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ADHERENCE TO ATTENDING APPOINTMENTS AT CHRIS HANI BARAGWANATH HOSPITAL OUTPATIENT PHYSIOTHERAPY DEPARTMENT

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A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, in fulfillment of the requirements for the degree

of

Masters in Physiotherapy

Johannesburg, 2011

DECLARATION

I, Hasina Asvat declare that this research report is my own work, except to the extent indicated in the reference citation and acknowledgements. It is being submitted in partial fulfillment of the requirements of the degree of Master of Science (Physiotherapy) at the University of the Witwatersrand. It has not been submitted before for any degree or examination at this or any other university

_____

Signature

_____ day of _____, 2011.

DEDICATION

- Firstly, my Creator, Allah for giving me the strength, knowledge and ability to have been able to follow my dreams as well as blessing me by surrounding me with really special people
- My late father for instilling in me values and teaching me daily life lessons through the life that he lived and the legacy that he left behind - that will live on in me forever.
- My mother for her unwavering love and support throughout this process
- My Uncle for his persistent follow up, motivation and encouragement from the day that I had started out on this process
- My brothers and sister in-law for their unconditional support, encouragement and helping me realize that anything is possible -“Dream like you will live forever and live life like there is no tomorrow “
- My nephew Yusuf, who arrived in the middle of this process – who has brought such joy to all of our lives and made me realize how special and miraculous life, the human spirit and love is
- My entire extended family (too many to mention) for their support, love and allowing me to be who am!
- To all my patients who on a daily basis teach me something new, give me the opportunity to grow, develop and do what I love.

ABSTRACT

Eighty percent of South Africa's population utilizes public health care facilities. Chris Hani Baragwanath Hospital is such a facility and provides outpatient services to a population of approximately 3.5 million people with approximately 500 000 outpatients seen in the hospital annually. An audit conducted over a two month period (June 2009 and July 2009) in the general orthopaedic outpatient physiotherapy department brought to light that 38% of new patients that had appointments scheduled failed to arrive for their appointment. Non-attendance for an outpatient appointment results in a waste of resources, inefficiency, underutilization of facilities, potentially long waiting lists and potential complications for both attendees and non-attendees. Conducting research in the area of compliance to appointments would provide a better understanding of the nature of non-attendance, allow exploration of ways to reduce non-attendance, help to achieve set targets, improve efficiency in the services provided and thereby improve health service delivery. Statistics on non-attendance to initial outpatient physiotherapy appointments in South Africa is not readily available. Although non-attendance rates have been established internationally very little research has been done in developing countries on this area. The aim of this study was to identify the reasons for non-attendance at initial outpatient physiotherapy appointments.

A retrospective audit and prospective descriptive series were utilized in the research project with face to face interviews conducted with attendees and telephonic interviews conducted with non-attendees. Questions used in the interview were based on areas that had been investigated previously in other studies and thought to have some impact on attendance as well as open ended question to obtain qualitative data. All data obtained in the interview were recorded on a

data collection sheet. Quantitative data was analysed using epi-info version 3.5.1 and qualitative data was analysed by formulating themes.

Results revealed a non-attendance rate of 33% for initial scheduled outpatient physiotherapy appointments with the main reasons for non-attendance being transport problems (14%) followed by forgetting about the appointment (13%).

Improved signage in the hospital, standardized information leaflets, SMS reminders, adjusting of appointment times, monitoring of waiting lists and disseminating of physiotherapy services into communities are some of the systems that can be put into place in an attempt to reduce the high non-attendance rate and thereby reduce inefficiencies, improve quality of services provided, better utilise human resources and improve productivity.

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TABLE OF CONTENTS **Page No**

Declaration **2**

Dedication **3**

Abstract **4**

Acknowledgements **6**

Table of contents **7**

Operational Definitions **13**

Chapter 1 – Introduction **14**

Significance of the study **19**

Aim of the study **20**

Objectives of the study **20**

Chapter 2 - Literature Review **21**

2.1 Prevalence of non-attendance **21**

2.2 Reasons for non-attendance **25**

2.2.1 Sociodemographic factors 25

2.2.1.1 Age and Gender 26

2.2.1.2 Deprivation 27

2.2.1.3 Transportation 28

2.2.2 Patient Factors 29

2.2.2.1 Knowledge of the problem 31

2.2.2.2 Level of patients education 33

2.2.2.3 Duration of the problem 33

2.2.2.4 Patient satisfaction 34

2.2.3 Hospital Factors 34

2.2.3.1 Length of waiting lists 34

2.2.3.2 Environmental factors 35

2.3 Method of contacting patients 36

Chapter 3 – Methodology 41

3.1 Study design 41

3.2 Research setting 42

3.3 Study population 44

3.4 Sample selection 44

3.4.1 Inclusion criteria 44

3.4.2 Exclusion criteria 44

3.5 Ethical clearance 44

3.6 Procedure 45

3.7 Interview schedule 47

3.8 Statistical analysis 48

Chapter 4 – Results **50**

4.1 Frequency of patients that did not arrive (DNA) for their scheduled appointment: 50

4.2 Patient selection 51

4.3 Demographic data 52

4.4 Referral sources 53

4.5 Associations between pairs of categorical data 54

4.6 Rate of patients that did not attend their appointments per day of the week 57

4.7 Rate of patients that did not attend their appointments per times of appointments 58

4.8 Reasons that patients DNA their scheduled appointment 59

4.9 Results of patients response to what physiotherapy is 61

4.10 Client satisfaction: suggestions for improvement 65

4.11 Predictors of non-compliance 68

Chapter 5 – Discussion 70

5.1 Non-attendance rate 70

5.2 Demographic factors 72

5.3 Reasons for non-attendance 72

5.4 Predictors of attendance 77

5.5 Patients knowledge of physiotherapy 79

5.6 Suggestions from patients on areas for service improvement 81

5.7 Limitations of the study 83

5.8 Recommendations 84

Chapter 6 – Conclusion 86

Chapter 7 – References 87

APPENDICIES

Appendix 1 Ethical clearance 95

Appendix 2 Permission letter - Chris Hani Baragwanath Hospital 96

Appendix 3 Patient information sheet for attendees 97

Appendix 4 Patient information sheet for non-attendees 98

Appendix 5	Consent form	99
Appendix 6	Interview schedule attendees	100
Appendix 7	Interview schedule non-attendees	101
Appendix 8	Data collection sheet (Tswana translation)	107
Appendix 9	Data collection sheet (Zulu translation)	110
Appendix 10	Data collection sheet for non-attendees	111
Appendix 11	Flow chart of procedure	112
Appendix 12	Conceptual audit trail for qualitative data	113

LIST OF FIGURES

Figure 1: Sample selection 43

Figure 2: Flow chart of patient selection 52

Figure 3: Referral source distribution of the respondents 55

Figure 3: Percentage of patients that DNA per day of the week 57

Figure 4: Percentage of patients that DNA per appointment slot. 58

LIST OF TABLES

Table 1: Summary of literature used 37

Table 2: Frequency distribution of patients that DNA 50

Table 3: Age distribution of the respondents 52

Table 4: Gender distribution of the respondents 53

Table 5: Associations between pairs of categorical variables 55

Table 6: Reasons for non-attendance to appointments. 59

Table 7: Results of patients response to what physiotherapy is. 61

Table 8: Summary of themes from both groups 63

Table 9: Suggestions for improving services from non-attendees. 65

Table 10: Suggestions for improving services from attendees 66

Table 11: Suggestions for improving services from attendees and non-attendees. 67

Table 12: Results from univariate and multivariate logistic regression 68

OPERATIONAL DEFINITIONS:

Adherence

The extent to which the patients behavior coincides with medical or health advice.

Attendee:

A patient who arrives for his/her scheduled appointment on the correct day and at the correct time.

Non-attendee:

Those patients who fail to keep their outpatient physiotherapy appointment and either gave no advance warning, arrived too late to be seen or cancelled with such short notice that the appointment could not be given to someone else.

Waiting list

A waiting list is the length of time from scheduling an appointment up to the date of the appointment.

Chapter 1: INTRODUCTION

The African continent has about 14% of the world's population. It is also the poorest continent and bears about 40% of the global burden of disease (Health in all policies, 2006). South Africa found at the southernmost point of Africa has a population of 49900 000 (www.statssa.gov.za) which makes up 4.9% of the total population of Africa. Being one of the most economically developed countries on the African continent South Africa still has a large burden of disease with HIV/AIDS, communicable diseases, non communicable diseases and injuries forming part of the spectrum of diseases. South Africa has a substantially higher quantity of sick people who are also sicker than those in other countries (especially compared with the sick in developed countries). South Africa's burden of disease is on average four times larger than that of developed countries, and in most instances almost doubles that of developing countries. It is therefore also reasonable to then expect a larger burden on finances, facilities and human resources in this country, compared to these requirements in other countries (South Africas Burden of Disease, Research note 2, 2009).

South Africa has a public as well as a private health care sector. The larger public health care sector (operated by the South African Department of Health) is utilized by approximately 80% of the South African population (www.doh.gov.za). The Department of Health runs institutions from primary health care level up to tertiary level institutions. Chris Hani Baragwanath Hospital is one of these tertiary level hospitals and is considered to be the largest hospital in the world. It is located in Soweto - the southwestern part Johannesburg (www.chrishanibaragwanathhospital.co.za). Soweto is home to 1.1 million people and it represents the largest black community in sub-saharan Africa. Soweto was created as a result of the racial segregation of blacks and blacks relocated to this area to work as cheap labour in the gold mines. Soweto is a differentiated

locality with regard to accommodation, income levels, employment and educational qualifications (www.ceroi.net). The majority of the population lives in council houses (57%), a substantial proportion live in one-roomed backyard structures (20%) with the remainder of the residents living residing in informal settlements (6%), hostels (4%) and other housing(4%). Residents of homes that are privately owned make up a modest 9% indicating that the middle and upper class in Soweto is still fairly small (Gilbert and Soskolone; 2003). Many of the informal settlements, backyard structures and hostels do not have access to electricity and water (www.ceroi.net). Each household has an average of seven people in the home. It is of Sowetans between the ages of 20-29 that have the highest rate of unemployment. A well educated middle class exists in the region with 8.5% of the Sowetans having a post matric qualification (www.ceroi.net). Soweto has a history of poverty, overcrowding and limited water supply. These result in lifestyle factors. A higher income promotes good health by the economic ability to access clean water and sanitation, good nutrition and good quality health care services (Health in all policies; 2006). Considering the socioeconomic circumstances of the residents of Soweto thought must be given to several factors that may influence adherence and issues that may influence general health status of residents requiring the services of Chris Hani Baragwanath Hospital.

Chris Hani Baragwanath Hospital provides specialist inpatient as well as outpatient services to a population of approximately 3.5 million people from the southern and western parts of Gauteng province (www.chrishanibaragwanathhospital.co.za). During a year approximately 500 000 outpatients are seen in the hospital (www.chrishanibaragwanathhospital.co.za). A survey conducted in the Soweto area found that there was heavy reliance on the public health care system with three quarters of the population of Soweto utilizing the services of government run clinics or nearby hospitals (www.ceroi.net).

The physiotherapy department at Chris Hani Baragwanath Hospital has several outpatient divisions that operate on an appointment based system. There are on average 35 new adult outpatients booked in the general physiotherapy outpatient department at Chris Hani Baragwanath Hospital on a weekly basis. Patients are referred from:

- Various departments and clinics in the hospital,
- Surrounding community health clinics outside the hospital that do not have closer physiotherapy services,
- Community health clinics outside the hospital that have physiotherapy services but require specialist physiotherapy services,
- Physiotherapists working in the wards at Chris Hani Baragwanath Hospital,
- Private doctors and
- Physiotherapists in private practice.

Several researchers have noted that non-attendance for an outpatient appointment results in several inefficiencies (Armistead, 1997; Bateson, 2003; Chung et al, 2004;; George and Rubin, 2003; Hon et al, 2005; Murdock, 2002; Waller and Hodgkin, 2000):

1. A waste of resources and inefficiency because a physiotherapist is kept available to attend to the patient who does not eventually arrive. During 2007/2008 five million appointments were missed in the United Kingdom (Jones and Forde, 2009).
2. Underutilization of facilities (Murdock et al, 2002) as space and equipment is kept available for a patient who does not eventually arrive.
3. Potentially long waiting lists (Chung et al; 2004) as the patient not arriving increases the time that others wait for an appointment to see the physiotherapist. A delay in assessment and treatment of these patients may result in complications developing.

4. Potential complications that may arise for the non-attendee (Hamilton et al; 1999) who may reschedule their appointment and get placed at the end of the waiting list, may never return for an appointment or may present to the physiotherapist months or years later with subsequent and often irreversible complications.

After the first democratic elections in South Africa in 1994 the African National Congress (ANC) published the Reconstruction and Development Programme (RDP), which included requirements for meeting basic health needs (Health Goals, Objectives and Indicators 2000 – 2005). The RDP provided the framework for the National Department of Health to identify health priority areas and formulate health goals and objectives. In 1995, the different provinces conducted workshops involving government and non-governmental organizations, community based organizations, academic institutions, and other partners to develop recommended provincial health goals, objectives and indicators (Health Goals, Objectives and Indicators 2000 – 2005). The national Year 2000 Health Goals and Objectives were compiled with the objectives and indicators based on the priorities of the RDP, recommendations of the health committees. These recommendations were reviewed based on adherence to RDP priorities; the relationship to the provision of comprehensive and integrated services at all levels of health service delivery; and, commitment to primary health care principles (Health Goals, Objectives and Indicators 2000 – 2005).

Following the 1999 elections, the Minister of Health, Dr Manto Tshabalala-Msimang, the nine MECs for Health and representatives of local government adopted the Ten Point Plan as the Health Sector Strategic Framework for 1999 - 2004. The vision of the Ten Point Plan is "*a caring and humane society in which all South Africans have access to affordable, good quality health*

care" (www.doh.gov.za). The mission is "*to consolidate and build on the achievement of the past five years in improving access to health care for all and reducing inequality, and to focus on working in partnership with other stakeholders to improve the quality of care of all levels of the health system, especially preventive and promotive health, and to improve the overall efficiency of the health care delivery system"* (www.doh.gov.za).

During 2000, the Department and other stakeholders began a process of aligning the health goals, objectives and indicators with the ten point plan and other important strategic goals. In aligning the health goals, objectives and indicators considerations were given to the following ten point plan priorities:

1. Reorganisation of support services
2. Legislative reform
3. Improving quality of care
4. Revitalisation of hospital services
5. Speeding up delivery of essential package of primary health care through the district health system
6. Decreasing morbidity and mortality through strategic interventions
7. Improving resource mobilisation and the management of resources without neglecting the attainment of equity in resource allocation
8. Improving human resource development and management
9. Improving communication and consultation within the health system and between the health system and the communities we serve
10. Strengthening co-operation with our partners internationally

(www.doh.gov.za)

In 2009 the 10 point plan was expanded upon with priorities set for 2009 to 2014. Two of the priorities of this plan include improving the quality of services in the national health system as well as research and development to generate key information for health planning, health service delivery and monitoring. In 2009 the physiotherapy department at Chris Hani Baragwanath hospital identified non-attendance to outpatient appointments as a key area for research because it was experiencing a problem with patients not arriving for their scheduled appointment. An audit conducted over a two month period (June 2009 and July 2009) in the general orthopaedic outpatient physiotherapy department confirmed that 38% of new patients that had appointments scheduled failed to arrive for their appointment (unpublished data).

Significance of the Study

By conducting research in the area of compliance to appointments, it is envisaged that results would provide a better understanding of the nature of non-attendance and allow exploration of ways to reduce non-attendance, help to achieve set targets, improve efficiency in the services provided and thereby improve health service delivery. This area has also been identified as a common source of inefficiency in several health systems internationally by several researchers in the developed world (Armistead, 1997; Bateson; 2003, Waller and Hodgkin 2000, George and Rubin, 2000, Potamis et al; 1994, McClure et al, 1996, Stone et al; 1999, Murdock et al.; 2002). Only one study done in the UK on non-attendance to initial physiotherapy outpatient appointments could be found. The rate of non-attendance was found to be 9.2% (Armistead, 1997). Statistics on non-attendance to initial outpatient physiotherapy appointments in South Africa is not readily available. By investigating the number of patients who do not arrive for their initial appointments and the reasons for this would give a better understanding of patient's adherence to appointment keeping. This information will be useful to address the problems that

are identified so as to improve adherence and compliance with physiotherapy treatment. It would also provide information for better planning, improving of health service delivery and achieving set targets as well as providing empirical data in this area. Although non-attendance rates have been established internationally South Africa has very different circumstances with regard to health care attendance including poverty, long distances and health care constraints which makes comparison to these developed countries difficult. Although information on non-attendance is limited in South Africa, research conducted in other countries and in other settings can be used to research the background of non-attendance to appointments. Understanding the nature of non-attendance and exploring ways to reduce it will help towards achieving the targets by improving the efficiency of the services provided. This is particularly relevant in view of the current shortages of physiotherapists in the public health sector.

GENERAL AIM OF THE STUDY:

To identify the reasons for non-attendance at initial outpatient physiotherapy appointments.

STUDY OBJECTIVES:

1. To quantify the percentage of patients who fail to attend their initial outpatient appointments at Chris Hani Baragwanath Hospital Physiotherapy department.
2. To compare age, gender, level of education, the perceived severity of symptoms and length of time since onset of symptoms between attendees and non-attendees.
3. To establish patients' reasons for not attending initial appointments made at Chris Hani Baragwanath Hospital Physiotherapy department.
4. To determine predictors of non-compliance to initial physiotherapy appointments.

Chapter 2: LITERATURE REVIEW

In this chapter the literature that is relevant to this study will be presented in two categories, namely prevalence of non-attendance and reasons for non-attendance.

Electronic databases (Pubmed, Science direct, Medline) were searched for articles relating to non-attendance to outpatient appointments. The keywords used were non-attendance appointments, non-attendance, compliance and adherence to appointments. The terms adherence and compliance were found to be used interchangeably in the research that was reviewed. The Cochrane library and Pedro were also searched to ensure that no published systematic reviews related to the topic were overlooked.

The literature was reviewed under the following headings:

2.1 Prevalence of non-attendance

2.2 Reasons for non-attendance

2.2.1 Sociodemographic factors

2.2.2 Patient Factors

2.2.3 Hospital Factors

2.1 PREVALENCE OF NON-ATTENDANCE FOR OUTPATIENT APPOINTMENTS

Adherence is the extent to which the patients behavior coincides with medical or health advice (Haynes; 1979). Adherence is viewed as being of great importance as following the advice of a health care professional is considered essential to the recovery of the patient (Ogden, 2000). All

patients that have an appointment that has been scheduled either by themselves or by a health care professional are expected to comply with the necessary follow up arrangements that had been made. Non-attendance to such arrangements results in non-adherence to the medical system to which the patient is expected to comply with (Andrews et al, 1990).

The prevalence of non-attendance to outpatient appointments varies between specialities, the level of the service provided (primary, secondary and tertiary health care) and the population group to which services are provided (Haynes et al, 1979). Several studies in the developed world have been done to investigate the prevalence of non-attendance in order to determine the extent of this commonly encountered problem (Armistead, 1997; Bateson, 2003; George and Rubin, 2003; Murdock, 2002; Waller and Hodgkin, 2000). There is very little literature related to non-attendance in the physiotherapy field but literature in other fields has been drawn upon to research the background of non-attendance.

Patients not arriving for scheduled appointments have been investigated in the United States, where health care is funded largely through private health insurance (Murray and Leblanc, 1996). Patients are able to self refer to a health care professional of their choice. In this setting non-attendance represents a loss of revenue and therefore there is a greater incentive to understand the nature of non-attendance. Non-attendance rates vary between 5% and 30% in the United States (Murray and Leblanc,1996) with appointments initiated by patients and those initiated by clinicians having different rates of attendance with a 25% increase in compliance in those who self initiate their appointment (Haynes et al, 1979). In South Africa physiotherapy is a first line service and patients are able to self refer themselves to a physiotherapist. This however applies more to primary health care services and to the private sector. Chris Hani Baragwanath Hospital being a tertiary level institute in South Africa means that all patients that

attend physiotherapy have been referred to physiotherapy by the attending medical practitioner for an appointment to be scheduled.

The United Kingdom health care system is funded by the national health insurance. Here non-attendance leads to inefficiencies and lengthened waiting lists. The United Kingdom has a non-attendance rate of 9.9% to 17% (Bateson, 2003; McClure et al, 1996; Murdock et al, 2002; Potamis et al, 1994; Stone et al, 1999). Potamis et al. (1994) reports a non attendance rate of 9.9% in his study on ophthalmology patients in the UK. In this study it was also found that more patients failed to arrive for their initial appointments compared to follow up patients with new cases 2.7 times more likely to not attend their scheduled appointment.

Hong-Kong rated as having the second healthiest nation in the world has a well developed health care system with a medical infrastructure consisting of a mixed medical economy with both public and private hospitals. Outpatient services are shared between both the private and the public sectors in the ratio of 70:30. Patients are able to self-refer themselves to a health care professional in the private sector whereas a referral letter from a doctor is required to book an appointment at public specialist outpatient clinics (Johnson et al, 2006). In the public health care setting the non-attendance to appointments has been reported to be between 18% to 20% (Chung et al, 2004; Hon et al, 2005).

Although research on non-attendance of appointments in general is limited in South Africa two recent studies were found. A study conducted at the Tygerberg Hospital (tertiary level hospital) in South Africa found that 17% of ENT/oncology patients failed to attend their scheduled follow up appointments (Van der Meer and Loock, 2008). Another study (Ngwenya, 2009) conducted at Kalafong Hospital (secondary level hospital) on follow up patients at a diabetic clinic in South Africa found that 35% of patients were not compliant with their follow up appointments

(Ngwenya et al, 2009). Both these studies were conducted to investigate non-attendance in follow up patients and it can be seen that there is a variation according to discipline and level of health care.

The prevalence of non-attendance varies in different health disciplines as well, with different specialities finding different rates of non-attendance even within the same environment (Liggett, 2002). Palliative medicine, ante-natal obstetrics and geriatric medicine tend to have low rates of non-attendance whereas psychiatry, post-natal obstetrics and chemical pathology tend to have high rates (Liggett, 2002). Mental health services are frequently recognised as having higher rates of non-attendance than other specialties and there have been many studies conducted in this speciality area. A study at Aylesbury Vale Community Health Clinic in Ireland (1999) found that in general the rate of nonattendance for mental health services was higher than that for most other services (Liggett; 2002). These patients are a vulnerable group and have very varied needs and have specialty specific reasons for not attending appointments such as increased anxiety (Liggett; 2002). Mentally ill patients who missed their appointments were more unwell, more socially impaired and had a higher chance of subsequent admission than those who did attend (Liggett; 2002). These patients were also on strong medication, which could cause confusion and forgetfulness, thus making them more likely to forget their appointments (Killaspy et al, 2000). In the general physiotherapy outpatient department patients may present with a wide variety of problems as well as other associated problems which may have an impact on their compliance to attending a scheduled appointment. Therefore all of these factors need to be taken into account when evaluating the extent, monitoring and implementing systems to reduce the non-attendance rate.

In addition to compliance differing in varying health disciplines, adherence to appointments seems to increase where the health care professional attempts to monitor for non-compliance (Bateson, 2004). This was found in a continuous audit of new case attendance was undertaken in the UK. Although the attendance rate fluctuated during this period the overall attendance rate improved better than the national average and this was accounted to the fact that the clinic was under scrutiny (Bateson, 2004).

2.2 REASONS FOR NON-ATTENDANCE

There have been many factors identified in the literature on the reasons why patients fail to attend outpatient appointments (Waller and Hodgkin, 2000; Murdock et al, 2002; Vikander et al, 1986; Ngwenya, 2009; Van der Meer and Loock 2008). Some of the reasons identified are related to the processes that are used within hospitals to administer appointments, others are related to the characteristics of patients (Waller and Hodgkin, 2000; Murdock et al, 2002): employment factors, level of education and duration of symptoms (Vikander et al, 1986) whilst other reasons include environmental factors (Bateson 2003; Chung et al, 2004; Morse et al, 1984). This section outlines some of the reasons for non-attendance that are found in the literature.

2.2.1 SOCIODEMOGRAPHIC FACTORS

Many authors have used sociodemographic factors such as age, gender, distance to health care facility and deprivation to explain non-attendance. In these studies non-attenders were

identified and various factors investigated in an effort to increase attendance rates (Armistead, 1997; Beauchant and Jones, 1997; Butler et al, 2001; Chung et al, 2004; Jones and Forde, 2008; Murray and Leblanc, 1995; Neal et al, 2001; Needleman and Mikhails; 1997; Van der Meer and Loock, 2008).

2.2.1.1 Age and Gender

In studies conducted with a focus on the influence of age and gender on attendance rates there have been conflicting results. Several researchers have looked at the age of patients to determine if there was a correlation between the age of the patient and non attendance rates. Butler et al (2001) found that many patients failed to return for follow up appointments after discharge to participate in a study of the effect of lung volume reduction surgery. Results further revealed that there were no differences in the age and gender of attendees and non-attendees. Needleman and Mikhails (1997)'s study on patients referred to a psychiatric clinic in the UK found there to be no gender differences between attendees and non-attendees. Murray and Leblanc (1995) examined the percentage of outpatient clinic appointments kept after referral from the emergency department as well demographic factors to determine their effect on patient compliance. This retrospective review done in Canada on orthopaedic surgery, plastic surgery, gynaecology and urology clinics found that although orthopaedic surgery had the best compliance rate, male patients had a slightly higher rate of attendance when compared to females. This is in keeping with the results found in a study by Chung et al. (2004) at a trauma and orthopaedic outpatient department where it was found that males had a higher compliance with appointment attendance than females. Different results however were found in the study done by Armistead (1997) on non attendance to initial physiotherapy appointments in which a higher rate of non-attendance on male patients with upper limb problems was reported.

Some studies considered age only in their investigations of non-attendance and these revealed that non-attendees were mainly young adults (Neal et al, 2001; Needleman and Mikhails, 1997; Waller and Hodgkin; 2000). Beauchant and Jones (1997) had also found that non attendees were more likely to be people aged between twenty three and twenty-seven years old. Jones and Forde (2008) found that from the age of 20, did not arrive (DNA) rates tend to fall with a minimum non-attendance rate in the seventy to seventy four year age groups. The study conducted at the Tygerberg Hospital (in the Western Cape Province) in South Africa found there to be no difference between age and gender between attendees and non-attendees (Van der Meer and Loock, 2008). Similar results were found by Butler (2001) on patients that had undergone lung reduction surgery. There are contradictory findings in the literature with regards to the age and gender of those patients who do not attend their scheduled appointments.

2.2.1.2 Deprivation

Material deprivation refers to the inability for individuals or households to afford those consumption goods and activities that are typical in a society at a given point in time, irrespective of people's preferences with respect to these items (www.oecd.org). The Townsend Index of Deprivation is a measure that is often used to measure deprivation. This indicator measures employment rates, car ownership, home ownership and overcrowding to determine the level of deprivation. This measure has not been used in studies conducted in the Soweto region but deprivation is one the variables that have been investigated to some extent in patients that did not attend appointments in a few studies in the UK (Jones and Forde, 2009; Neal et al, 2001; Waller and Hodgkin, 2000).

To explore patterns of non-attendance to appointments Waller and Hodgkin (2000) analysed computer appointment data from nine primary health care practices in the UK. The Townsend

Index of Deprivation was used on each practice and the results showed that non-attendance was highly related with the deprivation level of patients. This is in agreement with a later retrospective study by Neal et al. (2001) in a general practice the UK who also assigned Townsend deprivation scores to patients based on the patients' postcodes. The allocation of scoring of postcodes was obtained from a census that was completed in 1991. In this study Neal et al (2001) found that patients living in a deprived area were three times more likely to miss appointments compared to those not living in a deprived area. A report by Jones and Forde (2009) showed that patients living in the most deprived areas of England had a higher default rate to attending both new appointments as well as follow up appointments illustrating that patients in the least deprived areas had a DNA rate of 4.5% compared to 12% for the most deprived areas for first appointments. From these studies it can be concluded that the level of deprivation may possibly be a contributing factor to patients not attending appointments.

2.2.1.3 Transportation

The rates of non-attendance to appointments vary in relation to the distance to the hospital (Beauchant and Jones, 1997). If clinics are too distant, people who require its services will not utilize them, especially for services that appear less urgent such as preventive care, the treatment of mild illness or the collection of medication for chronic disease (Doherty et al, 1996). These long distances that need to be travelled in order to access hospital services was found to be one of the most common reasons for patients not attending appointments at a medical centre in the United States (Butler, 2001). Stone et al. (1999), Potamis et al. (1994) and Van der Meer and Loocke (2008) had similar findings in that many of the patients in their studies reported transport constraints as one of the main reason for not attending appointments. Majority of the research that has been conducted in this area has been done in developing countries.

Comparing transport systems in countries where previous research was done and South Africa is difficult due the vast differences in transportation infrastructure and accessibility. Therefore only studies conducted in South Africa could be compared to the situation at Chris Hani Baragwanath Hospital. Only two such studies could be found, that is patients travelling to the Tygerberg Hospital in the Western Cape province of South Africa and transportation used by patients travelling to diabetic clinics in the Pretoria region. Van der Meer and Loockes (2008) prospective control matched study on follow up patients attending the ENT/Oncology department at the Tygerberg hospital found that the non-attendance rate was largely due to transport constraints. Different results were found by Ngwenya et al. (2009) in the Pretoria region where 70% of patients use minibus taxis, 14% private vehicles, 9% buses, and 7% trains to get to the hospital to attend services provided by the diabetic clinic. In this study only 3.8% of the patients mentioned transport problems as a reason for not attending their appointments.

2.2.2 PATIENT FACTORS

Patients forgetting about their scheduled appointment has been reported in several studies as a common reason for patients failing to attend their appointments (Cosgrove, 1990; Potamis, 1994; Hamilton, 2001; Herrick et al, 1994; Murdock et al, 2002; Stone et al, 1999). Several studies have looked at ways of redressing this problem with measures such as telephonic reminders, postal reminders and providing information about the clinic. A systematic review conducted by Henderson (2008) concluded that telephone and postal reminders appear effective, particularly if received within a day of scheduled appointments. Postal reminders offering a reward for attendance, and providing information about the clinic appear more effective than standard reminders. Hardy et al (2001) found that giving new patients detailed

information reduces the non-attendance rate from 7.3% to almost 1%. In this study new patients to a diabetic clinic at a district general hospital were given a detailed information pack as well as a supplementary phone call one week prior to their scheduled appointment.

Other reasons commonly reported by patients is that the patient no longer needed to attend the appointment, they were too unwell to attend the appointment or that they had problems relating to their employment situation. Hon et al. (2005) found that 46% of new patients in the paediatric dermatology clinic at a teaching hospital in Hong-Kong that were contacted reported that the skin condition that the child was referred for had resolved by the date of the appointment. Interestingly none of the patients interviewed found that they the waiting list had been too long such that the problem had resolved by the appointment date. Similar reasons for non-attendance to appointments were found by Vasey (1990) on new and follow up cases that did not attend their scheduled physiotherapy appointment in a hospital in the UK. Although the response rate was poor in both groups that had to return a questionnaire that was posted to them (34% in the non-attendee group and 28% in the attendees group) both groups of attendees and non attendees patients reported that they felt better as one of the reasons for not attending their scheduled appointment. Another reason for non-attendance to appointments in previous studies was that patients felt that they were too unwell to attend. (Cosgrove, 1990) Lancaster (1996) identified that the reasons why some patients who were very ill did not attend their appointment was because they did not want to be admitted into the hospital.

Work related problems was yet another factor found to affect attendance rates. A study by Stone et al. (1999) reported that patients did not attend their appointments as they had difficulty getting time off work, whereas Cosgrove (1990) found that patients who were students or unemployed tend to be non-attenders.

2.2.2.1 KNOWLEDGE

Adherence is viewed as being of great importance as following the advice of health professionals is considered to be essential to the recovery and therefore the well-being of the patient.

Explaining the treatment, the disease and the consequences of each is an important responsibility of the clinician. The amount of information that a patient is given by a health care professional regarding their condition, the patient's perceptions about their health and current condition may influence compliance to hospital treatment (Haynes, 1979). Compliance is generally seen to improve when patients are given more information about their state of health, investigations and treatment. Studies have shown that increasing the amount of information for the patient not only improves satisfaction, but also empowers the patient and increases compliance. Steps should be taken to ensure that patients understand why an appointment has been made for them and that if their doctor feels that it necessary that they should attend, it could be a health risk not to do so (Ley, 1982; Lowry, 1995). Some part of compliance may be from the patient's knowledge and understanding of their condition but the relationship and communication between the health care provider and the patient is important and may influence adherence to medical treatment.

Inadequate communication between patients and doctors has been identified as a significant factor in non-attendance (Butler et al, 2001; Hamilton et al, 1999). Patients who are informed of their condition and advised on the importance of attending appointments show better attendance rates. This was one of the main reasons reported by staff in Irelands Lurgan Hospital for a zero percent non-attendance rate in dermatology patients (Liggett, 2002). There were however only 22 patients attending the clinic in that year.

Potamis (1994) and McClure (1996) found that many patients that did not attend their appointments had inadequate knowledge of the condition that they had, which contributed to the non-attendance rate. Studies have shown that increasing the amount of information for the patient not only improves satisfaction, but also empowers the patient and increases compliance (Ley, 1982; Lowry, 1995).

Patients who perceive their illness to require urgent care where found to be better attenders as found in a study by Barron in 1990. One study aimed to determine whether the illness beliefs in a group of hospitalized patients with heart problems could predict their attendance at cardiac rehabilitation clinics. The patients illness perceptions measured during hospital admission established that those with a stronger belief that their condition was controllable or curable would subsequently attend cardiac rehabilitation. Likewise patients who attributed their condition to lifestyle showed a higher rate of attendance, indicating that this causal belief was associated with a commitment to further behavior change. Other studies have shown that illness perceptions are amenable to change and that providing information regarding illness perception may improve attendance. A study on non attendance to radiology appointments found that there was no difference in the perception of severity of symptoms between attendees and non-attendees (Lyon and Reeves, 2005).

A correlation between patients belief that their appointment was necessary and subsequent attendance to appointments failed to show any correlation in Lyon and Reeves (2005) study of non-attendance to radiology appointments.

2.2.2.2 LEVEL OF EDUCATION

Patients' level of education has been investigated in only a few studies. Sanchez (1996) investigated the causes of non-compliance and its associated factors in non-attendance to scheduled appointments in a Spanish hospital and reported that patients with average or higher than average education tend to be non-attendees. Ngwenyas prospective survey (2009) on diabetic patients at Kalafong Hospital found that 55% of patients that did not attend their appointment had primary school education or less with only 3.9% of the patients that did not attend having a degree.

2.2.2.3 DURATION OF PROBLEM

Physiotherapists are involved in the treatment of various conditions in different stages. Some patients are referred to physiotherapists in the acute phase whilst others present to physiotherapists in the subacute and chronic stages. The acute phase may be defined as from the time of injury up to ten days. A subacute phase is from ten days to seven weeks whereas the chronic stage is where symptoms last longer than seven weeks (Magee, 1997). Murray and Leblanc (1990), and Armistead (1997) reported that there is no link between the duration of the problem and attendance to outpatient appointments and have therefore concluded that patients with chronic conditions are no less likely to fail to attend their appointments. This is contrary to the findings of Vikander et al. (1986) who found that patients with chronic conditions were more likely to attend appointments. Whether this finding is related to the fact that these patients are often older is unclear.

2.2.2.4 PATIENT SATISFACTION

The patients' degree of satisfaction with the doctor or therapist and with the clinic is repeatedly shown to be correlated with compliance. Adherence is greater when the patient feels that his/her expectations have been fulfilled; where the provider elicits and respects all of the patients concerns and provides feedback to the patient about his/her condition and progress; and where warmth and sympathy is shown (Cohen, 1979). Chung et al. (2004) investigated the satisfaction of patients towards orthopaedic services and found that patients were generally satisfied with services with the highest satisfaction shown to be with the physiotherapist.

2.2.3 HOSPITAL FACTORS

Potamis (1994) found that non-attendance may be due to inadequate or miscommunication between the patient and the person making the appointment including clerical errors. Hamilton (2001), in a study on general practice found that 12% of patients did not attend their appointments due to a mix up over the date or time of the appointment. Waiting lists at hospitals or clinics as well as environmental factors may also have an impact on attendance.

2.2.3.1 WAITING LISTS

The length of time that a patient has to wait (from the day that the appointment has been made up to the date of the appointment) has been reported to influence attendance. Patients with shorter waiting times are more likely to attend, as are those whose condition becomes more acute prior to their appointment. Studies by Francis et al (1969) and McGlade (1988) found that

prolonged waiting times were significantly related to non-attendance. Another study by Lyon and Reeves (2006) showed that the average waiting time for appointments was forty nine days for attenders and seventy six days for non-attenders. Conversely, another study by Frankel et al (1989) showed that it was the non-attenders that had received shorter notice of their appointment than attenders with fifty percent of non-attendees given a week or less notice of the appointment. Although the exact time lapse between appointments was not recorded waiting times were one of the areas of dissatisfaction expressed by patients attending an orthopaedic clinic in Hong Kong (Chung et al, 2004).

2.2.3.2 ENVIRONMENTAL

Seasonal variations did not have an impact on the non-attendance rate on orthopaedic and trauma outpatients in Hong-Kong however periods that had the most public holidays and summer holidays did have a statistically different variation in the default rate (Chung et al.; 2004). This rate has been accounted to patients choosing to go a trip during the holiday period and Chung felt that this may imply that patients perceive their health problem to not be a priority. Morse et al. (1984) also looked at whether there was a correlation between the weather and the rate of non-attendance and found that the rate of non-attendance did not correlate with variations in temperature or sunshine but a relationship was seen between the amount of rain or snow and non-attendance.

Another environmental factor that may have some role to play in patients' attendance may be the environment of the facility. Bateson (2003) reported a significant fall in the non-attendance rate following the construction of a new hospital in the UK (from 9.9% to 5.3%).

2.3 METHODS OF CONTACTING PATIENTS

Previous studies have used several methods to contact patients that did not attend their scheduled appointments. Face to face interviews (Ngwenya et al; 2009), telephonic interviews (Ngwenya et al; 2009, Meer and Loocke; 2008, Murdock et al; 2002, Hon et al; 2005) and mail (Potamis et al; 1994, Stone et al, 1999) were the most common methods of contacting patients that failed to attend their scheduled appointments. Mailing patients with questionnaires was thought to not be appropriate in the current setting as many patients do not have permanent residential addresses and the residential address is not always captured and updated on the hospital database. Response rates for mailing of questionnaires to non-attendees at an ophthalmology clinic in the UK resulted in a 43% response rate (Potamis et al; 1994) and 34% in a plastics and reconstructive clinic in the UK (Stone et al; 1999). Face to face interviews has few constraints on questions, the patients home environment and social circumstances can be assessed and the patient may feel more comfortable talking to the researcher face to face rather than over the telephone. The disadvantages of this method is the cost factor in travelling to the patients home, all patients residential addresses are not captured and updated on the hospitals database and this method may seem confrontational should the researcher arrive at the patients home to enquire why the patient did not attend their scheduled appointment. Telephonic interviews have good response rates with a response rate of 93% (Murdock et al, 2002) to 96% (Hon et al, 2005) and are less costly than other methods of contacting patients such as face to face interviews. The disadvantage of this method is that not all patients have contact telephone numbers and that the patient contact telephone number may change or be recorded incorrectly.

The table below is a summary of some of the literature that was reviewed in this literature review:

Table 1: Summary of literature used

STUDY	SETTING	PATIENTS	INTERVENTIONS	RESULTS
Bateson; 2003	United Kingdom, Ophthalmology	224 non-attendees	Postal questionnaire	Non-attendance rate: 9.9% Main reason for non-attendance: 27.3% report clerical error, 17.9% forgot about the appointment
Butler; 2001	USA, medical and surgical unit	34 attendees and 51 non-attendees	Telephonic interview	No differences were found with regard to age, gender, preoperative pulmonary function, or oxygen use between attendees and non-attendees. Long-term mortality in non-attendees (27%) was considerably greater than that seen in attendees (3%, $p < 0.05$). Distance from the hospital, financial burden, and living out of the region were the most common reasons cited by surviving non-attendees for their failure to return for follow-up.
Chung; 2004	Hong Kong, orthopaedic and trauma	25 attendees and 25 non-attendees	Face to face interviews	Non-attendance rate: 17.6% to 20.6% over four seasons
Cosgrove; 1990	United Kingdom, general practice	40 non-attendees over 5 years	Face to face interviews	Main reason for non-attendance: too unwell to attend (30%)
Henderson 2008;	United Kingdom	Systematic review of effectiveness of appointment reminders for new patients	Systematic review	Telephone and postal reminders appear effective, particularly if received within a day of scheduled appointments. Postal reminders offering a reward for attendance, threatening sanctions for non-attendance, and providing information about the clinic appear more effective than standard reminders

Hon; 2005	Hong Kong, paediatric dermatology clinic	63 non-attendees for initial appointments over a 15 month period	Telephonic interview	Non-attendance rate: 20% Reasons for non-attendance were: skin condition already improved' (46%) and 'forgot appointment' (25%).
Lyon and Reeves; 2006	United Kingdom, Radiology	50 attendees and 50 non attendees	Telephonic interviews	Main reasons for non-attendance: forgot/did not receive appointment
Meer and Loock	South Africa, ENT/Oncology clinic	30 non-attendees interviewed and 30 attendees interviewed.	Review of record followed by telephonic/face to face interview	Non-attendance rate: 17% No correlations were found between diagnosis, disease stage and missed appointments. Reasons include: transport, ill-health and financial constraints.
Murdock et al; 2002	United Kingdom, gastroenterology clinic	73 non-attendees	Mailing questionnaires and telephonic interview	Non-attendance rate: 14% Main reason for non-attendance: forgot about appointment (30%)
Murray and Leblanc; 1996	Canada, (Orthopaedics, urology, plastic surgery and gynaecology)	503 attendees and non-attendees	Retrospective review of emergency department records	Non-attendance rate: 19.3% Orthopaedic clinic had highest attendance (86.7%) and gynaecology had the lowest attendance (60.6%). Compliance rates increased with age, males had a higher compliance than females
Neal et al; 2001	United Kingdom, general practice	3148 non-attendees	Patient records reviewed	Non-attendance rate: 7.7% Non-attendance was found to be associated with being female, living in a deprived area and being a young adult.

Needleman and Mikhail; 1997	Great Britain, psychiatric clinics	50 attendees and 46 non-attendees	Mailed questionnaires and telephonic interviews	Non-attenders were younger than attenders, no gender differences, employment, previous psychiatric history had no bearing on attendance
Ngwenya et al; 2009	South Africa; diabetic clinic	76 non-attendees	Non-attendees interviewed telephonically or face to face	Non-attendance rate: 35% Main reason for non-attendance: Forgot about appointment (22%)
Potamis; 1994	United Kingdom, Ophthalmology	224 non-attendee responses received	Postal survey sent to non-attendees	Non-attendance rate: 9.9% Reason for non-attendance: clerical error (27.3%) and forgot about appointment (17.9%)
Vasey; 1990	United Kingdom, Physiotherapy	34 responses received	Postal questionnaires sent to non-attendees	Non-attendance rate: 7.9% 32% were better, 35% reported not receiving the appointment

Studies on non-attendance to outpatient appointments were done in various settings and specialities with the non-attendance rate found to be vastly different and in various specialities with various reasons cited as the reason for non-attendance. Many of the studies in the United Kingdom report that patients did not attend their appointments as they had not received the appointment. This system is different to the current setting where patients either come in to the physiotherapy department to schedule an appointment or have it scheduled by a ward physiotherapist or telephonically in cases of patients being referred from health care professionals outside the hospital. There have been various methods of contacting patients. Section 2.3 outlines these with the reasons why telephonic interviews were found to be most suitable for the purposes of this study.

After examining the literature it is clear that a need exists for more studies to be conducted in developing countries to establish the extent of this commonly encountered problem that is experienced in health systems. Furthermore by identifying possible defaulters and implementing systems to address this problem needs to be investigated and attempts made to reduce this inefficiency in health systems in order to improve health care services.

CHAPTER 3: METHODOLOGY

In this chapter, the methodology used in this research report will be presented. Demographic information will be presented first, followed by information on the procedure used in this study.

3.1 STUDY DESIGN

A mixed method study was used for the purposes of this study. A mixed methods approach is one in which strategies of enquiry are used that involves collecting data either simultaneously or sequentially to best understand research problems. It is used to expand an understanding from one method to another and to converge or confirm findings from different data sources (Creswell, 2003). The data collection involves gathering both numeric as well as text information so that the final database represents both qualitative and quantitative information (Creswell, 2003). This research design was used for the purposes of this study as this study required quantitative data for evaluating the extent of the problem, for establishing associations between variables but to provide a more indepth understanding of patients experiences in physiotherapy and their knowledge of physiotherapy a qualitative method of research was required. A description of the specific type of research methodology is presented below.

3.1.1 Quantitative Data:

a) Retrospective audit

A retrospective audit was done at the end of the two months set aside for the study (1st February 2010 to the 31st March 2010). This was done to calculate the exact extent of non-attendance to initial appointments and thus establish the non-attendance rate.

b) A descriptive series.

Descriptive research is concerned with the description of data and characteristics about a population. The goal is the acquisition of factual, accurate and systematic data that can be used in averages, frequencies and similar statistical calculations. Descriptive studies seldom involve experimentation, as they are more concerned with naturally occurring phenomena than with the observation of controlled situations (Valdez, 2010). This was used to describe the sample group in terms of several variables and then describing the two groups looking for any differences between the attendees and non-attendees.

3.1.2 Qualitative Data

a) This was for all open ended questions that were used in the interview schedule. This was to obtain a better understanding of patients' challenges and experiences.

3.2 RESEARCH SETTING

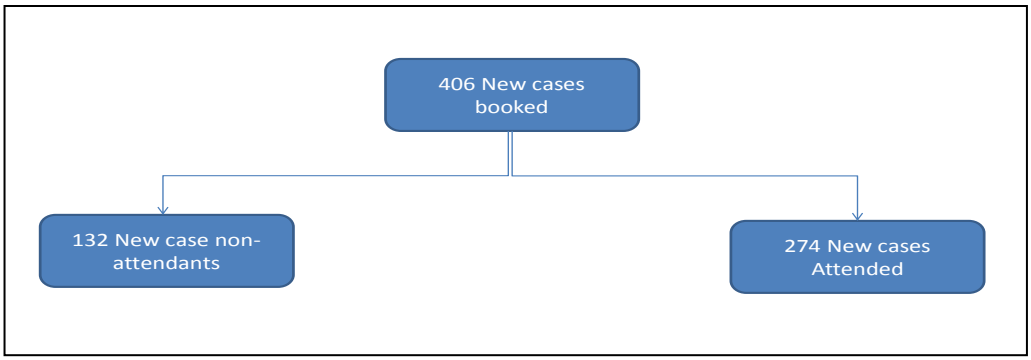
This study was conducted at Chris Hani Baragwanath Hospital Physiotherapy department, Gauteng, South Africa. Patients who were referred to the physiotherapy outpatient department were given appointments based on the condition that they were referred for. This study was conducted in the general orthopaedic outpatient physiotherapy section.

3.3 STUDY POPULATION

There were 406 new patient appointments scheduled in the general orthopaedic outpatient physiotherapy department from the 1st of February 2010 to the 31st of March 2010. Out of this total sample size there were 132 non-attendees and 274 attendees. Sixty-eight non-attendees could be interviewed during theses two months. The next consecutive attendee following the non-attendee was also interviewed. The patients came from the surrounding areas of Soweto as well as other areas that require specialist and or acute management and do not have access to closer tertiary level facilities.

3.4 SAMPLE SELECTION

Figure 1: Sample selection



As illustrated in Figure 1, there were 406 new patients booked from the 1st of February to the 31st of March 2010. Of these 406 patients, 132 patients (33%) fulfilled the inclusion criteria. Attempts were made to contact all new non-attendees. The next consecutive attendee was also interviewed.

Non-attendees and attendees data was collected and analysed if the patient fulfilled the inclusion criteria and consented to participate in the study. Informed consent was obtained from

all participants (appendix 5) with two people obtaining verbal consent from the non-attendees during the telephonic interview. Written consent was obtained from patients that were interviewed face to face.

3.4.1 Inclusion criteria:

a. All patients over the age of 18 who are referred to physiotherapy for the first time or for a new problem and had outpatient appointments scheduled.
b. All new patients who arrived for their scheduled outpatient physiotherapy appointment too late such that they were unable to be attended to on that day (i.e 30 minutes later than the scheduled appointment time).

3.4.2 Exclusion criteria

a. Patients referred to Chris Hani Baragwanath Hospital Physiotherapy department but are referred to closer community health care clinics.
b. Patients who are referred to physiotherapy, do not have appointments and are treated on the same day as they arrive for example, acute cases.
c. Patients under the age of 18.

3.5 ETHICAL CLEARANCE

Prior to commencement of data collection, ethical clearance was obtained from the Committee for Research on Human Subjects of the University of the Witwatersrand (Clearance number: M091027) (Appendix 1). Permission was obtained from Chris Hani Baragwanth Hospital to conduct the research at the facility (appendix 2).

3.6 PROCEDURE

Phase 1:

The first phase of the study was a retrospective audit. This part of the study was to quantify the percentage of patients who fail to attend their initial outpatient appointment at the physiotherapy department. Statistics on bookings made and initial non-attendance rates were reviewed over a two month period (February and March 2010). This phase aimed to establish the non-attendance rate for new cases booked.

Data description and analysis:

The statistics were grouped into two categories:

a) Attendance rates of new cases
b) Default rates of new cases

Phase 2:

A record of all patients that attended their appointment was kept in the booking diary. All patients who fulfilled the inclusion criteria were included in the study. 'Non-attenders' were selected because they did not keep their initial out-patient physiotherapy appointment during the two months set aside for the study.

At the end of each day a record of patients who did not attend their scheduled appointment were kept on a coded data collection sheet. The patients' demographic data and contact details were obtained from the booking diary and the hospital database. This information was recorded

on the coded data collection sheet. Each non-attendee was contacted telephonically by the research assistant who is fluent in four official languages (English, Zulu, Tswana and Sotho). The patient was contacted on the same day as the missed appointment where possible or within a week in cases where the patient could not be contacted. Patients who could not be contacted on three different days were excluded from the study. Before interviewing the patient telephonically, the patient was informed of the study being conducted (see appendix 4) and offered a choice of participating in the research project. It was made clear that participation in the study was completely voluntary and that refusal to participate in the study would in no way influence their treatment. Consent to participate in the study was obtained by two people prior to completing the interview schedule. This was done to comply with Wits human research ethics committees recommendation. A telephonic interview was then conducted with each non-attender after consent was obtained. Patients were interviewed in their preferred language and the researcher/assistant indicated the relevant responses on the data collection sheet (appendix 7).

Patients who arrived thirty minutes or more later than their scheduled appointment time or on the incorrect day were also classified as non-attendees and these patients were interviewed (face to face) before they were given an alternative appointment date (if they consented to participate in the study). Written consent was obtained from these patients prior to conducting the interviews (Appendix 5). See appendix 11 for flow diagram of procedure.

Attenders were identified as new cases who arrived for their scheduled appointment. The ‘attendee’ was informed of the study (see appendix 3) and if the patient consented to participate in the study written consent was obtained followed by completion of the interview schedule.

There were two types of interview schedules used for the study – one specifically for the patients who did not attend and the other for those who did attend. Both versions of the schedule had open and close ended questions and asked the same questions with the addition of the reason for non-attendance added into the non-attendees interview schedule (appendix 7). The reasons for non-attendance were categorized and any comments from the interviewer were recorded on the data collection sheet.

All interviews were conducted by the researcher or the research assistant who was trained in conducting the interview using the following data collection tool:

3.7 INTERVIEW SCHEDULE

The questions used in the interview schedule were based on areas investigated in previous research studies on non-attendance to outpatient appointments. Prior to being utilized in the main study, the interview schedule was reviewed by a member of the School of Public Health, University of the Witwatersrand as well as a group of physiotherapists and physiotherapy assistants at Chris Hani Baragwanath Hospital. This was again reviewed by the same group after a pilot study was conducted in January 2010.

The pilot study was done to identify any problems with the interview schedule and to familiarize the research assistant to the procedure. In the pilot study two attendees and two non-attendees were interviewed. Two questions were rephrased after the pilot study (after consultation with the same group of physiotherapist and physiotherapy assistants that had previously reviewed the interview schedule) as there was misunderstanding in the phrasing of the question. The four interviews that were conducted in this pilot study were not included in the results of this study.

The interview schedule was conducted in English, Tswana and Zulu based on the patients preference. In order to ensure reliability in the translation, the interview schedule was translated into Tswana and Zulu (appendix 8 and 9) by the research assistant who conducted the interviews. These translated interview schedules were back-translated into English to ensure reliability.

All the quantitative data from the interview schedules was transferred onto epi-info version 3.5.1 and this programme was also used to do the statistical analysis (see 3.8.1). The qualitative data (data from the open ended questions) was captured on an excel spreadsheet and analysed (see 3.8.2).

3.8 STATISTICAL ANALYSIS

3.8.1 Quantitive data:

- Descriptive analysis of data on frequency of non-attenders, age, sex and source of referral was done using means and standard deviation.
- Categorical variables were described as frequency distribution tables as well as using bar graphs and or pie charts.
- To assess for associations between pairs of categorical variables Pearsons Chi Square test was used (Fishers exact test was used where appropriate).
- Student t-test was used to compare the age and length of time since onset of symptoms.
- A logistic regression was used to develop a non-adherence model. A univariate and multivariate logistic regression method was used. A univariate logistic regression was then done on all the categorical variables but each one independently.
- Statistical significance was ascertained at the 5% level of significance.

Appointments missed per day of the week and per time slot was calculated directly from the booking diary.

3.8.2 Qualitative Data analysis was done for information obtained from the open ended questions (what physiotherapy is and suggestions for improvement of the physiotherapy service).

- All the interview schedule sheets were referred to and the responses to open ended questions were captured onto a excel spreadsheet.
- This collection of responses was read through to get a general sense of the information as well as to get an indication of the thoughts conveyed by patients.
- Data was then coded and categories were labeled with a term that commonly described the responses and themes were formulated. “Coding” is a process of organizing the material into ‘chunks’ before bringing meaning to those ‘chunks’ (Creswell; 2003). Responses that fell into more than one category were labeled as such (placed into both categories). This was done to reduce the mass of data into meaningful information such that relevant information can surface for issues to be addressed.
- Tables have been used to display the findings. Themes that were identified are presented in a narrative passage to describe the findings of the analysis.

Chapter 4: RESULTS

In this chapter the results of this study are presented. The results are presented according to the objectives of the study. The quantitative data is presented first and then the qualitative data from the interviews is presented.

4.1 FREQUENCY OF PATIENTS THAT DID NOT ARRIVE (DNA) FOR THEIR SCHEDULED APPOINTMENT:

Data of patients that did not arrive was collected over the two months set aside for the study (February and March 2010). The data of the retrospective review is depicted on Table 2 below.

Table 2: Frequency distribution of patients that DNA

	February – March 2010
New booked cases	406
Cases that DNA for initial appointment	132
Percentage of DNA	33%

4.2 PATIENT SELECTION

The figure below shows how patients from the 2010 cohort were selected for the study.

Figure 2: Flow chart of patient selection

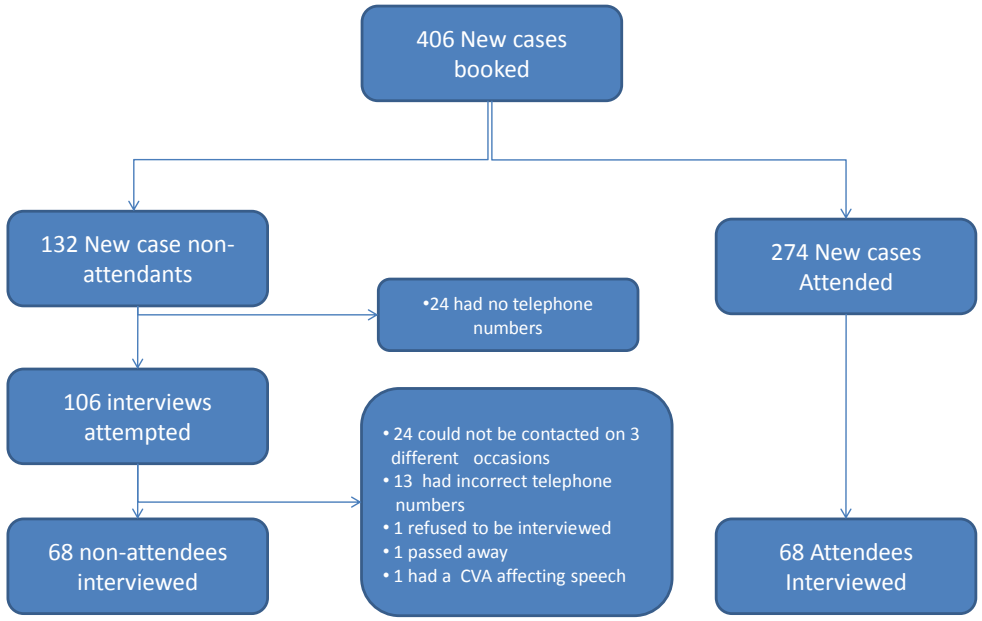


Figure 2 above shows details of how patients were selected. There were a total of 406 new patients booked during February to March 2010. Of these 406 new patients there were 132 non-attendees in the general orthopeadic outpatient physiotherapy department. All patients that could be contacted for the month of February and March 2010 were included (68 patients) as well as the next consecutive attendee following the patients that did not attend their scheduled appointment (68 patients). Therefore 68 non-attendees as well as 68 attendees were interviewed.

4.3 DEMOGRAPHIC DATA

Age

Data on the age distribution of the respondents that were interviewed is displayed in Table 3 below.

Table 3: Age distribution of the respondents

Age	Attendee	Non-attendee
Age range (years)	21 – 72	18 – 84
Mean (years)	45.5	46
SD	13.49	14.2
p-value	0.94	

There was no statistical difference (p=0.94) in the ages between the attendee group and the non-attendee group.

Gender

Data on the gender distribution of the respondents that were interviewed is displayed in Table 4 below:

Table 4: Gender distribution of the respondents

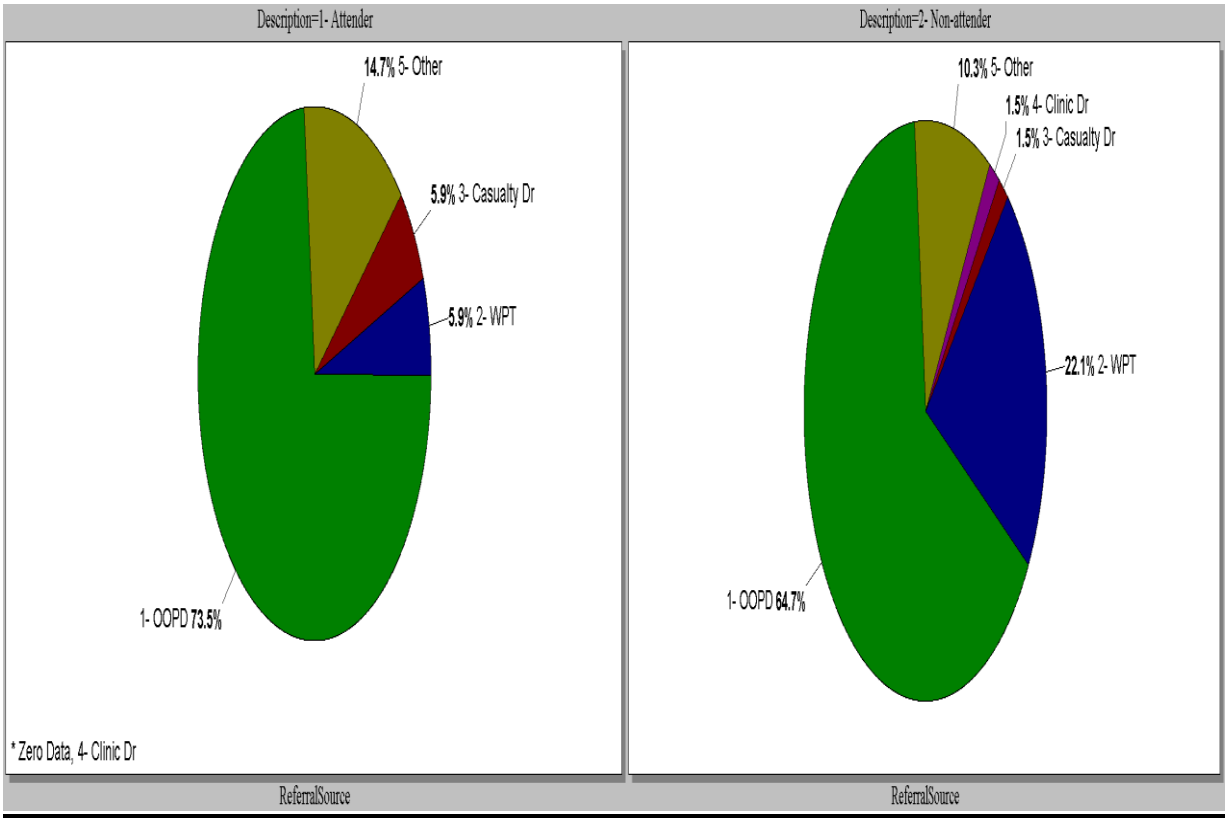
Gender	Attendee	Non-attendee	TOTAL
Male	30	38	68
Female	38	38	68
p-value	1.00		

Coincidentally an equal number of attendees and non-attendees were male and female and thus there was no statistical difference (p=1.00) found between attendees and non-attendees.

4.4 REFERRAL SOURCE

Data on the source of referral of respondents that were interviewed is displayed in Figure 2 below.

Figure 3: Referral source distribution of the respondents



WPT – Ward physiotherapist

OOPD – Orthopaedic outpatient department

4.5 ASSOCIATIONS BETWEEN PAIRS OF CATEGORICAL DATA

The Table below displays a comparison of responses from attendees and non-attendees to a range of variables. This information was used to determine if there were any significant differences between attendees and non-attendees based on the variables displayed below.

Variable		Non-attendees N=68 (%)	Attendees N=68 (%)	All patients N=136 (%)	p-value
Education	No formal schooling	2 (3%)	5 (7%)	7 (5.1%)	0.0622
	Primary school	18 (26%)	19 (28%)	37 (27.2%)	
	Junior secondary	16 (24%)	18 (26%)	34 (25%)	
	Senior secondary	29 (43%)	16 (24%)	45 (33%)	
	Tertiary education	3 (4%)	10 (15%)	13 (9.6%)	
Reason for referral told to patient	Yes	38 (56%)	30 (44%)	68 (50%)	0.17
	No	30 (44%)	38 (56%)	68 (50%)	
Necessity to attend physiotherapy	Yes	58 (85%)	57 (84%)	115 (84.6%)	0.963
	No	3 (4%)	3 (4.4%)	6 (4.4%)	
	Don't know	7 (10.3%)	8 (11.8%)	15 (11%)	
Knowledge of what physiotherapy is	Yes	39 (57%)	40 (58.8%)	79 (58%)	0.86
	No	29 (42.6%)	28(41.2%)	57 (41.9%)	

Status of the condition since referral	Gotten better	33 (48.5%)	39 (57.4%)	71 (52.2%)	
	Stayed the same	26 (38.2%)	19 (27.9%)	45 (33.1%)	
	Worsened	9 (13.2%)	10 (14.7%)	19 (14%)	0.4401
Effect of condition on ADL	Slight impact	14 (20.6%)	20 (29.4%)	34 (25%)	
	Moderate impact	36 (52.9%)	18 (26.5%)	54 (40%)	0.0065
	Severe impact	18 (26.5%)	30 (44%)	48 (35.3%)	
General Health	Excellent	6 (8.8%)	11 (16.2%)	17 (12.5%)	
	Very good	28 (41.2%)	17 (25%)	45 (33.1%)	
	Fair	22 (32.4%)	31 (45.6%)	53 (39%)	0.106
	Poor	12 (17.6%)	9 (13.2%)	20 (14.7%)	

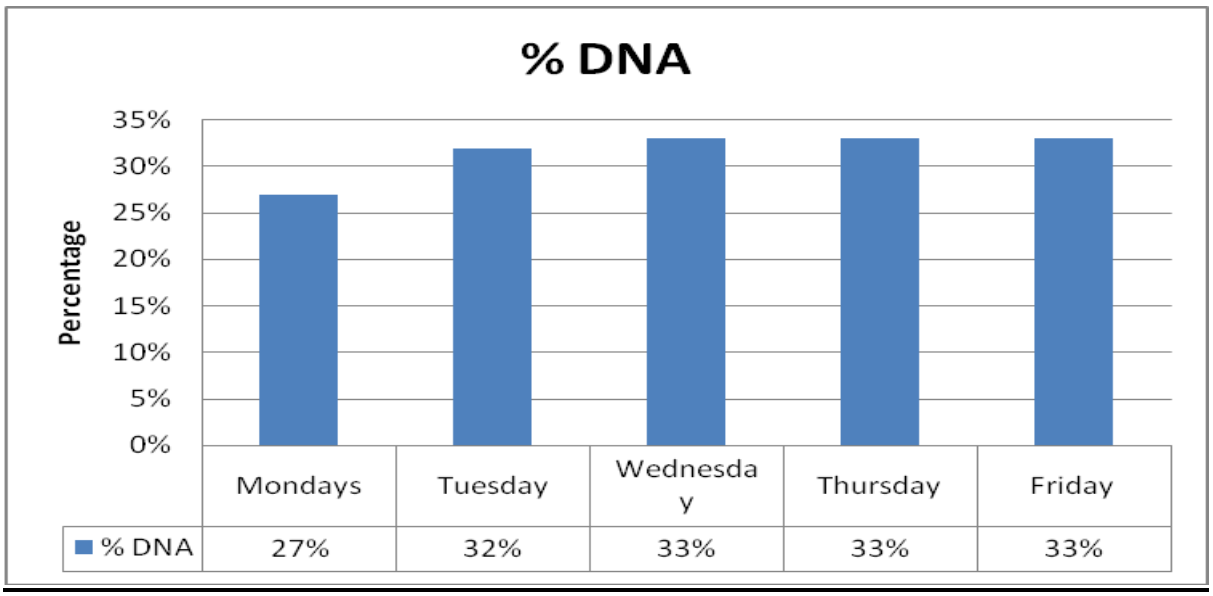
Table 4: Associations between pairs of categorical variables (percentages displayed in brackets)

Effect of patients condition on ADL showed a statistical difference ($p<0.01$) between attendees and non-attendees with twice the amount of non-attendees (53%) perceiving their condition as moderate when compared to the attendee group (26%). However, more attendees (26.5%) perceived their condition to be severe compared to the non-attendees (44%). Therefore those patients who perceive their condition as severe are more likely to attend their scheduled appointment with those perceiving their condition as moderate more likely to not attend their scheduled appointment.

All other variables showed no statistical difference although it is important to note that more than 50% of both attendees (58.8%) and non-attendees (57.4%) knew what physiotherapy was.

4.6 RATE OF PATIENTS THAT DID NOT ATTEND THEIR APPOINTMENTS PER DAY OF THE WEEK

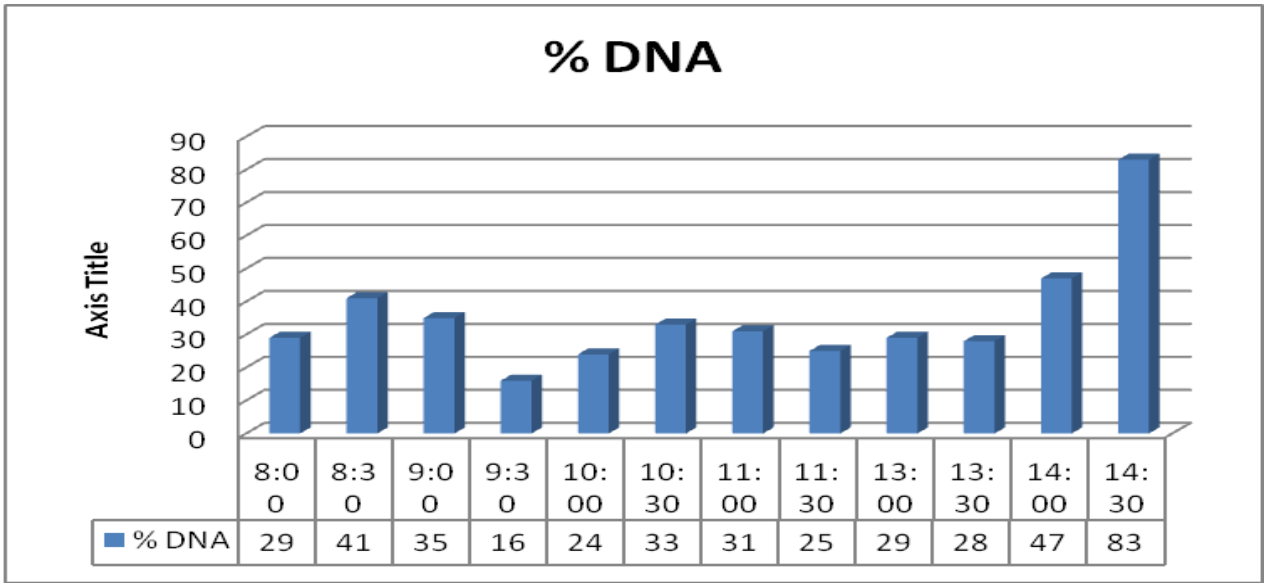
Figure 4: Percentage of patients that DNA per day of the week



The number of patients that did not attend their scheduled appointments were relatively even throughout the week with a slightly lower rate on a Monday (27% DNA rate) followed by a Tuesday (32% DNA rate). The rate for the rest of the week was relatively even (33%). The results from this show that the day of the week does not have an effect on the attendance rate.

4.7 RATE OF PATIENTS THAT DID NOT ATTEND THEIR APPOINTMENTS PER TIMES OF APPOINTMENTS

Figure 5: Percentage of patients that DNA per appointment slot.



	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	13:00	13:30	14:00	14:30
% DNA	29	41	35	16	24	33	31	25	29	28	47	83

The non-attendance rate fluctuated through the day with the higher non-attendance rate noted in the later afternoon (14:00 and 14:30). The highest non-attendance rate was noted to be the last appointment slot (14:30). The best attendance rate was seen to be the 9:30am slot with a 84% attendance rate at this mid-morning appointment booking slot.

4.8 REASONS THAT PATIENTS DNA THEIR SCHEDULED APPOINTMENT

Of the 68 patients that were interviewed the following Table represents the reasons for not attending the initial scheduled outpatient appointment. The results are presented from the most common reasons for non-attendance to the least common reasons.

Table 6: Reasons for non-attendance to appointments.

Reason for non-attendance	**Percentage of responses**
Forgot about the appointment	13%
Ill on the day of the appointment	8%
Family problems	7%
General transport problems	7%
Other	5%
Problem with time off work	4%
Too busy at work	4%
Another appointment on the day	4%
Did not have money to come to the hospital	4%
Clerical problems	3%

Did not have access to transport to come to the hospital	3%
Other arrangements on the day	2%
Bad weather on the day of the appointment	1%
Problem settled down	1%
Went elsewhere for treatment	1%

The most common single reason for non-attendance was forgetting about the appointment (13%) followed by a combination of transport issues. Transportation problems in combination of several variables (General transport problems 7%, Did not have money to come to the hospital 4%, Did not have access to transport to come to the hospital 3%) equates to 14% of non-attendees relating this as a reason for non-attendance. Transport reasons combined therefore equates to the most common reason for non-attendance. Majority of the patients utilize public transport in accessing the hospital and there was a taxi strike (which lasted three days) during the period of the study. This influenced the higher number of patients that had difficulty in accessing the hospital.

Transport problems were then followed by being ill on the day of the appointment (8%), family problems (7%) and other (5%) reasons. In this group that had reasons classified as other several of the patients reported that they had gone to the wrong department and sat in a queue before being told that they had come to the wrong place. Some patients that were contacted telephonically reported that they had attended their appointment on that day but on further

investigation it was found that they had actually consulted the doctor and went home not realizing that it was physiotherapy that they were meant to attend.

4.9 RESULTS OF PATIENTS RESPONSE TO WHAT PHYSIOTHERAPY IS

Patients were asked if they knew what physiotherapy was. This qualitative information was analysed by collating and then reading through all the responses recorded on the data collection sheet. The data was then reduced by identifying common themes and placing these common responses into categories. The Table below (Table 7) depicts the summarized responses and the thematic categories that responses were placed into. The results from the non-attendees are presented first followed by the responses from attendees. Table 8 provides a summary of the information obtained from both attendees and non-attendees. Not all patients described what physiotherapy was and some patients gave several descriptions.

Table 7: Patients' knowledge about physiotherapy

RESPONSE FROM NON-ATTENDEES	THEME
• For exercising • Training • Physiotherapy is where you do exercises	Exercises
• Think to help straighten up • Helps to get you moving again • Tell you how to walk	Improve mobility
• It's about massage and getting exercises • It's about massage	Massage
• They look after broken bones • Working with bones sometimes • Is to stretch bones	Treat bone problems

• To stretch • Maybe to make it easier for muscles to function • Working with bones sometimes and when have stiff muscles • They help with exercises in order to be able to move independently	Improve muscle function
• To ease the pain • To find a solution to solve backache problem	Reduce pain

RESPONSE FROM ATTENDEES	**THEME**
• People that assist patients with exercises like patients that have injured legs • Think physio deals with something like exercises • People outside hospital told me its to train • Trying to train the hand • Exercise the bones to get hands to work. • To exercise the leg • All about exercising and being confident • Training patients that are injured like having a fracture • Where I will exercise to improve the problem	Exercise
• To train the feet so able to go well • Movement of joints	Improve mobility
• Think try to massage body or problem part so it can get to right position • They massage you • To get a massage • Physiotherapy are the people who do the massages to correct things that are not	Massage
• Physiotherapy deals with bone problems.	Treat bone problems
• Healing of muscles • Help you with muscles. • Treat muscular injuries	Treat muscle problems
• Physiotherapy deals with body pains.	Reduce pain
• Train and gym to prevent knee from being stiff and may need to go back to theatre.	Prevent complications
• Exercising and getting use of the injured part • To help you to be able to use your body like you used to before.	Improve function

• Want to get knee back to 90% or 100%. • Help to recover fully	
• Training of injured patient to heal fast	Improve recovery
• Rehabilitation of stroke patients • Exercise patients in ward who have a stroke • Rehabilitation of stroke patients	Rehabilitation

The following themes were identified from the responses:

Exercises was the most common response with many patients reporting that physiotherapy was exercising or training (18 responses from non attendees and 31 responses from attendees), improve movement with some talking of a local improvement in movement such as a specific joint whilst others mentioned a general improvement in movement such as improving gait "... tell you how to walk". Massage was a common response in both groups with attendees again more descriptive mentioning "... massage body or problem part so it can get to right position" and "Physiotherapists are the people who do the massages to correct things that are not" whereas non-attendees simply said it was "about a massage".

Table 8: **Summary of themes from both groups**

Theme	Attendee	Non-attendee
Exercise	×	×
Improve mobility	×	×

Massage	×	×
Bone treatment	×	×
Improve muscle function		×
Reduce pain	×	×
Treat muscle problems	×	
Prevent complications	×	
Improve strength	×	
Rehabilitation	×	

Both groups mentioned physiotherapy as the treatment of muscle problems, bone problems and pain however attendees stated additional responses such as prevent complications, improve function, return to previous function, improve recovery, improve confidence, improve strength and rehabilitation. Although rehabilitation is an area that is covered within orthopaedics many of the responses in this area were regarding the rehabilitation of neurological conditions such as the rehabilitation of stroke patients. Since the patients interviewed in this study were all attending a general orthopaedic outpatient department these patients may have had some previous exposure to the area of neurological rehabilitation either from general awareness or social interaction with people that may have had exposure to such services.

Patients in the attendees group knew more about what physiotherapy was and were able to describe what physiotherapy is in more detail when compared to the non-attendee group. Themes identified for each category are displayed in table 8 above.

4.10 CLIENT SATISFACTION: SUGGESTIONS FOR IMPROVEMENT

Patients were asked for ways in which they felt the physiotherapy service could be improved. Not all patients gave suggestions to improve the services as many felt that it was the first time that they were attending the physiotherapy department and thus could not comment as yet on the services.

Table 9: Suggestions for improving services from non-attendees.

Responses from non-attendees	**Themes**
• If physiotherapists can attend to patients and not make them queue	Waiting time
• Attending to patients everyday when in the ward, was only attended to twice during time when in hospital	Frequency of treatment
• Service is good	Positive service

There were very few suggestions for improving of services from the non-attendee group. The only responses were regarding hospital factors especially with respect to time and frequency of the treatment.

Table 10: Suggestions for improving services from attendees

Responses from attendees	Themes
• Bookings too far in advance, I had to wait long to get an appointment. • Service is good. Suggest cut the number of days to get an appointment. Had to wait a week to get an appointment and needed to be seen earlier. This patient had sustained a soft tissue injury to the elbow.	Waiting list
• To be able to attend physio daily.	Frequency of treatment
• Keep to time in front. Arrived early and had to wait to be attended to. • Time management. Had an appointment for 10:00 and was only attended to at 10:30.	Waiting time
• To supply local clinics with the equipment that is available at Bara	Improve local clinic
• New building is more wheelchair accessible (# femur) • No suggestions but I have seen some changes like being flexible with appointments. I was able to phone and change the appointment date. • No suggestions but came to Chris Hani Bara physio as have heard good things.	Positive responses

Although very few attendees gave suggestions for improving the physiotherapy service the attendee group was more expressive compared to the non-attendee group. Most of the suggestions however were also related to hospital factors such as waiting lists, frequency of treatment and waiting times.

Table 11: Suggestions for improving services from attendees and non-attendees.

Non-attendees	**Attendees**
Reduce waiting times (1)	Reduce waiting times (2)
Increase frequency of treatment (1)	Increase frequency of treatment (1)
	Reduce waiting list (2)

4.11 PREDICTORS OF NON-COMPLIANCE

Table 12: Results from univariate and multivariate logistic regression

Term	Odds ratio (multivariate)	p-value (multivariate)	Odds ratio univariate)	p-value (univariate)
Age	0.9957 (0.9615; 1.0311)	0.7909	1.0009	0.9403
Gender (2- Female/1- Male)	0.9793 (0.4458; 2.3357)	0.9602	1.0000	1.0000
Levelofeducation (3- Senior Primary/1- Never attended)	0.2970 (0.0386; 2.0912)	0.2323	0.4222	0.3375
Levelofeducation (4- Junior Secondary/1- Never attended)	0.2809 (0.0346; 2.2398)	0.2316	0.4500	0.3773
Levelofeducation (5- Senior secondary/1- Never attended)	0.1281 (0.0144; 0.9822	0.0549	0.2207	0.0905
Level of education (6- Tertiary/1- Never attended)	0.4629 (0.0351; 5.5225)	0.5494	1.3333	0.7870
Is it necessary to attend PT (2- No/1- Yes)	0.7605 (0.1164; 4.9694)	0.7732	1.0175	0.9834
Is it necessary to attend PT (3- Don't know/1- Yes)	0.8818 (0.2119; 3.6705)	0.9564	1.1629	0.7838
Effect of condition on ADL (2- Moderate impact/1- Slight impact)	0.3145 (0.1128; 0.9938)	0.0341	0.3500	0.0203
Effect of condition on ADL (3- Severe impact/1- Slight impact)	1.5094 (0.4643; 4.8720)	0.4869	1.1667	0.7368
How has condition been since referra (2- Stayed the same/1- Gotten better)	0.3916 (0.1505; 1.0269)	0.0534	0.6183	0.2100
How has condition been since referral (3- Worsened/1- Gotten better)	0.4811 (0.1236; 1.8730)	0.4865	0.9402	0.9050
Knows what PT is (2- No/1- Yes)	0.7465 (0.3034; 1.8368)	0.8263	0.9414	0.8620
Perceived general health (2- Very good/1- Excellent)	0.3123 (0.0754; 1.1522)	0.0923	0.3312	0.0625
Perceived general health (3- Fair/1- Excellent)	0.8748 (0.1949; 3.3230)	0.8533	0.7686	0.6494

Perceived general health (4-Poor/1- Excellent)	0.2632 (0.0427; 1.1834)	0.1046	0.4091	0.1837

A logistic regression method was used to analyse the results to determine predictors of non-compliance. The information in brackets qualifies the specific variable against which a comparison was made in order to obtain a logistic regression. Results in the first two columns represent a multivariate logistic regression in which all the categorical variables were analysed together. In the second two columns each variable was analysed independently. The multivariate analysis was then compared to the univariate analysis to check for any differences.

A moderate impact of the patients condition is the only outcome variable that showed a statistically significant result and that could predict a patients attendance to outpatient physiotherapy appointments with patients who perceive their condition as having a moderate impact on activities of daily living 69% less likely to attend their appointment than those whose condition had a slight impact on their activities of daily living (odds ratio=0.31).

Patients with a senior secondary education had a trend towards non-attendance (p=0.0549) with 87% of those with a senior secondary education more likely to be non-attenders compared to those that have never attended any formal education (odds ratio=0.1281). A dose response could be seen in patients' level of education with the higher the level of education the less likely the patient is to attend. This however applies to patients up to senior secondary education and this trend is not seen in patients with tertiary level education.

A trend can be seen in patients who felt that their general health was very good with those who felt that their health was very good 69% less likely to attend their appointment when compared to those who felt that their health was excellent (odds ratio=0.31).

A trend can be seen in how the patients condition has been since referral to physiotherapy (p=0.0534) with patients whose condition having stayed the same 61% less likely to attend their appointments when compared to those that felt that their condition had gotten better since the time of referral (odds ratio=0.3916).

Chapter 5: DISCUSSION

As stated in the earlier chapters of this report, in 2009 the physiotherapy department at Chris Hani Baragwanath Hospital was experiencing a problem with patients not arriving for their scheduled appointment. To that effect it identified non-attendance to outpatient appointments as a key area for research. An audit conducted over a two month period (June 2009 and July 2009) in the general orthopaedic outpatient physiotherapy department confirmed that 38% of new patients that had appointments scheduled failed to arrive for their appointment. This study therefore sought to identify the reasons for non-attendance to initial outpatient physiotherapy appointments. Although research on non-attendance to appointments was conducted in various settings and used various methods of collecting data very few studies have been done on new case non-attendance with very few studies done in developing countries. Several studies show contradictory findings with regard to factors that may influence attendance. The results from this study will be compared to those found in previous research.

5.1 NON-ATTENDANCE RATE

In this study, the rate of non-attendance to initial physiotherapy appointments was found to be 33% in the outpatient physiotherapy department during February and March 2010. A retrospective audit in 2009 showed a new case DNA rate of 38% (119 new case DNA/317 new

cases booked – unpublished data). There were more new cases booked in 2010 (406) which could be accounted to the fact that there had been more staff in the outpatient department in 2010 as compared to 2009 and thus more patients could be booked. This rate between the 2 years was not found to be significant (p=0.162).

Although this rate of non-attendance is higher than that found in studies conducted in other countries which ranges between 5% to 30% (Murray and Leblanc, 1996; Potamis et al, 1994; McClure et al, 1996; Stone et al, 1999; Murdock et al, 2002; Bateson, 2003; Chung, 2004; Hon et al, 2005) it is lower than the outcome of the audit conducted over a four month period (November 2007 to March 2008) in Ngwenyas (2009) study at Kalafong Hospital which found a non-attendance rate of 35%. Ngwenyas (2009) study was conducted at a secondary hospital in Pretoria, South Africa on new and follow up patients at two diabetic clinics. This study was conducted on booked patients with Type 1 and Type 2 diabetes that required specialized services (diabetes difficult to control and diabetes related complications that require treatment that is not available at primary health care level). This rate of non-attendance (35%) is slightly higher than the non-attendance rate found in this study at Chris Hani Baragwanath Hospital Physiotherapy department (33%). This similarity in the non-attendance rate could be accounted to a similar population group that experiences similar problems in access and sociodemographics when compared to other population groups that were studied internationally. These will be discussed in the later paragraphs of this discussion.

Several extraneous factors can have an effect on attendance which in some instances may be temporary. In 1997 a general election in the UK resulted in a sharp reduction in the non-attendance rate which fell to 5.6% which was maintained for five months following the election but then soon returned back to its previous level (Bateson, 2003). This was accounted for as a

change in administration that had led to the population expecting better things from a restored health system. A similar system of change led to a fall in the non-attendance rate following the construction of a new hospital in the UK. Again the non-attendance rate fell to 5.3%. Chris Hani Baragwanath Hospital has also had a major facelift with a new building to accommodate all outpatient departments. The physiotherapy department moved to the new facility in November 2009. The new case non-attendance rate was reduced by 5% from the rate found earlier in 2009 compared to the findings in this study. Whether the move to the new facility accounted for this drop in the non-attendance rate is not known but one patient with a fractured femur reported that the there was an “improvement in the accessibility of the new hospital”. There has been an increase in the follow up attendance rate as well but the concern of non-attendance remains.

5.2 DEMOGRAPHIC FACTORS

Several studies on non-attendance to appointments had looked at age and gender to determine if these factors influenced attendance. Results from these studies are contradictory with some reporting females more likely to be non-attendees (Murray and Leblanc, 1995; Chung, 2004) whereas others report males to have higher rates of non-attendance compared to females (Armistead, 1997). In this study there was no difference found between the attendances of attendees and non-attendees based on age or gender. This is in keeping with other studies which show no correlation between attendees and non-attendees based on gender and age (Needleman and Mikhail, 1997; Butler 2001; Meer and Loock, 2008). Reasons for non-attendance were investigated and are now discussed.

5.3 REASONS FOR NON-ATTENDANCE

A follow up phone call was done to all patients that did not arrive for their first appointment and there were some difficulties encountered in identifying the reasons for non-attendance. Several patients in this study had terminated the call after hearing that the call was in connection with the missed appointment. This reaction may be attributed to the fact that patients have not co-operated with an appointment system may feel less than comfortable participating in research which asks them the reasons for non-compliance. Indeed, such research may appear confrontational if not handled sensitively. To that effect patients were re-assured that the purpose of the call was to improve services and that there were no consequences or risks that were involved and only then did patients consent to participate in the study.

The most cited reason given for not complying with an appointment was a combination of transport problems, followed by forgetting about the appointment, being ill on the day of the appointment and problems at or with work. The findings are consistent with other studies, which also mention forgetting as the major reason for missing clinic appointments (Cosgrove, 1990; Hamilton, 2001; Herrick et al, 1994; Murdock et al, 2002; Ngwenya, 2009; Potamis, 1994; Stone et al, 1999). Patients may forget about a scheduled appointment for several reasons. The time period from scheduling the appointment up to the date of the appointment may influence the patient remembering about the appointment. The waiting list at Chris Hani Baragwanath Hospital was maintained at one and a half weeks throughout the period of data collection which was thought to be a reasonable period and within the timeframes of the physiotherapy department's operational plan. A study by Francis et al (1969) found that prolonged waiting times were significantly related to non-attendance. This was further supported by a study that which showed that the average waiting time for appointments was forty nine days for attenders and seventy six days for non-attenders (Lyon and Reeves, 2006). Conversely, another study by

Frankel et al (1989) showed that it was the non-attenders that had received shorter notice of their appointment than attenders with fifty percent of non-attendees given a week or less notice of the appointment. Such short notice of appointments may also be inadequate when transport, work and family commitments need to be re-arranged. In this study at Chris Hani Baragwanath Hospital some patients felt that the waiting list was too long with one patient saying that the "bookings are too far in advance, I had to wait long to get an appointment" with another patient saying that although the service was good, he suggests that "the number of days to get an appointment be cut". This patient with a soft tissue injury to the elbow had to wait a week to get an appointment and felt that he needed to be seen earlier. Considering that too long or too short waiting times may have a role in attendance to appointments patients should be given the choice of date, day and time for the scheduled appointment and accommodated where possible. This however may only be possible if waiting times are constantly monitored thus ensuring sufficient available appointment slots for flexibility in bookings. Other systems can be put into place to counteract non-attendance to appointments due to forgetting about the appointment such as reminder systems.

Interventions such as telephonic reminders may have a role to play in reducing the non-attendance rate in cases where patients missed their appointments due to forgetting about the appointment. Although Pieper and DiNardo (1998) and Henderson (2008) showed that landline telephone or cellular phone reminders may reduce non-attendance, a more comprehensive intervention is required in the Chris Hani Baragwanath Hospital situation. The population utilizing Chris Hani Baragwanath Hospital has a variation of access to telephone and some patients do not have ready access to telephonic contact. On some occasions, the number supplied is either the cellular phone numbers of their next of kin or the landline telephone numbers of their neighbors. In many instances, the patients either did not reside with the next of

kin whose numbers were given, or had no access to the phone for most of the day. Considering that SMS reminders may be an option in an attempt to reduce non attendance the fact that not all patients have accurate and up to date contact cellular phone numbers may pose as a challenge in ensuring that this reminder system is efficiently utilized. In this study 46% of patients were uncontactable either because they did not have a cellular phone, had incorrect contact numbers listed or could not be contacted on the number that they had supplied to the physiotherapy department. It has therefore been found necessary to confirm the correct phone numbers on each visit of the patient to the clinic in order to optimize the contactability of patients should this be used as a method of reducing non-attendance rates. The patients should be informed of why it is important to provide reliable and updated contact information to the medical authorities.

Several of the responses for reasons for non-attendance were due to other reasons, some of which would be impossible for the hospital to address, such as bad weather, being ill on the day of the appointment and employment issues. In such cases, it is recommended that the patients be encouraged to reschedule their scheduled appointment before the set date with one attendee commenting that although he had no suggestions he "…has seen some changes like being flexible with appointments. I was able to phone in and change the appointment date". Information leaflets with the physiotherapy departments contact details should be supplied at the time of scheduling an appointment.

Transport problems were cited in other studies (Beauchant and Jones, 1997; Butler at al, 2001; Meer and Loock, 2008; Potamis et al, 1994; Stone et al, 1999) as the reasons given for not attending appointments. In this study transport problems were a combination of difficulty with

access to transport (3%), general transport problems (7%) and did not have money to come to the hospital (4%). Most people in the catchment area of Chris Hani Baragwanath Hospital use minibus taxis as a mode of transport to access health services which means that mostly those that are ambulant will be able to use this mode of transport. For those using this mode of transport, the taxi rank is opposite the hospital which makes for easy access but problems could be encountered from home to the area where the taxi is alighted. Chris Hani Baragwanath Hospital is a tertiary hospital that caters for approximately 3.5 million citizens and has very limited supporting facilities that can cater for this tremendous population size. A study by Soskolne and Gilbert (2003) on self assessed health in the Soweto area found a significant relationship between access to social resources and health. Among the younger respondents the perception of bad health was higher among those with no access (18.1%) than among those with high access (10.2%) while assessment of good health was similar across all levels of access. Among the older respondents, only 27.3% among those who had no access reported good health compared to 42.7% among those with high access, and bad health was higher among those with no access than among those with high access (Soskolne and Gilbert, 2003).

There are currently very limited secondary hospitals and primary health care physiotherapy services that are within reasonable distance for patients to access this very important service. It is also important to note that during the period of data collection there was a taxi strike which affected the attendance rates over these days. The taxi strike lasted for three days and there were thus a higher percentage of patients that had difficulty in accessing transport to get to the hospital over those days. Given that scenario, this then could be considered as a temporary reason for non-attendance. Improving access to physiotherapy services in the Soweto area is an area that needs to be explored to provide a comprehensive efficient and effective health care service.

From the above it can be seen that there are several factors that result in non-attendance to physiotherapy appointments at Chris Hani Baragwanath Hospital. Many of these factors are patient related but some are related to the hospitals infrastructure and accessibility of services. Predictors of attendance will be discussed next to explore if there are variables that exist that could be addressed in an effort to improve attendance.

5.4 PREDICTORS OF ATTENDANCE

The only variable that was found to influence whether a patient would attend their scheduled appointment in this study was the impact that the condition had the patients activities of daily living (ADL) with those who perceived their condition a having a moderate impact on their ADL's more likely to attend when compared to those who felt that their condition had a slight impact on ADL. Although this was found to be the most significant factor that influenced attendance in this study, no studies could be found that evaluated the impact of the patients condition on ADL's as a factor that could influence attendance. Educating patients on the role of physiotherapy may empower them to make a decision on weather physiotherapy is required and the physiotherapy departments contact details should be provided such that the patient is able to contact the physiotherapy department should they need to cancel the appointment. The patient's level of education, perceived general health and the status of the patient's health since the time of referral are some of the other factors which previous research has shown to have an influence on attendance (Sanchez, 1996; Vikander et al, 1986)

The level of education of patients has been shown to influence adherence to medical treatment. Patients with higher levels of schooling education were found to be more likely to fail to attend their scheduled appointments. Sanchez's (1996) found that patients with average or higher than average education tend to be non-attendees. The findings of this study show some similarity to

Sanchez's findings up to a secondary level education however it was also found in this study that patients with tertiary level education did not reflect this trend in non-attendance as patients in this group tended to be better attenders. Ngwenyas prospective survey (2009) on diabetic patients at Kalafong Hospital found that 55% of patients that did not attend their appointment had primary school education or less with only 3.9% of the patients that did not attend having a degree although there were only 3.9% of patients interviewed that fitted into this category. The educational level of residents of Soweto is low with 10.5% of adults having had no formal schooling and 16% with a maximum of grade four (Gilbert and Soskolne, 2003). In this study at Baragwanath Hospital physiotherapy department majority of the patients interviewed had a senior secondary school education (33%) followed by primary school education (27%), 5% having had no formal education with only 9.6% of patients having a tertiary level education. Thus this group of patients differed to some extent to the group in Ngwenyas (2009) study in terms of the patient level of education.

Patients who perceived their general health as excellent were more likely to not attend their scheduled appointments when compared to the group who perceived their general health as very good. The perception of the condition being severe would impact on the patient's general perceived health. In this study 62% of the patients interviewed perceived their health as being very good or excellent although a large percentage of non-attendees perceived their health as being fair (46%). Although this study did show some trend in attendance rates the finding was not found to be statistically significant. In Ngwenya's (2009) study on both attendees and non-attendees at a diabetic clinic (where only patients with diabetes that is difficult to control are seen) 83% of the patients reported that their health was good or excellent although 74% of this group expressed that they were very likely to develop complications from their condition. Lyon and Reeves (2005) study on non attendance to radiology appointments found that there was no

difference in the perception of severity of symptoms between attendees and non-attendees. Majority of the patients that are seen in the orthopaedic department at Chris Hani Baragwanath Hospital have sustained traumatic injuries and are generally healthy. Since there can be a trend seen in patients who perceive their health as excellent being non-attendees and it is known that physiotherapy be commenced after such injuries to prevent complications and optimize function and independence this group of patients should be educated on the importance of physiotherapy early after injury in an attempt to improve compliance in these patients.

5.5 PATIENTS KNOWLEDGE OF PHYSIOTHERAPY

The South African Society of Physiotherapy (SASP) defines physiotherapy as being “concerned with assessing, treating and preventing human movement disorders, restoring normal function or minimizing dysfunction and pain in adults and children with physical impairment, to enable them to achieve the highest possible level of independence in their lives; preventing recurring injuries and disability in the workplace, at home or during recreational activities and promoting community health for all age groups” by “utilizing skilled evaluation, skilled hands on therapy such as mobilization, manipulation, massage and acupressure, individually designed exercise programmes, relaxation techniques, sophisticated equipment, hydrotherapy and biofeedback, specialized electrotherapy equipment, heat, ice and traction to relieve pain and assist healing and recovery, recommend suitable walking aids, splints and appliances as well as patient education” (www.physiosa.org.za). There would seem though that there were still a large proportion of patients in both groups that did not know what physiotherapy was. Several non-attendees (57%) stated that they knew what physiotherapy was but could not describe what they thought it was. This could be due to the fact that these patients had not experienced physiotherapy since this is one of the least professions known in the population that is served by

Chris Hani Baragwanath Hospital or it could also be accounted to that most of these patients were interviewed telephonically. Those patients that were interviewed face to face may have felt more at ease when they were able to see the person interviewing them and may have felt more comfortable at expressing themselves. These were also patients that had attended their physiotherapy session and had experienced what it is. Majority of the patients in both groups said that physiotherapy was to do with exercise or training with others saying it was to improve function, treat bone and muscle problems, improve movement, reduce pain and massage. One patient said that physiotherapy “deals with bone problems and body pains”. They also do rehabilitation of stroke patients”. This patient was referred to physiotherapy for lower back pain. Another patient also referred with back pain said that it “mostly deals with people that are disabled…”. Generally those patients who knew what physiotherapy was and described it where correct in some form even if not necessarily for the particular problem that they were referred for.

In the group that had reasons classified as other, several of the patients reported that they had gone to the wrong department and sat in a queue before being told that they had come to the wrong place. Some reported that they had attended their appointment on that day but on further investigation it was found that they had consulted the doctor and went home not realizing that it was physiotherapy that they were meant to attend. Although knowledge of physiotherapy and reason for referral was not a significant determinant of whether a patient would attend their appointment or not, it is important to note that 45% of the patients that were interviewed did not know what physiotherapy was (Table 5) and this could be a reason that they had gone to the incorrect department or on some occasions not even known that it was physiotherapy that they were meant to attend. Information regarding the procedure to follow at the first visit is done verbally by the clerk or the person that has made the appointment for the patient. There is currently no standard in what the patient is told when scheduling an appointment and it has

been found that increasing the amount of information that a patient is given regarding a service not only improves satisfaction but also empowers the patient and increases compliance (Ley, 1982; Lowry, 1995; Liggett; 2002) with Potamis (1994) and McClure (1996) reporting that many patients that did not attend their appointments due to inadequate knowledge of their condition. Standardised information leaflets that explain what physiotherapy is as well as directions on how to get to the physiotherapy department as well as the physiotherapy departments contact details may make an important contribution to better compliance with physiotherapy.

5.6 SUGGESTIONS FROM PATIENTS ON AREAS FOR SERVICE IMPROVEMENT

The attendees seemed to be more responsive to suggesting areas improvement. This could be accounted to the fact that these patients have visited the physiotherapy department more than once i.e the first visit being the day that the patient comes in to schedule the appointment with the second time being the day that they attended their appointment whereas most of the non-attendees have only been to the physiotherapy department on the day that the appointment was made. Some of the non-attendees that had arrived too late to be attended to or on the incorrect day may therefore have also had more than one experience in the department but it was felt that the face to face interview that was conducted with attendees made patients feel more free to talk about suggestions. Most suggestions were concerning waiting lists, waiting times and frequency of treatment.

The amount of time that patients have to wait to be attended to may influence patient satisfaction with services provided. This was found to be an area of dissatisfaction for patients in a Hong Kong orthopaedic and trauma specialist clinic (Chung et al, 2004). One non-attendee at

Chris Hani Baragwanath Hospital suggested that physiotherapists should “attend to patients and not make them queue”. This comment from a non-attendee may be based on the running of some other outpatient clinics within the hospital where patients are not given specific appointment times but are attended to on a first come first serve basis. Two patients suggested improvements in waiting times as they had arrived on time but had been kept waiting in reception with one patient saying that he “had an appointment for 10:00 and was only attended to at 10:30”. A possible account for this may have been that the patient had arrived at 10:00 which is the time that the clerk leaves for a tea break and the patient had to wait until the clerk had registered the patients that had arrived first and then attend to the patient leading to a time lapse. A possible solution to this could be that patients be advised to arrive at least fifteen minutes prior to their appointment time to avoid such waiting periods and to educate clerking staff to ensure that patients that have appointments booked are attended to prior to leaving the reception area. Providing a second clerk to cover the reception desk when the primary clerk does go on lunch or teas breaks is an option that the hospital should consider.

Another area that patients suggest should be improved on is the frequency of treatments. Patients are given appointments based on their specific needs with acute patients been seen as soon as possible. One attendee suggested that “patients be seen daily as outpatients”. A study by Barron (1990) reported that patients who perceive their illness to require urgent care where found to be better attenders when compared to non-attendees. Utilisation of daily allocated acute slots may be a solution to be able to attend to patients daily although it should only be utilized only for patients that require such treatment which is not very common. Patients should be encouraged to take self responsibility and comply with advice that should be offered on

consultation with the physiotherapist as not many patients in the orthopaedic outpatient department require to be seen on a daily basis.

Several factors may play a role in non-attendance to initial appointments at Chris Hani Baragwanath Hospital orthopaedic physiotherapy department. As this study has shown transport problems and forgetting about the appointment were the main reasons for this inefficiency in health care. Systems can be put into place in an attempt to reduce this high rate of non attendance.

5.7 Limitations of the study

- The recruitment process for the present study focused on those patients who came to the physiotherapy department having missed a prior appointment as well as those with cellular phones or landline telephones. This might be a limitation on the study especially if the group that could not be contacted telephonically differed distinctly from the group that was interviewed i.e being poorer and hence not able to afford phones and severe financial restrictions that influenced non-attendance.

- There were trends that could be seen in some of the variables and with a larger number of patients been included in the study (over a longer period of time) several variables may have shown statistically significant results.

- Some interviews were conducted telephonically and others were conducted in face to face interviews (attendees and those non-attendees that had arrived to late to be attended to or on the incorrect day). Those that had been interviewed face to face seemed more open and gave more complete responses when compared to the patients that had been interviewed telephonically.

5.8 Recommendations

- Chris Hani Baragwanath Hospital is a large hospital covering 173 acres, consisting of 429 buildings with a total floor area of 233'785.19m^2 (www.chrishanibaragwanathhospital.co.za). There are several entrances used by patients to access the various departments within the hospital. It view of the fact that patients go to incorrect departments and then arrive at physiotherapy too late to be attended to it is suggested that the hospital improve signage in the hospital such that patients are able to find the correct department on time.

- Explore various ways of reducing the non-attendance rate and then re-evaluate its effectiveness example SMS reminders at least two days before the scheduled appointment such that the booking slot can be utilized effectively if the patient informs the physiotherapy department in advance that they will not be attending the scheduled appointment. Issuing of information leaflets to patients when the appointment is made including information on what physiotherapy is, the physiotherapy departments contact telephone numbers so that patients are able to re-schedule appointments in advance should there be unavoidable circumstances that would prevent patients from attending their scheduled appointment, directions to the physiotherapy department in relation to

the hospital as well as the procedure to follow such that patients arrive at the correct department and on time.

- Encourage patients to ensure that contact details are correct and updated if changed. This would aid in efficient telephonic reminders being provided to patients.

- At the point of setting the appointment, the administrator needs to explain clearly to the patient where they need to go for the appointment and if a physiotherapist is available at the time, (s)he must explain the purpose of physiotherapy. The attending physician and appropriate information leaflets can also contribute to increasing the understanding of the purpose of the treatment.

- Patients report having to wait to be attended by the clerk. This seemed to be a problem mostly at 10:00 when the clerk is on a tea break. A recommendation from this is to either have a second clerk cover the reception area whilst the clerk is on a tea or lunch break as well as educating reception staff to ensure that all patients that have appointments prior to or during a tea or lunch break are attended to prior to leaving the reception area. Reception staff should be educated on the importance of informing patients of times that (s)he is unavailable.

- Disseminating physiotherapy services in the communities so that patients are able to readily access this important service which would ultimately improve communities health status and reduce the burden of disease.

Chapter 6: CONCLUSION

The purpose of this study was to establish the extent and reasons for non-attendance to initial orthopaedic outpatient physiotherapy appointments at Chris Hani Baragwanath Hospital as well as determine predictors of non-attendance. New case attendees and non-attendees were interviewed over a two month period.

The findings of this study are similar to that of the limited research findings in local studies and although studies done internationally had similar reasons for non-attendance the rate of non-attendance was found to be much higher in this study when compared to studies done in developed countries. It was not within the scope of this study to examine the differing population groups with regard to health systems, sociodemographics and the countries infrastructure.

A non-attendance rate of 33% for initial appointments illustrates the extent of this problem which results in inefficiencies in operational functioning of systems. A combination of transport problems followed by forgetting about the appointment was the most common reason for non-attendance to initial appointments. Now that these reasons have been established systems can be put into place in an attempt to reduce this high rate of non-attendance and thus improve the efficiency of the physiotherapy outpatient department.

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Appendix 1: Ethical clearance

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG
Division of the Deputy Registrar (Research)

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
R14/49 Hasina Asvat

CLEARANCE CERTIFICATE	**M091027**
PROJECT	Adherence to Attending Appointments at CH Baragwanath Hospital Outpatient Physiotherapy Department
INVESTIGATORS	Hasina Asvat.
DEPARTMENT	Physiotherapy Department
DATE CONSIDERED	2009/10/30
DECISION OF THE COMMITTEE*	Approved unconditionally

Unless otherwise specified this ethical clearance is valid for 5 years and may be renewed upon application.

DATE 14/01/2010 **CHAIRPERSON** .....
(Professor PE Cleaton-Jones)

*Guidelines for written 'informed consent' attached where applicable
cc: Supervisor : Dr Mbambo

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University.
I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to a completion of a yearly progress report.**

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES...

Appendix 2: Permission from Chris Hani Baragwanath Hospital

Gauteng Department of Health

CHRIS HANI BARAGWANATH HOSPITAL

PERMISSION FOR RESEARCH

DATE: 06/01/2010

NAME OF RESEARCH WORKER: HASINA ASVAT

TITLE OF RESEARCH PROJECT ADHERENCE TO ATTENDING APPOINTMENTS AT CHRIS HANI BARAGWANATH HOSPITAL OUTPATIENT PHYSIOTHERAPY DEPARTMENT

OBJECTIVES OF STUDY (Briefly or include a protocol):

SEE ATTACHED PROTOCOL

METHODOLOGY (Briefly or include a protocol):

SEE ATTACHED PROTOCOL

CONFIDENTIALITY OF PATIENTS MAINTAINED: YES

COSTS TO THE HOSPITAL: NO

APPROVAL OF HEAD OF DEPARTMENT:

APPROVAL OF CRHS OF WITS UNIVERSITY: YES - ATTACHED

SUPERINTENDENT PERMISSION:

Signature: Mark. Date: 2010/01/29

Subject to any restrictions:

Appendix 3: Patient information sheet for attendees

PATIENT INFORMATION SHEET (2)

Hello. My name is Hasina Asvat and I am a physiotherapist working at Chris Hani Baragwanath Hospital Physiotherapy Department.

I am currently doing research looking at the attendance at first appointments in the general outpatient physiotherapy department. Taking part in this research will involve being interviewed. The interview should take about five minutes of your time. We will be interviewing patients who do attend their appointments as well as those that do not attend so that we are able to identify problems that patients experience as well as improve the service that we provide to the community. You will be asked some questions about the health condition for which you have been referred to physiotherapy.

Taking part in this research study is voluntary and no person will be advantaged or disadvantaged in any way from choosing to participate or not participate in the study. All of your information will be kept confidential and no information that could identify you would be used in the research report. You may choose to not answer any question should you choose to and may stop the interview at any stage should you wish not to continue any further.

Your participation in this research would be greatly appreciated. This information is important to us at the physiotherapy department in order for us to provide the best possible service to you as well as other clients that we offer a service to.

I thank you for your time.

If there are any questions or any other information that you may require please feel free to contact the researcher at Chris Hani Baragwanath Hospital Physiotherapy Department:

Hasina Asvat

011933-8309

082 624 848 7

Appendix 4: Patient information sheet for non-attendees

PATIENT INFORMATION SHEET (1)

Hello. My name is Hasina Asvat and I am a physiotherapist working at Chris Hani Baragwanath Hospital Physiotherapy Department. I have noted that you had an appointment booked at the physiotherapy department on the _____ and that you had not arrived for the appointment.

I am currently doing research looking at the attendance at first appointments in the general outpatient physiotherapy department. Taking part in this research will involve being interviewed over the telephone. We will be interviewing patients that have not attended their first physiotherapy appointment as well as those that do attend their appointments. This is to identify some of the reasons why patients do not attend appointments in order for us to improve the service that we at the physiotherapy department provide to the community.

You will be asked some questions about the health condition for which you have been referred to physiotherapy. The interview should take about five minutes of your time. Taking part in this research study is voluntary and no person will be advantaged or disadvantaged in any way from choosing to participate or not participate in the study. After the interview you will be offered another appointment should you wish to attend physiotherapy.

All of your information will be kept confidential and no information that could identify you would be used in the research report. You may choose to not answer any question should you choose to and may stop the interview at any stage should you wish not to continue any further.

Your participation in this research would be greatly appreciated. This information is important to us at the physiotherapy department in order for us to provide the best possible service to you as well as other clients that we offer a service to.

I thank you for your time.

If there are any questions or any other information that you may require please feel free to contact the researcher at Chris Hani Baragwanath Hospital Physiotherapy Department:

Hasina Asvat

011933-8309

082 624 848 7

Appendix 5: Consent form

Consent form (2)

I _____ freely and voluntarily consent to participating in a research project under the direction of Hasina Asvat by participating in an interview.

I understand that I may withdraw my consent and that I may discontinue my participation in this research at any time without prejudice to me. I also understand that I may refuse to answer particular questions during the interview.

I have been assured that my name will not be associated with any of the results and findings of this study.

_____ _____

Signature (participant) Date

Appendix 6: Interview schedule for attendees

DATA COLLECTION SHEET (Attendees)

A. DEMOGRAPHIC DATA

Date of appointment: _____ Time of appointment:_____

Referral source: _____

QUESTIONNAIRE

SECTION A: PERSONAL DETAILS

To be completed by the physiotherapist

Tick the appropriate option

1. **Gender:** Male | Female

2. **Age of patient**: _____ years.

3. **Diagnosis:** _____

4. **Highest level of education completed:**

   ☐ Never attended formal schooling

   ☐ Primary school

   ☐ Junior Secondary (Completed standard 8/Grade 10)

   ☐ Senior Secondary (completed standard 10/Grade 12)

   ☐ Tertiary education (university, technikon)

   ☐ Postgraduate qualification

SECTION B: LENGTH OF TIME SINCE ONSET OF SYMPTOMS

How long do you have the problem that you are attending physiotherapy for? _____.

SECTION C: KNOWLEDGE ABOUT PHYSIOTHERAPY

1) Have you been told the reason why you have been referred to physiotherapy?

Yes	No

2) Do you know what physiotherapy is?

_____

_____

3) Do you think that it is necessary for you to attend physiotherapy?

Yes	No	**Don't know**

SECTION D: SEVERITY OF SYMPTOMS:

4) How has your condition been since the time that you have been referred to physiotherapy? Has it:

- ☐ Gotten better
- ☐ Stayed the same
- ☐ Worsened

5) What effect does your condition have the activities that you need to do everyday? Has it had a:

- ☐ Slight impact on doing daily activities
- ☐ Moderate impact on doing daily activities
- ☐ Severe impact on doing daily activities.

6) Would you say in general your health is:

- ☐ Excellent,
- ☐ Very good,
- ☐ Fair
- ☐ Poor

7) Do you have any suggestions on ways that we could improve the physiotherapy service at Chris Hani Baragwanath Hospital?

_____
_____
_____
_____
_____.

Appendix 7: Interview Schedule for non-attendees

DATA COLLECTION SHEET (non-attendees)

B. DEMOGRAPHIC DATA

Code No.: ____

Date of missed appointment: _____ Time of missed appointment:_____

Referral source: _____

Consents to participate in survey	Do not want to participate in survey

SECTION A: PERSONAL DETAILS

To be completed by the physiotherapist

Tick the appropriate option

1. **Gender:** | Male | Female |

2. **Age of patient**: _____ years.

3. **Diagnosis:** _____

4. **Highest level of education completed:**

- ☐ Never attended formal schooling
- ☐ Primary school
- ☐ Junior Secondary (Completed standard 8/Grade 10)
- ☐ Senior Secondary (completed standard 10/Grade 12)
- ☐ Tertiary education (university, technikon)
- ☐ Postgraduate qualification

SECTION B: ATTENDANCE OF PHYSIOTHERAPY

5. How long do you have the problem that you are attending physiotherapy for? _____.

SECTION C: KNOWLEDGE ABOUT PHYSIOTHERAPY

6. Have you been told the reason why you have been referred to physiotherapy?

Yes	No

7. Do you know what physiotherapy is?

_____

_____

8. Do you think that it is necessary for you to attend physiotherapy?

Yes	No	**Don't know**

SECTION D: SEVERITY OF SYMPTOMS:

Tick the most appropriate response:

9. How has your condition been since the time that you have been referred to physiotherapy? Has it:

☐ Gotten better

☐ Stayed the same

☐ Worsened

10. What effect does your condition have on the activities that you need to do everyday? Has it had a:

    ☐ Slight impact on doing daily activities

    ☐ Moderate impact on doing daily activities

    ☐ Severe impact on doing daily activities.

11. Would you say in general your health is:

    ☐ Excellent,

    ☐ Very good,

    ☐ Fair

    ☐ Poor

12. Do you have any suggestions on ways that we could improve the physiotherapy service at Chris Hani Baragwanath Hospital?

_____

_____

_____

_____

_____.

E. THE FOLLOWING QUESTION IS FOR NON ATTENDEES ONLY.

13. Can you provide a reason/s for not attending the scheduled physiotherapy appointment?

Tick the most appropriate reason:

- ☐ Did not know about appointment made
- ☐ Forgot about the appointment
- ☐ Inconvenient time of the day
- ☐ Did not see the need for physiotherapy
- ☐ Ill on the day of the appointment
- ☐ Bad weather on the appointment day
- ☐ No longer living in the area
- ☐ Could not afford to pay the physiotherapy fees
- ☐ Family problems eg. Had to look after child or family member
- ☐ Problem with time off work
- ☐ Was too busy at work
- ☐ Felt previous treatment was not helping
- ☐ No longer needed treatment because problem has now settled down
- ☐ Had another appointment at the hospital/clinic on that day
- ☐ Had other arrangements planned on the appointment day
- ☐ Went elsewhere for treatment
- ☐ Clerical problem eg. Error in booking of patient in the diary

Transport:

- ☐ Did not have money to come to the hospital
- ☐ Did not have access to transport to come to the hospital
- ☐ General transport problems eg. Taxi strike, car broke down

Other:_____

- Is a subsequent physiotherapy appointment made:

Yes	No

Additional comments:_____
_____

APPENDIX 8

DATA COLLECTION SHEET (non-attendees) – translated into Tswana

C. DEMOGRAPHIC DATA

Code No.: ____

Date of missed appointment: _____ Time of missed appointment:_____

Referral source: _____

Consents to participate in survey	Do not want to participate in survey

SECTION A: PERSONAL DETAILS

To be completed by the physiotherapist

Tick the appropriate option

1. **Gender:** | Male | Female |
2. Dijara
3. O tshwere ke eng?
4. O feletsi mo standard mang ko sekolong

SECTION B

5. O na le nako e kae o tshwerwe ke bolwetsi bo bo dirileng gore o romelwe mo physiotherapy

SECTION C

6. Ba goboleletse goreng o tshwanetse go tla mo physiotherapy

7. A waitse gore ke eng physiotherapy

8. A o bona go le bohlokwa gore o tle mo physiotherapy

SECTION D

9. O ikutlwa o le jwang fa e sale o tsmaya mo physiotherapy

☐ O betere / go a tshwana / go worse

10. Bolwetse bo bogokgoreletsa jwang mo ditirong tsa mo gae

Ganyane / betere / thata fela

11. O ikutlwa o le jwang mo mmeleng?

Betere thata thata

Betere

Botokwa

Bofokala

12. O ka re bolelela gore re ka dira jwang tirelo ya rona ya physiotherapy mo Bara gore e be botokwa.

SECTION E

13. Se se dirileng gore o sa kgone go tla mo appointmenteng ya physiotherapy ke eng?

APPENDIX 9

DATA COLLECTION SHEET (non-attendees) – translated into Zulu

D. DEMOGRAPHIC DATA

Code No.: ____

Date of missed appointment: _____ Time of missed appointment:_____

Referral source: _____

Consents to participate in survey	Do not want to participate in survey

SECTION A: PERSONAL DETAILS

To be completed by the physiotherapist

Tick the appropriate option

1. Gender: | Male | Female |

2. U neminyaka emingakhi

3. u phethwe yini

4. u phelele ku si standard bani e sikolweni

SECTION B

5. U qale nini ukuba nenkinga le e yenze ukuthi ba kuthumele e physiotherapy

SECTION C

6. Ba kutshelile ukuthi yini ba kuthumele e physiotherapy

7. U yazi ukuthi yini , physiotherapy

8. U bona kufanele ukuthi uze e physiotherapy

SECTION D

9. Impilo yakho u yibona injani manje

Ubona ubangcono okanye kuba worse

10. Lo ku gula kwakho ku kuvimbela ka ngakanini emisebenzi o yenza njalo

Kancani / kangcono/ ka khulu

11.U ngasitshe ukuthi impilo yakho ijani

Inhle ka khulu-ka khulu / inhle ka khulu / a yikho nhle

12. Unga sitshela ukuthi siwenze njani ukuthi umsebenzi wethu wa la physiotherapy e Bara u be ngcono.

SECTION E

13.U ngasitshela isizathu so kuthi u ngaphumelelanga ukuza nge appointment yakho ya se physiotherapy

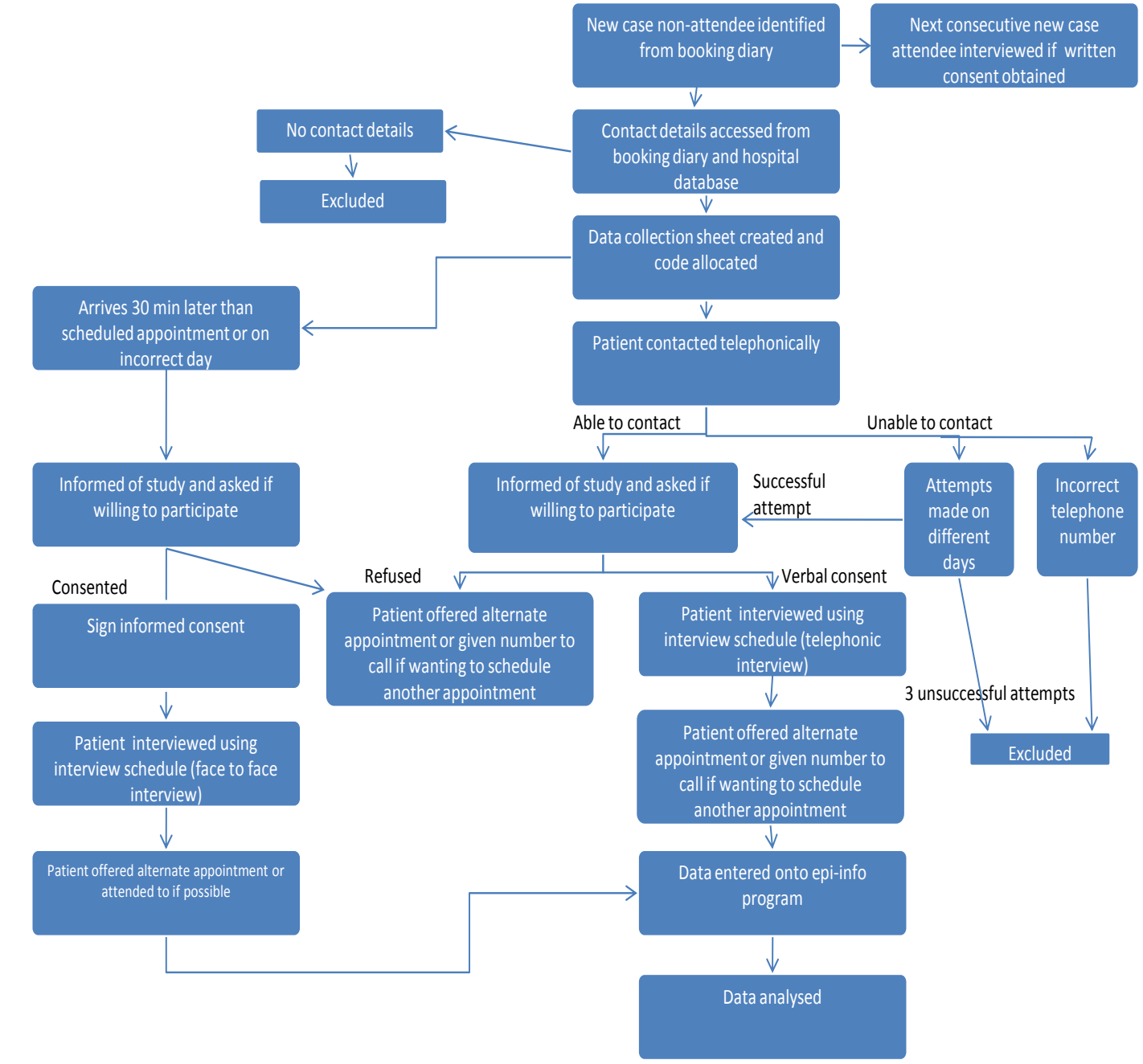
Appendix 10: Data collection sheet for non-attendees

Data collection sheet

This page is to be kept in a safe place and is only for the purposes of this study

Code No.	Patients Name and Surname	Hospital Number	Contact telephone number	Consent obtained (signature of 2 witnesses)		Remarks
1.						
2.						
3.						
4.						
5.						
6.						
7.						

Appendix 11


New case non-attendee identified from booking diary
Next consecutive new case attendee interviewed if written consent obtained
No contact details
Contact details accessed from booking diary and hospital database
Excluded
Data collection sheet created and code allocated
Arrives 30 min later than scheduled appointment or on incorrect day
Patient contacted telephonically
Able to contact
Unable to contact
Informed of study and asked if willing to participate
Informed of study and asked if willing to participate
Successful attempt
Attempts made on different days
Incorrect telephone number
Consented
Refused
Verbal consent
Sign informed consent
Patient offered alternate appointment or given number to call if wanting to schedule another appointment
Patient interviewed using interview schedule (telephonic interview)
3 unsuccessful attempts
Patient interviewed using interview schedule (face to face interview)
Patient offered alternate appointment or given number to call if wanting to schedule another appointment
Excluded
Patient offered alternate appointment or attended to if possible
Data entered onto epi-info program
Data analysed

Appendix 12

Conceptual Audit Trail for qualitative data

Nature of raw data	• Interviews of attendees and non-attendees
↓	
Analysis of data	• Read through all interview schedules • Collate all responses to open ended questions • Attribution of statements to categories • Formulation of themes
↓	
Outcomes	• What is physiotherapy? - Common themes from attendees and non-attendees (exercise, improve mobility, massage, bone treatment, reduce pain) - Themes from attendees only (improve muscle function, treat muscle problems, prevent complications, improve strength, rehabilitation)
	• Suggestions for service improvement – summary as per themes - Common themes for attendees and non-attendees (reduce waiting times, increase frequency of treatment) - Theme from attendees only (reduce waiting list)