definition was extended to include South African Chinese people in 2008 (South Africa. High Court of South Africa, 2008).

It cannot be concluded that the abovementioned expectation has been borne out in the present results, for the following reasons:

- (i) Not only did many patients not provide their race, but there are also patients from all categories who, for unknown reasons, did not respond to individual statement(s). The highest mean percentage of individuals who have not responded to the combined services, which represents approximately one-fifth of respondents (20.61%), as shown in Figure 35, belongs to the category that has not provided their race. This relatively high non-response rate could undermine the validity of the reported results;
- (ii) Although, as pointed out, the proportions of self-identified Indians/ Asians and Coloureds are low, the results in Figure 35 show that White patients are more positive in their assessment of whether the combined pharmaceutical care services are provided, compared to Coloured respondents. According to Sen's (1995) argument cited in Nussbaum (2001), one would have expected Coloured patients to respond more favourably than White patients;
- (iii) The mean percentages illustrated in Figure 35 are relatively close in value. In particular, the mean percentage of Indians/ Asian patients who state that the combined pharmaceutical care services are always provided (33.33%) is only slightly higher than the mean percentage of White patients who give this response (30.00%). It is not known if this difference is statistically significant, as inferential statistical analysis was not performed on the data;
- (iv) There may be additional factors influencing patients' responses. All pharmacists and the pharmacist's assistant, for example, are Black, as defined by the Employment Equity Act 55 of 1998 (South Africa. National Parliament, 1998), and perhaps this may have influenced patients' responses, as patients may also have racial preferences and prejudices; and
- (v) Patient expectations have not been probed (see 6.1). Sen's (1995) argument cited in Nussbaum (2001) suggests that if patients from a particular vulnerable group have not received a particular service, they may not expect to.

So although Sen's (1995) argument cited in Nussbaum (2001) is an interesting one, the limitations and results of the present study do not allow one to conclude that this argument is valid for the current study. Further research is necessary to establish

whether there is an association between racial groups and the phenomenon of “adaptive preferences”, as described by Nussbaum (2001: 77), in terms of how this relates to perceptions and expectations of pharmaceutical care services.

A greater proportion of all racial groups state that they want to receive the pharmaceutical care services in Statements 1 and 3-11, compared to those who do not, as shown in Figures 24 and 26-34. This reflects the general consistency mentioned before amongst the racial groups in their responses. The exception to this is Statement 2, namely the pharmacist contacting the patient’s doctor to clarify the prescription or discuss the patient’s medication. The proportion of Coloureds who do not want this service (30.77%) is approximately double that of the proportion who want this service (15.38%) (see Figure 25). It is not known why this may be so.

As described in 5.1.3.2, there is also consistency amongst the racial groups in responses to Statements 1-4 in section 3 of the questionnaire, indicating that the majority of all racial groups agree that various dispensary employees practice within their scope of practice. All the racial groups are also unanimous in responding most negatively to Statement 2, indicating that more than 30% of respondents from each category cannot identify the pharmacist’s assistant. This is consistent with the overall results discussed in 6.1. The anomaly mentioned in 6.1, namely that a higher proportion of respondents state that the pharmacist’s assistant always prepares their prescription under the direct supervision of a pharmacist (Statement 3) than the proportion of respondents who are actually able to identify the pharmacist’s assistant, also occurs with all the racial groups (compare Figure 52 to Figure 51).

Figure 54 reveals that, consistent with the results for section 2 of the questionnaire, Africans respond most favourably to the scope-of-practice-related statements in section 3, with a mean percentage of 73.26% agreeing to the combined statements. In contrast to section 2, in which Coloureds are the racial group responding most negatively, in section 3 Whites have the highest mean percentage of responses disagreeing with the combined statements (27.15%), as shown in Figure 54.

Finally, racial prejudice and stereotypes are demonstrated by one of the interviewees, in her comment that she gives generics to Black patients as she assumes that they cannot pay for original branded products (see (xxxvi) in 5.2). One wonders if she demonstrates any other prejudices towards certain patients, whether patients can detect these and the impact of these prejudices on patients and the development of relationships between patients and the interviewee. This example of a racial prejudice expressed by a dispensary employee illustrates the point made in 2.2.6 that, particularly in the South African context, additional skills such as in diversity management are required by dispensary employees.

### **6.2.2 Results per gender**

As described in 5.1.2.4, the mean percentage of males who indicate that the combined pharmaceutical care services in Statements 1-10 in section 2 of the questionnaire are always provided (37.22%) is greater than the mean percentage of males who state that these services are not provided (33.52%). This is in contrast to the results for females, which show that most females (35.04%) state that these combined services are not provided, compared to 32.48% of females who state that these services are always provided (see Figure 47). This suggests that males are slightly more favourable in their responses to whether various pharmaceutical care services are provided by the pharmacy. Statistical analysis could not be performed, however, to establish this with any confidence, as the categories were non-exclusive due to some respondents not indicating their gender. Considering the abovementioned mean percentages, it could be noted that these percentages are relatively low. What about the remaining proportions of males and females who state that they receive these pharmaceutical care services either only once or twice, or not at all? How many of these patients have experienced DRP as a result of the pharmacy not providing these services?

There is consistency between the genders in their responses to Statements 1, 9 and 10, with a higher proportion of each gender stating that these services are always provided, as shown in Figures 36, 44 and 45. For Statement 1, the “Yes, always” and “Yes, once or twice” responses can be combined, as discussed in 6.1, resulting in a combined favourable response of 75.93% for males and 75.22% for females (see Figure 36). This finding is consistent with the results in 6.1 and 6.2.1.

There is also consistency between the genders that the pharmaceutical care services in Statements 2, 4, 6, 7 and 8 are not always provided (see Figures 37, 39, 41, 42 and 43). If the favourable responses to Statement 2 are combined, as discussed in 6.1, a slightly higher proportion of males (44.44%) still state that this service is not provided compared to the combined proportion who state that these services are provided (42.59%), whereas a higher combined percentage of females state that this service is provided (44.25%) compared to 42.48% of females who state that this service is not provided (see Figure 37). As mentioned before, it is not known whether these differences are statistically significant or not.

There is consistency between the genders in that most patients (88.89% of males and 84.96% of females) have not requested a medication review (see Figure 46). This is consistent with the results in 6.1 and 6.2.1, which show that the majority of respondents have not requested this service. As with the results per racial group in 6.2.1, there are differences in how both genders respond to Statements 3 and 5.

As in 6.2.1, one cannot conclude that Sen’s (1995) argument cited in Nussbaum (2001) is applicable here. It might be expected that females may have “adaptive preferences” (Nussbaum, 2001: 77), due to gender-based inequalities that may affect women’s demand for health-care services, as described by Paruzzolo, Mehra, Kes & Ashbaugh (2010) and also by Castro-Leal, Dayton, Demery & Mehra (2000). Woolard (2002) describes gender inequalities in South Africa. It could be expected that such inequalities may affect females’ perceptions of pharmaceutical services, but the results of the present study do not support this, for the following reasons:



- (i) As with the results per racial group, there are respondents who have not indicated their gender. Furthermore, there are also patients who have not responded to statement(s), as shown in Figures 36-47, and this non-response rate could undermine the validity of the reported results;
- (ii) Figure 47 shows that the mean percentage of females responding that the combined pharmaceutical care services in Statements 1-10 are always provided (32.48%) is less than the mean percentage of females who state that these services are not provided (35.04%). This mean percentage of females who state that these combined services are not provided is, furthermore, less than the mean percentage of males indicating this response (33.52%). According to Sen's (1995) argument cited in Nussbaum (2001), one would expect females to respond more favourably in their assessment of the pharmacy, instead of more critically as indicated above;
- (iii) Inferential statistical analysis was not performed on the results per gender, so it is not possible to comment on whether the abovementioned differences in mean percentages are statistically significant;
- (iv) There may be additional complexities, such as race, influencing responses. The results have not been filtered to show, for example, the differences in responses between females from different racial groups, and between males from different racial groups. Socioeconomic factors, which have not been probed, may also play a role in influencing patients' responses; and
- (v) Patient expectations have not been probed in the questionnaire (see 6.2.1).

There is consistency between genders in terms of whether respondents would like to receive the eleven pharmaceutical care services in section 2 of the questionnaire, with a higher percentage of each gender supporting this, as shown in Figures 36-47. This is consistent with the overall results (see 6.1) and the general results per racial group (see 6.2.1). As with the results per racial group (see 5.1.2.3) and the overall results (see 6.1), there is a relatively large proportion of patients (a mean percentage of 47.22% for males, 50.71% for females and 60.00% for respondents who do not indicate their gender, as shown in Figure 47) who do not indicate whether they would like to receive the various pharmaceutical care services in section 2.

In section 3 of the questionnaire, there is agreement between the majority of respondents from both genders that dispensary employees practice within their scope of practice. A larger proportion from each gender agrees that they can identify the pharmacists and pharmacist's assistant, that the pharmacist's assistant always prepares their prescription under the direct supervision of the pharmacist, and that pharmacists or the pharmacist's assistant always selects OTC medication for them, as shown in Figures 55-58. This is consistent with the overall results (see 6.1) and the results per racial group (see 6.2.1). Also consistent with these earlier results, the majority of respondents respond most negatively to Statement 2 (see Figure 56), with 42.59% of males and 38.05% of females stating that they do not know who the pharmacist's assistant is. As highlighted in 6.1, this may be because she admits to not always wearing her name tag. It is then surprising, given that only 57.41% of males and 61.06% of females can identify the pharmacist's assistant (see Figure 56), that a greater percentage of both males (62.96%) and females (66.37%) state that the pharmacist's assistant always works under the direct supervision of a pharmacist (see Figure 57). This anomaly was highlighted in 6.1 and 6.2.1.

The composite graph, Figure 59, shows that for section 3, females give more favourable responses to the combined four statements, with a mean percentage of 67.48%, compared to males, who have a mean percentage of 64.81%. This suggests that females may respond more critically to whether certain services are provided by the pharmacy, but more positively to questions involving identifying particular individuals. Once again, it cannot be said that these differences are statistically significant, as inferential statistical analysis was not performed.

### **6.3 Research objective 3: To determine whether pharmacists view the provision of pharmaceutical care as a key performance area**

There is unanimous agreement amongst all pharmacists that pharmaceutical care is a key responsibility. This category receives five frequency counts and is ranked

fourth (see Table 2). There are three frequency counts indicating that providing pharmaceutical care is regarded as a core professional duty (see code 3 in Table 1).

In the first two chapters, the author had questioned whether pharmaceutical care is regarded as a key performance area by pharmacists, since there are no job descriptions in which this would have been stipulated. The interview results indicate that whilst interviewees agree that there are no job descriptions (see code 11 in Table 1), all pharmacists nevertheless view pharmaceutical care as an integral area of performance. Whilst one cannot go so far as to suggest that these results confirm Tam, *et al.*'s (2002) suggestion that knowledge workers have greater occupational commitment than organisational commitment, the results described above highlight that pharmacists at least appear to be aware of their occupational commitment to provide pharmaceutical care, as stipulated by the SAPC (South Africa. SAPC, 2010a). This is supported by all pharmacists stating that they are aware of GPP standards for pharmaceutical care, even though none can give examples of these standards (see code 5 in Table 1) (see 6.1).

#### **6.4 Research objective 4: To investigate which aspects of the implementation of the PMS are viewed by pharmacists and the pharmacist's assistant as enabling or undermining the provision of pharmaceutical care**

##### **6.4.1 Factors promoting the provision of pharmaceutical care to patients**

From the interview results in Tables 1 and 2, the following ten factors emerge as positive aspects of the PMS that promote the provision of pharmaceutical care:

- (i) All pharmacists unanimously agree that pharmaceutical care is a key responsibility and state that they are aware of GPP standards for pharmaceutical care (see 6.3);

- (ii) There are two frequency counts, from a pharmacist and the pharmacist's assistant, stating that they are fully compliant with the pharmacy's SOPs, compared to no frequency counts stating otherwise (see code 14 in Table 1). As mentioned in 1.1, these SOPs are aligned with the GPP standards for pharmaceutical care as outlined by the SAPC (South Africa. SAPC, 2010a), so compliance with these SOPs is expected to promote the provision of pharmaceutical care;
- (iii) Providing patient counselling and care is the only category under performance objectives (see code 20 in Table 1) that receives a frequency count of two; the others all have a count of one. This indicates that the patient counselling aspect of pharmaceutical care, which corresponds to phase (iii) in the SAPC's definition of dispensing (South Africa. SAPC, 2010a) (see 2.2.4), seems to receive emphasis from a performance management perspective. It is then not surprising that, as highlighted in 6.1, both patients and dispensary employees rank this as the top aspect of pharmaceutical care provided;
- (iv) There is unanimous agreement that the number of pharmacists is sufficient to supervise the pharmacist's assistant, indicated by a frequency count of four (see code 23 in Table 1). This, theoretically, should promote pharmaceutical care, as the pharmacist's assistant performs a primarily technical role (see 4.2.2.1.3), thus allowing pharmacists more time to spend on analysing pharmacotherapy and providing patient counselling. Furthermore, another role of the pharmacist's assistant, as outlined by the SAPC (South Africa. SAPC, 2010a), is the provision of patient counselling, an important component of pharmaceutical care. Disagreement over whether such supervision is always exerted is explored in 6.1 and later in 6.4.2.3;
- (v) There are three frequency counts stating that the owner-manager's management style encourages pharmacists to provide pharmaceutical care (see code 29 in Table 1 and (xxv) in 5.2). The owner-manager says that he "lead[s] by example" (see code 29 in Table 1); this suggests that he serves as a role model in the dispensary, and shows dispensary employees how he expects them to perform. Al-Shaqha and Zairi (2001: 291) discuss the importance of the managing pharmacist espousing the philosophy of pharmaceutical care, driving its implementation and acting as a "role model" to employees in the provision of pharmaceutical care (see 3.6.8.1);

- (vi) All interviewees state that they have good working relationships. This category has six frequency counts and is the third-ranked category in Table 2. There are four frequency counts supporting the view that these good working relationships promote the provision of pharmaceutical care, and this category is ranked fifth (see Table 2). As mentioned in (xxviii) in 5.2, reasons that interviewees have given for this include good working relationships promoting understanding amongst employees and the development of a pleasant work environment that is conducive to employees performing optimally;
- (vii) Interviewees also state that they have good relationships with patients. This category receives three frequency counts (see code 33 in Table 1). There is a high frequency count for categories indicating that interviewees know patients well; that relationships with patients promote patients trusting the dispensary employee more and the dispensary employee feeling greater confidence; and that the provision of patient counselling and/ or other aspects of pharmaceutical care are promoted (see (xxix) in 5.2). As mentioned in 3.5.2, Desselle (2004) mentions that knowing patients well is important in patients trusting pharmacists' services. The abovementioned findings also highlight the significance of "softer" skills, such as customer relations and communication skills. The need for such skills is discussed in 2.2.6; as pointed out, the Introduction to the GPP standards (South Africa. SAPC, 2010a) mentions the imperative to enhance communication skills. It was also mentioned that a gap in these "softer" skills could potentially undermine the confidence of dispensary employees in providing patient counselling and/ or other aspects of pharmaceutical care. Van Mil, *et al.* (2004) also discuss gaps in communication skills, which these authors believe reflects university curricula not adequately preparing pharmacists to provide pharmaceutical care (see 3.5.2). It is thus interesting that an interviewee acknowledges that her relationships with patients results in her experiencing greater self-confidence. The question that is then raised is whether poor relationships with patients could undermine the confidence of pharmacists and the pharmacist's assistant, thus inhibiting the provision of pharmaceutical care;
- (viii) There appears to be a high level of intrinsic motivation amongst dispensary employees, with higher frequency counts for the categories stating that financial and non-financial rewards are not motivating factors (see codes 36

and 37, respectively). The category stating that financial rewards are not a motivating factor is ranked fifth, with four frequency counts (see Table 2), and a typical response from interviewees is that the patient's health is more important than financial rewards (see (xxxii) in 5.2). This suggests an intrinsic professional commitment to patients, which is also reflected in interviewees' view of pharmaceutical care as a key professional duty and in Tam, *et al.*'s (2002) comment on the occupational commitment of knowledge workers (see 6.3). It is also reflected in a pharmacist saying that he "challenge[s]" himself to go beyond the SOPs and his employment contract, saying that, "If I could spend twenty-four hours there [in the pharmacy], I would";

- (ix) There is a higher frequency count indicating that dispensary employees regularly liaise with other health-care professionals, and that the owner-manager encourages this. Each of these two categories has three frequency counts, compared to one frequency count for the categories stating otherwise (see code 44 in Table 1). Interdisciplinary communication and collaboration with other health-care professionals is emphasised in the GPP standards (South Africa. SAPC, 2010a) (see 1.1). Liaison with prescribers, for example, is important in addressing prescribing errors that the pharmacist has detected, which could prevent or resolve DRP, thereby improving patient outcomes; and
- (x) There is a higher frequency count (of two) supporting the view that the new layout of the pharmacy promotes the provision of pharmaceutical care (see code 49 in Table 1). This suggests that the new layout which includes, for example, lower counters separating dispensary employees and patients, enhances the ability of the pharmacy to provide pharmaceutical care. However, one pharmacist is adamant that the pharmacy's layout does not protect patient privacy (see (xlvii) in 5.2), which could undermine patient counselling and the delivery of pharmaceutical care and is cited as such a barrier by Al-Shaqha and Zairi (see 3.5.1). Pharmacy layout can be regarded as falling under the category organisational structure, which is regarded as a component of a PMS by Al-Shaqha and Zairi (2001) (see 3.6.4).

#### **6.4.2 Factors undermining the provision of pharmaceutical care to patients**

The following factors, highlighted in Tables 1 and 2, potentially undermine the provision of pharmaceutical care to patients. These factors reflect those components of a PMS for pharmaceutical care proposed by Al-Shaqha and Zairi (2001) (see 3.6), integrated with some of the components in Cameron's (2006a: 120) "elaborated model" (see 2.2) and modified by the author.

##### **6.4.2.1 Philosophy and mission statement reflecting pharmaceutical care**

Although, as mentioned in 6.1 and 6.3, there is consensus amongst pharmacists that pharmaceutical care is viewed as a key performance area and a core professional duty, and that they are aware of GPP standards and are compliant with these, none (including the owner-manager) are able to give examples of these GPP standards (see code 5 in Table 1). This suggests that, whilst on a philosophical level there is an appreciation of the significance of pharmaceutical care, there appears to be a fundamental lack of knowledge, on a practical level, of what regulatory standards are in place in order to ensure that pharmaceutical care is provided. This suggests a dissonance between philosophy and practice, which is worrying because the GPP standards provide a practical linkage between philosophy and practice. Not knowing what these standards are makes it difficult to ensure that the pharmacy and individual dispensary employees are fully compliant with these standards in everyday practice, as failure to do so could lead to widespread risks, including operational and professional risks to the pharmacy and dispensary employees (see 1.2.5).

This lack of adequate awareness of GPP standards, as outlined by the SAPC (South Africa. SAPC, 2010a), is also reflected in interviewees' responses to code 3 in Table 1, in which interviewees emphasise patient counselling in their responses to their understanding of pharmaceutical care, and other key components such as the evaluation of pharmacotherapy and patient outcomes and safety receive fewer

frequency counts. This has an impact on what pharmaceutical care services are provided, with patients reporting that patient counselling services are provided more often than the other pharmaceutical care services in the questionnaire (see 6.1). Patient counselling is undoubtedly an important aspect of pharmaceutical care, but so are these other services.

There is a higher frequency count showing that interviewees do not know what the vision of the pharmacy is, and there is also disagreement over whether there is a mission statement or not (see codes 8 and 9 in Table 1). As mentioned in 2.2.1, a vision provides a strategic focus for an organisation's PMS, and a mission statement expresses this vision and communicates it to stakeholders. A mission statement in alignment with the principles of pharmaceutical care is also required in s4.2.1.1 of the GPP standards (South Africa. SAPC, 2010a) (see 2.2.1). If there is substance to some interviewees' claims that there is no mission statement, it thus infringes a GPP requirement. Furthermore, the confusion over the pharmacy's vision and mission statement is a key problem in the current PMS, as it indicates that dispensary employees are not sure of what the pharmacy stands for, what it commits to in terms of service delivery to patients, and what the employees are working towards. Patients and the wider community are also not informed of these because the vision and mission statement of the pharmacy are not on public display (see 2.3.4).

The owner-manager's description of the pharmacy's vision is "Sustainability and providing good quality care" (see (vii) in 5.2). This is not echoed by any of the other interviewees in their responses to what the pharmacy's vision is (see code 8 in Table 1). Although "good quality care" can be regarded as reflecting pharmaceutical care, the owner-manager has not explicitly articulated "pharmaceutical care" as a component of his pharmacy's vision. The owner-manager is also the only interviewee to provide an answer to what the mission statement is, namely "Passion for health" (see (vii) in 5.2), and this also does not explicitly mention pharmaceutical care. The confusion exhibited by employees in response to this question (see code 8 in Table 1) suggests that the owner-manager has also not effectively communicated his vision or mission statement for the pharmacy to his employees.



The owner-manager's vision includes the word "sustainability", which can be interpreted as "financial" or "business sustainability", a legitimate vision for an independently-owned business operating in the SMME sector. In 2.3.4, the author raised the possibility that perhaps the vision is not on public display as it may be profit-related and thus may offend patients' sensibilities. This is found to not be the case, as there is a difference between sustainability and profitability.

The dispensary employees appear to be unaware of the owner-manager's vision of "sustainability". This is problematic, suggesting that important conversations, such as around the legal requirement to offer patients generic substitution (see 1.2.3), what "sustainability" means on a practical level and how this can be achieved within the limits of pharmacy law, may not be occurring. This could be a contributory factor to the finding that generic medication is not always offered to patients (see 6.1).

#### **6.4.2.2 Short- and long-term goals**

The pharmacy's goals were not probed, which may be considered a limitation of the interview questions. Although the interviews were relatively long at approximately one and a half hours each in duration, interviewees could perhaps have been asked brief questions on what the short- and long-term goals of the pharmacy and dispensary are, their perceptions of progress towards achieving these goals and their perceptions of the factors that may promote or undermine the achievement of these goals. Information on the pharmacy's goals did not arise from interviewees' responses to other questions. The owner-manager, for example, discussed the pharmacy's vision and mission statement, but did not mention any specific goals.

Goals are important in providing a practical framework for a pharmacy in achieving the vision of pharmaceutical care, as suggested by Al-Shaqha and Zairi (2001) (see 3.6.2). Assessing the nature of the pharmacy and dispensary's goals would thus

have been useful, as it was suggested in 6.4.2.1 that there seems to be poor appreciation of what pharmaceutical care is on a practical level. Al-Shaqha and Zairi (2001) also note that goals should be expressed in strategic and business plans. The owner-manager does not have such plans (see 2.2.3), illustrating the lack of practical guidance to dispensary employees on what their overall performance should be geared towards. The absence of these key documents could potentially contribute to interviewees' confusion regarding the pharmacy's vision and mission.

#### **6.4.2.3 The responsibilities of pharmacists and the pharmacist's assistant**

The lack of clarity regarding the pharmacy's overall direction and goals, described in 6.4.2.1 and 6.4.2.2, is also evident at the level of individual dispensary employees. There is agreement amongst interviewees, including the owner-manager, that there are no job descriptions, with one pharmacist saying that he is using a six-year old job description that predates the current owner (see (ix) in 5.2). The question is raised whether the latter job description is still relevant, given environmental changes such as changes to the Medicines and Related Substances Act in 2004 and subsequent regulations, and the updating of GPP standards in 2010. The question is also raised whether the abovementioned job description is in alignment with what the current owner expects the performance of his pharmacists to be, whether the owner-manager is aware that his pharmacist is using this job description, what the contents of this job description are and whether or not it includes the provision of pharmaceutical care as a key performance area.

A job description clarifies an employee's roles, responsibilities and key performance areas. It is required in s3.2.1(a) of the GPP standards (South Africa. SAPC, 2010a), and failure to have job descriptions thus infringes this management standard. As mentioned in 3.6.3, Al-Shaqha and Zairi (2001) propose that job responsibilities be founded on the types of activities and standards of pharmacy practice expected for individual patients. The owner-manager mentions that he has told employees

verbally about their roles and responsibilities (see code 12 in Table 1). Relying on verbal communication and not outlining these roles and responsibilities in a written format, however, has the potential to result in confusion, a lack of clarity and different interpretations and standards regarding employees' performance. The low frequency counts of either one or two for the various categories of roles and responsibilities that pharmacists and the pharmacist's assistant have self-identified suggests that there is a lack of overall agreement amongst interviewees as to what their specific roles and responsibilities are (see code 12 in Table 1).

There are no frequency counts, for example, indicating that supervision of the pharmacist's assistant is regarded as a pharmacist's responsibility; it is thus not surprising that interview results suggest that the pharmacist's assistant does not always work under a pharmacist's direct personal supervision (see 6.1). The pharmacist's assistant also demonstrates a flawed understanding of her role; she says that she performs all the tasks of a pharmacist, but under the supervision of a pharmacist (see code 12 in Table 1). This is incorrect because there are some tasks, such as phase (i) of dispensing a prescription, involving the evaluation of the appropriateness of a prescription (see 2.2.4), that do not fall into the scope of practice of a pharmacist's assistant, as outlined in s1.2(g) in Appendix A of the GPP standards (South Africa. SAPC, 2010a). Although the pharmacist's assistant states that she is aware of the GPP standards outlining her scope of practice (see code 5 in Table 1), one of the pharmacists indicates that the pharmacist's assistant practices outside this scope (see code 45 in Table 1). The abovementioned misunderstanding of her role could contribute to this. A job description would have been useful in clarifying to the pharmacist's assistant what she is allowed to do by the SAPC.

Although interviewees have mentioned various activities that fall within the ambit of the GPP standards being job responsibilities, only one interviewee has explicitly mentioned compliance with GPP standards as a job responsibility (see code 12 in Table 1). This is not wholly consistent with pharmacists' responses to an earlier question, in which the provision of pharmaceutical care as a key responsibility and core professional duty was highlighted (see 6.3 and 6.4.1). This suggests that, on

an abstract or philosophical level, pharmacists agree that providing pharmaceutical care is important. However, this abstract acknowledgement of the importance of pharmaceutical care does not seem to permeate their understanding of what the SAPC expects them to do in everyday practice. This could be related to the failure of pharmacists to give examples of GPP standards (see 6.4.2.1). This dissonance between philosophy and everyday practice has been discussed in 6.4.2.1.

Another problem is that there is disagreement over whether dispensary employees are aware of the pharmacy's SOPs (see (xi) in 5.2). As highlighted in 1.1, there are no signatures at the end of each SOP, in the section asking employees to sign in order to indicate that employees have read the SOP. There is a frequency count of two (see code 14 in Table 1) indicating that dispensary employees are compliant with these; one wonders then if employees did read the SOPs and omitted to sign these. A way to test this could have been to have asked interviewees for some examples of SOPs, and the steps that should be followed in a particular SOP. The owner-manager believes that only pharmacists, and not the pharmacist's assistant, are aware of the SOPs, which was incorrect, as mentioned in (xi) in 5.2. There is also a higher frequency count supporting the view that the owner-manager has not told dispensary employees to comply with these SOPs (see code 14 in Table 1).

Since these SOPs are closely aligned to the GPP standards (see 1.1), they provide practical steps on how the pharmacy and individual dispensary employees should be compliant with these regulatory requirements. There is one frequency count indicating that the SOPs provide standardisation in practices (see code 15 in Table 1). The range of SOPs is, however, limited to the range that s4.2.3.3.1 of the GPP standards (South Africa. SAPC, 2010a) stipulates the pharmacy should have (see 2.2.4). As mentioned in 2.2.4, a key weakness in this part of the GPP standards is that it is not stipulated that a pharmacy have an SOP for the provision of pharmaceutical care. This could include the broad steps to be followed in undertaking the three phases of dispensing medication (see 2.2.4), as well as other facets of pharmaceutical care, such as how to monitor patient outcomes. Since such an SOP is likely to be long, there could perhaps be a separate SOP on how to

dispense medication. This would include the types of questions to ask patients, guidelines on how to analyse the appropriateness of a patient's pharmacotherapy, how to counsel patients and the kind of information to provide to patients.

Similarly, there should also be an SOP for the provision of OTC medication, which is also not required in s4.2.3.3.1 of the GPP standards as outlined by the SAPC (South Africa. SAPC, 2010a). The absence of these SOPs could make it more difficult for pharmacists to provide pharmaceutical care, as they may not be sure of how this could be performed practically, on a step-by-step basis. One of the interviewees complains of the lack of standardisation in how OTC medication is sold, which he believes serves as a barrier to patient counselling (see code 47 in Table 1).

Another SOP that could potentially be useful is an SOP on how to supervise a pharmacist's assistant, as the pharmacists seem to have different approaches to this; code 45 in Table 1, for example, shows that although there are two frequency counts indicating that the pharmacist's assistant's work is supervised on an ongoing basis, a pharmacist discloses that her work is only checked as the medication is being dispensed and there are two frequency counts indicating that the supervision focuses primarily on her patient counselling. The owner-manager is not a registered tutor (see code 45 in Table 1). A pharmacist does not have to be a registered tutor with the SAPC in order to supervise a pharmacist's assistant, but this is compulsory if the pharmacist is to supervise a pharmacist intern, as stipulated in s2.28.1 of the GPP standards (South Africa. SAPC, 2010a). So although the owner-manager does not have to be a registered tutor, perhaps this could be useful in familiarising him with guidelines for supervision and qualitative aspects of assessment, as the SAPC has documentation to guide tutors in supervising pharmacist interns.

A worrying finding is that there are two frequency counts, the highest for code 15 in Table 1, for the category stating that the SOPs are only guidelines and that dispensary employees are sometimes non-compliant with these. One of the pharmacists who has responded in this manner is the owner-manager, and this

suggests that compliance with the SOPs is not viewed by him as a key performance area for dispensary employees. Another pharmacist says, “As much as you try to stick to SOPs, you have to bend the rules a bit”. This suggests that at times dispensary employees are deliberately non-compliant with the SOPs and, by extension, GPP standards. The example the pharmacist gave of such a situation is giving a patient scheduled medication without a prescription, because the patient was on holiday and was thus not able to visit his general practitioner. It would have been interesting to have probed this further, and to have found out how often rules are “bent” and why the pharmacist believes that the rules “have to” be bent, instead of taking other measures outlined in the GPP standards and Medicines and Related Substances Act (South Africa. National Parliament, 1965), such as obtaining a telephonic prescription from the prescriber. The abovementioned comment could also possibly give credence to the pharmacist’s assistant’s allegation that some patients receive highly scheduled medication without a prescription (see (xxv) in 5.2).

Giannetti (2004: 217) argues that pharmacists’ jobs should be designed to include the “enriching characteristics” or core job dimensions in Hackman and Oldham’s (1975) job characteristics model cited by the former (see 3.6.3). Although questions related to job design and motivation were not asked in the interviews, interview results suggest that the following core job dimensions of Hackman and Oldham’s (1975) model cited in Giannetti (2004: 217) could potentially be undermined:

- (i) Skill variety: Pharmacists tend to focus on one aspect of pharmaceutical care, namely patient counselling, compared to optimally utilising skills that are necessary for other pharmaceutical care services, such as analysing the appropriateness of pharmacotherapy (see 6.1). One pharmacist, for example, says that she does not analyse drug interactions for prescribed medication (see 6.1). She thus does not routinely practise this particular skill. Cox and Fitzpatrick (1999) cited in Seston, Hassell, Ferguson & Hann (2009) have found that retail pharmacists report greater underutilisation of their skills compared to hospital pharmacists and that those pharmacists reporting the underutilisation of their skills are more likely to experience job dissatisfaction;

- (ii) Autonomy: The owner-manager manages by direct supervision (see code 26 in Table 1) and mentions that he has “phased out” those with different working styles (see code 18 in Table 1). This is discussed in 6.4.2.5 and 6.4.2.10;
- (iii) Feedback: A major problem with the PMS, as discussed in more detail in 6.4.2.7, is that there are no performance appraisals (see code 18 in Table 1). Dispensary employees thus do not receive feedback from the owner-manager regularly and in a structured manner, on aspects of their performance.

It is important for the owner-manager to address the abovementioned factors, because these could, according to Hackman and Oldham’s (1975) model cited in Giannetti (2004: 217), potentially undermine employee motivation in providing pharmaceutical care to patients.

There is a frequency count of three supporting the view that there are no meetings that specifically address dispensary-related issues (see code 28 in Table 1). The owner-manager says that such meetings are unnecessary, as according to him there are no major dispensary problems (see (xxiv) in 5.2). It is thus difficult to understand why one pharmacist claims that there are such dispensary-related meetings, when the owner-manager states that these meetings do not occur (see code 28 in Table 1). Such meetings could be beneficial in allowing a platform for the owner-manager and dispensary employees to discuss issues such as the vision, plans and objectives of the pharmacy and dispensary; updates in the pharmacy profession, such as changes in regulations; dispensary-related problems, which the owner-manager may be unaware of, and ways of addressing these; and clarify roles and responsibilities. Such meetings may thus address the problem of poor communication and information-sharing (see 6.4.2.1, 6.4.2.3 and 6.4.2.10). Although there is a higher frequency count (of two) for the category stating that the lack of dispensary-related meetings does not affect the provision of pharmaceutical care, perhaps interviewees have responded this way because they have not been exposed to these meetings and thus might not be aware of how they may prove beneficial (see code 28 in Table 1). Furthermore, one pharmacist states that the staff meetings that are held are

“useless”; perhaps this may be because these meetings primarily address front-shop matters and not dispensary-related issues (see code 27 in Table 1 and 6.4.2.10).

#### **6.4.2.4 Induction and orientation**

There is disagreement amongst interviewees over whether there is induction, orientation and training when they started working at the pharmacy, with two frequency counts stating that this does occur and two disagreeing (see code 16 in Table 1). The locum pharmacist reveals that, when she started working at the pharmacy, she would come in when she was off-shift to familiarise herself with the pharmacy. The owner-manager states that there is a brief, informal induction and orientation, but the pharmacist's assistant states that not much information is provided to employees. This suggests that the orientation and induction of new employees could be improved.

By adapting Fowler's (1996) checklist cited in Cameron (2006b: 84), induction and orientation can also be seen as involving imparting information to employees on a pharmacy's vision, values, mission statement and approach to pharmacy practice, as well as employees' specific roles, responsibilities and performance objectives, so that employees know what is expected of them and can direct their performance towards fulfilling these. Employees would also be provided with basic information, such as where patient information and medication are stored and how to use the computer software. The absence of such information could undermine the ability of the new dispensary employee to provide pharmaceutical care or aspects of this.

#### **6.4.2.5 Organisational structure**

Al-Shaqha and Zairi (2001) advocate a decentralised decision-making structure with pharmacists experiencing sufficient autonomy to practise pharmaceutical care (see



3.6.4). The owner-manager, however, says that his management style is one of direct supervision (see code 26 in Table 1 and 6.4.2.3), saying that, “I try to keep my eye on everything” and that he expects pharmacists to follow his working style (see code 29 in Table 1), and also that he has “phased out” employees who do not do so (see code 18 in Table 1). This direct supervision is consistent with Matlay’s (2002) findings (see 3.1.3) that as the size of an organisation decreases, the owner is increasingly personally responsible for management controls. Despite such direct supervision, there is a higher frequency count supporting the view that pharmacists do not feel as though they have to follow the owner-manager’s working style (see code 30 in Table 1 and (xxvi) in 5.2). This is discussed further in 6.4.2.10.

#### **6.4.2.6 Resources**

A key resource mentioned by Al-Shaqha and Zairi (2001) is HR, and in particular having a sufficient number of dispensary employees. In the first two chapters of this dissertation, the author highlighted a shortage of pharmacists and pharmacist’s assistants as a potential problem. This is confirmed by the interview results, in which there is a frequency count of four for the category stating that the number of dispensary employees is not sufficient to provide pharmaceutical care (see code 23 in Table 1). This is compared to a count of two for the category stating otherwise.

Interviewees agree that there are either one or two pharmacists on duty at a time, with a full-time pharmacist mentioning that there tends to only be one pharmacist on duty. This was supported by the author’s observation that there was one pharmacist on duty for approximately four out of seven days (see (xix) in 5.2). The full-time pharmacist above states that the shortage of pharmacists on duty at any point in time makes it difficult to provide pharmaceutical care (see code 23 in Table 1).

The owner-manager acknowledges there is a shortage of dispensary employees, but maintains that he will not hire extra employees for the sake of having extra

personnel, as these new employees may have a different working style and not fit into the pharmacy's culture or comply with his standards (see code 23 in Table 1). The owner-manager would thus appear to prefer to work with a core team of pharmacists whom he trusts and has worked with for a number of years, as both other pharmacists have worked in the pharmacy for between five and ten years (see code 2 in Table 1), instead of actively recruiting new employees either in his own image, metaphorically speaking, or whom he can train. The shortage of dispensary employees is also likely to be worsened by the relatively small labour pool of pharmacists and pharmacist's assistants, as both these professionals are regarded as scarce-skill professionals in South Africa by the Department of Labour (see 1.2.1).

The most frequently-cited category, with ten counts (see Table 2), is that stating that time pressures and/ or other practicalities make it difficult to provide pharmaceutical care. It is possible that the shortage of dispensary employees contributes to these time pressures, as fewer dispensary employees are present at any point in time, leading to the development of queues, particularly at busy times. Pharmacists may thus have less time with individual patients, to analyse their pharmacotherapy, provide patient counselling and other aspects of pharmaceutical care.

The owner-manager has a potentially serious problem with regard to the shortage of dispensary employees. He attempts to address this by working long hours himself, frequently being present for thirteen hours daily during the week. The underlying HR problem, however, is not addressed. What happens, for example, if the owner-manager is ill or wishes to take leave? Perhaps it is understandable for him to want to take direct control and not entrust his pharmacy to new employees whom he perhaps does not trust, but there is an underlying recruitment problem that the pharmacy faces. Based on the owner-manager's aforementioned reluctance to hire new employees, there does not seem to be an active recruitment strategy in place to attract dispensary employees. Al-Shaqha and Zairi (2001) note that recruitment and selection should be geared towards hiring pharmacists who are able and, by extension committed, to providing pharmaceutical care, and that this could be cultivated through continuous T&D.

The category stating that the number of dispensary employees is not sufficient to provide pharmaceutical care is ranked fifth (see Table 2). This shortage of key HR thus has the potential to become debilitating for the pharmacy, and impact adversely on its ability to provide pharmaceutical care. Furthermore, there is the possibility that compliance with s4.1(b) of the GPP standards (South Africa. SAPC, 2010a), which states that a pharmacy must have sufficient pharmacists and support staff to provide a pharmaceutical service, may be undermined in the future.

Elenbaas (2008) recommends that pharmacy support staff be used more optimally to perform technical functions, so that pharmacists have more time to provide pharmaceutical care. Although the owner-manager mentions that he is attempting to “mould” the pharmacist’s assistant “to ease [his] load” (see code 45 in Table 1), the pharmacist’s assistant does not always seem to practice within her scope of practice (see 6.1). By spending time performing functions outside her scope of practice, the pharmacist’s assistant has less time to perform tasks within her scope of practice, which could then contribute to the pharmacists being under greater work pressure.

An alternative view is suggested by the anonymous, A community pharmacist (2010), who claims that some pharmacy owners deliberately use pharmacist’s assistants to perform functions outside their scope of practice, as this is less costly than hiring pharmacists (see 3.5.4). One cannot comment on whether this claim is applicable to XXX Pharmacy as such questions were not posed to interviewees, but the operational risks and potential for DRP arising from the pharmacist’s assistant practising outside her scope of practice are valid concerns (see 1.2.5).

#### **6.4.2.7 Performance appraisal**

There is unanimous agreement amongst interviewees, including the owner-manager, that there are no formal performance appraisals. This category has four frequency counts and is ranked fifth amongst all categories (see Table 2). There appears to be

a reactive approach to performance evaluation, with the owner-manager saying that he prefers to address performance-related problems as they arise (see code 26 in Table 1) instead of him proactively preventing these from occurring or minimising the likelihood of occurrence. This reactive approach to performance appraisal was highlighted as a possible problem in 2.2.5. The absence of performance appraisals could contribute to employee confusion regarding their performance; this is supported by the locum pharmacist, who says that “having performance appraisals would lead to clarity and eliminate hassles” (see code 18 in Table 1).

The owner-manager’s reason for not having performance appraisals, as shown in code 18 in Table 1, is that he asserts that these are “difficult” to perform for pharmacists. It is not known why he considers these difficult; this is unlikely to be because he finds it difficult to give critical, perhaps negative, feedback to pharmacists, as he indicates that he has told dispensary employees in the past that he has a problem with their performance and that he prefers to deal with performance-related problems as they arise (see code 26 in Table 1). Furthermore, the owner-manager mentions that he has “phased out” dispensary employees who do not have the same working style as him (see code 18 in Table 1). He also mentions that the current pharmacists do not require much supervision, which is supported by the current pharmacists saying that he has not told them that he has a problem with their performance (see code 26 in Table 1), so one wonders why he then finds it difficult to introduce a formal performance appraisal system. The insistence by the owner-manager that employees have the same working style as him could result in the benefits of different, innovative business and/ or professional practices or ways of addressing challenges not being introduced to the pharmacy.

Perhaps there may be an underlying knowledge and skills gap on the part of the owner-manager in terms of how to introduce and implement a performance appraisal system. Visara and Hunt (2008) cited in Banomyong and Supatn (2011), for example, have found that the managers and/ or owners of SMMEs may not have adequate knowledge of business practices (see 3.1.3). As a pharmacist, the owner-

manager would not have had much, if any, exposure to basic performance management principles in his university pharmacy curriculum.

Section 3.2.2(a) of the GPP standards (South Africa. SAPC, 2010a) states that the performance of pharmacy employees should be evaluated against job descriptions and performance objectives, which are set annually, and that the results of these performance appraisals should be discussed with the employee and written on the employee's personal record. As mentioned previously, XXX Pharmacy does not have performance appraisals and there are no job descriptions for dispensary employees (see 6.4.2.3). When asked about performance objectives, there was some confusion amongst interviewees, with a wide range of different performance objectives given. All of these different categories, such as sales figures and following the working style of the owner-manager, have a frequency count of one, except for "patient counselling and care", which has two frequency counts (see code 20 in Table 1). This suggests that there is a lack of broad agreement amongst interviewees as to what their performance objectives are. One interviewee states that she does not know what the performance objectives are, as she says that the owner-manager does not provide any guidance or information on this (see code 20 in Table 1). The higher proportion of frequency counts for patient counselling is consistent with earlier findings (see 6.1) that the pharmacy seems to provide patient counselling more often than other pharmaceutical care services.

There is only one frequency count, from the owner-manager, for the category stating that pharmaceutical care is a performance objective. Incidentally, this is the only performance objective that the owner-manager mentions. This suggests that the owner-manager expects dispensary employees to be providing pharmaceutical care on a practical level. However, no other interviewees state that the provision of pharmaceutical care is a performance objective, indicating that dispensary employees are not aware of this performance objective that the owner-manager has, and that there has perhaps been inadequate communication of this from his side.

Interviewees similarly had difficulty in articulating their performance targets, with three frequency counts for the category that there are no performance targets. As shown in code 21 in Table 1, there are several performance targets that interviewees mention, each with a frequency count of one, suggesting a lack of broad agreement amongst interviewees. The exception to this is the category stating that customers must be served as quickly and efficiently as possible; this has five frequency counts and is ranked fourth out of all categories (see Table 2). This suggests that there is strong agreement amongst interviewees regarding this particular performance target. It also supports earlier analysis by the author in the first two chapters of this dissertation, in which the focus on operational efficiency was highlighted.

This perceived performance target of having to serve customers as quickly as possible could contribute to another finding that emerges strongly from interview data, namely that the time pressures in the pharmacy make the provision of pharmaceutical care difficult. This latter category is the top-ranked category (see Table 2). This suggests that this particular performance target, namely having to serve customers as quickly as possible, could potentially undermine the provision of pharmaceutical care to patients.

There are no performance targets among those in code 21 in Table 1 that explicitly state pharmaceutical care. The owner-manager mentions “total care” and speaks about providing “total care” being more important than the number of prescriptions dispensed, but he does not define or describe “total care” as being “pharmaceutical care”. Interestingly, his comment about “total care” being more important than the number of prescriptions dispensed seems to contradict the author’s earlier analysis in the first two chapters of this dissertation about the dominance of quantitative, financial KPIs. His comment is, however, belied by the high frequency counts for the categories stating that customers have to be served as quickly as possible and that time pressures and/ or other practicalities in the pharmacy make it difficult to provide pharmaceutical care (see above).

There is no mention of the supervision of the pharmacist's assistant being a performance objective or having targets, which could account for the different approaches exhibited by various pharmacists in the extent to which they supervise her, and the finding that she does not always work under the direct personal supervision of a pharmacist and may not always practise within her scope of practice (see 6.4.2.3). Likewise, there is no mention of compliance with the pharmacy's SOPs being a performance objective or target. This may perhaps reflect the owner-manager's view that these SOPs are merely "guidelines", instead of having to be adhered to at all times (see 6.4.2.3). Since these SOPs are closely aligned with the GPP standards outlined by the SAPC (South Africa. SAPC, 2010a) (see 1.1), not having compliance with these SOPs as performance objectives and targets could potentially undermine the provision of pharmaceutical care to patients. It could also contribute to the confusion or lack of clarity surrounding how exactly pharmaceutical care is to be implemented on a practical level (see 6.4.2.1), as performance objectives and targets deconstruct an overriding vision and philosophy into smaller, perhaps more manageable, practical "chunks" that employees can strive towards.

There is one frequency count for the category stating that employees give input in developing performance targets or objectives, and also one frequency count for the category stating that employee input is not provided (see code 21 in Table 1). Section 3.2.2(a) of the GPP standards (South Africa. SAPC, 2010a) states that consultation with employees in the determination of performance objectives is necessary; this consultation could be potentially beneficial in allowing employees to feel a greater sense of "ownership" over their performance objectives and targets.

#### **6.4.2.8 T&D**

A T&D programme is linked to performance appraisal, as T&D gaps that employees have which may be identified during performance appraisal need to be addressed. Since there is no performance appraisal process in XXX Pharmacy, it is thus

perhaps not surprising that there seems to be no formal structured T&D programme, which is compulsory in s3.2.3(a) of the GPP standards outlined by the SAPC (South Africa. SAPC, 2010a). This absence of a formal T&D programme is consistent with Matlay's (2002) findings that as the size of an organisation decreases, owners adopt an increasingly informal management style and approach to many practices, including T&D (see 3.1.3). Employees unanimously state that the owner-manager has not identified any T&D needs that they may have (see code 24 in Table 1). There are two frequency counts indicating that employees identify their own T&D needs, and no frequency counts stating that the owner-manager has sent dispensary employees for any T&D activities. This could perhaps be because of the reservations that the owner-manager expresses regarding the quality of some in-house training, and his opinion that the benefits of T&D activities are limited if employees are not able to apply what they have learnt (see code 24 in Table 1).

Although there may be merit in the owner-manager's views, he could have addressed these concerns, such as perhaps finding a different training provider or sending employees on T&D activities that could assist them in applying what they have learnt, instead of appearing to shy away from T&D. This reluctance to embark on T&D activities is also suggested by the finding that although the owner-manager says that he welcomes employees informing him of their T&D needs, an interviewee asserts that he did nothing when she told him about hers (see code 24 in Table 1). The owner-manager also reveals that he is not sure whether his dispensary employees have self-development plans, which is compulsory in s3.2.3(b) of the GPP standards, as outlined by the SAPC (South Africa. SAPC, 2010a) (see 1.2.4).

It thus seems that employees take their own initiative in addressing their self-identified T&D needs. Interviewees mention, for example, undertaking additional courses, at their own expense. There is also a higher frequency count indicating that the owner-manager does not encourage dispensary employees to participate in PSSA activities (see code 38 in Table 1). That employees still do so suggests that employees take their own initiative in doing so. This illustrates the occupational commitment of knowledge workers highlighted by Tam, *et al.* (2002) (see 6.3).



There is agreement amongst interviewees that involvement in PSSA activities assists in the delivery of pharmaceutical care (see code 38 in Table 1), with one pharmacist saying that the information provided in some PSSA activities assists her in providing better patient counselling. Interviewees are unanimous in stating that they are involved in CPD activities, and there is a frequency count of two stating that such activities assist the interviewees in providing pharmaceutical care and/ or performing their jobs better, as shown in code 39 in Table 1. Although there is a higher frequency count (of three) supporting the view that there has been no meeting to discuss CPD being compulsory according to the SAPC, there are also three frequency counts indicating that there is a plan to ensure that employees are compliant with CPD requirements (see code 39 in Table 1). Upon closer questioning, a full-time pharmacist reveals that this plan will ensure that each pharmacist will do the minimum CPD activities necessary in order to be compliant. This suggests a reactive approach to CPD, in which the focus is more on doing the minimum required activities, as opposed to making the T&D needs of the individual dispensary employee the focal point, so that his/ her performance could be enhanced so that optimal pharmaceutical care can be provided to patients.

Ongoing T&D is an important component of being able to provide pharmaceutical care, as highlighted in s3.2.3 and s3.4.1 of the GPP standards outlined by the SAPC (South Africa. SAPC, 2010a). As discussed in 2.2.6 and 3.5.2, it is not just technical pharmaceutical knowledge and skills that are required, but also additional “softer” skills, such as in communication, as suggested by Van Mil, *et al.* (2004). One interviewee discloses that she experiences racism and/ or sexism from certain patients, which makes it difficult for her to provide patient counselling (see (vi) in 5.2). This highlights the need for dispensary employees to perhaps have customer relations training in how to manage difficult or abusive patients, and how not to let such treatment from patients affect the psyche or self-esteem of the employee. This also highlights the need to have a policy or SOP in the pharmacy on how to deal with such patients, to protect the rights of employees, such as the right to have their dignity respected and protected, which is stated in s10 of the Constitution of the Republic of South Africa (South Africa. Constitutional Assembly, 1996). Such a

policy or SOP does not currently exist in the pharmacy and is not mentioned in the GPP standards (South Africa. SAPC, 2010a).

Patients also have the right to dignity and equality, the latter stated in s9.4 of the Constitution of the Republic of South Africa (South Africa. Constitutional Assembly, 1996), and these rights also need to be protected. As mentioned in (xxxvi) in 5.2, the racial stereotypes of an interviewee were revealed; this could potentially impact on how she treats patients, so there is a need for employees to have some training in diversity management skills. Interestingly, the GPP standards do not mention the need for such T&D activities, although “respect for population diversity” is the sole reference to diversity in the GPP standards and is mentioned in the context of emergency postcoital contraception (South Africa. SAPC, 2010a: 173).

This highlights another gap in the GPP standards; there are no standards for how patients should be treated by dispensary employees, other than have their confidentiality protected. There is no so-called “Patients’ charter”, or something resembling this, in the GPP standards. Some universities in South Africa have an oath-taking ceremony after pharmacy students graduate, in which the new graduates take a “Pharmacist’s Oath”, which outlines some ethical guidelines and commitments to how the graduate will practise, but it is noteworthy that the GPP standards do not mention anything resembling this. The SAPC has a Code of Conduct (South Africa. SAPC, no date) and has recently published “Ethical Rules” for persons registered with the SAPC (South Africa. SAPC, 2011), but it is interesting that these documents are not included in or referred to in the GPP standards.

#### **6.4.2.9 Rewards**

There are several misunderstandings and problems regarding the issue of rewards to dispensary employees. The owner-manager has the following four perceptions, which are found to differ from employees’ perceptions:

- (i) He is under the impression that dispensary employees are satisfied with their remuneration (see (xxx) in 5.2), but there are two frequency counts indicating that dispensary employees are not completely satisfied. This is in contrast to only one frequency count stating that employees are completely satisfied with their remuneration (see code 34 in Table 1);
- (ii) Furthermore, the owner-manager believes that dispensary employees' remuneration reflects the extra responsibilities in providing pharmaceutical care, whereas there is a higher frequency count (of two) for the category stating that employees' remuneration does not adequately reflect these extra responsibilities in providing pharmaceutical care (see code 34 in Table 1). This could reflect a broader problem in the remuneration of dispensary employees in South Africa, with one pharmacist stating that pharmacists are generally underpaid (see code 35 in Table 1). Providing pharmaceutical care, as described by the GPP standards (South Africa. SAPC, 2010a), is an intensive process in which pharmacists need to utilise a range of skills and apply in-depth knowledge and analysis to each patient's pharmacotherapy. The potentially significant risks to patients, for example in terms of DRP and the implications of these for patient health if pharmaceutical care is not delivered optimally, might be expected to be reflected in pharmacists' salaries. It is perhaps interesting that although there are two frequency counts for the category stating that if more pharmaceutical care is provided, the interviewee would like his/ her financial rewards to increase, there are also two frequency counts stating that interviewees do not expect that this increase would occur (see code 34 in Table 1). This suggests a possible pessimism regarding the issue of dispensary employees' remuneration. Seston, *et al.* (2009) report that pharmacists in their study are least satisfied with their remuneration when compared to other aspects of their job; this dissatisfaction with remuneration is consistent with the findings of the current research;
- (iii) The third misperception by the owner-manager is that he believes that financial rewards are a motivating factor for his dispensary employees, whereas there is a higher frequency count of four for the category stating that financial rewards are not a motivating factor (see code 36 in Table 1). This finding supports well-known earlier research by Herzberg, in which he classifies financial rewards as a "hygiene factor" as opposed to a "motivator"

(Herzberg, 1987 cited in Hendriks, 1999: 95) (see 3.6.7). As mentioned in (viii) in 6.4.1, although the topic of motivation was not probed in much detail in the interviews, it appears that dispensary employees have a high level of intrinsic motivation, with several interviewees saying that patient health is more important to them than financial rewards; and

- (iv) The owner-manager says that he gives additional financial rewards (see code 36 in Table 1), such as thirteenth and fourteenth cheques, but all dispensary employees are unanimous in saying that they have not received any additional financial rewards, with this category receiving four frequency counts and being ranked fifth amongst all interview categories (see Table 2).

In addition to the above differences in opinions, the following problems have emerged from interviewee responses:

- (i) Remuneration does not appear to occur on a regular basis. As highlighted in (xxxi) in 5.2, one interviewee claims that she lost her house because her salary was not paid regularly and that she considered leaving the pharmacy. She says that she was only paid eight days after the date she was supposed to have received her salary. Her comment was, "I had to beg for my salary, which I felt was wrong". There are some serious implications of this claim. There is the risk of an employee taking legal action against the employer if the employee's salary is not paid within seven days after completion of the period for which the remuneration is due, according to s32(3)(a) of the Basic Conditions of Employment Act 75 of 1997 (South Africa. National Parliament, 1997). Furthermore, there is the risk of psychological stress to the employee as a result of not being able to meet financial obligations as well as potential adverse effects on employee commitment to the organisation and his/ her job. The shortage of dispensary employees is a problem (see 6.4.2.6), and this could be worsened if there is a retention problem and an employee left; and
- (ii) An interviewee claims that front-shop assistants were given an extra cash bonus in December 2010, which was not extended to dispensary employees, and mentions how this made her feel (see (xxx) in 5.2). If there is substance to this claim and there is such differential treatment of employees, this could

potentially adversely affect the motivation of dispensary employees. This is because, according to Adams's (1965) "equity theory" cited in Cameron (2007a: 139), employees compare their work inputs and rewards to those of others and if inequity is perceived, employees may embark on action to address these inequalities. This might be demonstrated, for example, in employees decreasing their performance efforts (Cameron, 2007a). Employees may also perceive that there is a lack of "organisational justice", which could impact adversely on employee commitment, as described by Farndale, *et al.* (2011: 6) (see 3.1.2.3).

There is disagreement over whether there are non-financial rewards, such as recognition at staff meetings (see code 37 in Table 1). The owner-manager claims that good performance is "applauded" and that such recognition occurs. However, both other pharmacists state that they have not received any non-financial rewards. The pharmacist's assistant mentions that she was recognised at the one staff meeting she was invited to attend. All dispensary employees indicate that non-financial rewards are not a motivating factor, evidenced in a frequency count of three. This contrasts to the owner-manager's response that the non-financial rewards he claims to provide are a motivating factor for dispensary employees, reflected in a frequency count of one for this category (see code 37 in Table 1).

The abovementioned findings are consistent with the divergent perceptions of financial rewards between dispensary employees and the owner-manager discussed previously. The owner-manager thus believes that he provides dispensary employees with both financial and non-financial rewards and that these motivate employees to provide pharmaceutical care. The dispensary employees, on the other hand, state that such rewards are not provided and that these rewards are, furthermore, not motivating factors. As mentioned before, dispensary employees seem to exhibit intrinsic motivation to want to provide pharmaceutical care. However, given the claims of unequal financial rewards between dispensary employees and front-shop assistants and employees not being paid on time, one wonders how sustainable employee effort, commitment and performance will be in

the long-term. Financial rewards are regarded as a “hygiene factor”, according to Herzberg (1987) cited in Hendriks (1999: 95), and the absence of a “hygiene factor” can lead to dissatisfaction and demotivation (Hendriks, 1999). This could potentially lead to problems in retaining dispensary employees, as suggested by the employee (see (i) on page 233) who said that she was looking for a new job due to her experiences of not being paid on time.

#### **6.4.2.10 The owner-manager’s role and organisational culture**

The importance of the managing pharmacist espousing the philosophy of pharmaceutical care and serving as a “role model” to other dispensary employees in providing pharmaceutical care, as suggested by Al-Shaqha and Zairi (2001: 291), has been discussed before (see (v) in 6.4.1). It was also highlighted in 2.2.9 that the owner-manager should review the PMS regularly and assess the continued appropriateness of performance objectives and other components. This does not appear to occur, with the owner-manager rather adopting a reactive approach to addressing performance-related problems (see 6.4.2.7).

There is a higher frequency count (of three) for the category stating that the owner-manager does not treat all employees in the same manner, compared to no frequency counts for the category stating otherwise (see code 29 in Table 1). The example has been mentioned of a dispensary employee claiming that front-shop assistants were given an extra cash bonus (see 6.4.2.9); the same dispensary employee also claims that the owner-manager gives certain front-shop staff, who are below her in the pharmacy’s organogram (see Figure 2), powers that she does not have, for example access to the safe, so that the tills can be replenished with cash. This example highlights the value that job descriptions would have, as these would clearly outline what dispensary employees’ roles and responsibilities are. Perhaps the owner-manager does not want dispensary employees to have access to the safe; this would then be clarified in the job description, which would not mention refilling tills as a responsibility for the particular dispensary employee.

Interestingly, another dispensary employee expresses the opinion that the owner-manager is stricter with front-shop assistants compared to dispensary employees. Perhaps this may be because the front-shop assistants are usually the first contact that patients have with the pharmacy. The owner-manager perhaps being stricter with front-shop assistants could also reflect the PMS for front-shop assistants being much better developed and more structured than that for dispensary employees, with the former having job descriptions and regular performance appraisals (see 1.1). So despite dispensary employees disagreeing on whether the owner-manager seems to favour front-shop assistants or dispensary employees, there is agreement that the owner-manager does not treat all employees in the same manner.

It is noteworthy to mention that the category stating that there are problems with front-shop assistants has a frequency count of seven and is the second-ranked category amongst all interview data categories (see Table 2). Some specific problems cited with the front-shop assistants, as mentioned in (xlix) in 5.2, are the high turnover rates for these employees, which undermines front-shop assistants learning about and sharing the pharmacists' vision and attitudes to service, as well as front-shop assistants placing the incorrect medication into packets for patients and not providing patients with storage information about their medication.

However, front-shop assistants should not be expected to provide patient counselling, as they do not have the pharmaceutical training to know, for example, what medication should be stored in a fridge. This kind of information has to be provided by pharmacists and pharmacist's assistants. The owner-manager thus has to ensure that dispensary employees do not abdicate their responsibilities in this regard. Similarly, it is the responsibility of the pharmacist who dispenses a prescription to ensure that the correct medication is given to a patient. This would be facilitated by having an SOP on how to dispense a prescription, as this could also stipulate how to package medication and how pharmacists and front-shop assistants should interact in this regard so that errors can be eliminated.

The problem of front-shop assistants not sharing pharmacists' attitudes towards service delivery could suggest that the problem of inadequate sharing of information by the owner-manager discussed before (see 6.4.2.1 and 6.4.2.3) is not restricted to the dispensary, but also occurs in the front-shop. It could also suggest that although the owner-manager may have developed a more structured PMS for front-shop assistants, there may be problems in integration between performance in the front-shop and dispensary, as well as problems in communication between these two components of the pharmacy. These problems could contribute to one of the full-time pharmacists believing that he does not have adequate control over OTC sales (see (xliv) in 5.2). Furthermore, the owner-manager needs to re-examine the practice of using front-shop assistants as intermediaries between the dispensary and patients, because the "break in transmission" that occurs, according to one pharmacist (see (xliv) in 5.2), can lead to misunderstandings and miscommunication that could result in DRP and thus undermine the provision of pharmaceutical care.

The abovementioned problems in integration and communication could also be related to the issue of how often staff meetings occur and what gets discussed at these meetings. As shown in code 27 in Table 1, there is disagreement over how regularly staff meetings are held and the usefulness of these staff meetings. There is a higher frequency count (of three) for the category stating that primarily front-shop matters are discussed at these meetings, rather than overall issues facing the pharmacy (see code 27 in Table 1), which could contribute to the drift between the front-shop and dispensary. This could be worsened by dispensary employees not always attending these staff meetings, as highlighted in the interviews.

Another aspect of the owner-manager's management style that could be problematic includes the claim that he treats employees as friends and does not have adequate employee-employer boundaries, which sometimes leads to problems (see code 29 in Table 1), such as certain employees "tak[ing] advantage" of the owner-manager, in the words of the interviewee, and getting additional time off work. Perhaps this could add credibility to the owner-manager's assertion in 6.4.2.7 that he finds it "difficult" to appraise the performance of pharmacists.



There is one frequency count for the category stating that the owner-manager's management style could be improved, and two for the category stating that he does not take time to explain performance objectives to or share other necessary information with dispensary employees (see code 29 in Table 1), in contrast to the owner-manager's assertion that he makes time for employees if they want to talk (see code 32 in Table 1). Despite the abovementioned problems, there is agreement amongst the pharmacists that his management style encourages them to provide pharmaceutical care (see code 29 in Table 1 and (v) in 6.4.1). This suggests that whilst the owner-manager's management style may be perceived as being effective in promoting the delivery of a core pharmaceutical function, there may be weaknesses in how he manages people, which could perhaps potentially undermine employee morale and satisfaction.

However, although there is agreement that the owner-manager's management style promotes the provision of pharmaceutical care, some practices of his undermine this. For example, the pharmacist's assistant highlights that when he takes medication out for her so that she can process a prescription on computer, he sometimes takes out original branded products and not generics. There are two important problems here:

- (i) The roles seem to have been reversed, as the pharmacist's assistant should be the one who performs the technical function of taking medication off shelves, whilst the pharmacist should be the one who evaluates the patient's pharmacotherapy and history on computer, and processes the prescription. A situation like this could lead to the pharmacist's assistant practising outside her scope of practice, which has already been highlighted as a problem (see 6.1), as well as the owner-manager not utilising the pharmacist's assistant optimally in performing a technical function, so that he can have more time to provide pharmaceutical care; and
- (ii) The owner-manager is not offering patients the option of generic medication, which infringes s2.7.3.11 of the GPP standards outlined by the SAPC (South Africa. SAPC, 2010a). This could contribute to the results of the patient questionnaire, in which only 34.50% of respondents state that they are always offered generics (see Figure 14).

As mentioned in 6.4.2.5 and 6.4.2.7, the owner-manager expects pharmacists to follow his working style and has “phased out” employees who do not. Although there is a higher frequency count supporting the category that pharmacists do not feel as though they have to follow the working style of the owner-manager (see 6.4.2.5), perhaps they have expressed this perception because their natural working style is already similar to his, as alluded to by the owner-manager (see 6.4.2.7). A potential disadvantage of this approach is that the benefits of innovative approaches to pharmacy practice may not reach the pharmacy (see 6.4.2.7). Furthermore, practices of the owner-manager such as placing original branded products out for the pharmacist’s assistant could potentially send a signal to other pharmacists that this is the working style expected of them if they are not to be “phased out”. This problem, anticipated in the author’s analysis in the first two chapters, could undermine compliance with s2.7.3.11 of the GPP standards (South Africa. SAPC, 2010a).

The owner-manager, as the managing pharmacist, is also responsible for the public being able to identify the various categories of pharmacy employees. There is a higher frequency count for the category stating that dispensary employees do not always wear a name tag (see code 46 in Table 1), with the pharmacist’s assistant claiming that some designations on the name tags are incorrect and misleading (see (xli) in 5.2). There are two issues that are relevant here:

- (i) As mentioned in (xli) in 5.2, the author could not verify the validity of the pharmacist’s assistant’s claim, but if there is substance to this, then the deliberate misidentification of pharmacy employees could pose a significant legal and professional risk to the pharmacy and the owner-manager; and
- (ii) The owner-manager should be ensuring that dispensary employees wear their name tags at all times, so that members of the public are able to identify them, as per s1.2.1(e) and s1.6.1(g) of the GPP standards outlined by the SAPC (South Africa. SAPC, 2010a).

The role of the owner-manager in shaping organisational culture was highlighted in 3.6.8.1. As mentioned in 6.4.1 and reflected in code 31 in Table 1, the consensus

amongst interviewees seems to be that the culture in the pharmacy is a positive, enjoyable one; there are two frequency counts for the category stating that there is a “family” culture. However, the highest number of frequency counts (i.e. three) for the various categories in code 31 in Table 1 occurs for the category stating that problems are not addressed. An example is provided of a dispensary employee complaining to the owner-manager about problems she was experiencing with colleagues and him apparently doing nothing about this.

There are also two frequency counts for the category stating that an interviewee gets “sly comments” when spending time talking to patients. An example of a “sly comment” was, “You should be charging consultation fees”. Such comments could potentially have an adverse effect on the willingness of dispensary employees to spend time talking to patients, which is essential in obtaining necessary information so that the appropriateness of pharmacotherapy can be assessed, or that adequate patient counselling can be provided. Spending time talking to patients also promotes the development of relationships with patients (see code 33 in Table 1). This example also highlights the need to have an SOP for dispensing a prescription, so that pharmacists can obtain and exchange necessary information efficiently in their encounters with patients. If the owner-manager felt that the particular dispensary employee mentioned above was taking too long speaking to patients, or perhaps was speaking of personal matters that were irrelevant to the provision of pharmaceutical care, then these issues should have been addressed.

Another aspect of the organisational culture that may be problematic is the category stating that there is inadequate recognition of employees’ performance (see code 31 in Table 1). Although there is only one frequency count for this, suggesting that this view is held by a minority, it should nevertheless be raised, as it could reflect a deeper problem or perhaps an issue that other interviewees did not feel comfortable raising. The interviewee commented, “You go in there [the pharmacy], do your thing and leave. There is no ‘thank you’, nothing.” This could perhaps reflect inadequate non-financial rewards (see 6.4.2.9). The interviewee also mentioned that she developed depression after she started working at the pharmacy, as she struggled to

become accustomed to the organisational culture (see (xxviii) in 5.2). This highlights the possible adverse effects of the organisational culture on employee wellbeing, which may impact on employee morale, motivation and retention.

A final point about the owner-manager's role is that not knowing if his dispensary employees have professional indemnity (see code 40 in Table 1) poses a risk to the pharmacy. As it is, two dispensary employees, including a pharmacist, do not have professional indemnity, which is a requirement in s3.5 of the GPP standards outlined by the SAPC (South Africa. SAPC, 2010a). One of these interviewees claims that the owner-manager did nothing when she told him of her need to acquire professional indemnity (see (xxxv) in 5.2). It does not state in the GPP standards that a pharmacy has to cover professional indemnity fees for its dispensary employees, so the interviewee should perhaps not have been under this impression. However, the owner-manager should have told the interviewee that he is not covering her fee but that he requires her to have such indemnity, so that the interviewee could make alternative arrangements to ensure that she is covered.

#### **6.4.2.11 Quality management system**

A Quality Improvement Plan is required in s4.2.2.1 of the GPP standards (South Africa. SAPC, 2010a). There is a higher frequency count (of two) for the category stating that there is no Quality Improvement Plan in XXX Pharmacy, and one frequency count indicating that the interviewee does not know if there is such a plan (see code 48 in Table 1). One of those who states that there is no plan is the owner-manager, who says that quality is "difficult to assess", perhaps indicating inadequate skills and knowledge in quality management and GPP requirements on the part of the owner-manager. It is thus difficult to understand what Quality Improvement Plan the pharmacist who claims that there is such a plan is referring to, since the owner-manager states that there is no such plan. This illustrates possible confusion and misunderstanding between the owner-manager and the pharmacist. The latter says that he has limited involvement in the development of this plan, and that one of the

aspects of this plan is attempting to expand the clinic services to more often than just once a week (see code 48 in Table 1). This is not raised by the owner-manager.

The owner-manager says that there are basic quality control measures and standards (see code 48 in Table 1), for example relating to the labelling and storage of medication, cleaning of utensils and counters, refilling of packaging, temperature control and general hygiene. These are important, and could possibly be what the pharmacist mentioned above might have been thinking of when he said that there is a Quality Improvement Plan. Section 4.2.2.1(a) of the GPP standards (South Africa. SAPC, 2010a), however, which describes the contents of a Quality Improvement Plan, goes beyond these basic quality control measures and includes requirements such as quality standards for the services that the pharmacy provides; processes in the pharmacy, including the resources allocated to these; how customer feedback is to be elicited regarding the services provided; and training opportunities to allow employees to perform their quality management responsibilities.

As stated in s4.2.2.1, the Quality Improvement Plan should be reviewed regularly and includes SOPs, which employees should be trained in and which should be used and assessed on a regular basis. Furthermore, there should be necessary documentation related to standards; employees should be involved in the development and implementation of this plan, and obtain feedback on a regular basis on quality improvement outcomes; risk assessment; and employee training in the use of the quality improvement cycle (South Africa. SAPC, 2010a).

From the above GPP requirements, it is evident that the pharmacy has several gaps in its Quality Management System. There seem to be some components of such a system in place, evidenced in the presence of SOPs and basic quality control measures regarding several processes. However, several key components are absent, such as a Quality Improvement Plan, a T&D programme to ensure that employees are competent in quality management and improvement, and a system to obtain patient feedback regarding the quality of pharmaceutical services provided by

the pharmacy and to address such feedback. Moreover, there is a higher frequency count for the category stating that dispensary employees have not been told by the owner-manager to be compliant with the SOPs that are in place (see code 14 in Table 1). The absence of these key components of a Quality Management System has the potential to undermine the provision of pharmaceutical care.

The UKCPA (2009) suggests that clearly defining the processes involved in providing pharmaceutical care as a component of a Quality Management System can lead to the allocation of roles and responsibilities and enhance standards relating to patient outcomes (see 3.6.8.2). This indicates that quality management interacts with other components of a PMS and is not a stand-alone component.

## **6.5 Summary**

In this chapter, the findings related to each research objective were analysed. At least 50% of patients and dispensary employees indicate that two out of ten pharmaceutical care services, which relate to the provision of patient counselling, are always provided. The remaining services that appear not to always be provided relate primarily to the evaluation of pharmacotherapy and generic substitution. The difficulties associated with assessing compliance with GPP standards were highlighted. Although the effects of race and gender on patients' responses could not be determined conclusively, the racial group rating the pharmacy's services most favourably is Africans, and the gender that is most favourable is males. There is broad consistency amongst the results obtained across racial groups and genders. All pharmacists view the provision of pharmaceutical care as a key performance area. This was among ten factors identified as promoting the provision of pharmaceutical care. Factors that could potentially undermine the provision of pharmaceutical care were explored and ten key weaknesses highlighted, such as in the vision and mission statement, outlining of responsibilities, performance appraisal, T&D, rewards and quality management system.

## CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATIONS

### 7.1 Summary of research findings

The research statement, as formulated in 1.3, is, “The current PMS for pharmacists and the pharmacist’s assistant undermines compliance with GPP standards for the provision of pharmaceutical care to patients”.

Ten key weaknesses in various components of an integrated PMS have emerged from interviews with pharmacists and the pharmacist’s assistant. These weaknesses could potentially have widespread effects; problems in how the owner-manager manages the pharmacy and shapes the organisational culture, for example, could impact adversely on employee morale and might thus affect all areas of employee performance. Likewise, problems in remuneration could impact negatively on employee satisfaction, possibly leading to retention problems.

Each of the ten identified weaknesses in the PMS, as highlighted below, can also potentially undermine the provision of pharmaceutical care to patients:

- (i) Although there is a philosophical commitment to the provision of pharmaceutical care by the owner-manager and other pharmacists, and pharmaceutical care is viewed as a key performance area, there is poor awareness of GPP standards. The organisational vision and mission statement of the pharmacy do not explicitly commit to pharmaceutical care, and there is poor communication of these to dispensary employees. This inadequacy in overall vision cascades down to other components of the PMS, contributing to pharmacists having a poor understanding of their roles and responsibilities in providing pharmaceutical care practically, on an everyday basis, in accordance with GPP standards;
- (ii) The abovementioned poor understanding of roles and responsibilities is made worse by the absence of current job descriptions for pharmacists and the

- pharmacist's assistant, which could have contributed to the pharmacist's assistant not always practising within her scope of practice, and pharmacists not always performing all the tasks outlined in their scope of practice. The provision of patient counselling is regarded as more of a responsibility than the evaluation of the appropriateness of a patient's pharmacotherapy. Furthermore, the patient counselling provided tends to focus more on how patients should take their medication correctly, and less information and advice is provided about other aspects of pharmacotherapy;
- (iii) An inadequate induction and orientation programme makes it more difficult for new dispensary employees to familiarise themselves with current practices; basic information about the pharmacy and operational matters; and the organisational vision, values, strategies and plans. This could undermine the ability of the new dispensary employee to provide pharmaceutical care or aspects of this, in the case of the pharmacist's assistant;
  - (iv) Having an insufficient number of dispensary employees, in particular pharmacists, directly affects the ability of the pharmacy to provide pharmaceutical care to all patients at all times;
  - (v) There are no performance appraisals for pharmacists and the pharmacist's assistant, and there is confusion regarding performance objectives. There is, furthermore, predominant emphasis afforded to a particular performance target, namely to serve customers as quickly and efficiently as possible, which could contribute to a finding that emerged strongly from the interviews, namely that the time pressures and/ or other practicalities in the pharmacy make it difficult to provide pharmaceutical care;
  - (vi) There is no formal, structured T&D programme, with the owner-manager not identifying and addressing the T&D needs of pharmacists and the pharmacist's assistant in terms of the pharmaceutical and non-pharmaceutical skills necessary to provide optimal pharmaceutical care;
  - (vii) There is management control by direct supervision, in which employees who do not fit in with the working style of the owner-manager are "phased out". This could, in particular, act as a deterrent to pharmacists always offering patients the option of generic medication, as it is claimed that the owner-manager does not always do so;



- (viii) There is disagreement over whether remuneration and rewards adequately reflect the full ambit of responsibilities in providing pharmaceutical care;
- (ix) There are inadequacies in how the owner-manager manages the pharmacy and shapes the organisational culture. In particular, there is the suggestion that the owner-manager does not treat all employees in the same manner, that problems are not addressed effectively and that the owner-manager does not make optimal and appropriate use of the pharmacist's assistant in performing primarily technical tasks so that he can have more time for the provision of pharmaceutical care. There are also problems that dispensary employees have with the performance of front-shop assistants; and
- (x) Weaknesses in the Quality Management System, notably the absence of a Quality Improvement Plan and compliance with SOPs, which are closely aligned to the GPP standards, not regarded as a key performance area.

The abovementioned weaknesses in the pharmacy's PMS could have contributed to the pharmacy appearing to not always comply with the following GPP standards for the provision of pharmaceutical care, as outlined by the SAPC (South Africa. SAPC, 2010a), from the perspective of patients:

- (i) Sections 2.7.1.1(b)(i), 2.7.1.1(b)(ii) and 2.7.1.3.2(a), which together outline the comprehensive evaluation of the appropriateness of a patient's pharmacotherapy, in terms of drug interactions, drug-disease interactions, adverse effects, efficacy and patient compliance. These results are supported by data obtained from interviews with dispensary employees;
- (ii) Section 2.7.3.11, namely always offering patients the option of generic substitution, unless not permitted to do so in certain circumstances. This finding is also consistent with interview results; and
- (iii) Section 2.7.1.1(c), namely contacting the prescriber if there is a problem with a prescription. This finding differs from the interview results.

There is broad agreement between interview results and at least 50% of questionnaire respondents that only two out of the first ten pharmaceutical care services probed in the questionnaire are always provided by pharmacists, namely:

- (i) The pharmacist or pharmacist's assistant explaining to a patient how to take his/ her medication correctly; and
- (ii) The pharmacist or pharmacist's assistant providing the patient with advice or information regarding his/ her medication.

Furthermore, when combining favourable responses, at least 50% of patients agree that another service, which does not have to be provided at each patient encounter if it has already been performed, is also provided. This involves the pharmacist asking a patient about allergies to medication.

The limitations of only considering the selected GPP standards, and the difficulties in assessing compliance with GPP standards and determining the degree of compliance with these standards that would be regarded as acceptable, were also highlighted. The racial group responding most favourably to whether the pharmacy provides various pharmaceutical care services is African, and the gender responding most favourably is males, but it is not possible to determine if the differences amongst racial groups and genders are statistically significant. There is broad consistency amongst the results obtained per racial group and gender. Finally, statistical analysis reveals that a significantly higher proportion of respondents want to receive the pharmaceutical care services probed in the questionnaire.

## **7.2 Commendations**

There are several aspects of the PMS that appear to be working well, which promote compliance with GPP standards for the provision of pharmaceutical care and for which XXX Pharmacy should be commended:

- (i) The provision of pharmaceutical care is viewed as a key performance area by all pharmacists;
- (ii) A higher proportion of dispensary employees claim to be fully compliant with the pharmacy's SOPs, which are closely aligned to GPP standards, even though there is a high frequency count indicating that the owner-manager has not told dispensary employees to be compliant with these SOPs;
- (iii) The provision of patient counselling is recognised as a performance objective;
- (iv) There is agreement that the number of pharmacists is sufficient to supervise the pharmacist's assistant;
- (v) The owner-manager's management style is viewed as encouraging pharmacists to provide pharmaceutical care;
- (vi) Dispensary employees state that they have good working relationships;
- (vii) Dispensary employees also claim to have been able to develop good relationships with patients;
- (viii) There seems to be a high level of intrinsic motivation and commitment to patient health amongst pharmacists and the pharmacist's assistant;
- (ix) Although this is contested by patients' responses to the questionnaire, a higher proportion of dispensary employees state that they regularly liaise with other health-care professionals and that the owner-manager encourages this; and
- (x) Performance in delivering pharmaceutical care is believed to be enhanced by the new layout of the pharmacy.

### **7.3 General conclusions**

From the findings mentioned in 7.1 and 7.2, it can be concluded that the research statement may need to be rephrased and made more specific, as it is not possible to conclusively state that the current PMS undermines compliance with GPP standards for pharmaceutical care. This is because the PMS has numerous components, and some of these, namely the ten aspects commended in 7.2, promote the provision of pharmaceutical care. Furthermore, it is difficult to conclusively assess compliance

with GPP standards and the degree of compliance with these standards that would be considered acceptable.

The research statement should thus be rephrased to state that there are several fundamental weaknesses in the PMS of XXX Pharmacy, which may undermine compliance with certain GPP standards for the provision of pharmaceutical care to patients. In particular, compliance with GPP standards relating to the comprehensive evaluation of the appropriateness of pharmacotherapy and the provision of generic medication may be undermined.

## **7.4 Recommendations**

### **7.4.1 Addressing identified weaknesses in the PMS**

Four recommendations that can assist the owner-manager in addressing the identified weaknesses in the pharmacy's PMS that could potentially undermine compliance with GPP standards for the provision of pharmaceutical care are presented in Table 3 on the next page. This table includes a user-friendly implementation plan in which, for each recommendation, the desired outcomes, key practical activities to ensure that the recommendation is achieved, responsible stakeholder(s) and expected costs and time periods, are outlined.

These recommendations include a number of basic activities, to be completed within a time period of less than eleven weeks, which will serve as a foundation for the optimal operation of the PMS. In addition to these fundamental activities, there are also recommendations involving activities that should be performed on an ongoing, longer-term basis at specified time periods. A fifth recommendation, relating to the shortage of HR, is subsequently presented in 7.4.2.

**Table 3: Recommendations with an implementation plan to address identified weaknesses in the PMS of XXX Pharmacy so that compliance with GPP standards for pharmaceutical care can be enhanced**

	<b>Recommendation</b>	<b><i>Desired outcome(s)</i></b>	<b>Key activities</b>	<b>Stakeholder(s) responsible</b>	<b>Time period</b>	<b>Expected costs</b>
1	<b>Training and brainstorming session for all pharmacists and the pharmacist's assistant</b>	<ul style="list-style-type: none"> <li>• <i>All dispensary employees having knowledge of the GPP standards outlined by the SAPC (South Africa. SAPC, 2010a) and the pharmacy's SOPs;</i></li> <li>• <i>All dispensary employees having knowledge of the pharmacy's vision and other key information,</i></li> </ul>	1.1 All pharmacists and the pharmacist's assistant should prepare for this by reading the GPP standards and the pharmacy's SOPs.	All dispensary employees	One week	<ul style="list-style-type: none"> <li>• Costs to print out GPP standards (available online from the SAPC's website) for those who do not have a personal copy;</li> <li>• No other expected costs to the pharmacy as employees would read the documents whilst off-shift.</li> </ul>

		<p><i>such as roles and responsibilities and performance objectives;</i></p> <ul style="list-style-type: none"> <li>• <i>Enhanced team-work.</i></li> </ul>				
			<p>1.2 Advertising to patients that the pharmacy will be closed for the day of training. The pharmacy could offer to deliver medication (a service that is normally provided) to the homes of patients who would have come to the pharmacy on the day of the training to collect their chronic medication.</p>	Owner-manager	Two weeks (including the one week in activity 1.1)	<ul style="list-style-type: none"> <li>• Cost of advertising to patients that the pharmacy will be closed for this day;</li> <li>• Cost of delivering medication to patients.</li> </ul>
			<p>1.3 Training and brainstorming session is conducted, at which dispensary employees openly discuss/ brainstorm the following:</p> <p>1.3.1 The pharmacy's vision, strategies, mission statement and values;</p> <p>1.3.2 The philosophy of pharmaceutical care; GPP standards and the pharmacy's SOPs, and how to comply with these so</p>	Owner-manager	One day, perhaps a Sunday, when the trading hours are fewer	<ul style="list-style-type: none"> <li>• Opportunity cost of time, as the pharmacy would be closed for one day;</li> <li>• Loss of revenue for one</li> </ul>

			<p>that pharmaceutical care is provided in everyday practice;</p> <p>1.3.3 Potential revisions to the current SOPs (for example to make them more user-friendly) and the need for new SOPs, such as how to dispense a prescription and provide OTC medication, how to provide patient counselling, monitor patient outcomes and how to interact with difficult/ offensive patients. The content of the new SOPs can also be brainstormed;</p> <p>1.3.4 Challenges experienced in the dispensary and pharmacy, as well as possible solutions;</p> <p>1.3.5 All employees' roles and responsibilities;</p> <p>1.3.6 The need for an induction and orientation programme for new dispensary employees, and the duration and content of this programme. This could include Fowler's (1996) induction checklist cited in Cameron (2006b: 84), detailing the information to be provided on individual, task, functional and organisational levels;</p> <p>1.3.7 Performance objectives and targets for</p>			<p>day;</p> <ul style="list-style-type: none"> <li>• Cost of overtime pay for those employees who would not normally be working on that Sunday;</li> <li>• Catering costs, which could be decreased if dispensary employees bring their own meals;</li> <li>• No venue cost as the training session can be held at the pharmacy.</li> </ul>
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			<p>employees, the dispensary and pharmacy;</p> <p>1.3.8 Introduction of a performance appraisal system;</p> <p>1.3.9 A skills needs analysis can be performed at an individual, task and organisational level, as described by McGehee and Thayer (1961) cited in Cameron (2006b: 93), in which the owner-manager and other dispensary employees identify their T&amp;D needs and that of the dispensary and overall pharmacy in ensuring that optimal pharmaceutical care is provided;</p> <p>1.3.10 Rewards (financial and non-financial);</p> <p>1.3.11 A Quality Management System, including a Quality Improvement Plan;</p> <p>1.3.12 A Patient's Charter, outlining the rights of patients and how patients should be treated;</p> <p>1.3.13 A Wellness Policy and Plan.</p>			
			<p>1.4 Team-building and communication can be enhanced by using the Johari window as an exercise, as described by Luft and Ingham (no date) cited in Shenton (2007: 488).</p>	<p>All dispensary employees</p>	<p>The one day in which the training session is conducted</p>	<p>None</p>



2	<p><b>Development of key documentation and the introduction of these as performance management tools</b></p>	<p><i>Development of certain pieces of written documentation that are currently absent or inadequately developed</i></p>	<p>2.1 Based on the input and feedback received in the training and brainstorming session (see activity 1.3), the owner-manager drafts the following key documentation:</p> <p>2.1.1 A written vision and mission statement for the pharmacy, also outlining organisational values and committing to pharmaceutical care;</p> <p>2.1.2 Job descriptions for all pharmacists and the pharmacist’s assistant, outlining key performance areas, roles and responsibilities, performance objectives and targets, how often performance appraisals will be conducted and how performance will be appraised. These job descriptions should be in alignment with all relevant GPP standards, for example standards relating to generic substitution and to the scope of practice of various categories of pharmacy employees. The job descriptions would also make it compulsory to wear name tags with correct designations. By being aligned with GPP standards, the roles and responsibilities in these job descriptions will thus reflect</p>	Owner-manager	Three weeks	None
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			<p>pharmacists' expertise as knowledge workers, and promote skill variety as described by Hackman and Oldham (1975) cited in Giannetti (2004: 217) (see 6.4.2.3). The responsible party who will pay professional indemnity for dispensary employees will also be clarified in the job descriptions;</p> <p>2.1.3 Existing SOPs may need to be revised and new SOPs may need to be developed, such as SOPs relating to how to dispense a prescription (including, for example, the steps involved in analysing a prescription; the kinds of questions to ask patients; and how pharmacists and front-shop assistants should interact to allow pharmacists adequate control and task identity, as described by Hackman and Oldham (1975) cited in Giannetti (2004: 217) (see 3.6.3), over patients receiving the correct medication), provide patient counselling and OTC medication, how to interact with difficult/ offensive patients as well as any other SOPs identified in the training and brainstorming session.</p>			
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			<p>There should be an SOP on how to monitor patient outcomes, which could include, for example, standard questions being asked to patients presenting for repeats of their chronic medication. The SOP relating to providing OTC medication should make provision for one pharmacist to be permanently stationed in the OTC section, to maintain adequate control over OTC sales and ensure that GPP standards relating to this are always complied with. Perhaps pharmacists could be rotated to the OTC section on a monthly or fortnightly basis. This would require at least two pharmacists being on duty at all times in pharmacy (i.e. one for the OTC section and at least one in the dispensary). The problem of a shortage of pharmacists, which would be an obstacle to implementing this activity, is addressed in 7.4.2;</p> <p>2.1.4 An induction and orientation programme for all new dispensary employees;</p> <p>2.1.5 A T&amp;D Policy and Plan for the dispensary and individual dispensary</p>			
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			<p>employees, which details how skills and knowledge gaps will be identified and addressed. This will include pharmaceutical and non-pharmaceutical T&amp;D gaps. An example of the latter is diversity management skills;</p> <p>2.1.6 A document outlining the criteria for financial rewards, such as performance-related and other types of bonuses, and to which categories of employees these apply. It will also stipulate the monthly date on which employees will be paid their salaries, and a written commitment by the owner-manager that salaries will be paid on that date;</p> <p>2.1.7 A Quality Improvement Plan;</p> <p>2.1.8 A Patient's Charter, expressing the standards governing how patients will be treated at all times, and patients' rights. This should be in alignment with the SAPC's Code of Conduct and "Ethical Rules" (see 6.4.2.8);</p> <p>2.1.9 A Wellness Policy and Plan for employees. Although the pharmacy has limited resources to necessarily be able to provide comprehensive assistance to</p>			
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			<p>employees, other support could be considered, such as referral to medical specialists, negotiated time off work, perhaps subsidised counselling sessions with a psychologist and access to the services of the pharmacy's nurse;</p> <p>2.1.10 A disciplinary policy and code, in which the disciplinary measures that can be instituted against an employee who does not comply with the roles and responsibilities outlined in his/ her job description are outlined and the disciplinary process explained.</p>			
			<p>2.2 Owner-manager gives the draft documentation to dispensary employees for their feedback. This participation of employees in co-crafting key documentation is likely to promote employee "ownership" over these documents and thus compliance.</p>	<p>Owner-manager and other dispensary employees</p>	<p>One week for employees to provide feedback to owner-manager</p>	<p>None</p>
			<p>2.3 Owner-manager has individual meetings with the two other pharmacists and the pharmacist's assistant, at which employees can provide feedback regarding the draft documentation and discuss possible issues of concern.</p>	<p>Owner-manager</p>	<p>Three days</p>	<p>Opportunity cost of employee time, as the owner-manager and employee will not be working in the dispensary during these</p>

						meetings.
			2.4 Based on the feedback from the meetings in activity 2.3, the owner-manager finalises the key documentation in activity 2.1.	Owner-manager	One week	None
			2.5 Copies of the above documentation are provided to all pharmacists and the pharmacist's assistant, and these employees are informed that the pharmacy commits to compliance with these documents.	Owner-manager	Two days	Printing costs, which could be decreased by emailing the documents to employees with an email address.
			2.6 After reading the documentation in activity 2.5, dispensary employees sign a form indicating that they have read the relevant documents, are aware of the contents and commit to complying with these.	Owner-manager and other dispensary employees	One week	Cost to print out such a form
3	<b>Introduction and implementation of a formal performance appraisal process and the linking of this to the T&amp;D programme and rewards system</b>	<ul style="list-style-type: none"> <li>• <i>A formal, well-functioning performance appraisal process that is regularly implemented;</i></li> <li>• <i>The T&amp;D needs of individual</i></li> </ul>	3.1 The job descriptions designed and agreed upon in Recommendation 2 should be used as yardsticks against which performance is evaluated. Performance appraisal meetings should be conducted between individual dispensary employees and the owner-manager, at which 360-degree feedback on the employee's performance is considered. This includes feedback from the owner-	<ul style="list-style-type: none"> <li>• Owner-manager and all dispensary employees;</li> <li>• Feedback from other stakeholders (e.g. patients, patients'</li> </ul>	<ul style="list-style-type: none"> <li>• Performance appraisal meetings held on a quarterly basis;</li> <li>• Critical incident diary should be used on an</li> </ul>	<ul style="list-style-type: none"> <li>• Opportunity cost of employee time for the duration of the meetings;</li> <li>• Stationery costs to equip each</li> </ul>

		<p><i>dispensary employees and the dispensary being identified and addressed;</i></p> <ul style="list-style-type: none"> <li><i>The owner-manager receiving feedback on his management style and performance;</i></li> <li><i>Rewards adequately reflecting the successful execution of responsibilities inherent in providing pharmaceutical care.</i></li> </ul>	<p>manager, the individual's colleagues, those below the employee in the organogram (see Figure 2 in 2.2.8) and from other stakeholders, such as patients and other health-care professionals. Employees should be encouraged to keep a critical incident diary, in which notable events or interventions with patients can be recorded, interested patients can record their feedback and in which the contact details of health-care professionals who agree to be contacted as part of the performance appraisal process can be recorded.</p>	<p>families, other health-care professionals).</p>	<p>ongoing basis.</p>	<p>dispensary employee with a little book to serve as a critical incident diary.</p>
			<p>3.2 Based on the above meetings in activity 3.1, any identified T&amp;D needs or gaps (both pharmaceutical and non-pharmaceutical) on</p>	<p>Owner-manager and other dispensary</p>	<p>In order to prevent dispensary</p>	<ul style="list-style-type: none"> <li>Costs of T&amp;D activities;</li> <li>Opportunity</li> </ul>

			<p>the part of dispensary employees (both self-identified skills and knowledge gaps, as well as gaps that the owner-manager has identified) can be addressed through appropriate T&amp;D initiatives and activities, such as attending CPD courses or workshops. Any wellness problems or concerns can also be raised at these meetings and possible ways of addressing these discussed (see activity 2.1.9).</p>	employees	<p>employees from being absent from the pharmacy at the same time, due to attending T&amp;D activities, it is recommended that T&amp;D activities be staggered throughout the year, so that employees are absent from the dispensary at different times, thus minimising disruptions to the operational functioning of the dispensary.</p>	<p>cost of employee time whilst attending T&amp;D activities;</p> <ul style="list-style-type: none"> <li>• Cost of possibly employing additional dispensary employees, such as a locum pharmacist, or the costs of dispensary employees working longer shifts, in order to address the shortage caused by an employee being absent.</li> </ul>
			<p>3.3 The employee's progress in closing the T&amp;D gap can be assessed at performance appraisal meetings (see activity 3.1).</p>	Owner-manager and individual dispensary	Quarterly basis	None



				employee		
			3.4 Dispensary employees provide the owner-manager with feedback on his performance and management style by completing an anonymous one-page evaluation form that they can drop into a sealed box in the dispensary, which is only opened at the end of the evaluation period, in order to protect the anonymity of the feedback. The owner-manager can design this evaluation form, and it would include questions assessing his performance in various roles and responsibilities of a managing pharmacist, according to GPP standards. Employees should also be asked if they have any problems with his management style.	Owner-manager and other dispensary employees	Quarterly basis. The owner-manager can print out the evaluation forms and give dispensary employees one week to complete these and place them in the box. The owner-manager opens the box only after this one week.	Cost of printing out the evaluation forms
			3.5 The owner-manager could perhaps consider attending a management development course, provided on a part-time basis by many institutions of higher learning.	Owner-manager	In the owner-manager's own time, according to his needs and the requirements of the institution.	Costs of the course
			3.6 The satisfaction of dispensary employees with their financial and non-financial rewards is discussed at the performance appraisal meetings with the owner-manager.	Owner-manager and other dispensary employees	Quarterly basis	Costs of additional financial rewards, if the owner-manager decides to provide

			Depending on the feedback received and the financial performance and resources of the pharmacy, the owner-manager may decide to revise current financial rewards to dispensary employees. These would have to be consistently and uniformly applied to all employees, in accordance with the criteria for rewards (see activity 2.1.6), to avoid the perception amongst employees of rewards being unfairly given.			these
			3.7 Excellent performance is routinely recognised by the owner-manager at dispensary and pharmacy meetings (see activities 4.4 and 4.5 respectively).	Owner-manager	Monthly basis	None
			3.8 Critical evaluation and reassessment of all aspects of the PMS, including the appropriateness of existing components of the PMS, problems being experienced and possible solutions to these, by the owner-manager and all dispensary employees at a group meeting. This promotes the “double-loop model” of learning, as described by Argyris (1976: 363) (see 3.1.2.2).	Owner-manager other dispensary employees	Annual basis	Meeting held after-hours, thus not affecting trading hours, but overtime pay for dispensary employees would be necessary.
4	<b>Developing a culture of open communication,</b>	<ul style="list-style-type: none"> <li>Public commitment by</li> </ul>	4.1 Pharmacists should re-commit to the Pharmacist’s Oath at an in-house ceremony, to which patients and their families, other	An organising committee could be set up, consisting of	<ul style="list-style-type: none"> <li>Two weeks to prepare for</li> </ul>	<ul style="list-style-type: none"> <li>Costs of advertising the</li> </ul>

<p><b>active problem-solving, collaboration, teamwork and commitment to enacting the values of pharmaceutical care</b></p>	<p><i>the pharmacy to the philosophy, vision and practice of pharmaceutical care and educating the public about this;</i></p> <ul style="list-style-type: none"> <li>• <i>Promoting the knowledge exchange, relationships and personal commitment characteristic of a “shared-access system” described by Ehin (2008: 343) (see 3.1.2.1);</i></li> <li>• <i>Addressing the identified problems in organisational culture;</i></li> </ul>	<p>health-care professionals and the wider public are invited to attend, in addition to all pharmacy employees (for whom the ceremony would be compulsory). This Oath expresses the ethics governing pharmacy practice (see 6.4.2.8). At this ceremony, the pharmacy’s Patient Charter (see activity 2.1.8) can also be unveiled, and placed on permanent, prominent public display in the pharmacy. The pharmacy’s vision, mission statement and values (see activity 2.1.1) could also be unveiled and placed on public display in the pharmacy.</p>	<p>interested pharmacy employees and at least one pharmacist, and which reports on its progress to the owner-manager.</p>	<p>the ceremony (after activity 2.6 has been completed);</p> <ul style="list-style-type: none"> <li>• This ceremony should thereafter be held on an annual basis.</li> </ul>	<p>ceremony;</p> <ul style="list-style-type: none"> <li>• Catering costs for the ceremony;</li> <li>• The pharmacy may have to close early or open later on the day of the ceremony, so there are the costs of lost revenue. The ceremony could perhaps occur on a Sunday (fewer trading hours);</li> <li>• Overtime pay for pharmacy employees, if they are not scheduled to work on the day of the</li> </ul>
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		<ul style="list-style-type: none"> <li>• <i>Greater communication and alignment between the dispensary and front shop.</i></li> </ul>				ceremony.
			<p>4.2 Holding an open-forum discussion with patients and other interested members of the public, at which attendees can be educated about pharmaceutical care and can provide feedback to the pharmacy on the pharmacy’s performance in this regard, as well as problems that patients are experiencing and possible solutions to these. Such feedback from patients could potentially stimulate improvements in the quality of services provided by the pharmacy. Patients would also be informed of the pharmacy’s SOPs and the benefits of various pharmaceutical care services, such as contacting prescribers if there is a problem with a prescription, monitoring patient outcomes, assessing patient compliance and the other services listed in section 2 of the questionnaire used in this research. These discussions could also</p>	<p>The organising committee in activity 4.1</p>	<p>Quarterly basis</p>	<ul style="list-style-type: none"> <li>• Advertising costs, which may decrease as the public becomes more familiar with the discussions;</li> <li>• Catering costs;</li> <li>• Cost of lost trading time;</li> <li>• Overtime pay for dispensary employees who would not have been working at that time. Overtime pay will not be paid to front-shop</li> </ul>

			assist in pharmacists being increasingly recognised by patients as knowledge workers.			assistants, whose attendance is voluntary.
			4.3 Introduction of a “green area” or participative management, as described by Horwitz and Townshend (1993: 926). This would involve all pharmacy employees meeting for 15 minutes at the start of each working day to discuss the day’s work activities and schedule, potential problems and possible solutions. Teamwork and communication amongst employees and between front-shop and dispensary employees would be promoted, as well as the development of a “shared-access system”, as described by Ehin (2008: 343) (see 3.1.2.1).	Owner-manager	15 minutes daily, on an ongoing basis	15 minutes of trading time
			4.4 Dispensary meetings, involving all dispensary employees, at which specifically dispensary-related issues, challenges and possible solutions are discussed, as well as changes in the pharmacy field and other pharmaceutical developments. These meetings could also possibly be used as an opportunity to revise and learn pharmacological details related to specific	Owner-manager	Monthly basis	Meetings could be held after-hours, thus not affecting trading hours. Overtime pay would be necessary for dispensary employees.

			drugs and medical conditions, and could promote the development of the “shared-access system” described by Ehin (2008: 343) (see activity 4.3).			
			4.5 Pharmacy meetings, involving all dispensary employees and front-shop assistants, at which issues relating to the pharmacy are discussed, communication and information-sharing between these two units is promoted and joint problem-solving of common challenges encouraged. This contributes to developing a “shared-access system” described by Ehin (2008: 343) (see activity 4.3). Front-shop assistants should be educated about the approach to pharmacy practice and service delivery espoused by the dispensary, so that their performance is in alignment with this. They should be made aware of the new SOPs related to the provision of OTC medication and how they should interact with pharmacists (see activity 2.1.3), and instructed not to perform acts only in the scope of practice of dispensary employees. They should also be informed as to what these acts are.	Owner-manager	Monthly basis	Meetings could be held after-hours, thus not affecting trading hours. Overtime pay would be necessary for dispensary employees and front-shop assistants.

#### **7.4.2 Recommendation 5: Addressing the problem of a shortage of dispensary employees by employing pharmacist interns**

The current shortage of pharmacists and pharmacist's assistants has the potential to undermine the provision of pharmaceutical care to patients and the long-term sustainability of the pharmacy. The owner-manager thus needs to address this underlying HR problem and the shortage of skills that the pharmacy faces.

It is recommended that the owner-manager consider employing one pharmacist intern in each of the next two years. The internship year is a compulsory period of practical experience for pharmacy graduates, before the one year of pharmaceutical community service (see 4.2.2.1.4). The owner-manager could approach the nearby pharmacy schools and interview applicants from the final-year pharmacy class. One of the selection criteria he could use is his perceived fit with the applicant.

The chosen individuals would then perform their internship under his supervision and mentorship. The internship is normally for a period of one year, but if the graduate would like to perform an internship at an academic institution or manufacturing pharmacy, the practical experience component is decreased to 400 hours, according to s10 of the Regulations Relating to Pharmacy Education and Training (South Africa. Department of Health, 2000). The owner-manager can decide whether he would be willing to take an intern on for a period of 400 hours, or whether he would prefer an intern completing one year of practical training. Once the chosen individuals have been selected, the owner-manager can train them during the period of their internship, and the interns will be able to share some of the workload in the dispensary. According to s1.4(b) of Annexure A of the GPP standards (South Africa. SAPC, 2010a), a pharmacist intern can perform all the acts in the scope of practice of a pharmacist, but these must be performed under the direct personal supervision of a pharmacist. Section 2.28.1 of the GPP standards requires that a pharmacist be

a registered tutor in order to supervise a pharmacist intern, so the owner-manager would have to obtain such registration, which he currently does not possess.

In order not to lose the investment made in the pharmacist intern when the intern completes the internship, the owner-manager could include a clause in the employment contract with the intern stating that the intern has to work for the pharmacy full-time for a period of one year after the completion of his/ her community service, and provide dates by when this should occur. If the individual would like to remain with the pharmacy beyond this obligatory one year period, this could also be considered by the owner-manager.

If the owner-manager thus employs one intern in Year 1 (for example, 2012) and one intern in Year 2 (i.e. 2013), in 2013 the intern from Year 1 will have left the pharmacy to complete his/ her community service. The owner-manager, however, will have the services of the new intern starting in January 2013. When the intern from Year 2 then leaves to complete his/ her community service in 2014, the intern from Year 1 would return to the pharmacy, having successfully completed his/ her community service and thus now being registered as a pharmacist in South Africa. The pharmacy would have, in 2014, thus gained one full-time pharmacist who is already familiar with the systems and practices in the pharmacy, as the owner-manager has already trained him/ her during the internship year. Likewise, in 2015 the intern from Year 2, who has now also completed his/ her community service and is a registered pharmacist, would also join the pharmacy. If the intern from Year 1 then decides to leave the pharmacy, having worked back the obligatory one year post-community service, the pharmacy is still left with one additional full-time pharmacist in 2015.

This could develop into a four-year cycle, if the new pharmacists wish to leave the pharmacy after their one-year work obligation. The prospects of career advancement within the pharmacy are limited, given the one level separating pharmacists and the owner-manager (see 2.2.8), so it might be expected that the new pharmacists may wish to explore other career opportunities after their obligatory



one-year period at the pharmacy. In 2016, the owner-manager can, if needed, then repeat the abovementioned process by employing another pharmacist intern, and another in 2017, as described above, so that he always has a supply of at least one new full-time pharmacist assured.

The advantage of such a strategic approach to recruitment and retention, besides it being potentially easier to train and mould the working style of a new pharmacist intern instead of a pharmacist who has been practising for a while and who might already have developed his/ her idiosyncratic ways of working, is that it is less costly to pay the salary of a pharmacist intern compared to a pharmacist. The owner-manager would, according to the suggested timeframes on the previous page, only have to pay the salary of an additional pharmacist in 2014, rather than in 2012. That gives him some time to save up for this additional overhead.

In the employment contract with the pharmacist intern, the owner-manager could state that the contract is conditional upon the owner-manager having sufficient financial resources to employ the newly-registered pharmacist for one year. Such a clause would protect the owner-manager in the event of financial constraints.

## **7.5 Possible barriers to implementation and ways to address these**

### **7.5.1 Resistance to change**

The recommendations in Table 3 involve a number of changes to the PMS and practices within the pharmacy. There could be resistance to these changes from the owner-manager, as well as other dispensary employees and front-shop assistants. Such resistance could significantly undermine the effectiveness and sustainability of these changes. The owner-manager, for example, has a crucial role to play in

espousing changes to the PMS and driving the change process, as suggested by Norhayati and Siti-Nabiha (2009) (see 3.6.8.1).

Resistance to change may occur for many reasons. Hendry and Hope (1994) cited in Cameron (2007b: 72) identify the following possible causes of such resistance:

- (i) Resilience of the current culture: The owner-manager and employees may not be willing to change, and/ or may not realise why change is necessary or agree with the reasons for this. As mentioned in 3.1.2.2, Greenwood and Hinings (1996: 1025) argue that the tendency towards stability entrenches “templates” or paradigms of management even further in organisations, which could contribute to resistance to culture change;
- (ii) Complexity of culture change envisaged: A paradigm shift may be required in changing from a PMS with informal controls, to a more structured and formal system in which compliance with key documentation is required. Likewise, there may a paradigm shift in changing from an appreciation of pharmaceutical care on an abstract, philosophical level to having to practise this with every patient on a practical level every day;
- (iii) Differences between individual and organisational values or, by extension, individual values and the values expressed in the new PMS: Dispensary employees may not value, for example, the increased customer contact and feedback proposed in initiatives such as open-forum discussions and 360-degree feedback (see Table 3). Or there may be differences between individual desires to increase profits and the PMS’s insistence that GPP standards for generic substitution be complied with; and
- (iv) Contradictions that may be present with the desired changes: It could be perceived, for example, that the requirement to spend time asking patients questions necessary to evaluate the appropriateness of their pharmacotherapy may lead to longer queues developing, due to the shortage of dispensary employees. Furthermore, stationing one pharmacist in the OTC section of the pharmacy on a permanent basis (see activity 2.1.3 in Table 3) effectively removes one pharmacist from the dispensary, thus adding to the workload of those present in the dispensary.

Whipp (2003) cited in Boojihawon (2006) also identifies other reasons for resistance to change on an individual level, such as feelings of uncertainty, fear and inadequate knowledge about the change. There may also be personal feelings of inadequacy regarding the individual's competence in adjusting to new roles and responsibilities. With the exception of (iv) on the previous page, which is addressed in 7.4.2 and 7.5.2, the other reasons for resistance to change mentioned in 7.5.1 could potentially be addressed by having a culture change workshop with all employees and the owner-manager prior to introducing the recommendations in Table 3. This workshop should be facilitated by a change management specialist, discussed further below. Possible feelings of inadequacy regarding competence can also be addressed by the strong focus of the recommendations, in particular Recommendation 3, on T&D.

There may be a budgetary constraint in acquiring the services of a change management specialist, which could perhaps be overcome by the owner-manager placing an advertisement for such services in the pharmacy. Perhaps a patient or a patient's family member may be a change management specialist and might agree to offer the service at a discounted fee. If the change management specialist is a patient of the pharmacy, an additional benefit is that he/ she can assist the owner-manager and pharmacy employees in understanding the potential benefits of the new pharmaceutical care-based PMS from a patient's perspective.

### **7.5.2 Insufficient resources**

The problem of inadequate HR, in particular dispensary employees, was addressed in the fifth recommendation (see 7.4.2), in which it was recommended that two pharmacist interns be employed over two years. This shortage of knowledge workers should thus not be viewed as a barrier to implementing the recommendations in Table 3, but rather as a "knowledge management trigger", as described by Dence (2008: 35), or a stimulus to address a knowledge management problem, namely the shortage of dispensary employees.

Critics might argue that some of the recommendations suggested in Table 3, such as the 15 minutes of daily trade lost due to “green area” gatherings or quarterly open-forum discussions with patients (see activities 4.3 and 4.2 respectively), may be costly for the pharmacy. However, the financial costs of these should be considered against the potential long-term value and gains associated with these initiatives. The “green area” gatherings, for example, as described by Horwitz and Townshend (1993: 926), could enhance employee performance, whilst the open-forum discussions could build relationships with customers, which might make customers progress up Christopher, Payne & Ballantyne’s (1991) “loyalty ladder” cited in Stapleton (2004: 11), leading to enhanced customer retention.

Furthermore, in assessing the financial implications of employing two pharmacist interns over a period of two years (see 7.4.2), the costs associated with *not* doing so should also be considered. This would include the potential costs of not complying fully with GPP standards for the provision of pharmaceutical care, its associated legal costs and costs to the reputation of the pharmacy and to future revenue if the pharmacy is subjected to disciplinary action by the SAPC. Developing a business case for a pharmaceutical care-based PMS thus aligns the proposed recommendations and the implementation plan for these to a strategic priority of the pharmacy, namely financial sustainability. Dence (2008) believes that such connection with the strategic imperatives of an organisation is a key success factor in promoting the sustainability of knowledge management initiatives.

### **7.5.3 The perception that patients do not want pharmaceutical care**

This potential quality gap between patients’ expectations of a pharmaceutical service and the owner-manager’s and other dispensary employees’ perceptions of these has been highlighted in 2.3.1 and 6.1. This gap could be addressed by sharing some of the results found in this research, notably Figures 22 and 20, which show that there is a strong customer demand for all eleven pharmaceutical care services probed in

the questionnaire, with the owner-manager and other dispensary employees. Once these individuals are aware that a large proportion of their customers thus want to receive these services, they may be encouraged to provide pharmaceutical care.

## **7.6 Suggestions for future research**

The current research lends itself to a number of future studies that could be undertaken, as described below.

This research could be extended to pharmacies in sectors other than the retail sector, such as the hospital and institutional sectors. This could also, importantly, include pharmacies in the public sector, which are faced with additional imperatives, such as compliance with the principles of Batho Pele. These principles, which aim to enhance service delivery and put “People First”, are expressed in the White Paper on Transforming Public Service Delivery (South Africa. Department of Public Service and Administration, 1997: 1) and are resonant with many of the values expressed in the GPP standards outlined by the SAPC (South Africa. SAPC, 2010a), such as accountability and excellence in service delivery. Enhancing compliance with GPP standards for pharmaceutical care could thus also promote the enactment of the principles of Batho Pele in these organisations.

The research methodology in this dissertation could also potentially be applied to larger pharmacies, such as pharmacy chain stores or retail stores that also include pharmacies in their outlets, to investigate the impact of the PMS on the compliance of these pharmacies with GPP standards for pharmaceutical care.

Further research could also determine conclusively, using inferential statistical analysis, whether there is a relationship between demographic variables and patients’ perceptions and expectations of pharmaceutical services. Furthermore, a

wider range of demographic variables can be explored, rather than solely focusing on race and gender. Examples of such additional demographic variables could include the educational level, socioeconomic status and age of patients, as well as perhaps patients with different chronic medical conditions.

The current sample size of 200 patients could also be increased and the research conducted at multiple pharmacies across all the provinces in South Africa instead of being restricted to Gauteng. This would also allow differences in patients' responses and compliance with GPP standards between provinces to be ascertained.

A future study could assess compliance with a wider range of GPP standards for the provision of pharmaceutical care than the ten probed in the current questionnaire.

Pharmacoeconomic analyses could also be performed to determine the current cost of DRP in South Africa, and the costs of not implementing pharmaceutical care. Ernst and Grizzle's (2001) study was restricted to the USA and was reported a decade ago (see 3.3).

The effects of collaborative initiatives among a variety of different health-care professionals, such as doctors, pharmacists and nurses, in enhancing patient outcomes and providing pharmaceutical care could also be investigated.

Finally, the implications of the current research on recruitment and retention strategies for pharmacies and organisations or institutions with pharmacies can also be investigated, as can the implications for customer or patient relations and stakeholder management.

**Glossary of pharmaceutical terms and phrases used in this report**

Adverse drug reaction:	See <i>adverse effect</i>
Adverse effect:	An unwanted, negative physiological effect of pharmacotherapy in a patient.
Ambulatory patient:	See <i>outpatient</i>
Compliance with pharmacotherapy:	A patient takes his/ her medication exactly as prescribed (i.e. the correct amount of medication, in the correct manner, at the correct dosing interval, for the correct number of days).
Compounding medication:	The combination of different ingredients, for example by mixing
Counselling:	In the context of pharmaceutical care, patient counselling refers to providing patients with information and advice regarding their pharmacotherapy and/ or medical condition(s).
Dispensary:	The part of the pharmacy in which Schedule 2 to Schedule 6 medication is kept. A

pharmacist has to be present at all times in the dispensary.

Dosage form:

The physical formulation in which a drug is administered, for example a tablet, capsule, syrup, solution or suppository.

DRP:

These are defined by the PCNE Foundation (2010: 2) as “an event or circumstance involving drug therapy that actually or potentially interferes with desired health outcomes”.

Drug interaction:

An interaction between two drugs can either be potentially negative, resulting in adverse effects, or potentially positive, resulting in beneficial effects to the patient. An example of a drug interaction that has a negative effect is a patient taking two drugs that have the same adverse effect, as the potential for toxicity is enhanced. An example of a beneficial drug interaction is when a patient takes one drug that decreases the toxicity of another drug.

Generic medication:

Generic medication, also referred to as “interchangeable multi-source medication” in the Medicines and Related Substances Act 101 of 1965 (South Africa. National Parliament, 1965: 1), is defined in s1(1) of



this Act as containing the same active pharmaceutical ingredient(s) at the same concentration or strength, given through the same route of administration and in the same dosage form as another medicine (usually an original branded product), and is therapeutically equivalent to the other medicine. A generic is often cheaper than the original branded product. Generic medication usually comes to market after the patent on the branded product has expired and is often, but not always, manufactured by a different company.

Health-care professionals:

Includes doctors, physiotherapists, dentists, psychologists, optometrists, occupational therapists and other health-related professions represented within the Health Professions Council of South Africa (HPCSA) (HPCSA, no date). Pharmacists and nurses are also health-care professionals, but are registered with separate professional bodies, namely the SAPC and the South African Nursing Council, respectively.

Inpatient:

A patient who stays overnight at a health-care facility, such as a hospital, for treatment (American Heritage® Dictionary of the English Language, 2009 cited in *TheFreeDictionary*, 2011a).

## Front-shop assistants:

These employees of XXX Pharmacy are not pharmacists or pharmacist's assistants. Most are students, who work in the pharmacy on a part-time basis. These assistants do not work in the dispensary, but rather in the front shop, which sells food, beverages, toiletries, vitamins and herbal products. Front-shop assistants are also stationed in the OTC part of the pharmacy.

## Locum pharmacist:

A non-full-time pharmacist, who usually works shifts when one or both of the other pharmacists is not at work. Locum pharmacists are also termed "relief pharmacists" (South Africa. SAPC, 2010a: 199).

## OTC medication:

Schedule 0, 1 and 2 medication, which does not require a doctor's prescription in order to be dispensed. Schedule 1 and 2 medication can only be sold by a pharmacist, a pharmacist intern or a pharmacist's assistant being supervised directly by a pharmacist, according to s22A(4)(a)(i) and s22A(5)(a) respectively of the Medicines and Related Substances Act 101 of 1965 (South Africa. National Parliament, 1965), whereas Schedule 0 medication can also be sold in an open shop, according to s22A(3) of the above

Act. An example of an open shop is a grocery store.

Outpatient:

A patient who does not stay overnight at a health-care facility, such as a hospital, for treatment (The American Heritage<sup>®</sup> Dictionary of the English Language, 2009 cited in *TheFreeDictionary*, 2011b).

Patient morbidity:

Patient disease or illness (*MedTerms Dictionary*, 1998)

Patient outcomes:

This refers to what happens to a patient after a treatment intervention such as a course of medication. Outcomes could include, for example, impaired or improved quality of life, the occurrence of adverse effects or control of a chronic medical condition.

Pharmaceutical care:

This is a patient-centred approach to providing high quality, safe and efficacious pharmaceutical services to patients. The SAPC (South Africa. SAPC, 2010a: 3) describes pharmaceutical care as “taking responsibility for the patient’s medicine-related needs and being accountable for meeting these needs”.

Pharmacist-initiated therapy:	This is when a pharmacist determines that a patient requires OTC medication, and provides the appropriate OTC medication, according to s2.12 of the GPP standards (South Africa. SAPC, 2010a). A doctor's prescription is not necessary.
Pharmacoeconomics:	“The scientific discipline that evaluates the clinical, economic and humanistic aspects of pharmaceutical products, services, and programs, as well as other health care interventions to provide health care decision makers, providers and patients with valuable information for optimal outcomes and the allocation of health care resources” (International Society for Pharmacoeconomics and Outcomes Research, 2011)
Pharmacotherapy:	Drug therapy
Responsible pharmacist:	The pharmacist legally in charge of the pharmacy. Each pharmacy must have a responsible pharmacist (South Africa. SAPC, 2010a).
Scheduled medication:	According to the Medicines and Related Substances Act 101 of 1965 (South Africa. National Parliament, 1965), medication is classified into a Schedule, between 0 and 7.

Schedule 3 and above requires a doctor's prescription in order to be dispensed, whilst Schedule 2 and below are regarded as OTC medication. Only up to Schedule 6 medication can be kept in a pharmacy.

Side-effect:

See *adverse effect*

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## APPENDICES

### Appendix A: Written permission from the owner-manager of the pharmacy

To whom it may concern

This is to confirm that Dr Layla Cassim has my permission to conduct her MBA 3 research project at my pharmacy in Johannesburg. Her project is on pharmaceutical care, and the effect of the performance management system on the provision of pharmaceutical care to patients.

As part of her project, Layla will be asking patients to complete a short questionnaire. She will be approaching patients in the pharmacy, as well as in neighbouring doctors' rooms, for which she has obtained permission from the relevant doctors. She will also be interviewing me, as well as the other two pharmacists and the pharmacist's assistant who work in my pharmacy, all of whom have granted permission for Layla to interview them.

Layla has undertaken not to divulge the name of my pharmacy, its employees or patients in her thesis, and to protect our privacy and confidentiality. I am aware that her research is conducted in accordance with UNISA's Policy on Research Ethics.

  
  
  
Owner and manager,  Pharmacy

15/2/2011.

Date

**Appendix B: Written permission from three doctors and one dentist in the same medical complex as the pharmacy**

To whom it may concern

This is to confirm that Dr Layla Cassim has my permission to ask patients in my waiting room to complete a short questionnaire, as part of her MBA 3 research project, in February 2011. Her project is based on the pharmacy services offered by the nearby pharmacy, and Layla has the permission of the owner of the pharmacy to conduct her study. Her project is on pharmaceutical care, and the effect of the performance management system on the provision of pharmaceutical care to patients.

Layla has undertaken not to divulge my name or the names of my patients in her thesis, and to protect our privacy and confidentiality. I am aware that her research is conducted in accordance with UNISA's Policy on Research Ethics.

Dr [Redacted]  
Practice number: [Redacted]  
[Redacted]  
M.D. (Amsterdam)  
P.O. Box 1728  
[Redacted]  
E-mail: [Redacted].co.za  
Tel: (011) [Redacted] 0 Fax: (011) [Redacted]  
A/H: (011) [Redacted] 92

Date 15.2.11

To whom it may concern

This is to confirm that Dr Layla Cassim has my permission to ask patients in my waiting room to complete a short questionnaire, as part of her MBA 3 research project, in February 2011. Her project is based on the pharmacy services offered by the nearby pharmacy, and Layla has the permission of the owner of the pharmacy to conduct her study. Her project is on pharmaceutical care, and the effect of the performance management system on the provision of pharmaceutical care to patients.

Layla has undertaken not to divulge my name or the names of my patients in her thesis, and to protect our privacy and confidentiality. I am aware that her research is conducted in accordance with UNISA's Policy on Research Ethics.

Dr

Practice number:

Date

15/2/11

To whom it may concern

This is to confirm that Dr Layla Cassim has my permission to ask patients in my waiting room to complete a short questionnaire, as part of her MBA 3 research project, in February 2011. Her project is based on the pharmacy services offered by the nearby pharmacy, and Layla has the permission of the owner of the pharmacy to conduct her study. Her project is on pharmaceutical care, and the effect of the performance management system on the provision of pharmaceutical care to patients.

Layla has undertaken not to divulge my name or the names of my patients in her thesis, and to protect our privacy and confidentiality. I am aware that her research is conducted in accordance with UNISA's Policy on Research Ethics.


Dr



Practice number:

*S* 

Date

*15/02/2011*

  
  
  
CENTRE  
ROAD  
3  
0

To whom it may concern

This is to confirm that Dr Layla Cassim has my permission to ask patients in my waiting room to complete a short questionnaire, as part of her MBA 3 research project, in February 2011. Her project is based on the pharmacy services offered by the nearby pharmacy, and Layla has the permission of the owner of the pharmacy to conduct her study. Her project is on pharmaceutical care, and the effect of the performance management system on the provision of pharmaceutical care to patients.

Layla has undertaken not to divulge my name or the names of my patients in her thesis, and to protect our privacy and confidentiality. I am aware that her research is conducted in accordance with UNISA's Policy on Research Ethics.

Dr [REDACTED]  
Practice number: 00 [REDACTED]

Date 23/2/2011

**Appendix C: Patient consent form**

I, ....., hereby give my informed consent to participate in the current study conducted by Dr Layla Cassim as part of her MBA research. I also give her my informed consent to ask me my gender and race in her questionnaire, for the purposes of her research.

Dr Cassim has explained her research project to me, and has assured me that my participation and responses to her questionnaire will be kept private, anonymous and confidential. She has also given me a written statement containing details of her research project.

I am aware that this research is conducted according to UNISA’s Policy on Research Ethics.

Signature

Date

## **Appendix D: Written information provided to patients regarding the research project**

Dear Respondent

As part of my MBA research, I am conducting a research project at XXX Pharmacy. I am investigating the effect of the performance management system on the provision of pharmaceutical care to patients. As part of this research, I am administering questionnaires to patients, to determine if pharmaceutical care is provided. I am also interviewing the pharmacists and the pharmacist's assistant, to learn more about the performance management system in the pharmacy and how this may affect the provision of pharmaceutical care.

I am administering questionnaires to patients over a period of approximately two weeks, from 16-28 February 2011. Patients will be approached whilst in the pharmacy, as well as in the nearby doctors' rooms in the medical centre. I have the necessary permission of the owner of the pharmacy and the relevant doctors to approach patients in this manner. The questionnaire will cover various services that form part of pharmaceutical care, and I will also be asking respondents whether they would like to receive these services. There are no anticipated risks to you from participating in the study. A possible benefit could be an improvement in the pharmaceutical services provided to you.

I am the only researcher involved in this research. I work at the Division of Clinical Pharmacology at the University of Cape Town, and my cellular telephone number is **074 999 5847**. XXX Pharmacy has been chosen as the site of this research, mainly due to the willingness of the owner of the pharmacy to have this research conducted at his pharmacy. He is fully supportive of this study.

I assure you that your participation and responses are completely private, anonymous and confidential. You have the right not to participate in this study, and also the right not to complete the whole questionnaire once you have started, if you do not wish to do so. Your name is not asked for on the questionnaire, and I will not disclose your responses to anyone. I will be providing the owner of the pharmacy with a broad overview of the general research findings at the end of the project, but I will not be disclosing what individual participants' responses are.

I will be using the data obtained from questionnaires and from my interviews to write up my MBA thesis, and thereafter I hope to publish a paper in an academic journal on the study. Once again, your privacy, anonymity and confidentiality will be completely protected. This research is conducted in accordance with UNISA's Policy on Research Ethics, and a copy of this can be made available to you, upon request.

Thank you very much for your interest and participation,  
Dr Layla Cassim  
B.Pharm. (with distinction), PhD (Pharmacology) (Rhodes)



**Appendix E: Semi-structured interview questions for pharmacists other than the owner-manager**

Dear X,

Thank you so much for agreeing to be interviewed as part of my MBA research. I am investigating the effect of the current performance management system at XXX Pharmacy on the provision of pharmaceutical care to patients. It is hoped that the findings of my research project can contribute to improving the pharmaceutical services offered by the pharmacy. I also have the permission of the owner of the pharmacy to conduct this research. I have several questions that I would like to ask you. I assure you that your responses are completely confidential and anonymous. I will give a general summary of the broad research findings to the owner of the pharmacy, but I will not disclose to him what specific interviewees have said. I am also not going to be recording the interview, but I will be taking notes. I am happy to send you a typed copy of my notes tomorrow, or at your convenience, so that you could verify that the responses that I have typed for you are accurate. This research is conducted in accordance with UNISA's Policy on Research Ethics; I can give a copy of this to you, if you like. You have the right not to participate in this interview, and also not to complete the interview, if you do not wish to do so. Do you have any questions regarding the project before we begin?

- 1 How long have you been practising as a pharmacist?
- 2 How long have you worked at XXX Pharmacy?
- 3 What do you understand by "pharmaceutical care"? You don't have to provide a technical definition, just the kinds of practices you believe are involved in pharmaceutical care.
- 4 Do you believe that providing pharmaceutical care is a key responsibility for you? Why or why not?
- 5 Are you aware of the GPP standards for the provision of pharmaceutical care? Please give a few examples of these standards.

- 6 What is the vision of the pharmacy? Is there a mission statement? If so, what is the pharmacy's mission statement?
- 7 How is your performance managed at XXX Pharmacy?
- 8 Do you have a written and signed job description?
- 9 Are you aware of your roles and responsibilities in the pharmacy? What are these?
- 10 Are you aware of the SOPs that came into effect in August 2009? Are you fully compliant with these SOPs? Why or why not? Do you think that these SOPs assist you to provide pharmaceutical care? Please motivate your response.
- 11 Have you been told by the managing pharmacist to follow these SOPs?
- 12 When you started working at XXX Pharmacy, were you given training, orientation/ induction and information regarding the pharmacy and your role? Do you think that this has impacted on your ability to provide pharmaceutical care? Why or why not?
- 13 Are there regular performance appraisals? Do you think that these help or hinder you from providing pharmaceutical care? Why?
- 14 If there are performance appraisals, do you give input in appraising your own performance?
- 15 What performance objectives do you have? In other words, what does the managing pharmacist expect you to do? Do you have any targets? Please elaborate; what kind of targets are these?
- 16 Do you have any input in developing these performance targets or objectives? Do you think that these performance targets or objectives help or hinder you in providing pharmaceutical care? Why?
- 17 What are your working hours? Do you feel that these working hours are too long or too short? Do you think that your quantity of working hours helps or hinders you in providing pharmaceutical care? Why or why not?
- 18 Do you think that the number of pharmacists and pharmacist's assistants employed by the pharmacy is sufficient to allow for pharmaceutical care to be provided to patients? Why or why not?
- 19 How many pharmacists are on duty at any point in time? Do you think that this is a sufficient number to provide pharmaceutical care? Why or why not?

- Is it a sufficient number to adequately supervise the pharmacist's assistant?  
Why or why not?
- 20 Has the managing pharmacist ever identified that you needed additional training or development? Or have you ever identified that you have training or development needs, and communicated these to the managing pharmacist?
- 21 What was done about this (e.g. were you sent on any courses or workshops)? Did the additional training help you to provide better pharmaceutical care? Why or why not? Could you please provide an example?
- 22 Do you have a self-development/ individual development plan? If you do, please tell me about this. Does this help you to provide pharmaceutical care? How?
- 23 Was there ever a time that the managing pharmacist told you that there was a problem with your performance? Please tell me more about this. What happened?
- 24 How often are staff meetings? What gets discussed at these meetings? Do you think that these meetings help or hinder you and other pharmacists from providing pharmaceutical care? Why?
- 25 Do you have meetings that address dispensary-related problems and challenges? Do you think that this helps or hinders you from providing pharmaceutical care? Why?
- 26 How would you describe the way in which the managing pharmacist manages the pharmacy? Do you think that this encourages you to provide pharmaceutical care? Why or why not?
- 27 Do you often work shifts with the managing pharmacist?
- 28 Do you feel that you have to follow the working style, practices or preferences of the managing pharmacist? Could you please provide an example of how this has helped or hindered you from providing pharmaceutical care?
- 29 How would you describe the culture in the dispensary and pharmacy? Culture refers to "the way things are done around here".
- 30 Do you have good working relationships with your colleagues and the managing pharmacist? What factors promote or hinder good working relationships with these individuals? Do you think that these working relationships assist or prevent you from providing pharmaceutical care to patients? Please motivate your response.

- 31 Are you able to develop good relationships with patients? What factors promote or prevent this from occurring? Do you think that your relationships with patients make it easier or more difficult to provide pharmaceutical care? Why?
- 32 I won't ask you what your remuneration is, but are you satisfied with your remuneration? Do you think that it adequately reflects the extra responsibilities and duties in providing pharmaceutical care?
- 33 How are you paid (e.g. monthly, hourly rate)?
- 34 Do you get paid on time?
- 35 Are there any other financial rewards that you get (e.g. performance-related bonus)? Does this incentivise or motivate you to want to provide pharmaceutical care? Why or why not?
- 36 Do you receive any non-financial rewards (e.g. recognition at staff meetings)? Does this incentivise or motivate you to want to provide pharmaceutical care? Why or why not?
- 37 If you were to provide pharmaceutical care, would you expect your financial rewards to increase? Why or why not?
- 38 At XXX Pharmacy, are you encouraged to participate in activities of the Pharmaceutical Society of South Africa? Does this help or hinder you in providing pharmaceutical care? Why?
- 39 Are you involved in continuing professional development (CPD) activities? Does this help you in providing pharmaceutical care? If so, how?
- 40 Have you had any meetings to discuss the fact that CPD is being made compulsory from 2011 by the South African Pharmacy Council? Please elaborate. If you have had a meeting, what was decided upon? Is there a plan to ensure that all pharmacists and the pharmacist's assistant are compliant with CPD requirements?
- 41 Do you have professional indemnity?
- 42 Do you always offer patients generic medication, except when one cannot in terms of the Medicines and Related Substances Act? Why or why not?
- 43 Do you routinely analyse the appropriateness of a patient's prescribed medication (e.g. in terms of dosage, allergies, the presence of drug-drug and drug-disease interactions)? Why or why not? What makes this feasible or difficult?

44 Do you routinely:

- Counsel patients about how to take their medication properly;
- Provide advice and information on their pharmacotherapy;
- Assess whether their medication is controlling or improving their medical conditions; and
- Check for compliance with their pharmacotherapy?

Why or why not? What makes these tasks feasible or difficult?

45 Have you ever performed a medication review for a patient? This includes assessing the appropriateness of a patient's drug therapy, developing a care plan and performing a follow-up evaluation to see if the patient is improving? If so, please tell me more about it. How did the patient feel about the whole process?

46 How often do you liaise with other health-care professionals, such as prescribers? Does the managing pharmacist encourage you to do so? Could you please give an example of how this has helped or hindered you in providing pharmaceutical care?

47 Does the pharmacist's assistant always work under the direct personal supervision of a pharmacist – either you or another pharmacist?

48 How often do you check the pharmacist's assistant's work? Please describe how exactly she is supervised?

49 Do all dispensary employees wear a name tag indicating their name and designation? Do you think that patients can identify who the pharmacists are and who the pharmacist's assistant is?

We are almost over; we just have ten questions left. Thanks so much for your participation thus far.

50 What control do you have over OTC sales?

- 51 Is OTC medication always selected for patients by a pharmacist or the pharmacist's assistant, or do front-shop assistants also select OTC medication for patients?
- 52 In providing OTC medication to patients, please describe the kinds of questions, if any, you ask patients? What kind of patient counselling, if any, do you provide? What makes it easy or difficult to ask patients questions or provide counselling regarding OTC medication?
- 53 Is there a quality improvement plan for the pharmacy? If so, please tell me more about it. How involved are you in developing and assessing it? Does this plan, or the lack of it, affect your ability to provide pharmaceutical care? How?
- 54 Does the layout or design of the pharmacy help or hinder you in providing pharmaceutical care? Why?
- 55 In your opinion, do you comply fully with the GPP standards for pharmaceutical care?
- 56 Do you think that there is anything that prevents you from fully complying with these GPP standards? Please tell me more about this.
- 57 Is there any aspect of the way in which your performance is managed that could be improved so that you could find it easier to comply fully with GPP standards for pharmaceutical care? Please elaborate.
- 58 Are there any specific or general problems you have with the performance management system in the pharmacy? Please elaborate.
- 59 Is there anything else you would like to mention?

Thank you so much for your time and feedback. It is much appreciated. I assure you once again that your responses are completely anonymous and confidential. Would you like me to send you a typed copy of the interview, so that you could check the accuracy of the responses I have ascribed to you?

**Appendix F: Semi-structured interview questions for the owner-manager of the pharmacy**

Dear X,

Thank you so much for agreeing to be part of my MBA research, and for allowing me to conduct my research at your pharmacy. I am investigating the effect of the current performance management system in your pharmacy on the provision of pharmaceutical care to patients. I have several questions that I would like to ask you. I assure you that your responses are completely confidential and anonymous, and that the name of your pharmacy will not be disclosed in my thesis. I will also not disclose any of your responses to the other pharmacists or the pharmacist's assistant. I am not going to be recording the interview, but I will be taking notes. I am happy to send you a typed copy of my notes tomorrow, or at your convenience, so that you could verify the responses that I have typed for you as being accurate. This research is conducted in accordance with UNISA's Policy on Research Ethics; I can give a copy of this to you, if you like. You have the right not to participate in this interview, and also not to complete the interview, if you do not wish to do so. Do you have any questions regarding the project before we begin?

- 1 How long have you been practising as a pharmacist?
- 2 How long have you worked at XXX Pharmacy?
- 3 What do you understand by the term "pharmaceutical care"? You don't have to provide a technical definition, just the kinds of practices you believe are involved in pharmaceutical care.
- 4 Do you believe that providing pharmaceutical care is a key responsibility for you and your pharmacy? Why or why not?
- 5 Are you aware of the GPP standards for the provision of pharmaceutical care? Please give a few examples of these standards.
- 6 What is your vision for the pharmacy? Do you have a mission statement? If so, what is your mission statement?

- 7 How do you manage the performance of your pharmacists and the pharmacist's assistant?
- 8 Do you have written and signed job descriptions for the dispensary staff?
- 9 Are the dispensary staff aware of their roles and responsibilities? If so, how did you tell them? And what are these roles and responsibilities?
- 10 Are the dispensary staff aware of the SOPs that came into effect in August 2009?
- 11 Have you told them to follow these SOPs? Are you, your pharmacists and pharmacist's assistant fully compliant with these SOPs? Why or why not? Do you think that these SOPs assist you and your pharmacists in providing pharmaceutical care? Please motivate your response.
- 12 When your pharmacists and pharmacist's assistant started working here, were they given training, orientation/ induction and information regarding the pharmacy and their role? Do you think that this has impacted on the pharmacists' ability to provide pharmaceutical care, or the pharmacist's assistant's ability to provide patient counselling? Why or why not?
- 13 Are there regular performance appraisals? Do you think that these help or hinder your pharmacists from providing pharmaceutical care, or the pharmacist's assistant from providing patient counselling? Why?
- 14 If there are performance appraisals, do the pharmacists and pharmacist's assistant give input in appraising their own performance?
- 15 Do you ask them for feedback on your performance and the way in which you manage? If so, kindly share what some of this feedback has been?
- 16 What performance objectives do you have for the pharmacists and pharmacist's assistant? In other words, what do you expect them to do?
- 17 Do you have any targets for them? Please elaborate; what kind of targets are these? How and how often do you set them? How often do you revise your objectives? Do the pharmacists and pharmacist's assistant have any input in developing these performance targets or objectives? Do you think that these performance targets or objectives help or hinder your pharmacists in providing pharmaceutical care, or your pharmacist's assistant in providing patient counselling? Why?
- 18 What are your working hours and the working hours of your pharmacists? Do you feel that these working hours are too long or too short? Do you think that



- the quantity of working hours helps or hinders you and your pharmacists in providing pharmaceutical care, or your pharmacist's assistant in providing patient counselling? Why or why not?
- 19 Do you think that the number of pharmacists and pharmacist's assistants employed by the pharmacy is sufficient to allow for pharmaceutical care to be provided to patients? Why or why not?
- 20 How many pharmacists are on duty at any point in time? Do you think that this is a sufficient number to provide pharmaceutical care? Why or why not? Is it a sufficient number to adequately supervise the pharmacist's assistant? Why or why not?
- 21 Have you ever identified that any pharmacist or pharmacist's assistant needs additional training or development? Or has any pharmacist or pharmacist's assistant told you that he/ she has a specific training or development need?
- 22 What was done about this (e.g. did you send them on any courses or workshops)? Did the additional training help your pharmacists to provide better pharmaceutical care, or help your pharmacist's assistant to better perform her job? Why or why not? Could you please provide an example?
- 23 Do you have a self-development/ individual development plan? If you do, please tell me about this. Do your pharmacists and pharmacist's assistant also have such a plan? Does this help you and your pharmacists to provide pharmaceutical care? How?
- 24 Was there ever a time that you told a pharmacist or pharmacist's assistant that you were not satisfied with his/ her performance? Please tell me about this. What happened? What did you do?
- 25 How often are staff meetings? What gets discussed at these meetings? Do you think that these meetings help or hinder you and your pharmacists from providing pharmaceutical care? Why?
- 26 Do you have meetings that address dispensary-related problems and challenges? Do you think that this helps or hinders you and your pharmacists from providing pharmaceutical care? Why?
- 27 How would you describe the way in which you manage the pharmacy? Do you think that it encourages your pharmacists to provide pharmaceutical care? Why or why not?

- 28 Do you feel that you expect the other pharmacists to have to follow your working style, practices or preferences? Could you please provide an example of how this has helped or hindered your pharmacists in providing pharmaceutical care?
- 29 How would you describe the culture in the dispensary and pharmacy? Culture refers to “the way things are done around here”.
- 30 Do you have good working relationships with your dispensary employees? What factors promote or prevent good working relationships with these individuals? Do you think that these working relationships assist or prevent you and your pharmacists from providing pharmaceutical care to patients, and the pharmacist’s assistant in providing patient counselling? Please motivate your response.
- 31 Are you and your dispensary employees able to develop good relationships with patients? What factors promote or prevent this from occurring? Do you think that the current relationships with patients make it easier or more difficult to provide pharmaceutical care? Why?
- 32 I won’t ask you what remuneration you offer, but do you think that your pharmacists and pharmacist’s assistant are satisfied with their remuneration? Do you think that the pharmacists’ remuneration adequately reflects the extra responsibilities and duties in providing pharmaceutical care?
- 33 Are there any other financial rewards that you give to your pharmacists and pharmacist’s assistant (e.g. performance-related bonus)? Do you think that this incentivises or motivates your pharmacists to want to provide pharmaceutical care, or your pharmacist’s assistant to provide patient counselling? Why or why not?
- 34 Do you give them any non-financial rewards (e.g. recognition at staff meetings)? Do you think that this incentivises or motivates your pharmacists to want to provide pharmaceutical care, or your pharmacist’s assistant to provide patient counselling? Why or why not?
- 35 Do you think that if your pharmacists had to provide pharmaceutical care, and if the pharmacist’s assistant provided patient counselling, that they would expect their financial rewards to increase? Why or why not?
- 36 Do you encourage your pharmacists and pharmacist’s assistant to participate in activities of the Pharmaceutical Society of South Africa? Do you participate

- in such activities? Does this help or hinder you and your pharmacists in providing pharmaceutical care? Why?
- 37 Are you involved in continuing professional development (CPD) activities? Do you encourage your pharmacists and pharmacist's assistant to be involved in these activities? Does this help you and your pharmacists in providing pharmaceutical care, or your pharmacist's assistant in performing her job? If so, how?
- 38 Have you had any meetings to discuss the fact that CPD is being made compulsory from 2011 by the South African Pharmacy Council? Please elaborate. If you have had a meeting, what was decided upon? Is there a plan to ensure that all pharmacists and the pharmacist's assistant are compliant with CPD requirements?
- 39 Do you and your dispensary staff all have professional indemnity?
- 40 Do you always offer patients generic medication, except when one cannot in terms of the Medicines and Related Substances Act? Why or why not?
- 41 Do you routinely analyse the appropriateness of a patient's prescribed medication (e.g. in terms of dosage, allergies, the presence of drug-drug and drug-disease interactions)? Why or why not? What makes this feasible or difficult? Do you encourage your pharmacists to perform such analysis? Why or why not?
- 42 Do you routinely:
- Counsel patients about how to take their medication properly;
  - Provide advice and information on their pharmacotherapy;
  - Assess whether their medication is controlling or improving their medical conditions; and
  - Check for compliance with their pharmacotherapy?
- Why or why not? What makes these tasks feasible or difficult?
- 43 Have you ever performed a medication review for a patient? This includes assessing the appropriateness of a patient's drug therapy, developing a care plan and performing a follow-up evaluation to see if the patient is improving? If so, please tell me more about it. How did the patient feel about the whole process?

- 44 How often do you liaise with other health-care professionals, such as prescribers? Do you encourage your pharmacists and pharmacist's assistant to liaise with other health-care professionals? Could you please give an example of how this has helped or hindered you or your pharmacy in providing pharmaceutical care?
- 45 Does the pharmacist's assistant always work under the direct personal supervision of a pharmacist – either you or another pharmacist?
- 46 Are you a registered tutor with the South African Pharmacy Council?
- 47 How often do you check the pharmacist's assistant's work? Please describe how exactly she is supervised?
- 48 Do all dispensary employees wear a name tag indicating their name and designation? Do you think that patients can identify who the pharmacists are and who the pharmacist's assistant is?
- 49 What control do you and the other pharmacists have over OTC sales?

We are almost over; we just have ten questions left. Thanks so much for your participation thus far.

- 50 Is OTC medication always selected for patients by a pharmacist or the pharmacist's assistant, or do front-shop assistants also sometimes select OTC medication for patients?
- 51 In providing OTC medication to patients, please describe the kinds of questions, if any, you and your dispensary staff ask patients? What kind of patient counselling, if any, do you provide? What makes it easy or difficult to ask patients questions or provide counselling regarding OTC medication?
- 52 How do you manage and ensure quality in the pharmacy?
- 53 Do you have a quality improvement plan for the pharmacy? If so, please tell me more about it. How often do you assess it? Are the other pharmacists also involved in assessing it? Does this plan, or the lack of it, affect your pharmacy's ability to provide pharmaceutical care? How?
- 54 Does the layout or design of the pharmacy help or hinder you in providing pharmaceutical care? Why?

- 55 In your opinion, do you and your pharmacists comply fully with the GPP standards for pharmaceutical care?
- 56 Do you think that there is anything that prevents you and your pharmacists from fully complying with these GPP standards? Please tell me more about this.
- 57 Is there any aspect of the way in which you manage performance that could be improved so that your pharmacy complies fully with GPP standards for pharmaceutical care? Please elaborate.
- 58 Are there any specific or general problems you have with the performance management system in the pharmacy? Please elaborate.
- 59 Is there anything else you would like to mention?

Thank you so much for your time and feedback. It is much appreciated. I assure you once again that your responses are completely anonymous and confidential. Would you like me to send you a typed copy of the interview, so that you could check the accuracy of the responses I have ascribed to you?

**Appendix G: Semi-structured interview questions for the pharmacist's assistant**

Dear X,

Thank you so much for agreeing to be part of my MBA research. I am investigating the effect of the current performance management system at XXX Pharmacy on the provision of pharmaceutical care to patients. It is hoped that the findings of my research project can contribute to improving the pharmaceutical services offered by the pharmacy. I also have the permission of the owner of the pharmacy to conduct this research. I have several questions that I would like to ask you. I assure you that your responses are completely confidential and anonymous. I will give a general summary of the broad research findings to the owner of the pharmacy, but I will not disclose to him what specific interviewees have said. I am also not going to be recording the interview, but I will be taking notes. I am happy to send you a typed copy of my notes tomorrow, or at your convenience, so that you could verify that the responses that I have typed for you are accurate. This research is conducted in accordance with UNISA's Policy on Research Ethics; I can give a copy of this to you, if you like. You have the right not to participate in this interview, and also not to complete the interview, if you do not wish to do so. Do you have any questions regarding the project before we begin?

- 1 How long have you been practising as a pharmacist's assistant?
- 2 How long have you worked at XXX Pharmacy?
- 3 What category of pharmacist's assistant are you (i.e. basic or post-basic)?
- 4 What do you understand by the term "pharmaceutical care"? You don't have to provide a technical definition, just the kinds of practices you believe are involved in pharmaceutical care.
- 5 Do you believe that providing pharmaceutical care is a key responsibility for this pharmacy? Why or why not?

- 6 Do you believe that providing patient counselling is a key responsibility for you? Why or why not?
- 7 What is the vision of the pharmacy? Is there a mission statement? If so, what is the pharmacy's mission statement?
- 8 How is your performance managed at XXX Pharmacy?
- 9 Do you have a written and signed job description?
- 10 Are you aware of your roles and responsibilities in the pharmacy? What are these?
- 11 Are you aware of the SOPs that came into effect in August 2009? Are you fully compliant with these SOPs? Why or why not? Do you think that these SOPs assist you to perform your job better? Please motivate your response.
- 12 Have you been told by the managing pharmacist to follow these SOPs?
- 13 When you started working at XXX Pharmacy, were you given training, orientation/ induction and information regarding the pharmacy and your role?
- 14 Are there regular performance appraisals?
- 15 If so, do you give input in appraising your own performance?
- 16 What performance objectives do you have? In other words, what does the managing pharmacist expect you to do?
- 17 Do you have any targets? Please elaborate; what kind of targets are these? Do you have any input in developing these performance targets or objectives?
- 18 What are your working hours? Do you feel that these working hours are too long or too short? Do you think that your quantity of working hours helps or hinders you in providing patient counselling? Why or why not?
- 19 Do you think that the number of pharmacists and pharmacist's assistants employed by the pharmacy is sufficient to allow for pharmaceutical care to be provided to patients? Why or why not?
- 20 How many pharmacists are on duty at any point in time? Do you think that this is a sufficient number to adequately supervise you as a pharmacist's assistant? Why or why not?
- 21 Has the managing pharmacist ever identified that you needed additional training or development? Or have you ever identified that you have training or development needs, and communicated these to the managing pharmacist?

- 22 What was done about this (e.g. were you sent on any courses or workshops)? Did the additional training help you to do your job better? Why or why not? Could you please provide an example?
- 23 Do you have a self-development/ individual development plan? If you do, please tell me about this.
- 24 Was there ever a time that the managing pharmacist told you that there was a problem with your performance? Please tell me more about this. What happened?
- 25 How often are staff meetings? What gets discussed at these meetings?
- 26 Do you have meetings that address dispensary-related problems and challenges?
- 27 How would you describe the way in which the managing pharmacist manages the pharmacy?
- 28 Do you often work shifts with the managing pharmacist?
- 29 How would you describe the culture in the dispensary and pharmacy? Culture refers to “the way things are done around here”.
- 30 Do you have good working relationships with your colleagues and the managing pharmacist? What factors promote or hinder good working relationships with these individuals? Do you think that these working relationships promote or prevent you from providing counselling to patients? Please motivate your response.
- 31 Are you able to develop good relationships with patients? What factors promote or prevent this from occurring? Do you think that your relationships with patients make it easier or more difficult to provide patient counselling? Why?
- 32 Do you always work under the direct personal supervision of a pharmacist?
- 33 How exactly does a pharmacist supervise your work?
- 34 I won't ask you what your remuneration is, but are you satisfied with your remuneration?
- 35 How are you paid (e.g. monthly, hourly rate)?
- 36 Do you get paid on time?
- 37 Are there any other financial rewards that you get (e.g. performance-related bonus)? Does this incentivise or motivate you to want to provide patient counselling? Why or why not?



- 38 Do you receive any non-financial rewards (e.g. recognition at staff meetings)? Does this incentivise or motivate you to want to provide patient counselling? Why or why not?
- 39 If you were to provide more patient counselling, would you expect your financial rewards to increase? Why or why not?
- 40 At XXX Pharmacy, are you encouraged to participate in activities of the Pharmaceutical Society of South Africa? Does this help or hinder you in doing your job better? Why?
- 41 Are you involved in continuing professional development (CPD) activities? Does this help you in performing your job better? If so, how?
- 42 Have you had any meetings to discuss the fact that CPD is being made compulsory from 2011 by the South African Pharmacy Council? Please elaborate. If you have had a meeting, what was decided upon? Is there a plan to ensure that all pharmacists and the pharmacist's assistant are compliant with CPD requirements?
- 43 Do you have professional indemnity?
- 44 Do you always offer patients generic medication, except when one cannot in terms of the Medicines and Related Substances Act? Why or why not?
- 45 Do you routinely counsel patients about how to take their medication properly and provide advice and information on their pharmacotherapy? Why or why not? What makes this feasible or difficult?
- 46 Do all dispensary employees wear a name tag indicating their name and designation? Do you think that patients can identify who the pharmacists are and who the pharmacist's assistant is?

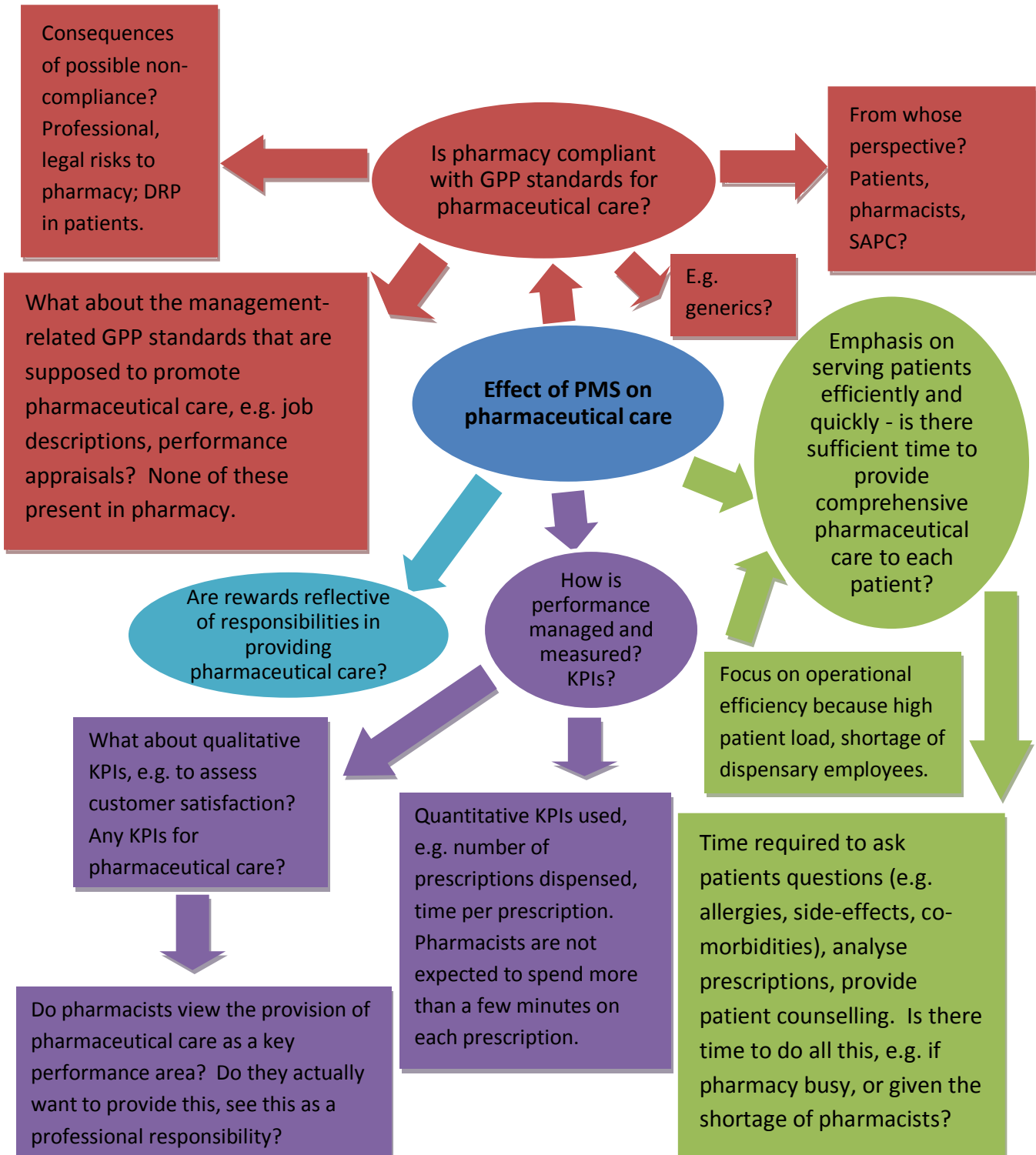
We are almost over; we just have ten questions left. Thanks so much for your participation thus far.

- 47 How often do you liaise with other health-care professionals, such as prescribers? Does the managing pharmacist encourage you to do so? Could you please give an example of how this has helped or hindered you in providing patient counselling, or in assisting the pharmacists?

- 48 Is OTC medication always selected for patients by a pharmacist or the pharmacist's assistant, or do front-shop assistants also select OTC medication for patients?
- 49 In providing OTC medication to patients, please describe the kinds of questions, if any, you ask patients? What kind of patient counselling, if any, do you provide? What makes it easy or difficult to ask patients questions or provide counselling regarding OTC medication?
- 50 Is there a quality improvement plan for the pharmacy? If so, please tell me more about it. How involved are you in developing and assessing it? Does this plan, or the lack of it, affect your ability to do your job? How?
- 51 Does the layout or design of the pharmacy help or hinder you in providing patient counselling? Why?
- 52 Are you aware of the GPP standards, which outline your scope of practice as a pharmacist's assistant?
- 53 In your opinion, do you always practice within your scope of practice or are you sometimes expected to perform other functions that a pharmacist's assistant is not supposed to do? If yes to the latter, why is this? Could you please provide me with an example?
- 54 Is there any aspect of the way in which your performance is managed that could be improved so that you could find it easier to comply fully with GPP standards for your scope of practice? Please tell me more about this.
- 55 Are there any specific or general problems you have with the performance management system in the pharmacy? Please elaborate.
- 56 Is there anything else you would like to mention?

Thank you so much for your time and feedback. It is much appreciated. I assure you once again that your responses are completely anonymous and confidential. Would you like me to send you a typed copy of the interview, so that you could check the accuracy of the responses I have ascribed to you?

**Appendix H: Mind-map showing the unravelling of the research problem and emerging themes**



**Appendix I: Use of an Ishikawa diagram, adapted from Gwiazda (2005) cited in Gwiazda (2006: 440) to illustrate several main themes of the research and important aspects shaping how the research was conducted**

