

***PATIENT SATISFACTION AT THE DURBAN INSTITUTE  
OF TECHNOLOGY CHIROPRACTIC DAY CLINIC***

Mini-dissertation in partial compliance with the requirements for the Masters Degree in Technology: Chiropractic, in the Department of Chiropractic at the Durban Institute of Technology.

by

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I, Bruce Thoresen, declare that this dissertation represents my own work, both in conception and execution.

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**This dissertation is dedicated to my parents, my family away from home and to Pierre. Their unfailing support has helped me through the most challenging times.**

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## **ABSTRACT**

Patient satisfaction is an important, desired measure of quality of care and has a significant influence on the perceived quality of care and outcome of treatment, and for this reason, it holds great value to the treating clinician. Satisfied patients are more likely to comply with treatment instructions and advice, remain with their service provider and refer others. Dissatisfaction, in the event of an unfavourable outcome, can result in legal action and complaints to regulatory bodies.

Studies have indicated a high level of satisfaction with chiropractic care; however, none have been in a student clinic setting even in view of the suggested importance in the literature. In view of this significance and lack of understanding of the patients' satisfaction / dissatisfaction in the history of DIT's clinic operation the question remains as to what extent the students at the DIT Chiropractic Day Clinic satisfy their patients.

This study evaluated the patient satisfaction at the DIT Chiropractic Day Clinic in order to establish a baseline for future comparison. Cronbach's alpha scores were used to determine questionnaire reliability in a South African student context.

A questionnaire-based survey, evaluating patient satisfaction of 303 English literate patients in the D.I.T chiropractic clinic by methods of convenience sampling was conducted. The data was collected by means of questionnaire completed either in the clinic reception area after the consultation, at which consent was obtained, or taken home and returned at a following visit or via a prepaid, selfaddressed envelope.

The results of this study were based on the mean response range possibilities 1.0 (Strongly agree) to 5.0 (Strongly disagree). There was a high degree of satisfaction overall ranging from a mean of 1.99 (humaneness) to 1.53

(communication). Participants were less satisfied with the finance (1.78) and intern conduct scales (1.76) than with general satisfaction (1.55).

Reliability as measured by Cronbach's alpha was moderate in the scales, to low in the subscales. The alpha value was highest in the total satisfaction score (computed using all the items in the questionnaire). The finance scale showed a low level of reliability (0.3140).

The results of this study indicate that patients attending the DIT Chiropractic Day Clinic report a high degree of satisfaction with the care they received. It has also shown chiropractic to be an effective form of intervention with 82% of the participants reporting an average to complete improvement in their condition. Patients expressed great satisfaction with the treating interns' communication skills. Finally, this study has highlighted the effect cost of care has on finance satisfaction ratings, both between the public and the DIT clinic, as well as internally between fifth and sixth year interns.

Future research should examine the patient satisfaction questionnaire more closely as internal reliability for the finance scale and communication subscale were not satisfactory, although the finance scale reliability could be explained as the result of uncertainty between participants and their medical aid providers.

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# **Chapter 1**

## **Introduction**

### **1.1 Introduction**

It is important for health care facilities such as chiropractic clinics, to regularly evaluate the levels of patient satisfaction, in order to achieve and maintain high levels of patient care (Harris, Swindle and Mungai 1999).

In this respect patient satisfaction is the fulfillment the patient gets from the treatment process as a whole and not only from the perceived “successes” of the treatment. Factors that have been shown to influence patient satisfaction include; satisfaction with overall care, satisfaction with last visit, preference for care, duration of treatment, convenience, personal aspects of care, technical quality, accessibility and availability of care, continuity of care, financial arrangements and fee schedule, physical setting and finally, perceived efficacy (Yeomans 2000; Lin et al. 2001).

Thus “Patient Satisfaction Questionnaires” (PSQ’s) are helpful tools in this regard (Verhoef, Page and Waddell 1997). A number of researchers have used PSQ’s in professional clinical environments (Sawyer and Kassak 1993; Verhoef, Page and Waddell 1997; Grogan et al. 2000). The results suggest that maintaining a high level of patient satisfaction can result in many benefits, both on the part of the patient and the service provider. Patient compliance with rehabilitative exercises and advice is increased with higher levels of patient satisfaction (Sawyer and Kassak 1993) which favours the patients’ outcome (Reid 1992). Satisfied patients are more likely to return for future treatments should they be ill and are more likely to refer other patients to the clinic, while dissatisfaction with the care received is the initiating factor for patients to seek other forms of care

(Coulter, Hays and Danielson 1994). Dissatisfied patients may initiate actions against their doctors such as lawsuits and complaints to regulatory bodies, while satisfaction with care may prevent litigation should the treatment outcome have been unsatisfactory (Sawyer and Kassak 1993; Levinson et al. 1997, Adamson et al. 1989).

Research has revealed satisfaction with chiropractic care to be high and at times superior to other forms of health care, which is particularly true when it comes to low back pain and the management thereof (Sawyer and Kassak 1993; Verhoef, Page and Waddell 1997; Manga, Angus and Swan 1993).

Therefore, maintaining a high level of satisfaction should be the goal of every chiropractic clinic. With the use of satisfaction questionnaires, this goal can be met and can allow for a high standard of health care to be offered at the DIT Chiropractic Day Clinic. This is particularly pertinent, as in the ten years of its existence, no such evaluation has been conducted at the Durban Institute of Technology Chiropractic Day Clinic. A study of this nature will help to establish a baseline measure of patient satisfaction and highlight areas of the clinic and chiropractic curriculum that need refinement.

The aim of this study is therefore to assess the current level of patient satisfaction at the DIT Chiropractic Day Clinic.

## 1.2 Aims of the Study

The aim of this study is to determine the level of patient satisfaction at the Durban Institute of Technology Chiropractic Day Clinic and to determine the reliability of the PSQ in a South African student context.

The **first objective** was data collection and documentation with respect to:

- Patient demographics
- Satisfaction questionnaire responses

The **second objective** was to interpret the data and determine any relationships between the various factors documented in objective one.

The **third objective** was to establish reliability of the questionnaire in a South African student context with the use of the Chronbach's alpha score.

With regard to the above objectives, it could be hypothesized from the available literature that:

- In general, satisfaction with chiropractic care will be high (Verhoef, Page and Waddell 1997).
- Women will be more satisfied than men (Sawyer and Kassak 1993).
- Older people will be more satisfied than younger people (Coulter, Hays and Danielson 1994 ; Grogan et al. 2000).
- Patients reporting moderate to significant improvement will be more satisfied than patients reporting none to slight improvement (Verhoef, Page and Waddell 1997).
- Patients with none/slight improvement receiving treatment for more than six weeks will show higher levels of satisfaction than those reporting similar improvement, but have been receiving treatment for fewer weeks (Verhoef, Page and Waddell 1997).

- Patients who will be reimbursed by their medical aid will be more satisfied with the financial aspects of the questionnaire than those not receiving reimbursement (Hughes 1991; Donabedian 1988).

### **1.3 Rationale for the study**

1. A review of literature suggests that no such research has been done at the DIT Chiropractic Day Clinic. Such research will help to establish baseline levels of patient satisfaction which at a later date can be used to compare with more recent evaluations.
2. A valid satisfaction questionnaire that can be used in the South African student context may be introduced. This can then be used to assess similar institutions offering chiropractic programmes.
3. The structure of the questionnaire with the scales and subscales can specifically highlight areas in the clinic that need refinement.

### **1.4 Limitations of the study**

For the purposes of this study, the researcher assumes that all information given by the participants is an accurate reflection of the patients' reality when they complete the questionnaires. However, factors may affect the responses of the participants altering the accuracy of the data. This is discussed in further detail in 4.1.3.

### **1.5 Conclusion**

This chapter briefly summarised the literature, highlighting the area of study in this research, and presented the objectives and hypotheses along with the rationale behind the study, as well as the inherent limitations of the study.

In order to proceed with the presentation of this study, Chapter Two will discuss a detailed review of the literature pertinent to the study, with Chapter Three detailing the material and methods used to structure the design of this research. Chapter Four then presents the results obtained and the discussion of these results within the context of the literature. Conclusions will be drawn in Chapter Five and recommendations based on the study outcome will be presented thereafter, thereby concluding the study.

## Chapter 2

### Review of Literature

#### 2.1 Introduction

The Medical Outcomes Study (Tarlov et al. 1989) delineated four variables or measures that can be used to determine the outcome of medical care:

- clinical end points
- functional status
- general well-being
- satisfaction with care

Patient satisfaction is an important, desired measure of quality of care (Donabedian 1988; Yeomans 2000; Salomon et al. 1999; Labarere et al. 2001; Kassak and Sawyer 1993) and has a significant influence on the perceived quality of care and outcome of treatment (Hudak and Wright 2000). For this reason, it holds great value for the treating clinician even though some remain sceptical as to its usefulness (Hudak and Wright 2000). Satisfaction being included as “part of the total package” of quality of care and outcome has long been established, and without it there cannot be good care (Yeomans 2000).

An outcome, as defined by Donabedian (1992) in his paper entitled “The Role of Outcomes in Quality Assessment and Assurance”:

**“... we will define outcomes as states or conditions of individuals and populations attributed or attributable to antecedent health care. They include changes in health states, changes in knowledge or behaviour pertinent to future health states, and satisfaction with health care (expressed as opinion or inferred from behavior).”** (Yeomans 2000 citing Donabedian 1992).



Although some studies have used both subjective and objective measures for outcome studies, the focus has been on the latter where physical measures (e.g. range of motion, straight leg raise and other orthopaedic tests) are used to evaluate patient outcomes (Tarlov et al. 1989). The use of physical measures, however, come with their own difficulties and can lack reliability and validity, resulting in an increasing number of controlled clinical trials that use subjective measures (general well-being, and satisfaction with care) to determine patient outcomes (Triano et al. 1993).

## **2.2 Patient satisfaction**

### **2.2.1 Definition**

Hudak and Wright (2000) and Cho (2004) have highlighted several studies that show a lack of clarity on the meaning of satisfaction and its relation to other measures. This lack of clarity has been considered as one of the major weaknesses in this field of study (Hudak and Wright 2000; Cho 2004; Sitzia 1999).

Satisfaction, as cited by Asadi-Lari, Tamburini and Gray (2004), can be defined as the extent of an individual's experience compared with his or her expectations, and patient satisfaction is related to the extent to which general health care needs and condition-specific needs are met. Satisfaction is dynamic and changes as the patients' medical condition or expectations change, even though the care received may have remained constant (Goldstein, Elliot and Guccione 2000; Cho 2004).

### 2.2.2 Why measure patient satisfaction?

Apart from being a variable used to evaluate medical care outcomes, patient satisfaction evaluation helps the practitioner determine the extent to which their service meets the needs of the public (Avis, Bond and Arthur 1995; Donabedian 1988). Labarere et al. (2001) argue that assessing patient perception is an important source of information for identifying problems from which corrective plans of action can be developed. It is also true that the patient is in the best position to evaluate the services of medical providers (Kassak and Sawyer 1993).

Hudak and Wright (2000) states that “satisfied and dissatisfied patients behave differently”. Evaluating and maintaining patient satisfaction in a clinic environment is important for a number of reasons. Dissatisfied patients, or the public influenced by such patients, are less likely to seek the care they need during illness, and may thus go without proper treatment. Satisfied patients are more likely to comply with treatment instructions and advice (Kassak and Sawyer 1993; Goldstein, Elliot and Guccione 2000; Hughes 1991; Yeomans 2000; Hudak and Wright 2000; Campbell 1999; Gemmel and Hayes 2001 citing Counte 1979) such as rehabilitative exercise, which is likely to improve the chances of a favourable outcome (Reid 1992). Coulter, Hays and Danielson(1994) state that dissatisfaction with allopathic physicians is the initiating factor for patients to seek chiropractic care; while satisfaction influences whether the patient stays with the chiropractor (Sawyer and Kassak 1993), refers other patients and has a positive outcome of care. Dissatisfied patients, in the event of an unfavourable outcome, may initiate actions against their doctors, such as lawsuits or complaints to regulatory bodies (Sawyer and Kassak 1993; Levinson et al. 1997).

Patient satisfaction has been linked to financial performance (Yeomans 2000). Goldstein, Elliot and Guccione (2000) argue that satisfied patients are more likely to remain loyal to their provider, thereby providing economical benefits. He also

notes that the possibility of word-of-mouth referral is increased, resulting in an increased patient pool. Conversely, dissatisfied patients voicing their dissatisfaction in the community may result in potential patients seeking alternative service providers or forms of intervention.

Lastly, Hughes (1991) cites that “Satisfied patients also tend to improve the quality of the work experience for providers, reducing staff turnover and burnout.”

### 2.2.3 Factors affecting patient satisfaction

Many studies have revealed how satisfaction domains (e.g. Satisfaction with overall care, satisfaction with the last visit, preference for care, convenience, accessibility, financial burden of treatment, physical settings, perceived efficacy, competence, interest, wait and treatment time, staff courtesy etc) affect patient satisfaction (Yeomans 2000, Lin et al. 2001). Yeomans (2000) makes note of several patient satisfaction studies in **Table 9-6, page 126** (Appendix H), revealing the following satisfaction domains:

Interest, competence, time spent, finances, humaneness, explanations, quality of care, efficacy of use, physician’s authority, information, wait time, accessibility, physician’s personality, fees, listening, thoroughness, physician-patient relationships, physician’s competence, communication, physicians and nurses “handling”, admitting procedures, symptom improvement, continuity of care, staff courtesy, general satisfaction, office practice, expectation fulfillment, compliance, physician’s interest, symptom relief, understanding, staff relations, nurse care, confidence in physician, quality of prenatal and obstetric care in hospital and on follow-up, concern, treatment outcome, interaction with physician and staff, satisfaction with ancillary services (lab and x-rays), physician’s personal interest and competence, access to care, exam thoroughness, compliance intent and lastly, general satisfaction with medical care.

Goldstein, Elliot and Guccione (2000) argues that the domains to include in a satisfaction questionnaire remain a difficult task. However, based on Donabedian's indicators of quality (1988), studies have shown that administrative technical management, clinical technical management, interpersonal management and continuity of care are the key domains defining patient satisfaction which is further supported by several patient satisfaction survey instruments currently in use (Goldstein, Elliot and Guccione 2000 citing Alexandria 1995).

### 2.2.3.1 Sociodemographic variables

Sociodemographic variables are related to the kind of health care experiences the patients have and interpretation thereof (Hughes 1991). However, they account for only a small amount of variance in satisfaction (Coulter, Hays and Danielson 1994 ).

**Age:** Studies have shown that older people are generally more satisfied with medical care than younger people (Coulter, Hays and Danielson 1994 ; Grogan et al. 2000).

**Gender:** Hughes (1991) argues that most studies find no relation between gender and satisfaction. However contradicting reports of satisfaction being higher in men (Coulter et al.1994) and higher in women exist (Sawyer and Kassak 1993; Hughes 1991 citing Lieberman et al. 1989).

**Race:** Satisfaction differences between whites and blacks remain inconclusive (Hughes 1991) although Coulter, Hays and Danielson (1994) are of the opinion that satisfaction is higher in whites.

Education: Satisfaction difference between people of different levels of education remains inconclusive (Hughes 1991).

Income: Hughes cites several studies indicating that “poor people have poorer health, receive poorer health care, have less continuous relations with doctors, and have harder times getting appointments. They are also treated differently from privately insured patients to some degree. Consequently, they tend to be less satisfied.” Similarly, Coulter, Hays and Danielson (1994) is of the opinion that more satisfied patients are of a higher income group while results of Sawyer and Kassak (1993) showed higher dissatisfaction in patients reporting a lower income.

#### 2.2.3.2 Organisation of care

Hughes (1991) argues that “the most consistent finding of satisfaction research is that the provider and organisational characteristics which result in more “personal” care and better communication are associated with higher levels of satisfaction.”

Doctors, nurses, staff: Satisfaction with ambulatory care is attributable to satisfaction with one’s physician, while satisfaction with inpatient experience has more to do with quality of staff (Hall and Dornan 1988). Satisfaction with the practitioner can be broken into two elements: technical and interpersonal (Donabedian 1988; Tarlov *et al.*1989; Hughes 1991). Patients tend to place an emphasis on the interpersonal relationship when evaluating nurses and other staff (Hughes 1991).

- Continuity of care: Hughes (1991) cites several studies indicating the doctor-patient relationship as a strong predictor of satisfaction. The longer the patient has been under the care of a particular provider, the more likely he is to be satisfied. This idea is supported by the observation made by Verhoef, Page and Waddell (1997). Patient satisfaction increased with ongoing treatment (more than six weeks) which, however, was not associated with pain resolution. The improvement was thought to be attributed to the development of an intimate doctor-patient relationship.
- Waiting: Hughes (1991) cites that people don't like to wait for an appointment or wait in the waiting room after they arrive for an appointment. Hence patients tend to be more dissatisfied with increased wait time.
- Convenience: Hughes (1991) states that patients prefer being able to park close to the facility, walk through a safe neighbourhood and find the appropriate room easily. Increased convenience is linked to increased satisfaction.
- Billing: Hughes (1991) argues that people dislike out-of-pocket costs and deductibles (e.g. needles, x-ray/ultrasound investigation, blood tests), particularly if they are to be paid at the site of care, resulting in dissatisfaction (Hughes 1991 citing Dolinsky and Caputo 1990).
- Consultation time: Studies have shown that patient satisfaction is increased if the anticipated consultation time is exceeded by the physician. This could be attributed to the comfort level the patient feels in discussing their concerns (Lin et al.

2001). The length of consultation time has been shown to be an important variable between provider and patient with respect to interpersonal communication (Hughes 1991).

#### 2.2.3.3 Interpersonal aspects of care

Hughes (1991) cites several studies that discuss the interpersonal aspect of care and how patients prefer doctors to listen, ask many questions, answer a lot of questions and explain things in an understandable way. A study conducted by Deyo and Diehl (1986) revealed that the most common source of dissatisfaction in patients was the reported failure to receive adequate information or explanation of pain. This opinion is shared by Hudak and Wright (2000), Cherkin and MacCornack (1989) and Visser (1989). Further, in a study comparing outcomes and cost of care between primary care practitioners, chiropractors and orthopaedic surgeons, it was found that patients of chiropractors reported greater satisfaction in the area of history taking, examination and explanations than the other providers' patients (Carey et al. 1995). Communication, or lack thereof, may result in unrealistic outcome expectations which are subsequently not met. When this occurs, according to our definition, satisfaction with the treatment is low and malpractice claims become a possibility (Adamson et al. 1989).

#### 2.2.3.4 Technical quality of care

Hughes (1991) argues that there is a “trade-off” between technical quality and interpersonal “humanism” among physicians and between physicians and paraprofessionals.

General practitioners score more highly on interpersonal aspects when compared to specialists. Similarly, nurses, midwives and assistants score highly with patients although being less skilled. Hughes states that patients' perception

of actual competence is weakly related to actual competence (Hughes 1991 citing Johnson et al. 1988). Cho (2004); Asadi-Lari, Tamburini and Gray (2004); Goldstein, Elliot and Guccione (2000) and Donabedian (1988) argue that for some, technical competence is often difficult to evaluate as the patient lacks adequate expertise and skill to make such a judgement and is perhaps easily influenced by non-medical factors such as care providers' compassion and empathy, bedside manner, responsiveness and co-ordination of care.

#### **2.2.3.5 Outcome of treatment**

A positive treatment outcome is the desire of any patient seeking care, whether in the form of pain reduction, joint mobility improvements or even seeking a valid explanation for the state of their health. It has been reported that treatment outcome is an important factor predicting patient satisfaction (Sawyer and Kassak 1993; Verhoef, Page and Waddell 1997) with patients tending to be more satisfied if they had a positive outcome.

### **2.3 Studies evaluating patient satisfaction**

Research on patient satisfaction has climbed steadily over the last few decades from 111 in 1978 (Coulter, Hays and Danielson 1994 citing Ware et al. 1978) to 221 in 1988 (Hall and Dornan 1988). In 1994 alone, 195 papers regarding the assessment of patient satisfaction were found. This number excluded (Sitzia 1999):

- a) Papers that did not report an assessment of user satisfaction.
- b) Satisfaction questionnaire development papers.
- c) Papers that could be interpreted as satisfaction-related, but in which satisfaction was not identified as the construct.



This report supports the growing increase of patient satisfaction studies, however, Sitzia did conclude that more testing was required on a majority of the survey instruments as they were lacking credibility.

Deyo and Diehl (1986) conducted a satisfaction assessment on 160 patients presenting with low back pain of which 70% was acute pain. Of the 140 patients that gave completed responses, the major questions raising indication of dissatisfaction were: "Do you feel you had an adequate explanation of what was wrong?" (24.5%) and to a related question where it was indicated that they did not understand what was wrong (22.3%).

In a study comparing patient evaluations of low back pain care between physicians and chiropractors, Cherkin and MacCornack (1989) found that patients of chiropractors were three times as likely to report that they were very satisfied with the care they received when compared to patients of physicians. It was also noted that chiropractic patients were more likely to be satisfied with the information given to them, to have perceived concern from their provider, and to have felt that their provider was confident and comfortable in diagnosing and treating their complaint. A larger number of patients of physicians (46%) believed that their provider could have done more to help them when compared to chiropractic patients (15%).

A study conducted by Hurwitz (1994) on 103 chiropractic patients and 187 medical patients who sought treatment in 1990 for low back pain revealed that chiropractic patients were twice as likely to perceive their treatment as successful. Although not a study of patient satisfaction, it did concur with previous studies that showed chiropractic patients were more likely to be satisfied with their treatment than medical patients (Cherkin and MacCornack 1989; Meade et al. 1990).

In a similar respect Coulter et al. (1994) designed a 14-item satisfaction questionnaire which was administered to a sample of 486 patients of 44 chiropractors in California, USA. On a scale of 0 – 100, the mean score for satisfaction was 89.93 (SD 10.66) with a range of 50 – 100. The average rating for individual chiropractors ranged between 81 and 97 on the 0 – 100 scale. This is in congruence with Carey et al. (1995) who conducted a prospective study of 1555 patients with acute low back pain (LBP) presenting to various medical and CAM (complementary and alterative medicine) practitioners. Of those subjects who consulted chiropractors, 42.5% regarded the overall results or treatment for LBP to be “excellent”. It was also highlighted that the major difference in patient satisfaction with chiropractic treatment was in the quality of the doctors’ “history taking, examination, and explanation of the problem during the visit”.

According to Verhoef, Page and Waddell (1997), few studies have evaluated patient satisfaction with chiropractic care. Sawyer and Kassak (1993) conducted a study on 541 patients between June 1988 and August 1989. Their objective was to determine the attitudes of the patients towards the chiropractic treatment they received, as well as to identify patient characteristics that could predict satisfaction. The survey tool used was a questionnaire comprised of four scales and 32 attitude statements, which were patterned after patient satisfaction questionnaires used in the Rand Health Insurance Study (Ware et al. 1978) and the Medical Outcomes Study (Tarlov et al. 1989). The results revealed a high satisfaction among the patients with the care they received, particularly if they had greater improvement in their condition and good accessibility to the clinic. Less satisfaction was reported by patients who had slight or no improvement in their condition, had concerns with the financial aspects, reported a lower income, lack of medical aid coverage or their treatment outcome expectations were not met.

Verhoef, Page and Waddell (1997), like Sawyer and Kassak (1993), used the same questionnaire as well as a visual analogue scale (VAS) for pain rating and

a revised Oswestry Low Back Pain Disability Questionnaire and the Neck Disability Index (NDI) for functional ability assessment. His study included 369 patients from Canada. His results mirrored those of Sawyer and Kassak (1993).

In addition to this a study was conducted in the latter half of 2000 in Canada by McBride and Boudreau; the aims were to determine patient satisfaction at the Archie McCallum Hospital at Canadian Forces Base Halifax. The tool used was the 1993 questionnaire by Sawyer and Kassak. However, the financial questions had been omitted as members of the Canadian Forces were not required to pay for any medical services (including chiropractic). Results showed high satisfaction scores for all scales and subscales. Cronbach's alpha was high for all scales (0.7166 – 0.8532) indicating internal consistency. One of the questions (Question 6: I had to wait a long time before I could see this chiropractor for my first visit) had been omitted due to low Cronbach's alpha score. This indicates the possibility of other studies having similar question reliability issues, possibly from interpretation of the questions or from other inter-cultural factors.

The above discussion represents a synopsis of the few studies that have evaluated patient satisfaction with chiropractic care (Verhoef, Page and Waddell 1997).

Thus it is evident from the above literature review, that evaluating patient satisfaction is an important part of evaluating health care and the quality thereof. The DIT Chiropractic Day Clinic has been operating since 1993 (Korporaal 2003) and has to date provided care for over 25690 individual patients. The clinic provides a controlled, supervised environment in which the chiropractic students are able to gain the necessary practical experience prior to qualification. Importantly however, it provides a service to the general population, primarily of the greater Durban area.

Studies (Sawyer and Kassak 1993; Verhoef, Page and Waddell 1997 ; McBride and Boudreau 2000) have indicated a high level of satisfaction with chiropractic care; however, none have been in a student clinic setting. Because no such study has ever been conducted in the history of DIT's clinic operation the question remains to what extent the students at the DIT Chiropractic Clinic satisfy their patients? Therefore, the aim of this study is to assess patient satisfaction at the DIT Chiropractic Day Clinic and the use of Cronbach's alpha scores to determine questionnaire reliability in a South African student context.

## **Chapter 3**

### **Methodology**

#### **3.1 Introduction**

This chapter deals with the research methodology utilized and the collection of data. The statistical analysis process is also discussed.

#### **3.2 Study design**

##### **3.2.1 Sample**

This study was a prospective, non-intervention, questionnaire-based survey, evaluating patient satisfaction of 303 English literate patients in the D.I.T Chiropractic Day Clinic by methods of convenience sampling.

##### **3.2.2 Selection procedure**

A sample of 303 valid questionnaires was used to accurately represent the population of patients attending the DIT Chiropractic Day Clinic.

Potential participants were approached by the researcher in the clinic reception waiting room and included both new and follow-up patients. Interested patients had the research procedure explained to them and were given a letter of information (Appendix B) to read, further explaining the details of the research. Any questions regarding the research were answered; following this, a consent form (Appendix A) for participation in the research study was signed by the patient.

Participation in the study was completely voluntary and without coercion from the researcher. Anonymity was maintained as no names were filled in on the questionnaires, although a list of participants was kept by means of research consent forms (Appendix A) (this latter was kept confidential).

The data was collected from consenting patients at the D.I.T Chiropractic Day Clinic by the researcher by means of a questionnaire (Appendix C) which was either completed in the reception area of the clinic, or taken home by the patient and returned at a following visit or via postal services by means of a prepaid, self-addressed envelope.

### 3.2.3 Response rate

A total of 455 questionnaires were issued to patients of the DIT Chiropractic Day Clinic between August 2005 and February 2006, and the following observed:

- 303 valid questionnaires (66%) were returned.
- 5 spoilt or incomplete questionnaires (1%) were returned.
- 147 questionnaires (33%) were not returned, or were returned after the research cut-off date (1<sup>st</sup> February 2006).

(Note: Due to research time constraints issuing of 500 questionnaires was not possible)

### 3.2.4 Advertising

No advertising was utilized for this study. Patients were recruited in the clinic reception area during their normal appointment times.

### 3.2.5 Criteria for participation in the study

#### Inclusion criteria

- All patients aged 18 years and older, presenting for treatment at the DIT Chiropractic Day Clinic were eligible for inclusion in the study.
- Only English literate patients were included. Even with accurate translation into another language, the meaning of phrases and combinations of words can become unclear, as the meaning of these words and phrases is partly attributed to the interpretation thereof (Scollon and Scollon 1995, p5-7). When words are taken out of context, the meaning may be lost (Baynham 1995, p37) which can occur between different cultures.
- Only patients that read, understood and signed the letter of consent (Appendix A) were included.
- Only questionnaires that had section B completed were included in the study. This was done to increase stability and consistency and to eliminate participation bias as missing data has the ability to skew results (Mouton, 1996).

#### Exclusion criteria

- Participants under the age of 18 years were excluded.
- Patients that were involved in other clinic research were excluded, as the treatment they were receiving may have differed from the treatment the student would originally have given the patient should they not have been conducting research. Research patients are usually not charged for treatment which has resulted in bias.
- Patients receiving free treatment (e.g. by means of past research participation, fee reduction, being a chiropractic student or family of such a student, being a homeopathic student or a member of DIT faculty) were excluded.

- Questionnaires with section B incomplete or questionnaires with multiple answers for particular questions were excluded from the study. This was done to increase stability and consistency and to eliminate participation bias as missing data has the ability to skew results (Mouton, 1996).
- Questionnaires that showed inconsistencies in answering were excluded to improve stability and consistency (Mouton, 1996).

### **3.3. Procedure of questionnaire administration and data collection**

#### **3.3.1 Clinic setting**

This study was conducted at the DIT Chiropractic Day Clinic located in Berea which has been operating since February 1993 (Korporaal 2003). The clinic provides a controlled, supervised environment in which the chiropractic students are able to gain the necessary practical experience prior to qualification. Importantly however, it provides a service to the general population, primarily of the greater Durban area and to date has more than 25690 patients on file. In 2006 there are 48 students that tend to the patients at the clinic between 8am and 5:30pm, Mondays to Fridays; 22 are in their fifth year of study and 26 in their sixth year.

#### **3.3.2 Student interns**

A chiropractic intern at DIT differs from a medical intern and this is discussed in detail by Till and Till (2000). In South Africa the medical students' programme consists of six academic years which, as it progresses, becomes more oriented towards patient management. On completion of their six year programme, students graduate and are then expected to fulfill another two years of supervised residency in a public hospital. This two year period is referred to as internship.



For chiropractic students the study programme differs slightly. A chiropractic student undertakes a four year academic programme to obtain a Bachelors Degree in Technology: Chiropractic (B. Tech), following which they begin their Masters Degree. The Masters Degree is obtained by completing a fifth academic year which includes half a year of supervised clinical experience as well as completing a research project and dissertation. A further half year of clinical experience is provided at the clinic in the form of a sixth year. Students that have not completed their dissertation use the balance of the sixth year or longer to complete their research dissertation.

In the DIT Chiropractic Day Clinic, students that are involved with their fifth year of academic studies are referred to as “fifth year interns”, while those that have completed their fifth year of academic studies and are involved in the sixth year are referred to as “sixth year interns”. In both instances the students have not yet graduated from the institution and are thus unqualified and therefore practice under the supervision of a registered chiropractor.

### 3.3.2 Differences between fifth and sixth year interns

The differences between the fifth and sixth year interns are listed below:

- Interns in their fifth year attend classes between 8am and 12:30pm followed by clinic duty from 12:30pm until 5:30pm. Interns in sixth year attend clinic duty from 8am until 12:30pm.
- Consultation fees for a fifth year intern are currently R40 for an initial visit and R30 for a follow-up visit, whereas a consultation with a sixth year intern is R60 for an initial visit and R50 for a follow-up visit.
- Fifth year interns treat spinal conditions initially, and as their academic module tests are completed, so more regions can be treated. Sixth year interns are able to treat all regions.
- Fifth year interns are required to consult with the supervising clinician between each step of the consultation e.g. history taking, physical

examination, regional examination and treatment. Sixth year interns only consult with the supervising clinician prior to treatment.

These differences between the interns result in a faster, more time-efficient process in the clinic which in turn could affect satisfaction ratings, particularly in the finance scale where a 66% price difference is seen.

### 3.3.3 Questionnaire administration

Participants were issued a copy of the PSQ (Appendix C) in the clinic reception area. Participants with sufficient time to complete the questionnaire at the clinic proceeded to answer section A first (demographics) followed by section B (satisfaction questions). Upon completion, the questionnaire would be deposited into the locked receptacle located at the clinic reception desk and the patient would leave the clinic. Patients that found themselves rushed for time were given the option to take the questionnaire home with them along with a self-addressed, prepaid, envelope and return it at a following visit or alternatively, via the postal service. Questionnaires received via the postal service were redirected from the DIT mailroom to clinic reception via internal mail couriers.

### 3.3.4 Data collection and analysis

Participants filled out the face-validated questionnaire (Appendix C) with respect to:

- Patient demographics including age, gender, race, employment status and distance travelled to the clinic.
- Past chiropractic experience.
- Area of the body that was being treated.
- Improvements in condition due to treatment.
- Patients' perceived health status.
- Patient satisfaction.

The data collected from each questionnaire was then used for data capturing purposes and analysis.

#### 3.3.4.1 Statistical package used

SPSS version 11.5 (SPSS Inc, Chicago, Ill, USA) was used to analyse the data.

#### 3.3.4.2 Descriptive analysis and analytical statistics

Descriptive statistics such as counts and percentages in the case of categorical variables, and means and standard deviations in the case of quantitative variables comprised the univariate analysis. In section B of the questionnaire the scoring on the questions which were worded negatively was reversed. Thus in all questions the highest level of agreement corresponded with a code of 1. Response means were calculated for each scale and subscale in section B of the questionnaire. The lower the mean (minimum score of 1.00) the higher the degree of satisfaction. Conversely the higher the mean for any scale or subscale, the lower the degree of satisfaction. Internal consistency (reliability) was determined using Cronbach's alpha statistic for each scale and subscale. Factors associated with the scores on the scales and subscales were tested for statistical significance using Pearson's correlation coefficient, student's t-tests or ANOVA as appropriate. Multiple linear regression analysis was used to determine factors predicting patient dissatisfaction. All independent variables were used initially, and the variables were reduced on the basis of their p values in the model to only the significant ones using backwards elimination. Since the scales were computed in such a way that the higher the score the lower the satisfaction, regression equations generated were to predict patient dissatisfaction. A p value of <0.05 was considered statistically significant.

#### 3.3.5 Ethical considerations

The research proposal preceding this study was carefully scrutinized and approved by the DIT ethics committee. In addition, all ethical standards were maintained throughout the course of this study. This includes the informed

consent, confidentiality procedures and upholding anonymity (Appendix A, Appendix B).

### **3.4 Development of the questionnaire**

#### **3.4.1 Introduction**

Patient satisfaction questionnaires (**PSQ**) are important tools, which can be used to assess the extent to which the services rendered meet the needs of the client group and highlight areas of dissatisfaction (Avis, Bond and Arthur 1995; Harris *et al.* 1999).

For a PSQ to be worthwhile it should meet three criteria: (Baker, 1991)

- Reliability (produce consistent results)
- Validity (measure what it was designed to measure)
- Transferability (measure the same factors, irrespective of patient group)

The questionnaire used in this study (Appendix C) was taken and adapted from a previous study by Sawyer and Kassak (1993) which was patterned after the questionnaires used in the Rand Health Insurance study and Medical Outcomes Study (Ware, Davies-Avery and Stewart 1978; Tarlov *et al.* 1989). The same 32-question questionnaire was used by Verhoef, Page and Waddell 1997 and adapted by McBride and Boudreau 2000, thus displaying one of the three criteria mentioned by Baker (1991), namely transferability.

#### **3.4.2 The Rand Health Insurance study and Medical Outcomes Study**

The Medical Outcomes Study (MOS) was a two year observational study designed to help understand how specific components of the health care system affect the outcomes of care. The MOS has two purposes: (1) to relate variations in patient outcomes to differences in the system from which the patient receives

care, clinician speciality training, the intensity of resource use, and clinicians' technical and interpersonal styles and (2) to develop more practical tools for monitoring patient outcomes, and their determinants, in routine practice. The researchers were particularly interested in improving methods for identifying key features of medical care that are associated with favourable patient outcome, so that these features could be preserved despite the constraints imposed by an increasingly cost-conscious health care environment." (Tarlov et al. 1989). The secondary objective resulted in the development of the MOS Short-Form Health Survey (SF-36), a 36-item tool used to monitor and assess care outcomes in adults.

### 3.4.3 Focus group

Prior to the commencement of this study, a focus group was set up in order to establish face validity of the questionnaire. According to Morgan (1997, p42-43) a focus group should consist of six to eight people. Too few and a discussion may be hard to maintain, too many and control of the proceedings may be hard to maintain. Morgan (1997, p42-43) later states that the boundaries of the focus group size may vary between three and 20 people and still maintain focus group function.

The focus group for this study consisted of 8 which were recruited via word of mouth:

- Three Chiropractors (clinicians at DIT Chiropractic Day Clinic)
- Two Chiropractic students
- One English speaking person
- One Afrikaans speaking person
- One person fluent in both English and Zulu

The multi-lingual focus group helped to establish face validity of the questionnaire as English, Afrikaans and Zulu, which are the three predominant languages

spoken in Kwazulu Natal, as the interpretation of the questions may differ from person to person, and between cultures (Scollon and Scollon 1995, p 5-7).

Before commencing the focus group, each participant was required to read an information letter (Appendix D), and sign a confidentiality statement (Appendix F) and informed consent form (Appendix E). In the focus group each participant was given a copy of the PSQ (Appendix C). Comment was requested on how the questionnaire could be modified in order to accurately assess patient satisfaction at the DIT Chiropractic Day Clinic.

The questions in the PSQ were discussed in sequential order and changes were made based on a unanimous decision of the focus group, thus yielding the version used in this study.

Changes made were mainly grammatical for interpretation; however a major change included the addition of question 33 which was made during the discussion of question 18. The focus group helped to establish face validity of the questionnaire; that is, whether it would produce responses that suggest that it was measuring the construct of “patient satisfaction” (Yeomans 2000).

A video of the proceedings and transcript (Appendix I) was made and is available as evidence of the individuals involved and the content of the discussion.

#### 3.4.4 Pilot study

The developed questionnaire was then piloted on 10 patients at the chiropractic clinic in order to identify any problems with the questionnaire and to determine if it was suitable for the population group. Changes that resulted from the pilot study included a tick box for “I do not know” with regard to the intern year question in the demographics section of the questionnaire.

### 3.4.5 Final questionnaire - discussion

The questionnaire was divided into sections A and B.

#### Section A

Information sought in section A included sociodemographic data and other miscellaneous data (e.g. past chiropractic interaction, area being treated, distance from clinic and medical aid status).

#### Section B

The questions used in section B were taken from the questionnaire used by Sawyer and Kassak (1993) and Verhoef, Page and Waddell (1997). An additional question (33) was added to the questionnaire as per the recommendation of the focus group, and the term “doctor” was replaced by “intern”.

The questionnaire was organised into four scales and six subscales.

#### The scales were:

**General satisfaction:** questions 1, 9, 18, 20, 24, 25 and 33.

#### **Access to intern -subscales were:**

Convenience: questions 2 and 31.

Appointments: questions 7, 14, 23 and 29.

**Finance:** questions 5, 10, 15 and 26.

#### **Intern conduct – subscales were:**

Competence: questions 3, 8, 11, 28 and 30

Communication: questions 4, 17 and 19.

Humaneness: questions 6, 12, 16, 22, 27 and 32.

Facilities: questions 13 and 21

Questions 3, 5, 7, 11, 16, 17, 20, 22, 24, 25, 28, 29 and 31 had been negatively worded and thus carried a reverse score. This was done to avoid a trend of answering only yes or only no to each and every question, as it was possible for some patients to answer monotonously to speed the process up of completing the questionnaire.



## **Chapter 4**

### **Results**

#### **4.1 Statistical results**

##### **4.1.1 Abbreviations**

CI = Confidence interval

%= Percentage

SD= Standard deviation

N= Number

##### **4.1.2 Introduction**

Results of the statistical analysis are represented in the following chapter. The first section, the descriptive analysis, reports proportions and means. This is followed by an analytical section which reports on associations and predictors of satisfaction. Correlation and reliability of the scales and sub-scales of the questionnaire are also reported, with the aid of Pearson's correlation and Cronbach's alpha scores respectively. Scores for satisfaction fall within a range of 1.0 (Strongly agree/extremely satisfied) to 5.0 (Strongly disagree/extreme dissatisfaction). Questions that were negatively worded held a reverse score and were thus reversed prior to reporting.

##### **4.1.3 Limitations**

Before reporting on the results, the limitations regarding the study should be mentioned. Various methodological processes are able to affect the results of a questionnaire study, resulting in "skewed" scores. These factors should be taken into account when analysing the results.

#### 4.1.3.1 Low response rate

The response rate of this study, although satisfactory, could have been improved upon by sending reminders as well as extending the return date cut-off. The data used in this study was extracted from returned questionnaires only. It is possible that the non-respondents (33.41%) could have shown significantly less satisfaction but failed to complete the questionnaire due to being unsatisfied.

#### 4.1.3.2 The ceiling effect (High undifferentiated levels of satisfaction)

The ceiling effect is a statistical phenomenon which results from highly skewed or clustered responses at the top of the possible range. As scores approach their maximum value data is lost as it is eventually “capped” at its maximum. Although high satisfaction may appear good, it is of little use when trying to detect small but important differences which can result from different interventions. A possible solution is to develop more difficult questions which in turn will reduce the frequency of responses which scored a maximum value. A good example of this would be evaluating scholars in mathematics. Should the questions posed to them be too easy, many will score 100% for the paper on a particular section of mathematics. From the results one would deduce that the students have great knowledge of mathematics. However, should a more challenging paper be set, one could see that perhaps far fewer students scored 100% thereby giving a better representation of how many students have great knowledge in mathematics.

#### 4.1.3.3 The Hawthorne effect

A study conducted at the Hawthorne Plant of the Western Electric Company in Cicero, Illinois (1927-1932) showed an increase in productivity possibly due to the workers being pleased with being the focus of a research study (Draper 2005).

Thus one definition of the Hawthorne effect is: **“An experimental effect in the direction expected but not for the reason expected; i.e. a significant positive effect that turns out to have no causal basis in the theoretical motivation for the intervention, but is apparently due to the effect on the participants of knowing themselves to be studied in connection with the outcomes measured”**. (Draper 2005)

#### 4.1.3.4 Sample Bias

This study made use of “convenience” sampling, which means the sample is made up of those participants that were available at the time the study was being conducted. This may or may not represent the larger population. This study has a limitation in using only English literate patients which bias’s the sample, although it was noted that while discussing the research with potential participants, approximately 20-30 patients were excluded due to not fitting the literacy inclusion criteria, representing about 6.6-10% of the sample.

## 4.2 Descriptive analysis

### 4.2.1 Response rate

Of a total of 455 questionnaires sent out, 303 were returned and eligible for the study. This gave a response rate of 66.59% (95% CI 62.02 – 70.88). A breakdown of the responses is discussed in 3.2.3.

### 4.2.2 Patient characteristics

Of the 303 respondents, 294 submitted their age. Mean age was 44.7 years (SD 16.03 years). The range in age was from 18 to 86 years. The sample was 46.5% male and predominantly Caucasian (59.7%), English speaking (94.7%), and

employed (55.8%). The majority of the responses were from English speaking persons as outlined in the exclusion/inclusion criteria of the study, and thus the results are not necessarily reflective of the patient population. Table 1 shows the sample characteristics.

**Table 1: Demographic characteristics of the sample (n=303)**

		Mean/ Count	Percentage
Age of participant		44.7	
Gender of patient	Male	141	46.5%
	Female	162	53.5%
Ethnic group	Asian	17	5.6%
	Indian	78	25.7%
	Coloured	13	4.3%
	Caucasian	181	59.7%
	African/Black	14	4.6%
Employment status	Employed	169	56.3%
	Unemployed	42	14.0%
	Retired	55	18.3%
	Student	34	11.3%
Language preference	English	286	94.7%
	Afrikaans	12	4.0%
	Zulu	4	1.3%

**Note:** It is possible that the 17 Asian participants were actually of Indian descent. Several participants had indicated to the researcher that they had not noticed the “Indian” option as it was listed after “Asian” and subsequently changed their response once this had been pointed out to them.

### 4.2.3 Admittance characteristics

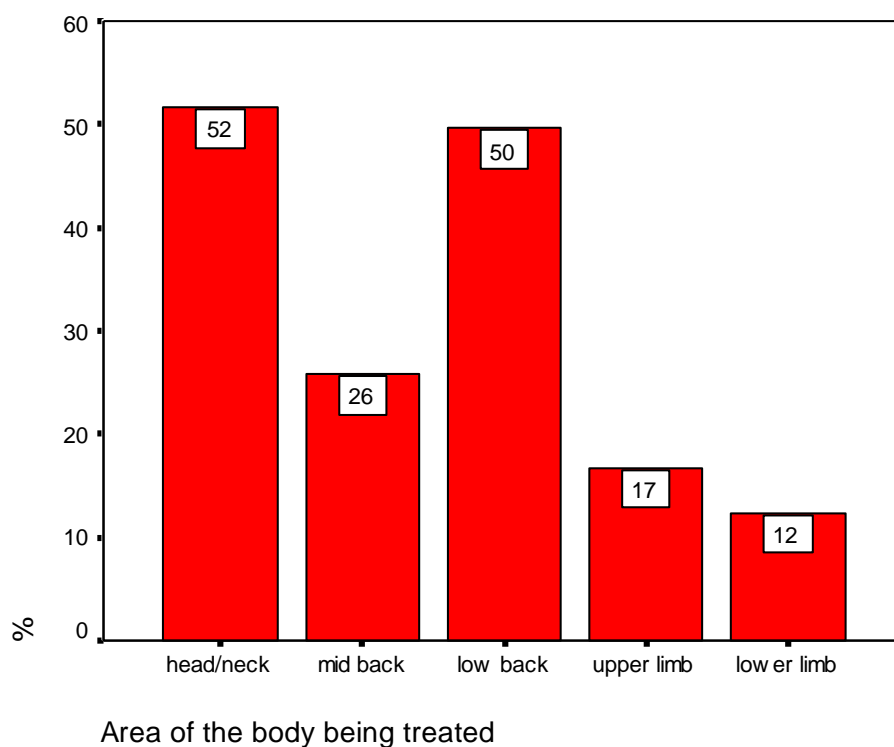
Table 2 shows the admittance characteristics of the participants. There were an almost equal percentage treated by fifth year and sixth year interns. Only 10% did not know the year of their intern. A large percentage (42.6%) had previously seen a chiropractor not associated with the DIT clinic. The main reasons for changing to the DIT clinic were referral (27.9%) and financial reasons (27.1%). There were 41.5% new patients in this study. Participants mostly reported being in good health (58.6%) and 52% had a medical aid. Of those who had a medical aid, 52% were expecting reimbursement from their medical fund to cover the cost of treatment. On average participants lived 16.9 km from the clinic (SD 20.5 km, range 0.1 to 240 km).

**Table 2: Admittance characteristics of participants (n=303)**

		Mean / Count	Column %
Intern year	5th year	147	48.5%
	6th year	126	41.6%
	Do not know	30	9.9%
Past chiropractic association	No	174	57.4%
	Yes	129	42.6%
Reason for changing chiropractor	Referral	36	27.9%
	Convenience	17	13.2%
	Financial	35	27.1%
	Unsatisfactory Results	10	7.8%
	Location	8	6.2%
	Advertisement	6	4.7%
	Not applicable	17	13.2%
Previous clinic attendance	No	124	41.5%
	Yes	175	58.5%
Subjective health status	Excellent	85	28.1%

	Good	177	58.6%
	Fair	36	11.9%
	Poor	4	1.3%
Medical aid	No	145	48.0%
	Yes	157	52.0%
Medical aid reimbursement	No	73	48.0%
	Yes	79	52.0%
Distance from clinic (km's)		16.9	

Areas on the body in which participants were being treated are shown in Figure 1. Head and neck treatments were most common, followed closely by low back.



**Figure 1: Area of the body being treated in participants (n=303)**

Of the total, 61.7% of participants had been treated for 0-2 weeks for their current episode. Most of those who were being treated found a substantial improvement in their condition. This is shown in Table 3.

**Table 3: Duration of treatment and patient assessment of response to treatment**

Duration patient has seen intern for current episode	0-2 weeks	187	61.7%
	3-5 weeks	58	19.1%
	6 or more weeks	58	19.1%
Improvement in condition experienced	1st treatment	77	25.6%
	No improvement	3	1.0%
	Slight improvement	37	12.3%
	Average improvement	71	23.6%
	Substantial or complete improvement	113	37.5%

#### 4.2.4 Satisfaction responses

The aim of this study was to establish a baseline for patient satisfaction at the DIT Chiropractic Day Clinic. The individual scores for each question are listed in the table in Appendix G. The questions marked in red represent negatively worded statements and hold a reverse score.

### 4.3 Analytical analysis

#### 4.3.1 Factors affecting satisfaction scores

There was generally a high degree of satisfaction, shown by low mean scores for scales and subscales in Table 4. For example, 97.7% of the participants agreed or strongly agreed with the statement “The care I received was excellent”. The communication subscale showed the lowest mean score and the humaneness subscale showed the highest score. Reliability as measured by Cronbach’s alpha was moderate in the scales, to low in the subscales. The alpha value was highest in the total satisfaction score (computed using all the items in the

questionnaire). This is probably because the alpha value is influenced by the number of items in the scale. The finance scale showed a low level of reliability (0.3140) and should probably be reassessed for future use. Question 15 contributed most to the low alpha value and if deleted the alpha value would have increased to 0.5179. However, it is an important question and should not be deleted.

**Table 4: Patient satisfaction scores**

■ Scale

■ Sub Scale

	Mean	Standard Deviation	Cronbach's alpha
General satisfaction scale	1.50	0.46	0.7672
Access to intern scale	1.64	0.49	0.5002
Convenience subscale	1.66	0.68	0.4627
Appointment subscale	1.63	0.56	0.4665
Finance scale	1.78	0.66	0.3140
Intern conduct scale	1.57	0.40	0.7880
Competence subscale	1.60	0.51	0.5471
Communication subscale	1.53	0.56	0.3948
Humaneness subscale	1.99	0.35	0.5729
Facilities	1.52	0.55	0.5053
Total satisfaction	1.59	0.37	0.8999

There was no relationship between age and any of the scales. The correlation coefficients were all low (Table 5). Gender was associated with the finance scale ( $p=0.043$ ), with females showing less satisfaction than males. Patients who experienced a substantial or complete improvement in their condition were more satisfied than those who did not in the general satisfaction scale ( $p<0.001$ ), finance scale ( $p=0.004$ ) and intern conduct scale ( $p<0.001$ ). As perceived health status decreased, so did the satisfaction ratings for general satisfaction



( $p < 0.007$ ), access to intern scale ( $p = 0.038$ ), and finance scale ( $p = 0.001$ ). As expected, medical aid reimbursement affected the finance scale ( $p = 0.001$ ).

**Table 5: Factors influencing patient satisfaction**

Factors		General satisfaction scale (mean)	Access to intern scale (mean)	Finance scale (mean)	Intern conduct scale (mean)
Age of participant <sup>a</sup>	Correlation coefficient	-0.028	0.012	0.096	-0.001
	p value	0.633	0.844	0.100	0.982
Year of intern <sup>b</sup>	fifth year	1.51	1.65	1.68	1.56
	sixth year	1.44	1.63	1.83	1.53
	p value	0.226	0.826	0.054	0.491
Gender of patient <sup>b</sup>	Male	1.50	1.60	1.70	1.58
	Female	1.50	1.69	1.85	1.56
	p value	0.967	0.105	0.043*	0.671
Ethnic group <sup>c</sup>	Asian	1.60	1.71	1.91	1.71
	Indian	1.54	1.71	1.88	1.60
	Coloured	1.33	1.55	1.81	1.63
	Caucasian	1.47	1.60	1.70	1.51
	African/Black	1.63	1.86	2.02	1.77
	p value	0.286	0.162	0.148	0.041*
Employment status <sup>c</sup>	Employed	1.49	1.64	1.74	1.55
	Unemployed	1.45	1.58	1.74	1.54
	Retired	1.49	1.67	1.94	1.57
	Student	1.64	1.68	1.81	1.69
	p value	0.280	0.809	0.239	0.305
Past chiropractic association <sup>b</sup>	No	1.49	1.65	1.81	1.56
	Yes	1.50	1.64	1.74	1.57
	p value	0.924	0.928	0.334	0.758
Previous clinic attendance <sup>b</sup>	No	1.47	1.63	1.79	1.59
	Yes	1.52	1.66	1.77	1.54
	p value	0.320	0.646	0.863	0.313
Improvement in	1st treatment	1.43	1.63	1.78	1.54

condition experienced <sup>c</sup>	No improvement	2.65	1.93	2.72	2.16
	Slight improvement	1.69	1.64	1.96	1.67
	Average improvement	1.66	1.74	1.87	1.67
	Substantial or complete improvement	1.35	1.59	1.64	1.47
	p value	<0.001*	0.270	0.004*	<0.001*
Subjective health status <sup>c</sup>	Excellent	1.40	1.55	1.60	1.50
	Good	1.50	1.65	1.79	1.57
	Fair	1.68	1.84	2.09	1.69
	Poor	1.82	1.70	2.25	1.57
	p values	0.008*	0.038*	0.001*	0.135
Medical aid <sup>b</sup>	No	1.51	1.62	1.73	1.58
	Yes	1.49	1.67	1.83	1.56
	p values	0.662	0.379	0.201	0.668
Medical aid reimbursement <sup>b</sup>	no	1.44	1.63	1.97	1.53
	yes	1.52	1.68	1.67	1.58
	p values	0.269	0.575	0.001*	0.438

a=Pearson's correlation

b=t-test

c=ANOVA

\* statistically significant at 0.05 level

#### 4.3.2 Correlation between scales and subscales

All scales and subscales were highly, significantly correlated with each other ( $p < 0.001$ ). The strength of the correlations varied from 0.887 (intern conduct scale and total satisfaction) to 0.193 (communication and convenience subscales). Correlations are shown in Table 6.

**Table 6: Correlation matrix between scales and subscales**

		General satisfaction scale	Access to intern scale	Convenience subscale	Appointment subscale	Finance scale	Intern conduct scale	Competence subscale	Communication subscale	Humaneness subscale	Facilities subscale	TOTAL
General satisfaction scale	Pearson Correlation	1	.472(**)	.271(**)	.468(**)	.302 (**)	.771(**)	.677 (**)	.535 (**)	.425 (**)	.483(**)	.844(**)
	p value	.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Access to intern scale	Pearson Correlation	.472(**)	1	.731(**)	.871(**)	.348(**)	.571(**)	.511(**)	.369(**)	.306(**)	.500(**)	.724(**)
	p value	.000	.	.000	.000	.000	.000	.000	.000	.000	.000	.000
Convenience subscale	Pearson Correlation	.271(**)	.731(**)	1	.305(**)	.321(**)	.381(**)	.328(**)	.193(**)	.230(**)	.351(**)	.501(**)
	p value	.000	.000	.	.000	.000	.000	.000	.001	.000	.000	.000
Appointment subscale	Pearson Correlation	.468(**)	.871(**)	.305(**)	1	.257(**)	.526(**)	.480(**)	.377(**)	.266(**)	.447(**)	.654(**)
	p value	.000	.000	.000	.	.000	.000	.000	.000	.000	.000	.000
Finance scale	Pearson Correlation	.302(**)	.348(**)	.321(**)	.257(**)	1	.366(**)	.342(**)	.237(**)	.245(**)	.271(**)	.548(**)
	p value	.000	.000	.000	.000	.	.000	.000	.000	.000	.000	.000
Intern conduct scale	Pearson Correlation	.709(**)	.516(**)	.333(**)	.485(**)	.363(**)	1	.825(**)	.760(**)	.740(**)	.657(**)	.887(**)
	p value	.000	.000	.000	.000	.000	.	.000	.000	.000	.000	.000
Competence subscale	Pearson Correlation	.677(**)	.511(**)	.328(**)	.480(**)	.342(**)	.846(**)	1	.504(**)	.352(**)	.505(**)	.817(**)
	p value	.000	.000	.000	.000	.000	.000	.	.000	.000	.000	.000
Communication subscale	Pearson Correlation	.535(**)	.369(**)	.193(**)	.377(**)	.237(**)	.714(**)	.504(**)	1	.362(**)	.338(**)	.654(**)
	p value	.000	.000	.001	.000	.000	.000	.000	.	.000	.000	.000
Humaneness subscale	Pearson Correlation	.425(**)	.306(**)	.230(**)	.266(**)	.245(**)	.644(**)	.352(**)	.362(**)	1	.316(**)	.576(**)
	p value	.000	.000	.000	.000	.000	.000	.000	.000	.	.000	.000
Facilities Subscales	Pearson Correlation						.657(**)				1	
	p value						.000				.	
TOTAL	Pearson Correlation	.844(**)	.724(**)	.501(**)	.654(**)	.548(**)	.942(**)	.817(**)	.654(**)	.576(**)	.646(**)	1
	p value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.

\*\* Correlation is significant at the 0.01 level (2-tailed).

### 4.3.3 Factors predicting patient dissatisfaction

General dissatisfaction (measured by the general satisfaction scale) was predicted only by subjective health status of the patient. The equation was: general satisfaction scale =  $(0.123 * \text{subjective health status}) + 1.273$ .

Similarly the only variable that significantly predicted access to intern dissatisfaction was also subjective health status, where access to intern scale =  $(0.108 * \text{subjective health status}) + 1.434$ .

There were many predictors for finance scale dissatisfaction, where: Finance scale =  $(0.197 * \text{intern year}) + (-0.067 * \text{ethnic group}) + (0.066 * \text{employment status}) + (0.224 * \text{subjective health status}) + (0.343 * \text{medical aid}) + (-0.306 * \text{medical aid reimbursement}) + 1.048$

Intern conduct dissatisfaction was significantly predicted by subjective health status and intern year, where: Intern conduct scale =  $(0.061 * \text{intern year}) + (0.084 * \text{subjective health status}) + 1.307$

Total dissatisfaction was predicted significantly by subjective health status, where: total satisfaction scale =  $(0.101 * \text{subjective health status}) + 1.400$ .

However, all  $r^2$  values were low and indicated that the variation in the dependant variables was not explained to a large extent by the predictors. Thus the fit of the models were poor. This means that there were other factors not measured in the study which could have contributed to the responses attained.

**Table 7: Regression coefficients for the relationships between independent variables and patient dissatisfaction**

Dependant variable	Predictors	Coding used	r <sup>2</sup>	beta	r	p value
General satisfaction scale	Subjective health status	1=excellent; 2=good; 3=fair; 4=poor	0.032	0.123	0.178	0.003
	(constant)			1.273		<0.001
Access to intern scale	Subjective health status	1=excellent; 2=good; 3=fair; 4=poor	0.021	0.108	0.145	0.014
	(constant)			1.434		<0.001
Finance scale	Intern year	1=5 <sup>th</sup> ; 2=6 <sup>th</sup>	0.148	0.197	0.385	<0.001
	Ethnic group	1=Asian; 2=Indian; 3=Coloured; 4=Caucasian; 5=Black.		-0.067		0.057
	Employment	1=employed; 2=unemployed; 3=retired; 4=student.		0.066		0.054
	Subjective health status	1=excellent; 2=good; 3=fair; 4=poor.		0.224		<0.001
	Medical aid	0=no; 1=yes		0.343		<0.001
	Medical aid reimbursement (constant)	0=no; 1=yes		-0.306 1.048		0.002 <0.001
Intern conduct scale	Intern year	1=5 <sup>th</sup> ; 2=6 <sup>th</sup>	0.028	0.061	0.168	0.087
	Subjective health status	1=excellent; 2=good; 3=fair; 4=poor		0.084		0.017
	(constant)			1.307		
Total satisfaction scale	Subjective health status	1=excellent; 2=good; 3=fair; 4=poor.	0.032	0.101	0.178	0.002
	(Constant)			1.400		<0.001

#### 4.3.4 Summary

In this sample there was generally a high degree of satisfaction with the care given on all scales and subscales and in total. Despite the generally high degree of satisfaction all-round, participants were less satisfied with the finance and intern conduct issues than with general issues and with regard to access. Mostly satisfaction increased if patients had experienced an improvement in their condition or if they were in good health. In addition to this medical aid reimbursement was important for the finance scale.

Equations to predict dissatisfaction pointed mainly to subjective health status as a significant predictor. Dissatisfaction tended to increase as health status got worse.

Chapter Five follows with a discussion and contextualization of the above results in terms of the presently available literature.

## **Chapter 5**

### **Discussion and Conclusion**

This study was designed to establish a baseline of patient satisfaction at the DIT Chiropractic Day Clinic and to determine the questionnaire's reliability with the use of Cronbach's alpha scores.

#### **5.1 Satisfaction comparisons**

##### **5.1.1 General and total satisfaction**

Generally patients expressed a high degree of total satisfaction (1.59 SD 0.37) and general satisfaction (1.50 SD 0.46) with the care they received, comparable to previous studies using a similar questionnaire.

Total satisfaction means for other studies were:

Sawyer and Kassak (1993) <sup>a</sup> =	Total satisfaction 1.89 (SD 0.46)
	General satisfaction 1.89 (SD 0.63)
Verhoef, Page and Waddell (1997) <sup>b</sup> =	Total satisfaction 1.94 (SD 0.58)
	General satisfaction 2.06 (SD 0.83)
McBride and Boudreau (2000) <sup>c</sup> =	Total satisfaction 1.76 *
	General satisfaction 1.87*

\* (SD's not given. Means reported in their study had to be reversed to allow comparisons i.e. Extreme satisfaction in their study was represented by a score of 5.0)



It is noted that there is a significant difference between the results attained from the above studies and the outcomes of this research. The significant difference between the scores at DIT and other studies could be attributed to various factors (latter discussed in this chapter), including but not limited to:

- the time taken during the consultation,
- communication satisfaction and
- financial satisfaction.

However, future studies should consider other factors potentially excluded from this study as well as investigate the above factors further.

### 5.1.2 Intern conduct and access

Patients indicated their satisfaction with:

- Intern conduct (**1.57** SD 0.35) which was again similar to the other studies (**1.76<sup>a</sup>** SD 0.46; **1.83<sup>b</sup>** SD 0.53; **1.66<sup>c</sup>** respectively)
- Access (**1.64** SD 0.49) (compared to **1.69<sup>a</sup>** SD 0.48; **1.70<sup>b</sup>** SD 0.57; **1.75<sup>c</sup>** respectively)

Note that the superscripts a, b and c refer to the studies mentioned in 5.1.1.

### 5.1.3 Finance

Patients were least satisfied with the financial (1.78 SD 0.66) aspect. This finance scale differs from the other studies which reported means of 2.24 ( $p < 0.001$ ) (Sawyer and Kassak 1993) and 2.76 ( $p < 0.001$ ) (Verhoef, Page and Waddell 1997). McBride and Boudreau (2000) excluded the financial aspect as the treatment provided was cost free. This difference in the satisfaction with finance could be attributed to the reduced cost of treatment (58-80% lower) when compared to private practitioners (Jones 2006; Williams 2006). A further difference was noted in financial satisfaction internally between fifth (1.68) and

sixth (1.83) year interns ( $p=0.054$ ). Again this can possibly be attributed to the difference in cost. Fees for a sixth year intern are 66.66% more when compared to a fifth year intern. The difference was marginally significant and possibly needs further investigation with a larger sample.

A reduced cost of care can impart an effect on other satisfaction scales. Donabedian (1988) illustrates a hypothetical relation between health benefits and cost of care. As the health benefits increase, so does the cost. However, the benefits plateau as they reach their maximum while the cost does not; further intervention subsequently results in relatively low added benefit at a high cost, resulting in inefficiency. The clinic's low fees may give the patients a sense of high efficiency which in turn could affect their satisfaction ratings favourably.

**Fig: 2 relations between health benefit and cost of care.**

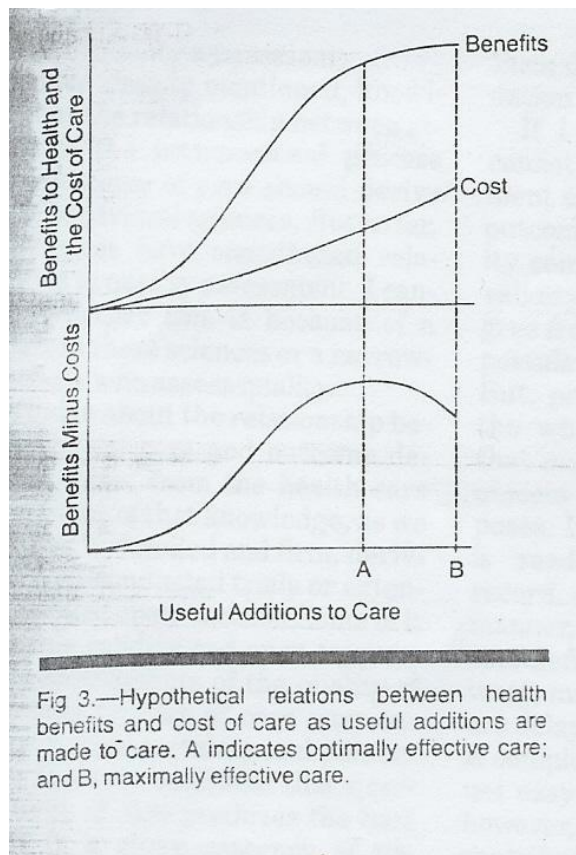


Fig 3.—Hypothetical relations between health benefits and cost of care as useful additions are made to care. A indicates optimally effective care; and B, maximally effective care.

Taken from Donabedian (1988: 1745)

#### 5.1.4 Communication

Communication showed the lowest mean (1.53) with 90-95.4% of the patients being satisfied to very satisfied with questions regarding communication. It has been suggested that high patient satisfaction with chiropractic care could be the result of effective communication (Gemmel and Hayes 2001; Deyo and Diehl 1986; Carey et al. 1995; Cherkin and MacCornack 1989). This could explain the low general and total satisfaction means in this study. It has also been shown that a warmer, more personal relationship makes the patient feel more “real” in the eyes of the provider, resulting in better satisfaction and less litigation (Levinson et al. 1997).

### 5.2 Factors affecting satisfaction

#### 5.2.1 Age

Unlike other studies (Adamson et al. 1989; Grogan et al. 2000; Coulter, Hays and Danielson 1994 ) which reported that older people were more likely to be satisfied, age had no significant effect on patient satisfaction in this study, except for finance, where older people (< 46 years old) showed slightly more dissatisfaction than younger people (= or > 46 years old) ( $p=0.031$ ).

#### 5.2.2 Gender

Men were found to be more satisfied with the financial aspects than women ( $p=0.043$ ). The results of Verhoef, Page and Waddell 1997 were contradictory and reported women as being more satisfied with finance ( $p=0.02$ ). Coulter et al. (1994) noted from a review of studies that more satisfied patients tended to male, whether for total satisfaction or a particular scale is however not clear. Sawyer

and Kassak (1993) reported results indicating a marginal difference ( $p < 0.01$ ) in general satisfaction between men and women; however the finance scale revealed no significant difference. It can be noted that 14% of this study's sample was unemployed, of which 78.5% were women. The effect of this on the study results is not known and requires further investigation.

### 5.2.3 Improvement in condition

Of the follow-up patients ( $n=224$ ), 50.4% report substantial or complete improvement, 31.7% report average improvement, 16.5% report slight improvement and 1.3% report no improvement. The majority (82.1%) reported average to complete improvement, indicating chiropractic treatment to be an effective form of intervention.

Patients who experienced a substantial or complete improvement in their condition were more satisfied than those who did not in the general satisfaction scale ( $p < 0.001$ ), finance scale ( $p = 0.004$ ) and intern conduct scale ( $p < 0.001$ ), which concurs with literature regarding the importance of treatment outcome for the patient and its effect on satisfaction (Hudak and Wright 2000).

Furthermore, Verhoef, Page and Waddell (1997) had observed a trend that patient satisfaction increased with duration of treatment when no improvement was reported. He attributed this to the development of a more personal patient-doctor relationship. In this study there were only three participants reporting no improvement, two had been seeing their intern for 0-2 weeks and one for six or more weeks. The two participants seeing their intern for 0-2 weeks reported general satisfaction means of 2.71 and 3.67 compared to the participant seeing their intern for six or more weeks who had a general satisfaction mean of 1.57. Although this sample is very small it does concur with previous findings although other factors could have contributed to the observation resulting in lower

satisfaction for the 0-2 week participants. Further investigation with a larger sample is needed in this regard.

Interestingly, the results show satisfaction to be high in participants presenting for their first treatment in all four scales (general satisfaction, access to intern, finance and intern conduct). The mean scores are very comparable to those participants who experienced substantial to complete improvement. This could indicate that satisfaction with the clinic “process” is high irrespective of treatment outcome. It could be deduced that the difference between the satisfaction scores could be attributed to the treatment outcome.

#### 5.2.4 Perceived health

As perceived health status decreased, so did the satisfaction ratings for general satisfaction ( $p < 0.007$ ), access to intern scale ( $p = 0.038$ ), and finance scale ( $p = 0.001$ ). This could fit in with the discussion in “5.1.3 Finance”. Patients paying for a service expect to get a health benefit from their provider:

**(The benefit obtained) - (the cost of care) = efficiency** (Donabedian 1988)

Patients that report being in a less than healthy state could report low satisfaction as the money they have spent had not produced the benefit they expected. This difference between expectation and outcome reflects on satisfaction, as does a low efficiency. However, other health factors could play a part in subjective health status reporting; studies have highlighted chronic conditions, functional status and depression as major factors (Schnittker 2003).

Patients reporting that they are in a bad state of health are more likely to be depressed (Schnittker 2003) and studies have shown depressed patients to be more pessimistic (Wells *et al.* 1989). Further, literature has shown a strong association between depression and low back pain (Smith 2005). This leaves a question as to what portion of the low back participants ( $n = 151$ ) had some form

of depression, and if a participant suffered from depression, whether or not this had affected their satisfaction rating.

It was noted in the findings that perceived health was one of the predictors of dissatisfaction with regard to general satisfaction, intern conduct and finance, although there were probably other factors not measured in the study which also contributed to the results.

#### 5.2.5 Medical aid reimbursement

Not surprisingly, medical aid reimbursement was a significant factor in patient satisfaction with the finance scale ( $p < 0.001$ ) which concurs with Sawyer and Kassak (1993).

### **5.3 Questionnaire reliability**

#### **5.3.1 Introduction**

The final part of this discussion regards our survey tool which was adapted from the questionnaire used by Sawyer and Kassak (1993). Baker (1991) stated that for a questionnaire to be worthwhile it should show:

- a) reliability
- b) validity
- c) transferability

The questionnaire was previously tested for the above characteristics and shown to meet satisfactory standards (Sawyer and Kassak 1993); however reliability relies on variance of the true scores. True scores are subject to change between populations and, therefore, reliability can change between populations (Sitzia 1999). Reliability tests should be performed between populations as the context of the tool could change.

#### **5.3.2 Reliability (degree of consistency)**

Reliability can be defined as the degree to which random error in a test is reduced (Yeomans 2000). Various tests exist that help us establish the degree of reliability, one of which is the test for “**internal consistency**” with a reliability coefficient called “**Cronbach’s Alpha**”. Literature indicates that alpha values should be approximately 0.60 – 0.85, values higher than 0.85 could indicate redundancy (Yeomans 2000) However there are no statistical criteria for assessing alpha scores (Ware, Davies-Avery and Stewart 1978).

A comparative Cronbach's alpha table is shown below:

**Table 8: Comparitive  $\alpha$  scores:**

	Mean	Cronbach's $\alpha$ DIT	Cronbach's $\alpha$ Sawyer <u>et al.</u>
General satisfaction scale	1.55	0.77	0.86
Access to intern scale	1.64	0.50	0.62
Convenience subscale	1.66	0.46	0.63
Appointment subscale	1.63	0.47	0.59
Finance scale	1.78	0.31	0.60
Intern conduct scale	1.76	0.76	0.88
Competence subscale	1.60	0.55	0.55
Communication subscale	1.53	0.39	0.74
Humaneness subscale	1.99	0.57	0.52
Total satisfaction	1.59	0.90	0.92

From the table it can be seen that most discrepancy arises in the "Finance" scale and "Communication" subscale. Question elimination was performed to investigate any items in the scale or subscales that would significantly affect the alpha values.

### **Question 15**

"My medical aid/insurance provided full coverage for the cost of my care" negatively affected the alpha coefficient by 0.2039. The alpha coefficient would have been 0.5179 had question 15 been deleted. A possible explanation would be the uncertainty a number of participants had when answering this question as they did not know whether their medical aid would cover the cost or not. Other participants had mentioned that they did not know if their funds had been



exhausted. Had patients been sure of the fund availability or medical coverage, it is likely that they would have answered favourably instead of “undecided”.

Unfortunately, question elimination was unable to explain the low alpha score for the communication subscale. Thus this aspect of the questionnaire would need to be revisited and reassessed in future research.

#### **5.4 Other observations**

##### Area of treatment

Participants reported that head/neck and low back were the prime areas of treatment (52% and 50% respectively). It was found that 63 participants (21%) were receiving treatment for both head and neck. Verhoef, Page and Waddell (1997) reported that patients suffering with both neck and low back pain were more likely to present with chronic problems. This was, however, not verified in this study as the nature of the pain was not discussed. Chronic conditions have been shown to affect perceived health status (Schnittker 2003).

**Table 9: head/neck and lower back Cross tabulation**

		lowback		Total
		no	yes	
head/neck	no	59	88	147
	yes	93	63	156
Total		152	151	303

##### Past chiropractic association

The satisfaction means of participants that had seen other chiropractors outside the DIT Chiropractic Day Clinic was almost identical to those that had not seen

outside practitioners, except for the finance scale which was slightly in favour of the participants that had been to other practitioners. This could be as a result of personal experience; participants are able to compare cost of care between the DIT Chiropractic Day Clinic and the private sector.

**Table: 10 Finance scale and Past chiropractic association**

Finance scale

Past chiropractic association	Mean	N	Std. Deviation
no	1.8108	174	.69127
yes	1.7370	128	.60278
Total	1.7795	302	.65520

Note: 1 missing value

### Response Rate

A response rate of 66% for questionnaire return is less than ideal. Future studies should look at obtaining a better response rate and obtain comparative information between responders and non-responders.

### 5.5 Hypothesis

The results of this study show agreement with four of the hypothesis stated in Chapter 1, these were:

- In general, satisfaction with chiropractic care will be high (Verhoef, Page and Waddell 1997).
- Patients reporting moderate to significant improvement will be more satisfied than patients reporting none to slight improvement (Verhoef, Page and Waddell 1997).
- Patients with none/slight improvement receiving treatment for more than six weeks will show higher levels of satisfaction than those reporting

similar improvement, but have been receiving treatment for fewer weeks (Verhoef, Page and Waddell 1997).

- Patients who will be reimbursed by their medical aid will be more satisfied with the financial aspects of the questionnaire than those not receiving reimbursement (Hughes 1991; Donabedian 1988).

There is disagreement with two of the hypothesis:

- Women will be more satisfied than men (Sawyer and Kassak 1993).
- Older people will be more satisfied than younger people (Coulter, Hays and Danielson 1994 ; Grogan et al. 2000).

## **Chapter 6**

### Conclusion and Recommendations

#### 6.1 Conclusion

The results of this study indicate that patients attending the DIT Chiropractic Day Clinic report a high degree of satisfaction with the care they received. It has also shown chiropractic to be an effective form of intervention with 82% of the participants reporting an average to complete improvement in their condition. Patients expressed a great satisfaction with the treating interns' communication skills. Numerous other studies have linked communication to satisfaction (Gemmel and Hayes 2001; Deyo and Diehl 1986; Carey *et al.* 1995; Cherkin and MacCornack 1989).

Future research should examine the patient satisfaction questionnaire more closely as internal reliability for the finance scale and communication subscale were not satisfactory, although the finance scale reliability could be explained as the result of uncertainty between participants and their medical aid providers. There could be other factors not assessed in this research that could play a part in this result.

Finally, this study has highlighted the effect cost of care has on finance satisfaction ratings, both between the public and the DIT clinic, as well as internally between fifth and sixth year interns.

#### 6.2 Recommendations

- The marginally significant difference of the satisfaction of patients with the finance scale between fifth and sixth year should be investigated further. Possibly, a larger sample can be used to help clarify this.

- A follow-up study on non-respondents should be considered in order to determine if dissatisfaction was a contributing factor in failing to return the questionnaire.
- It is recommended that a similar investigation be conducted at the University of Johannesburg Chiropractic Day Clinic in order to compare the satisfaction at two teaching clinics of similar background.
- Future studies evaluating patient satisfaction should consider different methods of data collection (i.e. interviews, telephonic, self-administered (unsupervised), electronically self administered) in order to allow for information triangulation.
- Review of the questions in the questionnaire with regards to low alpha coefficients should be considered to help improve reliability in a South African context.
- A similar study should investigate the satisfaction of patients involved in other research programmes at the DIT clinic as it is an important part of the clinic's operation.

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**Appendix A**  
**Informed Consent**

**Date:** 2004-07-7

**Title of research project:** Patient satisfaction with chiropractic care at the Durban Institute of Technology chiropractic day clinic

**Name of supervisor:** Dr. A van der Meulen (M.Tech: Chiropractic) (031-2662288)

**Name of Research Student:** Bruce Thoresen (031-9036710)

**Name of Institution:** Durban Institute of Technology

**Please circle the appropriate answer:**

- |  |        |
|--|--------|
| 1. Have you read the participant information sheet?  | YES/NO |
| 2. Have you had opportunity to ask questions regarding this study?   | YES/NO |
| 3. Have you received satisfactory answers to your questions?   | YES/NO |
| 4. Have you had an opportunity to discuss this study?  | YES/NO |
| 5. Have you received enough information about this study?  | YES/NO |
| 6. To whom have you spoken regarding this study?   |        |
| 7. Do you understand the implications of your involvement in this study?   | YES/NO |
| 8. Do you understand that you are free to withdraw from this study at any time without having to give a reason, and without affecting your future health care? | YES/NO |
| 9. Do you agree to voluntarily participate in this study?  | YES/NO |

IF YOU HAVE ANSWERED NO TO ANY OF THE ABOVE, PLEASE OBTAIN THE NECESSARY INFORMATION FROM THE RESEARCHER AND / OR SUPERVISOR BEFORE SIGNING. THANK YOU.

**PLEASE PRINT IN BLOCK LETTERS**

**DATE.....**

PARTICIPANT NAME \_\_\_\_\_ SIGNATURE \_\_\_\_\_

WITNESS NAME \_\_\_\_\_ SIGNATURE \_\_\_\_\_

RESEARCHER NAME \_\_\_\_\_ SIGNATURE \_\_\_\_\_

Appendix B  
**LETTER OF INFORMATION**

Dear Participant,

Welcome to my study and thank you for your interest.

The title of my research project is: **Patient satisfaction at the Durban Institute of Technology Chiropractic Day Clinic.**

Name of supervisor: **Dr. A. van der Meulen (M.Tech: Chiropractic) (031-2662288)**  
Name of Research Student: **Bruce Thoresen (031-9036710)**  
Name of Institution: **Durban Institute of Technology (DIT)**

**The Purpose of the study**

My study will involve 500 patients currently being treated by students at DIT, the purpose of which is to **determine the level of patient satisfaction with chiropractic care at the DIT Chiropractic Day Clinic.**

**Procedure**

You will be asked to **complete a questionnaire** regarding your experience as a patient at the DIT Chiropractic Day Clinic. The average amount of time required to complete the questionnaire will be no more than **15 minutes.**

On completion you may deposit the questionnaire in the **locked** receptacle provided at in the reception area. All questionnaires will be **strictly confidential** and **anonymous.**

Should you wish to complete the questionnaire home an addressed envelope and stamp will be provided. Please return the questionnaire within two weeks of having received it.

**Benefits:**

The results of this study will be used to establish a baseline level of satisfaction at our clinic and to possibly highlight areas of our clinic that need improvement.

**Risks**

There should be no risks involved.

**Confidentiality:**

All the information obtained from the questionnaire will be dealt with only by my supervisor and myself in order to produce the relevant results. The information will be retained for 5 years securely at the technikon and then destroyed.

**Remuneration:**

Participation in this study will be entirely voluntary and without remuneration. You are free to leave the research at any time.

If you need to discuss any further matters, please feel free to contact my supervisor (**Dr A. van der Meulen** on **2662288**)

Or **Bruce Thoresen** at the chiropractic clinic (Durban Institute of Technology), on **031-2042205**

**Thank you very much for your participation and co-operation.**

Yours Sincerely

Bruce Thoresen  
(Chiropractic student)

Dr. A. van der Meulen (M.Tech:chiropractic)  
(Supervisor)

Section B

**Patient Satisfaction Questionnaire**  
**Please read the questions carefully**  
**Please answer each question**

Code: \_\_\_\_\_ eg. A001

	Strongly Agree	Agree	Un-decided	Dis-agree	Strongly Dis-agree	
Place a cross in the appropriate box						
1 I am satisfied with the care I received.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2 The chiropractic day clinic was easy to locate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3 My intern was not as thorough as I expected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4 All of my questions were answered by my intern.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5 The cost of treatment has caused a financial burden for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6 My intern did his/her best to keep me from worrying about my problem.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7 It was difficult for me to obtain an appointment in the clinic.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8 My intern was interested in all my health problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9 The care I recieved was excellent.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10 The clinic's fee's were reasonable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11 Some of the examination procedures my intern used were unnecessary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12 My intern treated me with respect and concern.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13 I think the clinic has everything needed to provide good chiropractic care.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14 I was able to schedule appointments that were convenient for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15 My medical aid/insurance provided full coverage for the cost of my care.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> n/a no medical aid
16 My intern made me feel uncomfortable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17 My intern didn't give me suggestions on what I could do to help me with my problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Patient Satisfaction Questionnaire**  
**Please read the questions carefully**  
**Please answer each question**

Code: \_\_\_\_\_ eg. A001

Place a cross in the appropriate box

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Un-decided</b>	<b>Dis-agree</b>	<b>Strongly Dis-agree</b>	
18 I would recommend this intern to a friend or relative.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
19 My intern gave me advice on how to prevent health problems from occurring.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20 The care I recieved could have been better.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21 My clinic's staff was helpful and courteous.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22 I think that my intern should have spent more time with me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
23 My clinic's office hours were convenient for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
24 I expected better results from the treatment I recieved.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
25 Improvements in my condition took longer than I expected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A 1st visit <input type="checkbox"/>
26 The clinic's payment policies posed no problems for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
27 My intern acted as though I was important.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
28 I feel I had to see my intern more than I should have.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A 1st visit <input type="checkbox"/>
29 In an emergency, it was hard for me to see my intern quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A <input type="checkbox"/>
30 My intern was very careful to check everything when examining me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
31 It was difficult for me to get to the clinic.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
32 My intern avoided unnecessary patient expenses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
33 I would recommend this clinic to others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Coments concerning the clinic and interns:

---



---

**Patient Satisfaction Questionnaire**  
**Please read the questions carefully**  
**Please answer each question**

Code: \_\_\_\_\_ eg. A001

Place a cross in the appropriate box

<b>Strongly</b>						<b>Strongly</b>
<b>Agree</b>		<b>Agree</b>	<b>Un-</b>	<b>Dis-agree</b>		<b>Dis-agree</b>
			<b>decided</b>			




**APPENDIX D**

**LETTER OF INFORMATION**

**Dear Participant,**

Welcome to my study and thank you for your interest.

The title of my research project is: **Patient satisfaction with chiropractic care at the Durban Institute of Technology chiropractic day clinic.**

Name of supervisor: **Dr. A. van der Meulen (M.Tech: Chiropractic) (031-2662288)**  
Name of Research Student: **Bruce Thoresen (031-9036710)**  
Name of Institution: **Durban Institute of Technology (DIT)**

**The Purpose of the focus group**

The purpose of this focus group is to establish "face validity" of the questionnaire that shall be used to determine patient satisfaction at the clinic. The questions in have been extracted from 2 studies previously used overseas, however the purpose of this group is to adapt the questionnaire to suit the environment under which the study is to be conducted (Student-clinic environment).

Your participation is much appreciated and it is assured that your comments and contributions will remain confidential. You are at any point permitted to disagree, however if this is the case, please give your reasons for this, as it will assist in the research process. The results of this focus group will only be used for research purposes.

The material discussed will be kept confidential.

**Questionnaire:**

The questionnaire is divided into 2 sections, A and B.

Section A contains questions relating to demographics and patients' experiences with chiropractic.

Section B contains the body of the questionnaire and is made of 32 statements to which the patient can: **Strongly agree, Agree, remain Undecided, Disagree, and Strongly Disagree.**

**Thank you very much for your participation and co-operation.**

Yours Sincerely

Bruce Thoresen  
(Chiropractic student)

**Focus Group**

**Informed Consent**

**Date:** 2004-07-7

**Title of research project:** Patient satisfaction with chiropractic care at the Durban Institute of Technology chiropractic day clinic

**Name of supervisor:** Dr. A van der Meulen (M.Tech:Chiropractic) (031-2662288)

**Name of Research Student:** Bruce Thoresen (031-2042205)

**Name of Institution:** Durban Institute of Technology

**Please circle the appropriate answer:**

1. Have you read the participant information sheet? YES/NO
2. Have you had opportunity to ask questions regarding this study? YES/NO
3. Have you received satisfactory answers to your questions? YES/NO
4. Have you had an opportunity to discuss this study? YES/NO
5. Have you received enough information about this study? YES/NO
6. To whom have you spoken regarding this study? \_\_\_\_\_
7. Do you understand the implications of your involvement in this study? YES/NO
8. Do you understand that you are free to withdraw from this study at any time without having to give a reason, and without affecting your future health care? YES/NO
9. Do you agree to voluntarily participate in this study? YES/NO

IF YOU HAVE ANSWERED NO TO ANY OF THE ABOVE, PLEASE OBTAIN THE NECESSARY INFORMATION FROM THE RESEARCHER AND / OR SUPERVISOR BEFORE SIGNING. THANK YOU.

RESEARCH STUDENT: Name\_\_\_\_\_.

Signature\_\_\_\_\_.  
(block letters)

**PLEASE PRINT IN BLOCK LETTERS**

Name:	Signature.	Occupation.	Contact no.

## Appendix F

### Confidentiality statement

This form needs to be completed by every member of the focus group prior to commencement of the focus group meeting.

### Declaration

As a member of this committee I agree by the following conditions:

1. All information contained in the research documents and any information discussed during the focus group meeting will be kept private and confidential. This is especially binding to any information that may identify and of the participants in the research process.
2. The patient files have already been coded and will be kept anonymous, no identification of isolated patient cases will be allowed in the focus group
3. None of the information shall be communicated to any other individual or organization outside the specific focus group as to the decision of the focus group.
4. The information of this focus group will be made public in terms of a journal publication, which will in no way identify any participant of this research.

Once this form has been read and agreed to, please fill in the appropriate information on the attached sheet and sign to acknowledge agreement.

### Code of Conduct

1. All information contained in the research documents and any information discussed will be kept private and confidential. This is especially binding to any information that may identify any of the participants in the research process.
2. None of the information shall be communicated to any other individual or organization outside the specific focus group as to the decision of the focus group.
3. The information of this focus group will be made public in terms of a journal publication, which will in no way identify any participants of this research.

	Member's full name	Occupation	Signature	Contact details
1				
2				
3				
4				
5				
6				
7				

## Appendix G: Frequency of all satisfaction questions

(NOTE: Questions holding a reverse score are highlighted in red. A response of “Disagree” or “Strongly Disagree” would be favourable.)

		Count	Column %
Question 1	Strongly agree	218	72.2%
	Agree	79	26.2%
	undecided	5	1.7%
	Disagree	0	.0%
	Strongly disagree	0	.0%
Question 2	Strongly agree	154	51.0%
	Agree	127	42.1%
	undecided	6	2.0%
	Disagree	12	4.0%
	Strongly disagree	3	1.0%
Question 3	Strongly agree	10	3.3%
	Agree	8	2.6%
	undecided	7	2.3%
	Disagree	86	28.5%
	Strongly disagree	191	63.2%
Question 4	Strongly agree	188	62.3%
	Agree	100	33.1%
	undecided	1	.3%
	Disagree	6	2.0%
	Strongly disagree	7	2.3%
Question 5	Strongly agree	8	2.6%
	Agree	7	2.3%
	undecided	10	3.3%
	Disagree	118	39.1%
	Strongly disagree	159	52.6%
Question 6	Strongly agree	174	57.6%
	Agree	105	34.8%
	undecided	17	5.6%
	Disagree	3	1.0%
	Strongly disagree	3	1.0%
Question 7	Strongly agree	7	2.3%
	Agree	8	2.6%
	undecided	5	1.7%
	Disagree	119	39.4%
	Strongly disagree	163	54.0%

Question 8	Strongly agree	194	64.2%
	Agree	103	34.1%
	undecided	0	.0%
	Disagree	3	1.0%
	Strongly disagree	2	.7%
Question 9	Strongly agree	225	74.5%
	Agree	70	23.2%
	undecided	6	2.0%
	Disagree	1	.3%
	Strongly disagree	0	.0%
Question 10	Strongly agree	194	64.2%
	Agree	96	31.8%
	undecided	4	1.3%
	Disagree	4	1.3%
	Strongly disagree	4	1.3%
Question 11	Strongly agree	6	2.0%
	Agree	14	4.6%
	undecided	19	6.3%
	Disagree	116	38.4%
	Strongly disagree	147	48.7%
Question 12	Strongly agree	244	80.8%
	Agree	56	18.5%
	undecided	0	.0%
	Disagree	0	.0%
	Strongly disagree	2	.7%
Question 13	Strongly agree	171	56.6%
	Agree	102	33.8%
	undecided	27	8.9%
	Disagree	2	.7%
	Strongly disagree	0	.0%
Question 14	Strongly agree	182	60.3%
	Agree	107	35.4%
	undecided	7	2.3%
	Disagree	1	.3%
	Strongly disagree	5	1.7%
Question 15	Strongly agree	29	19.3%
	Agree	31	20.7%
	undecided	37	24.7%
	Disagree	26	17.3%
	Strongly disagree	27	18.0%
	Not Applicable	0	.0%
Question 16	Strongly agree	18	6.0%
	Agree	8	2.6%
	undecided	0	.0%
	Disagree	59	19.5%

	Strongly disagree	217	71.9%
Question 17	Strongly agree	11	3.6%
	Agree	10	3.3%
	undecided	5	1.7%
	Disagree	83	27.5%
	Strongly disagree	193	63.9%
Question 18	Strongly agree	238	78.8%
	Agree	59	19.5%
	undecided	3	1.0%
	Disagree	1	.3%
	Strongly disagree	1	.3%
Question 19	Strongly agree	164	54.3%
	Agree	115	38.1%
	undecided	18	6.0%
	Disagree	3	1.0%
	Strongly disagree	2	.7%
Question 20	Strongly agree	7	2.3%
	Agree	6	2.0%
	undecided	15	5.0%
	Disagree	132	43.7%
	Strongly disagree	142	47.0%
Question 21	Strongly agree	164	54.3%
	Agree	129	42.7%
	undecided	5	1.7%
	Disagree	1	.3%
	Strongly disagree	3	1.0%
Question 22	Strongly agree	4	1.3%
	Agree	10	3.3%
	undecided	11	3.6%
	Disagree	148	49.0%
	Strongly disagree	129	42.7%
Question 23	Strongly agree	149	49.3%
	Agree	140	46.4%
	undecided	6	2.0%
	Disagree	5	1.7%
	Strongly disagree	2	.7%
Question 24	Strongly agree	7	2.3%
	Agree	9	3.0%
	undecided	29	9.6%
	Disagree	134	44.4%
	Strongly disagree	123	40.7%
Question 25	Strongly agree	4	1.8%
	Agree	22	9.8%
	undecided	36	16.0%
	Disagree	107	47.6%

	Strongly disagree	56	24.9%
	Not Applicable	0	.0%
Question 26	Strongly agree	145	48.0%
	Agree	124	41.1%
	undecided	8	2.6%
	Disagree	13	4.3%
	Strongly disagree	12	4.0%
Question 27	Strongly agree	201	66.6%
	Agree	94	31.1%
	undecided	3	1.0%
	Disagree	1	.3%
	Strongly disagree	3	1.0%
Question 28	Strongly agree	12	5.4%
	Agree	17	7.7%
	undecided	23	10.4%
	Disagree	109	49.3%
	Strongly disagree	60	27.1%
	Not Applicable	0	.0%
Question 29	Strongly agree	8	6.7%
	Agree	15	12.6%
	undecided	19	16.0%
	Disagree	47	39.5%
	Strongly disagree	30	25.2%
	Not Applicable	0	.0%
Question 30	Strongly agree	193	63.9%
	Agree	105	34.8%
	undecided	2	.7%
	Disagree	0	.0%
	Strongly disagree	2	.7%
Question 31	Strongly agree	6	2.0%
	Agree	13	4.3%
	undecided	11	3.6%
	Disagree	128	42.4%
	Strongly disagree	144	47.7%
Question 32	Strongly agree	111	36.8%
	Agree	109	36.1%
	undecided	58	19.2%
	Disagree	15	5.0%
	Strongly disagree	9	3.0%
Question 33	Strongly agree	245	81.1%
	Agree	55	18.2%
	undecided	2	.7%
	Disagree	0	.0%
	Strongly disagree	0	.0%

## Appendix H

### Patient satisfaction studies taken from Yeomans (2000) pg 126-7

**Table 9–6:** Additional Patient Satisfaction Studies

INVESTIGATOR(S)	SATISFACTION DOMAINS	ASPECT
Freidson E. <i>Patients' Views of Medical Practice</i> . New York, NY: Russell Sage Foundation; 1961.	Interest, competence, time spent	Cumulative impressions of one or more physicians in health care organization
Cahal MF. What the public thinks of the family doctor—Folklore and facts. <i>Gen Practitioner</i> . 1962;25:146–157.	Finances, interest, humaneness, explanations, quality of care, efficacy of use, competence	Cumulative attitudes toward physicians and health care services
King SH. <i>Perceptions of Illness and Medical Practice</i> . New York, NY: Russell Sage Foundation; 1962.	Personal interest, explanations	Cumulative attitudes toward physicians and health care services
Cartwright A. <i>Human Relations and Hospital Care</i> . London, England: Routledge & Kegan Paul; 1964.	Physician's authority, information	Cumulative experience with physicians and recent stay in hospital
Deisher RW, Engel WC, Spieholz R, Standafact SJ. Mothers' opinions of their pediatric care. <i>Pediatrics</i> . 1965;35:82–90.	Wait time, accessibility, physician's personality, explanations, examinations, fees	Cumulative experience with regular source of care
Apostle D, Oder F. Factors that influence the public's view of medical care. <i>JAMA</i> . 1967; 202:140–146.	Accessibility, listening, explanations, thoroughness	Cumulative attitudes toward physicians and health care services
Franklin BJ, McLemore SD. A scale for measuring attitudes toward student health services. <i>J Psychol</i> . 1967;66:143–147.	Physician–patient relationship, physician competence, clinic procedures, quality of care	Cumulative experience with staff and physicians and services in clinic
Alpert JJ, Kosa J, Haggerty LJ, Robertson LS, Heagarty MC. Attitudes and satisfaction of low income families receiving comprehensive pediatric care. <i>Am J Public Health</i> . 1970;60:499–506.	Wait time, communication, explanations	Cumulative experience with clinic
DeCastro F, Amin H. An ambulatory pediatric unit: Consumers' satisfaction. <i>Clin Pediatr</i> . 1970;9:445–448.	Physicians and nurses "handling," explanations	Immediate perceptions of clinic experience
Houston CS, Pasanen WE. Patients perception of hospital care. <i>Hospitals</i> . 1972;46:70–74.	Information, admitting procedures, symptom improvement, continuity of care, finances, attention	Recent stay in hospital
Bobilya LJ. Students' view of the Indiana University health service. <i>J Am Coll Health</i> . 1974;23:19–21.	Physician–patient relationship, staff courtesy, general satisfaction	Cumulative perceptions of staff and physicians in clinic
Noyes RW, Levy MI, Chase CL, Udry JR. Expectation fulfillment as a measure of patient satisfaction. <i>Am J Obstet Gynecol</i> , 1974;118:809–814.	Office practice, fees, wait time, physician–patient relationships, expectation fulfillment	Compared cumulative perceptions of specific clinic with cumulative past experiences in other similar clinics
Kincey J, Bradshaw P, Ley P. Patients' satisfaction and reported acceptance of advice in general practice. <i>J R Coll Gen Practitioners</i> . 1975;25:558.	Office practices, information, compliance	Recent visit with private physician
Lebow JL. Evaluation of an outpatient pediatric practice through the use of consumer questionnaires. <i>Med Care</i> . 1975;13:250–255.	Physician's interest, wait time, information, symptom relief, compliance, quality of care, clinic procedures	Immediate and follow-up reactions to behavior of nurses and physicians
Linn LS. Factors associated with patient evaluation of health care. <i>Milbank Q Health Soc</i> . 1975;53:531–553.	General satisfaction, physician–patient relationship, understanding	Immediate perceptions of specific physician on initial and return visits



**Table 9-6:** (cont.)

INVESTIGATOR(S)	SATISFACTION DOMAINS	ASPECT
Wrigglesworth JM, Williams JT. The construction of an objective test to measure patient satisfaction. <i>Int J Nurs Stud.</i> 1975;12:123-132.	Staff relations, nurse care, confidence in physician, communication, information	Recent stay in hospital
Light HK, Solheim JS, Hunter GW. Satisfaction with medical care during pregnancy and delivery. <i>Am J Obstet Gynecol.</i> 1976;125:827-831.	Quality of prenatal and obstetric care in hospital and on follow-up	Cumulative experience with care during hospital and outpatient visits
Bertakis KD. The communication of information from physician to patient: A method for increasing patient retention and satisfaction. <i>J Fam Pract.</i> 1977;5:217-222.	Information, concern, time spent, communication, confidence in physician, treatment outcome	Immediate and delayed perceptions of care
Mangelsdorf AD. Patient satisfaction questionnaire. <i>Med Care.</i> 1979;17:86-90.	Interaction with physicians and staff, satisfaction with ancillary services (lab and x-rays)	Immediate perceptions of physician and clinic
McDaniel PA. The effects of student satisfaction and attitudes on staffing and policy decisions: A case study and empirical support. <i>J Am Coll Health.</i> 1979;27:214-217.	Physician personal interest and competence, communication, wait time, access to care, exam thoroughness, compliance intent	Cumulative experience with specific physician and clinic
Roghmann KJ, Hengst A, Zastowny TR. Satisfaction with medical care: Its measurement and relation to utilization. <i>Med Care.</i> 1979;17:461-479.	General satisfaction with medical care	Cumulative experience with specific clinic

Appendix I

**Focus Group Discussion:**  
**The Patient Satisfaction Questionnaire**

14/09/2004

Bruce Thoresen

### Focus group 14/09/2004

A focus group consisting of eight members (two chiropractic students, three chiropractors, one English speaking person, one Afrikaans speaking person and a person fluent in both English and Zulu) was held at DIT on the 14/09/2004, the aim was to establish face validity of the PSQ (appendix c). The proceedings were recorded as follows.

B: "Basically my research is doing a patient satisfaction survey at the technikon where I'll be evaluating the patients' opinion of our services offered here at the tech. The questionnaire in front of you is the demographics page one; we will look at the 1<sup>st</sup> subject age. I have grouped it into 5 age groupings. If anyone has any comments on that, is that alright?"

2: "You only doing over 18's?"

B: "Ya. the research will be 18 and older just for legality purposes."  
"Ok, we move along to the next one. Gender, male and female,

1: For age, is it not possible that you just have the patient's right down what their age is?

B: It is possible.

1: So you get smaller categories when u doing your analysis and then get SPSS to recode your ages, once u get an idea exactly... because 18-30 is a very big category. You may get, for example, 50 people that are 20 years old, but will still be categorised between 18-30. As opposed to doing 50 people that were...

B: 20 years old.

B: Thank you for that.

1: And because it is just a number it is easy to obtain from the spreadsheet.

2: ... not going to take too long with gender?

1: Not unless ...

2: As far as ethnic group, sorry I have just done research like this, umm its best to split Asian into Asian and Indian, and another thing is I have just done one on students and black... a couple of students would have preferred to be classified as African, I just had a couple of students of mine cross it out and write African.

B: 6... Any comments on that?

6: Ya, one would say, black is politically correct...to actually accommodate other African persons.

B: So we will leave then... add in Indian and Asian.

2: I had a couple of Asians

6: If you got Indian, then might as well use African

3: Or black African, African ... black.

1: Indigenous African

2: Just write black slash African

B: next point, employment status.

2: ...

1: ... what if they are students?

B: ... they will be unemployed.

B: Any suggestions?

1: One more category for...

4: Scholars

1: Students

3: Scholar, students

2: But there's no under 18's

3: Oh, ok.

4: Sorry but can I ask you something? ... Why is that important?

B: It's just to see the type of person... it's a demographic page , so you basically look at what sort of population of people coming through the clinic

2: It's also yeah, you can see if unemployed people get more pain as opposed to employed people...

B: ... and basically what we also doing we trying to find trends as well, so we may find a trend that unemployed people respond better to treatment or responded worse to treatment, and those are things we are hoping to pick up in the research as well, as far as that goes.

Alright the next point... have you been to a chiropractor before?

B: Fine

B: Have you been to this clinic before... for treatment before?

5: Isn't it only 1<sup>st</sup> time you... or are u doing anyone?

B: anyone.

5: oh, no, no, no of course.

B: Basically the research will target people, anyone in the clinic that is not on current other students research and it will be through all phases of treatment, whether it's a new patient of follow-up patient.

2: ....

B: Next question. What area of the body is currently being treated? I have divided it into 6 groups, head and neck, midback, lower back and then the extremities, upper limb and lower limb and then I have left a tick box for other.

2: Will you be filling these in?

B: Umm no

2: Will they be filling it in or will you be with them?

B: The patient will be filling it in by them selves.

1: What if there is more than one... are you going to cater for more than one ailment?

B: that can be done, yes... I'm sure.

4: Can you not split them and maybe have it that if you are currently being treated by this clinic, what part of the body is being treated and then give your 6 categories and put another question to say... if you are a new patient what part of the body.. umm ...what ailment are bringing to the clinic? Basically... split that into 2 questions. One for current patients and one for new patients?

1: what if you get someone that's coming in for the 1<sup>st</sup> time?

4: He doesn't know.

B: Well they will fill this questionnaire in after their 1<sup>st</sup> treatment. I'll brief them in the reception area. They'll go off with their intern they meant to have their consultation with, then after their consultation, they will come back to the reception and sit for 5 minutes and complete the questionnaire. Which means they would have undergone their 1<sup>st</sup> treatment. So...

1: How will you cater for more than one ailment?

B: one ailment... if its back and arm.

2: Perhaps stipulate only one, that they getting treated at the time. Which brought them to the clinic.

5: Which is the main complaint?

5: Well some people will have both lower back and neck, it does happens a lot. Both equal problem areas. You can work that cant you? with overall number of visits or overall number of areas treated. You count all the areas that are being treated and then split the percentages into the number of areas.

B: I am sure SPSS would be able to umm have more than one entry.

1: You need to ask yourself what's the point of this question. If you only want to see that at the time of the survey which area is being treated like ... what's the most common?

B: Well the aim of the question is not only for that. Potentially if we find that there is a less degree of satisfaction with upper limb, it could indicate that possibly our management of that particular condition or region may be a bit... lacking of knowledge by the student.

5: How many questionnaires are you doing?

B: Umm 500.

1: You might as well leave this question in but ... for more than one.

5: Maybe, what is the main area... and then are there other areas that are being treated.

2: Ya just have the exact same answers but repeating ...

B: so rephrase... What is the main area of the body...

2: And then put another question in. Are any of the other areas being treated simultaneously?

5: So you have a secondary...

B: And the secondary answers, would it be also categories?

2: Do you need an "other" block there?

B: Well, possibly it is an...

5: Other, specify.

2: If it is other, they must specify what the other is!

1: You can also ... you need to specify what.

B: so then what would be the added question after "what is the main area of the body" currently being treated?

1: Are you currently having any other areas of the body being treated?

B: and would that be a yes no answer? Or would that be..

2: it would be exactly the same.

1: (noise from passage)

2:

B: And then obviously if there are no other areas they would leave that question blank?

2: You would put a nought in your column.

3: Sorry, the other one you got here, have you... sorry have you been to this clinic for treatment before? Shouldn't you add in there if they have been for any other treatments with anyone else...?

B: Well there is the question previously have they been to a chiropractor before?

3: If they say yes, and they have not stipulated why they coming to you or anything ... what the reason is for them to change. If they have gone to another chiropractor somewhere else maybe.

B: Ok so you think why change from a chiropractor to a clinic ... or our institution.

5: That's relevant cause we offer a cheaper service here and that's something, you know, you cant avoid that.

1: Some people feel that by coming to an institution they are getting more...

B: Out of their treatment...

5: Ya, a lot of people appreciate that as well... so maybe there is room for an open ended question somewhere as well. If you have been to a private practitioner, now why are u coming here? Can u leave a couple of lines?

1: See the problem is that you going to have to sift through 500 responses and the open ended question in the research will be a nightmare.

B: On the questionnaire there are, there is an open-ended portion ...

5: ... category for you know, outside of that, that would stipulate other reasons for changes.

1: Is there no way you can find a list, compared to others that ... something that you can use ....

B: That addresses that. Either financial or referrals.

1: Just to put it all in categories and then you could have one small little block at the end ... so you don't have 500 people giving you a response and you having to go back and code all of the responses.

B: So you put categories possibly.

1: As many categories as possible

B: Any suggestions ... Referral?

1: it could be a referral from somebody else.

B: Financial?

1: Financial

5: Unsatisfactory results.

2: Advertisements.

C: What about location? Maybe they just found out about it?

1: I am sure you can think up of more than one...

B: Shall we leave then quite a large list of tick boxes there?

5: Are you going to put those categories onto the questionnaire?

B: I have to put it on the questionnaire. So I put this question in then possibly have you been to a chiropractor before in after that. Or should I do it after the, have you been to this clinic before question?

5: If answered yes, you put in a contingency question. If you answered yes to chiropractic...

B: See 'cause... Have you been to a chiropractor before could have... would that then include students at the technikon or would it mean a chiropractor as in an external chiropractor that's qualified.

C: Just say a chiropractor not associated with this institution.

B: Ok

C: But that's not necessarily the best way either ....

B: Or a qualified chiropractor?

C: You could say that or you could say that, or you could say have you ever been seen on these premises before or someone who's practicing from other premises.

5: ...

B: I am just seeing what wording we going to use. Have you been to a chiropractor that is not associated.

4: ....

B: Then after that now the contingency question. For what reason did you change?

5: Put that in a block, it's quite nice to have a blocked off question. If it's a yes no answer... if yes.

B: 4: are you doing shorthand?

B: Next question. How would you describe your improvement if any due to the treatment? I've given 4 categories. None, slight, average, substantial or complete.

4: Can I make a suggestion? You should swap that question with the one below that. How long have being seeing your intern for your current episode. You should have that one before you have your ...

2: If you seeing the person on their initial visit, they might not be able to answer the question.

B: Then they answer no.

2: That may be incorrect as well. It might make the answer....

4: you should put a little block in there... too new to determine, or you know something.

2: Or 1<sup>st</sup> visit. Put a block in there that says 1<sup>st</sup> visit so if it's their 1<sup>st</sup> visit they don't have to comment on it.

B: Ok, any other comments on that?

1: You have to think about this very carefully because... the guys don't come once or twice for chronic low back and there's no improvement .... He's got a problem for so many years and he's only had 2 treatments but he's not responding.....may give false impressions.

5: How many treatments have you... there are guidelines as to what the protocol for treatments... episode are chronic or sub-acute low back pain. You got to look at those and see how many treatments have you been coming in for.

B: Well that would sub-divide into chronic, acute and sub-acute. The question how long have you been seeing your intern for the current episode. So, If they have been coming in for chronic low back pain, there is a high chance that ... been several visits.

4: ...To do with analysis of research.

b: So we should put a block then for 1<sup>st</sup> treatment in the question? How would they describe...

2: If they're filling in on their 1<sup>st</sup> treatment then they cant really comment on it.

B: Ya, any improvement

B: And what wording shall I use ... 1<sup>st</sup> treatment or not applicable, 1<sup>st</sup> treatment.

2: 1<sup>st</sup> treatment. As long as they know ... just explain to them.

B: The next question, how long have you been seeing your intern for the current episode? I've done 3 categories to accommodate for acute, sub-acute and chronic.



2: Don't make 6 ... just write 6 plus. 6 or more. Because otherwise they ....30 weeks...

5: But that's also relevant. You've got patients that are ....they been seen for 5, 10 years...

2: ...that classifies as chronic so its just more than 6 weeks....

b: 6 or more weeks? Everyone happy with that?

B: Next question, compared to other people your age, how would you consider your health. I've done 4 categories. Poor fair good and excellent.

1: Why do you want to compare ...?

B: umm, that question was take from another demographics page from a previous study which I thought may be umm. Research has shown that people that have major complaints or major ailments that respond to treatment have better satisfaction than someone that came in with a minor complaint and that is healthy and got better. That's the reason why the question is there.

1: I'm asking why you ask then to compare themselves to other people their age. Why not just ask them how do you consider your health?

5: Yeah.

2: Yeah it's confusing.

B: Right, next question. Will you be reimbursed in full or in part by medical aid.

1: ...

5: Are u on medical aid? Then there is a contingency question there...

2: Do you have medical aid?

5: If yes, will you be reimbursed?

1: ...

B: Right next question. I am currently consulting an intern that is in his/her 5<sup>th</sup> year of study and 6<sup>th</sup> year of study.

2: ...

5: How about 10<sup>th</sup> year

B: That is a point. Will the patient know that they are...?

5: They will know because it's, when you make a booking ..

2: Also the patient –student interaction, they normally know within 5 minutes of chatting

5: Maybe you should have a block of student name... the student can fill in which student.

B: I don't want the students seeing anything of these questionnaires purely because they may think the student has access to the results and he did not grade the intern ...

5: You gonna have a record of who's seeing who?

B: I will have a record of ... each questionnaire will be coded 1 through to 500 and I will know which file numbers. So ill see if double questionnaires ... I'll be the only one knowing. And my patients will be excluded purely from a bias point.

5: Or you can put a block above your coding or a line so you can put 5<sup>th</sup> or 6<sup>th</sup>

B: I could do that as well.

C: The only reason I ask the question, 'cause you have some 5<sup>th</sup> years that are in 6<sup>th</sup> year. Are u dividing 5<sup>th</sup> and 6<sup>th</sup> academically or purely by virtue of when they work in the clinic.

2: I think its academically just because I know that when you... no matter even if the 5<sup>th</sup> year , 6<sup>th</sup> is still seeing 5<sup>th</sup> year numbers are classified on the register as 6<sup>th</sup> year students.

C: Well this is what I am asking, how does he classify that, 'cause he has to make that explicit in his g186 ... as to how he is defining it.

B: I would say the time of the day.

C: I would go with time; time is easier, morning or afternoon. Whereas if you go academically...

2: You might land yourself in a situation where the 5<sup>th</sup> year student is seeing a patient at 10 in the morning.

C: You gonna have to work a contingency.

B: Well like 5: suggested fill it in myself and I would take it.

C: Well why don't you take it off the visit sheet?

2: that's more accurate

C: That will ...

C: That's your academic requirement.

2: Take it off the visit sheet.

B: But then would I fill it in myself?

C: Well you not ... so you should have access to the intern or student

B: So ill take that question out then?

C: You can put it right at top where you code the files.

2: ...

B: Ok, onto the questionnaire. This is the body of the questionnaire taken from 2 studies that happened overseas in Canada and America. 2 different clinics. Umm, the questionnaire is based on a 5 point Likert scale which is a question that is a statement and then 5 boxes were the person can either strongly agree with the statement, agree with the statement, can remain undecided which is neither agree nor disagree with the statement, he can disagree or he can strongly disagree. Alright, we go to question 1. I am satisfied with the care I received.

2: Perhaps you should stipulate they please answer every question.

B: Ok so ill have a little text box at the top saying , requesting that patients answer every question.

5: Make your instructions clear, these self administered things, people don't... you know what I mean.

B: Question 2, the chiropractic day clinic was easy to get too.

3: What are u trying to say there? What way to get too, access to the thingy.

B: ... in their car?

2: You not talking about access..

B: Like ramps for disabled.... So shall we re-phrase that then? Can anyone suggest something?

3: I would say access into the clinic itself...

2: The chiropractic day clinic was easy to locate.

C: But that doesn't mean that you can't also have a question on the accessibility ... who have problems cant get up stairs.

2: We only got the ramp 2 years ago.

B: So add a question on accessibility?

2: Yeah

5: Yeah

b: Any suggestion on wording for that?

1: Do you like our ramp? \*laugh\*

C: Would the facility accessible...

2: That's not a question though... it's got to make a statement. So the accessibility to the clinic itself

C: Did not pose a problem

2: Was not a problem.

1: The entrance to the clinic was easily accessible

C: There we go

B: The entrance to the clinic was easily accessible. Any comments on that? Question 3 my intern was not as thorough as he or she should have been.

C: Compared to what?

6: This expects the person to have a full knowledge of how the person is being treated...

C: Maybe ... patient expected.

2: My intern was not as thorough as I expected.

B: Question 4, all of my questions where answered by my intern. Question 5, the cost of the treatment has caused a financial burden to me.

6: I think financial burden is more a relative condition.

2: Wouldn't it be better if you didn't ask that, because to ask that.. someone might not have any problems.. it's not really gonna tell you anything.

5: Umm this is about patient satisfaction with treatment ...

4: With the clinic, not ....

2: I think later you have questions about fees.

B: There are going to be duplicate questions that's purely to see that the person hasn't. .. there are negatively worded questions as well as positively worded questions in this questionnaire that's purely to see that the person's answering the same for all the questions even though they have been repeated in different words.

1: Before we continue B: My intern was not as thorough as I expected. You've got a negative there?

B: yes

1: Some people may get confused answering that question

B: The reason why some of the questions have been negatively worded, is to avoid someone doing a trend of answers, basically ticking strongly agree or agree the whole way down, purely because he doesn't want to take the time to fill out the question. So a negatively worded question will hold a reverse score on the questionnaire, so if he strongly disagrees it would be the same as a 1...

1: Perhaps again in your instructions. Please read each question carefully. 'casue otherwise people might just lok and go strongly agree, strongly agree all the way down.

B: And that's the reason why those negatively worded questions are in there, to avoid that and those incidences can be identified for that person that has been doing that. So would you like to remove the financial part of the questionnaire out? The financial aspect is a subscale, purely because in past research finance has been a big area where people are unsatisfied as far as clinic goes. We do offer free treatment or reduced cost treatment to those that can not afford it; however, our rates that we charge here are approximately 50% or even less that what the going chiropractic rates are. For some people having known something is actually gonna cost quite a bit of their pocket and getting a service you want your value for money and you will crit on that. And I think that's the reason why these financial questions have been included.

3: I would say here, rather put down how... How did you find the cost of the treatment of the clinic?

B: and subcategories?

2: ...

3: ...

2: They've got the positive there, and the negative there.

4: You've got 4 questions related to finances

B: On the letter of information

C: Also just remember as far as the questionnaire goes ..., its not necessarily only treatment related it's the overall clinic experience. So don't always just think of treatment questions.

B: The questionnaire is divided into 4 groups. General satisfaction, with the whole process as a whole. There is a financial subgroup. Where it looks at all the financial aspects of coming to the clinic. There's an accessibility subgroup and there is also doctor conduct. So these questions will fall under different groups.

5: 14 16 falls under doctor...

B: And from that we can see our facilities is the area where people aren't satisfied, our financial side is where people aren't satisfied or even are satisfied if they know they are actually getting the treatment at quite a reduced rate.

6: I think I am of the view that we should maintain this question relative to the cost, however, redeem the subjective part of the ... financial ... only, because you find that one person is of a better financial position than another.

B: But because it subjective it would be specific for each person, so although a person.. I am just thinking of how I can phrase this... for a person that has got a lot of money; a treatment can still be a financial burden to them irrespective of the fact that they own millions. Actually no, that's not true. So how would you suggest that we rephrase that?

2: You don't want to say something like the cost of treatment was expensive but u can't ...

b: Then once again you've got the subject of someone that's got all the money, its not going to be expensive. And that's why it's been left in a subject thing, 'cause its on the person that's answering the questionnaire. It's either a burden to them or its not.

2: You've got enough questions to cover it so it should... if they thought it was reasonable then they should strongly disagree with that and strongly agree with ...

5: You should get an overall picture.

B: Maybe we can come back to that one a little bit later.

Question 6, my intern did his or her best to keep me from worrying about my problem. Any comments?

Question 7, I had to wait a long time before I could see this intern for my 1<sup>st</sup> visit.

C: Is it a long time in the facility or a long time before they got an appointment?

B: It would be for an appointment.

2: It depends who they wanted to see.

C: Or where they delayed in the waiting room?

B: Ok we need to get that up. Umm this question would refer to having to go on some sort of waiting list to get to see the doctor you wanted to see. In this clinic though, it's highly unlikely that someone would have to wait weeks.

2: Why don't you change it too, I had to wait a long time before I could get my 1<sup>st</sup> appointment or something?

1: .....

2: Don't say this intern. Chances are they did not ask for that intern.

1: ...

B: It was difficult for me to obtain an appointment in the clinic. Ok ill rephrase that. Question 8, my intern was interested in all my health problems. Question 9, the care I received was just about perfect. Any comments?

3: ...

5: ... is in that word I would say.

2: The care I received was excellent.

4: Adequate.

.....

2: It is a positive, so they are trying to see you thought ... some people get...

B: So the care I received was excellent?

3: I would not say just about.

2: Yeah, just about is a little bit.. of good and a little bit of bad.

B: Question 10, my interns fees were reasonable?

C: Say the clinics fees

2: Yeah

5: The intern doesn't get paid.

B: Question 11 some of the examination procedures my intern used where unnecessary

1: ...

B: Hopefully we will see a trend between 5<sup>th</sup> year and 6<sup>th</sup> year numbers then.

2: ... some take 2 .5hours

B: or 3 hrs.

B: question 12, my intern treated me with respect and concern.

Question 13, I think my interns office has everything needed to provide good chiropractic care.

C: ...

5: The clinics rooms has everything...

C: Not necessary in the rooms, the facilities has ... to offer...

B: I think the clinic has everything needed to provide good chiropractic care.

Question 14, I was able to schedule appointments that were convenient for me.

Question 15, my insurance provided adequate coverage for the cost of my care.

2: Just where you put the N/A please write there no medical aid...

B: Any other comments on that?

Question 16...

2: Sorry ...my medical insurance, insurance in the states is what we call medical aid here.

B: So I should use medical aid or medical insurance?

2: Perhaps medical aid slash insurance.

L: Provided full coverage ... if they agree they will get 100% back ...

B: Have agree or undecided or...

L: adequate for me may be 50%, but adequate for someone else ...

B: So remove adequate and replace it with full. My medical aid slash insurance provided full coverage for the cost of my care.

2: .....

B: Question 16, my intern made me feel foolish.

5: That's a very hectic word.

2: There is not nice way of saying it, if you don't like your intern you gonna say strongly agree...

L: Perhaps use uncomfortable.

5: Yeah, uncomfortable is better.

B: Question 17, my intern didn't give me suggestions on what I could do to help my problem.

2: ....

B: Any comments on that?

2: ... to help ME with my problem.

B: To help me with my problem, yeah.

B: Question 18, I would recommend this intern to a friend or relative.

5: This intern or the clinic ... that particular doctor as referring to the doctor. Then you have got such a wide range of people.

1: Perhaps you can have another question .....

5: You said that ...

2: Just throw in it a different place...

2: Some people may have come 4 or 5 times and seen different interns

B: Question 19, my intern gave me advice on how to prevent health problems from occurring.

5: It's a sort of wellness question..

B: Question 20, the care I received could have been better.

Question 21, my interns staff was helpful and courteous.

2: Is that X and Y, the receptionist.

B: ... and the receptionist, sometimes the clinician on duty.

Question 22, I think my intern should have spent more time with me

3: Put it more stroke less ...

2: No ...

B: Question 23, my interns office hours where convenient for me.

C: Clinic office hours or clinic working hours.

B: So the clinic working hours or office hours?

3: Clinic hours.

B: Ok. Question 24, I expected better results from the treatment I received.

Question 25, improvements in my condition took longer than I expected.

1: ...1<sup>st</sup> time ...

B: Question 26, my interns payment policies posed no problems for me.

C: The clinic.

B: Question 27, my intern acted as though I was important. Question 28, I feel I had to see my intern more than I should have.

1: ...

B: Question 29, in an emergency it was hard for me to see my doctor quickly..

.. NA

B: Any other comments on that?

1: Why don't you say it was easy for me get an appointment at short notice.

B: And leave the NA block there as well?

1: Well then you can say....

B: Question 30, my intern was very careful to check everything when examining me.

4: ... everything ... and the ..., the chair the table.

B: (laugh) add a question... my intern was too thorough. Question 31, it takes a long time to get to my intern office. Should I change that at all?

C: Are we looking at location or...

B: Location.

2: Is that actually from their waiting room to the office?



B: From their house to the clinic, some people may travel from 'maritzburg or.

2: ...takes a long time to get to the clinic.

B: Ok, so we change it to the clinic.

2: I thought it was walking distance from ...

B: Alright. Question 32, my intern avoided unnecessary patient expenses.

2: Is that really relevant here?

B: It will be part of doctor conduct i.e. wasting money going for x-rays and other things.

4: Sorry, can I take you back to the other one... question 31, don't you think you should be a little more specific there, to say I travel in excess of 50km to get to the clinic or I travel in excess of 20km to get to the clinic.

2: Or I travel a long way.

4: Or I travel a long way to get to the clinic. 'Cause that way you getting a lot more specifics out it ...

5: And also you can see sometimes how far people may ... what sort of area.

B: I travelled a long way to get to the clinic.

1: Not necessary, you can say travelling to the clinic was difficult. Somebody came from a nearby area and had to take 4 buses or 4 taxis's...

C: Maybe in demographics have a section, I live X number of km away from the clinic and have another question here ... It was difficult for me to get to the clinic.

B: Wasn't there a question though that said it was difficult for me to get to the clinic?

C: ... right at the front.

1: Yes right at the beginning.

2: The chiropractic was easy to locate. That's location

C: That's location...

B: Ok, so we add a question in demographics?

C: On the distance that they stay away from the clinic.

1: But you still don't know whether it was difficult for them to get to the clinic

C: That's why you have to keep whatever question you on now, that has to be the difficulty question you mentioned

3: Or maybe under your questions there, you can also put the boxes there distance travelled 0-50, 50-100 kilos or something so you get a rough idea how far they are travelling?

B: Ok, distance to travel to the clinic.

2: Some people travel less than 5

C: Put a little box with km's behind it and make ..

2: Yeah plus, minus

B: Ok, we will leave that open ended.

2: ... 5 km's or whatever.

B: Alright, back then to question 31, it was difficult for me to get to the clinic. Is that the question?

2: Yeah.

B: Alright and... question 32 we addressed. Then what I've done, I left a comments portion in the questionnaire at the end for anyone to place any free.

2: ... it not actually part of your research...

2: If anyone wants to pass a comment on it , they can.

5: Yeah then you can comment on that.

2: ...

B: Any questions that we should add to this questionnaire that you think ... demographic or in the questionnaire itself?

C: Do you want to know what language....would that make a difference?

2: ...

B: No, this is an English questionnaire and to have it translated and to do validity study will be a study on its own. So we need to 1<sup>st</sup> establish a questionnaire 1<sup>st</sup> and then a follow-on study could be translating the questionnaire and then applying it too..

2: Someone who's seconds language is English might actually have a problem understanding some of these questions..

B: So we make a language...?

2: What is your 1st language preference? What is your home language?

4: Home language.

2: and then list al the 11 official ones.

1: Is that going to make a difference to ask that question, 'cause how is it going to change how they answer the question? If somebody is Afrikaans speaking ... answer the question exactly the same way as if you never asked the question...

B: Anyone that can speak... that is English literate

2: Your right you don't need the question, it's irrelevant.

1: So long as they can speak English and understand... there is a difference between

B: It could be possible that it could highlight umm, communications or thing in the questionnaire that may be 80% of the Afrikaans people don't understand.

1: How are you going to know that?

2: ...are you going to be giving this to the person?

B: I'll give it to them.

2: The interns not going to see this, you want to insure the confidentiality.

B: That why the patient will be asked to complete this after his appointment in the reception area and there will be a locked box where he can deposit it and only I will have access to that. Alternatively there will be...

2: Then how you gonna put the file number on it?

B: Before when I speak to the patient ill give them a letter of information...

2: Just make sure...

4: So you're going to hand each and every single questionnaire to the patient... So you will be able to determine from the patient whether they going to understand lets say an Afrikaans person they gonna understand perfectly well what's going on with this questionnaire.

B: Yeah.

4: And then you going to decide there and then whether you going to give this questionnaire to that person or not.

B: Basically I'll ask them if they can read and write English, and from that assuming they said yes I'd then give them the questionnaire, and inform them of what the research is about. So they would have to make the decision themselves if they feel they ... it's enough to answer the questionnaire or not.

4: ...

(ending light discussion)