

**CHANGES IN PHYSICAL EVIDENCE AND THE PERCEPTION OF  
SERVICE QUALITY OF PATIENTS IN A HOSPITAL FACILITY**

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## Synopsis

Organisations could previously succeed on the basis of having customers, but now customers are more educated and aware of their rights. This makes them demanding in their service expectations and affect their perceptions of the service rendered.

Physical evidence is one of the 7 P's in marketing a service. The service that is to be marketed has to be developed according to demand by market segment. Marketing the service is essential to differentiate the organisation's service from other similar services, using the correct competitive advantage.

Physical environment in a health care setting have a significant effect on customer satisfaction, perceived service quality, intention to re-patronize and willingness to recommend. Physical evidence is the servicescape and consists of the interior and exterior environment in a facility

Hospitals and hospital environments are dependant on the physical evidence in their facilities and this is often the deciding factor when it comes to choice of a facility. Although the independent doctors play a role in South Africa when it comes to choice of a facility, it is often the patient that chooses the facility on their perceptions of previous experience and word of mouth.

Service quality is the difference between expectations and perceptions of the outcomes experienced by the customers. Service quality is essential for customer service and customer services are an essential part of services in the hospital and hospital environment.

Although physical evidence was chosen as the dimension for the research, physical evidence is only one dimension of service quality. Other dimensions include reliability, responsiveness, assurance and empathy.

A questionnaire was formulated based on the five above dimensions of the SERVQUAL developed by Parasuraman to evaluate the perceptions of patients in a maternity unit in a hospital setting to determine the effect by changing the physical evidence.

The outcome of the study identified important aspects that can be utilized in managing an organisation in the health industry. It was identified that adequate seating around a bed is always important for patients in any circumstances, noise levels must be acceptable at all times, the décor in a maternity does influence the perception of service quality, patient's records kept up to date by the nursing staff are seen as adequate in any physical environment and patients perceive the nurses as having their best interest at heart.

This study has shown its importance through the use of a Quasi-experiment that physical evidence is an important dimension in the perception of service quality for patients in a maternity unit in the private health sector. This should be considered by management for future planning in the strategies of an organisation in the healthcare industry.

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# **CHAPTER ONE Changes in Physical Evidence and the Perception of Service Quality of Patients in a hospital facility**

## **1.1 Introduction**

Cronin, (1992:55), says that research has shown that, for the first year, a new customer is only an expense and a cost to the company. From year one to ten the profitability of a customer quadruples. The only way to keep a customer is to listen to them and to exceed the customer's expectations by giving superior service on a constant basis (Parasuraman, Berry and Zeithaml (1985:31-33).

According to Zeithaml, Bitner and Gremler (2006:4), outstanding customer care for clients is regarded as the critical advantage that gives businesses the competitive edge in today's competitive global environment. Satisfactory customer care is what adds value for money. Economic restraints and stressful environmental influences add more emphasis on value for money in the eyes of the client.

Customer satisfaction, by nature, is dependent on an individual's expectation and previous experience of service (Wood Holmes Group, 2006. <http://www.woodholmes.com.uk/134>). It is adjudged that a service feature, or the service itself, provides a pleasurable level of consumption-related fulfillment (Zeithaml, 2006:110). Customer satisfaction represents a profitable competitive strategy variable because studies have shown that the public is inclined to pay more for quality institutions which are better disposed to satisfy customers needs (Andaleeb, 1998:181).

With satisfied customers that are educated through the Internet, open discussions, an inquisitive nature and worldwide exposure of new trends, it

becomes more difficult to satisfy the customers with a feeling of pleasure (Schlossberg, 1993:2).

In the health sector it is of essence to understand the added pressure on the suppliers to satisfy the needs of the patients. Patients are usually in disequilibria when it comes to illness, which means that they are not thinking in their normal pattern (Potter & Perry, 1997:15). Being ill touches the wholeness of each individual, his or her family and work environment. External variables influencing a patient's illness behavior include the visibility of symptoms, social group, cultural background, economic variables, accessibility of the health care system and social support (Potter & Perry, 1997:51).

Patient care is one of the fundamental aspects of the success of the hospital industry, in conjunction with clinical governance (Heskett & Jones, 1994:5). The authors suggest that clinical governance has four pillars, of which one is the patient's experience. The patient's experience deals with all aspects of the perceptions of patients and their families. The patient's experience deals with different aspects. These aspects can range from the friendliness of staff, safety and quality of food to the physical surroundings of the patient (Zeithaml, et al. 2006:316).

## **1.2 Problem Statement**

Health care in the world is going through a turbulent phase. With influenza epidemics, HIV status, poverty and the average age of populations worldwide either increasing or decreasing, it is difficult to maintain quality service in the health care sector (Da Costa, 2007:29). The health care industry has to cope with environmental pressures such as demographic changes and the ageing of populations, the emergence of new treatments and technologies and the

increased insistence on greater service quality, in order to maintain a competitive advantage (Zineldin, 2006:61).

The demand on the state for healthcare services in South Africa is increasing and good service quality is sometimes not possible (Da Costa, 2007:29). This and other factors put pressure on the private health sector to deliver excellent service quality and still make a profit. According to Delvin and Dong (1994:10) numerous studies have shown that the provision of high quality service is directly related to an increase in profits, market share and cost savings (Sohail, 2003:198).

Evaluating quality is critical in services (Zineldin, 2006: 65). Quality is considered a critical determinant of an organisation's competitiveness and long term profitability. The author suggests that good quality care is considered the right of all patients and the responsibility of the staff within the hospital. Competitiveness among health care organisations also depends upon patient's satisfaction. (Zineldin, 2006:65).

The SERVQUAL questionnaire is an instrument that measures the customer's expectations and perception of the service they received in a service industry (Parasuraman, Zeithaml & Berry, 1988:12). This measure is used to check on and improve the quality of care given by health professionals in the health industry (Zineldin, 2006:66). Consumer ratings or patient satisfaction information measures research health care from the patient's point of view. The SERVQUAL has five dimensions, one of which is the tangible physical environment (Zeithaml, et al. 2006: 315). The physical environment is what the researcher is focusing on in this research project, focusing specifically on patients perceptions.

The hospital being investigated is a 175 bedded private hospital in Ekurhuleni. It specializes mainly in mother and child services. Of the mother

and child services, the maternity unit has the highest occupancy in the hospital. They have an average birth rate of 180 babies a month. This unit is currently situated in a ward where facilities are in need of a refurbishment. The maternity unit is currently being upgraded into a first world facility. The patient's perception of the care at present, researched on a constant basis by a customer satisfaction questionnaire, is less than satisfactory. They complain about the lack of physical space and a dull environment leading to a perception of unsatisfactory care. The refurbishment will be completed in September 2007. The refurbished unit will be occupied by maternity patients from September 2007.

The maternity unit has been described as old by the current patients, and the perception of quality, as stated in the feedback questionnaires, is not high on the customer satisfaction index.

The above leads to the question: Can changes of the physical evidence in a 28 bed Maternity unit in the private health sector influence the perception of service quality?

### **1.3 Purpose of the Research**

The purpose of the research is to establish how changes in physical evidence can influence the patient's perception of the service quality in a maternity unit in a private hospital setting.

### **1.4 Research Objectives**

A research objective or purpose gives a broad indication of what researchers wish to achieve in their research (Mouton, 1996:101). Zikmund (2003:99) describes it as the researcher's version of the business problem. Objectives can be classified as primary and secondary objectives.

For this study the primary objective will be to determine how changes in physical evidence influence the perceptions of service quality on maternity patients in the private hospital under investigation.

The secondary objectives are as follows:

- ❖ To determine the perceptions of service quality in both the experimental and the control group before and after the change in physical evidence
- ❖ To determine whether the physical evidence affects the perceptions of service quality.
- ❖ To determine if the age of the mother affects the perceptions of service quality in a maternity unit.
- ❖ To determine if it will have an effect on the perception of service quality if the mother has other children.

## **1.5 Research Methodology**

### **1.5.1 Research Design**

Zikmund (2003:65) is of the opinion that research design is a master plan specifying the methods and procedures for collecting and analyzing the needed information. It is a framework or blueprint that plans the action for the research project. It is important because every research proposal needs a blueprint for planning the action.

In this research the master plan was identified and the action plan written after the objectives was clearly stated. The researcher planned the blueprint in detail according to the following headings:

- ❖ The research method
- ❖ The research format
- ❖ Data collection instruments, sources and collection



- ❖ Statistical analysis
- ❖ Hypothesis

### **1.5.2 The Research Method**

Quantitative research underlies the natural scientific method in human behavioral research. This research must be linked to what we can measure and observe objectively (Welman, Kruger and Mitchell, 2005:28). The distinction between the qualitative paradigm and the quantitative paradigm is the quest for understanding the inquiry in depth (Henning, van Rensburg and Smit, 2004:3). When making a decision on what and how to do the research, the researcher is either certain, ambiguous or uncertain (Zikmund, 2003:53), but needs to clarify it before the research method can be chosen.

The research design used in this study is quantitative where Welman, et al( 2005:28), in a quantitative study, define objective as a noun used irrespective of feeling or opinion.

The study will measure the influence of physical evidence on the perception of service quality by patients in a maternity unit in a hospital setting.

### **1.5.3 The Research Format**

According to Welman et al. (2005:78), experimental research involves some form of intervention. Experiments hold the greatest potential for establishing cause-and-effect relationships (Zikmund, 2003:86). For the purposes of this study the research format is causal. Zikmund (2003:56) maintains that the main goal of causal research is to identify cause-and-effect relationships among variables.

When designing a true experiment, the researcher often must create an artificial environments to control independent and extraneous variables. A quasi-experiment is a study in which the researcher lacks complete control over the scheduling of treatment or must assign respondents to treatment in a non random manner. Quasi-experimental designs have been developed to deal with this problem (McDaniel & Gates, 1998:210).

Looking at the researcher's objectives and the type of information and setting needed for the research, a quasi-experimental research design was implemented. This quasi-experiment does not qualify as a true experimental design because it does not adequately control the problem associated with loss of internal validity (Zikmund 2003:191).

Examples of quasi-experiments can include:

- ❖ One-Shot design: a single measure is recorded after the treatment is administered and there is no control group
- ❖ One-Group Pretest-Posttest Design: the subjects in the experimental group are measured before and after the treatment are administered but in which there is no control group.
- ❖ Static group design: subjects in the experimental group are measured after being exposed to the experimental treatment, and the control group is measured without having been exposed to the experimental treatment

(Zikmund, 2003:275)

For this study the patients in the maternity unit are exposed to something different, namely the physical evidence in the unit. The dependent variable will be the patients in the maternity unit in the hospital. The physical evidence will be the independent variance (Goddard & Melville, 2001:32-33). The maternity unit's physical environment changes as it is renovated.

For the purpose of this study the Maternity patients in hospital will complete a questionnaire in one month and then other Maternity patients will be tested in another month, also in the hospital, after the physical evidence has changed. This will indicate any potential effect on the perception of service quality among the groups.

The control group will be Maternity patients in another maternity unit in another hospital setting without changing the physical environment.

The research design can be illustrated in the following diagram:

Hospital 1 – Experimental group	O <sub>1</sub>	X	O <sub>2</sub>
Hospital 2 – Control group	O <sub>1</sub>		O <sub>2</sub>

This design will be discussed in detail in Chapter Five.

#### 1.5.4 Research Data Collection Methods

According to Zikmund (2003:63), primary data is gathered and assembled specifically for the research project at hand. The measuring instrument for this study will be obtained by making use of primary data. This will be original data collected by the researcher using a questionnaire.

#### 1.5.5 Population

Zikmund (2003:369) defines a population or universe as any complete group of people, companies, hospitals, stores, students, or the like that share some set of characteristics. The population element refers to an individual member of the population. According to Goddard and Melville, (2001:34), a population is any group that is the subject of research interest. The population elements are pregnant patients that are admitted to the maternity unit in a private hospital setting to have a caesarian section

done to enable them to give birth to their child in the specific months identified.

### **1.5.6 Sampling**

Sampling is a separate stage of the research process (Zikmund 2003:70). Sampling is defined as any procedure that uses a small number of items or a portion of a population to make a conclusion regarding the whole population.

### **1.5.7 Sampling Method**

Probability sampling is a sampling technique in which every member of the population has a known, nonzero probability of selection (Zikmund, 2003:370). The simple random sample is the best known probability sample, in which each member of the population has an equal chance of being selected. Systematic sampling is defined as a sampling procedure in which an initial starting point is selected by a random process and then every number is selected.

Zikmund (2003:71) says that although large samples are more precise than small samples, proper probability sampling will give a reliable measure of the whole. In this study a small sample of thirty patients will be used out of on average hundred and eighty patients.

In this study a sample will be selected according to the definition of random sampling. According to Goddard and Melville (2001:36), a random sampling is if the researcher chooses the participants at random. Zikmund (2003:262) defines this sampling method as a sampling procedure in

which the assignment of subjects and treatments of groups is based on chance.

The first thirty maternity patients that are booked in at the maternity unit in the private hospital setting will be selected to participate in this study.

They will be booked in if their gynecologist has diagnosed that they are ready to deliver their child. They will all be booked for an elective caesarian section with no anticipation of complication. They will be the first thirty maternity patients in the months of August and November at the maternity units at both private hospital settings.

## **1.5.8 Data Collections Instrument, Sources and Collection**

### **1.5.8.1 Survey Instrument (The data collection instrument)**

Goddard and Melville (2001: 47) define a questionnaire as a printed list of questions that respondents are asked to answer. The questionnaire will be a survey used to measure the perception of maternity patients in a hospital setting.

The questionnaire will be based on the SERVQUAL questionnaire that is formulated by Parasuraman et al (1988) and tested in the field. Although the SERVQUAL dimensions are used, only the perceptions were researched. The questionnaire has been tested for validity and reliability and is a standardized instrument. The SERVQUAL questionnaire has five dimensions, namely tangibility, reliability, responsiveness, assurance and empathy. All five dimensions will be stipulated in the questionnaire. The tangible section will however be extended, as the research is mainly around the tangibles.

The questionnaire makes use of the Likert scale. This scale was introduced by Likert (1903-1981) and is at present the most popular type of scale (Welman, et al. 2005:156). The Likert scale can be used for multidimensional attitudes (Welman, et al. 2005:157). In this study a five point scale has been used, where 1 is very negative and 5 is high towards the positive form.

In this study there is a collection of statements of the perception of maternity patients about service quality. In respect of each statement, the patients have to indicate the degree to which they perceive its content to be true or to what extent they agree..

The questionnaire has instructions on how to complete the questionnaire. Section One collects the demographic information and Section Three relays specific information about the patient herself and the birth. Section Two is the section that contains the different statements on the dimensions of service quality. Detail will be supplied in chapter five.

#### **1.5.8.2 The Method of Data Collection**

There are a number of ways in which data can be collected (Goddard & Melville, 2001:63). These include personal collection, use of the telephone and electronic means. In this study, use will be made of personal collection.

In the experimental group, the first maternity unit in the private hospital setting, the researcher will personally hand out and collect the questionnaires after completion.

In the control group, the researcher will deliver the questionnaires to the nurse manager of the hospital. She will personally hand out the questionnaires and collect them after completion.

#### **1.5.8.3 Collection procedures**

In the experimental group it will be the first thirty maternity patients that have an elective caesarian section, in a maternity unit in a private hospital setting in a certain month who will complete the questionnaire on service quality. This same sampling method will be done in another month (November) with different maternity patients in a completely different environment. This will enable the researcher to determine the effect of the tangible dimension on the overall perception of service quality.

The control group will consist of the first thirty maternity patients that had an elective caesarian section, in a maternity unit in a different private setting in the same month. The same sampling will be done in the second period (November) in that hospital.

Both maternity units in the two different private hospital settings are in the same socio economic group and demographics. They are all females. This will be discussed in detail in the research chapter (Chapter five).

#### **1.5.8.4 Statistical Analysis**

The research design and questionnaire have been analyzed by statisticians of the University of Johannesburg. The questionnaire is based on the well known questionnaire that was formulated by Parasuraman et al. (1988). It has already been validated and shown to be reliable (Buttle, 1995:8).The assistance of Statkon

(The Statistical Consulting Service at the University of Johannesburg) will be used in the analysis of the results.

Analyses that will be conducted include descriptive analysis. Descriptive analysis is defined as the tests that describe a set of characteristics of a population. It determines the answers of who, what, where and how questions (Zikmund, 2003:55). He also defines the analysis as raw data that is transformed to make it easy to understand.

The hypothesis testing will also be carried out using various tests (Refer to Chapter 5).

## **1.6. Hypothesis of the Study**

The best expression of an objective is a well formed hypothesis (Zikmund, 2003:65). A hypothesis is defined as an unproven proposition or supposition that tentatively explains certain facts or phenomena that is empirically testable (Zikmund, 2003:44).

Hypothesis testing is the testing to see which of the two hypotheses is correct. The two hypotheses are the null hypothesis and the alternative hypothesis (Zikmund, 2003:499).

Physical evidence is one of the important factors that influence a patient's satisfaction and ultimately how they perceive the quality care (Baron-Epel, et al. 2001:318)

$H_0$ : Changes in physical evidence have no effect on the perception of service quality for maternity patients in a hospital setting.



$H_a$ : Changes in physical evidence have an influence on the perception of service quality for maternity patients in a hospital setting

$H_0$ : There is no difference between the groups with regards to their perception of service quality in the maternity unit.

$H_a$ : There is a difference between the groups with regards to their perception of service quality in the maternity unit.

$H_0$ : There is no difference between the groups with regards to the dimensions of their perception of service quality in the maternity unit.

$H_a$ : There is a difference between the groups with regards to the dimensions of their perception of service quality in the maternity unit.

$H_0$ : The age of maternity patients has no influence on the perception of service quality

$H_a$ : The age of maternity patients has an influence on the perception of service quality for patients in a hospital setting.

$H_0$ : The number of children the maternity patients have has no influence the perception of service quality.

$H_a$  : The number of children the maternity patients have influences the perception of service quality.

### **1.7. Restrictions to which the Study is Subjected**

Incorporated in this study are patients that are making use of the private health sector. The public health sector has been excluded from this study. The implications would be that only a representation of the population of

the country will be included in this study. Private patients have all medical aids and the assumption is made that at least one member of a family is employed.

These maternity patients have a choice where they want to deliver their babies. They have made a choice to come to this private hospital. Patients delivering their babies in the public health sector have no choice. They are admitted to the closest appropriate facility. Their length of stay is shorter than in the private health sector.

These patients all have caesarian section deliveries that are planned with their gynecologist in advance and the date booked. This may affect their perception of the various dimensions, due to the nature of the procedure.

## **1.8 Key Terms:**

### **1.8.1 Physical Evidence.**

According to Zeithaml, et al. (2006:317), physical evidence means tangible cues included in quality service. They include all aspects of the private hospital's physical faculty (the servicescape) as well as other forms of tangible communication. Service quality consists of tangible and intangible aspects visualized on a tangible spectrum. Services are usually intangible and the tangible aspects are used to evaluate the services. Tangibles are the appearance of physical facilities, equipment, personnel and communication materials (Zeithaml, et al. 2006; 120).

### **1.8.2 Servicescape.**

Servicescape is defined as an organisation's physical facility (Zeithaml, et al. 2006:317). The authors say elements that affect the customers include

facility exterior and facility interior. Also, where the service is actually provided.

### **1.8.3 Services.**

Services are deeds, processes and performances. Services and the service sector of the economy have been defined in subtle different ways. Services include all economic activities whose output is not a physical product or construction (Zeithaml, et al. 2006:4).

### **1.8.4 Service Quality**

Service quality is defined, according to Zeithaml (2006:106), as a focused evaluation that reflects the customer's perception of:

- ❖ Reliability
- ❖ Assurance
- ❖ Responsiveness
- ❖ Empathy
- ❖ Tangibles.

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### **1.8.5 Maternity patients.**

This refers to patients that are admitted to a maternity unit for the purpose of delivering a child. In this study it refers to full term maternity patients that are admitted for an elective caesarian section and the gynaecologist will make a diagnosis when the patient is ready.

### **1.8.6 Private health sector.**

The private health sector is a private concern offering a health service to patients on a medical aid or patients who can afford the private fees or

specific fixed fees for certain procedures (Da Costa, 2007:29). Private health sector: "A unit delivering health services where the staff delivering the service is employed by any other organisation that is not a part of the government" (National Department of Health,2006).

### **1.8.7 Public health sector.**

This health sector offers a health service to all walks of life. This sector is sponsored by the government. The government gets it funds from the taxpayer (da Costa, 2007:29). " A unit delivering health services where the service provider is a government department. It is the employer of the staff providing the service that determines ownership. So government employees providing services on donated or leased properties, or in hospitals under public private partnership arrangements are still public services" (National department of Health, 2006).

## **1.9 Division of the Study:**

### **1.9.1 Chapter One**

In this chapter the researcher describes the complete research process by introducing the topic of the possible effect of the physical evidence on the perception of the service quality on the patients in a hospital setting. She follows the process until an outline is given of the conclusion and recommendations after the proposed research has been done.

### **1.9.2 Chapter Two**

The researcher explains the concept of physical evidence by defining the nature of a service as well as physical evidence. The components of physical evidence are discussed and the role of it clarified.

### **1.9.3 Chapter Three**

In this chapter, service quality is defined, its different components discussed and a description is given of how service quality is measured by using the specific SERVQUAL instrument. Criticism of this instrument is mentioned, and other instruments and their usage are also discussed.

### **1.9.4 Chapter Four**

In this chapter, the researcher discusses the health care sector in South Africa, distinguishing between the Public and Private sector. The emphasis in this chapter is the Private health sector, more specifically in Gauteng and two hospitals are used as samples for this research.

### **1.9.5 Chapter Five:**

In this chapter, the researcher discusses the purpose of the research, research objectives, the research methodology, data collection instruments, sources and procedures as well as a the statistical data and the hypothesis.

### **1.9.6 Chapter Six**

In this chapter, the researcher discusses the findings after the research has been completed and makes recommendations based on the findings of the research.

## **1.10 Conclusion**

The purpose of this chapter is to introduce the study and its constructs. The following chapters, chapters two to five, will investigate these constructs and the research in detail. Chapter six will discuss the findings and recommendations in full after completion of the research.

# **CHAPTER TWO The Nature of Physical Evidence**

## **2.1 Introduction**

In this chapter we will address the nature of a service, the importance of service quality and the nature of physical evidence and the components and roles of this physical evidence. A detailed model is discussed, based on the behavior of patients and employees as a result of the physical evidence and their internal responses.

## **2.2 The Nature of Services**

According to Zeithaml, et al. (2006:4), service can be defined as all the economic activities whose output are not a physical product or construction, are generally consumed at the time produced, and provides added value in different forms. The Health industry is seen as a service, as it is not a physical product or construction and is assistant in the healing process. Recognition of the differences between products and services through the dimensions of intangibility, inseparability and heterogeneity is essential when defining services (Sohail, 2003:197).

Service is also described in the English dictionary as “the action of serving, helping, benefiting or conducting the welfare or advantage of another” <http://64.233.183.104/search?q=cache:Mym76Rfk0VQJ:www.123helpme.com/preview.a>).

Services and the service sector of the economy have been defined in subtly different ways. A definition for services used in this study is that services are deeds, processes and performances (Troy, 2003:48).

Customer service is also a critical aspect of services. Ziethaml, et al. (2006:5) suggests that customer service is provided to support the core business. In the health industry the core business is to facilitate the healing process of the sick (Troy, 2003:48). He is also of the opinion that this service takes place in the hospitals where customer service is vital to make the experience as positive for the patient as possible. Troy (2003:48) says that to be able to do that, the treating staff has to understand what motivates each patient in their care, along with patients needs, wants, and sensitivities.

## **2.3 The Nature of Physical Evidence**

### **2.3.1 The Additional Ps in Services' Marketing**

The service marketing literature offers frameworks for investigating the service encounter. The marketing mix was traditionally the 4 P's but has been extended to the 7P's of services (Schmidt and Sapsford, 1995:34).

These 7 P's in marketing a service (Lovelock, 2004:14), are product, price, place, promotion, people, process and physical evidence. The product or service that is to be marketed has to be developed according to demand by market segment, revealing patterns within patterns (Zeithaml, et al.

2006:456). Marketing the service is essential to differentiate the organisation's service from other similar services, using the correct competitive price. The marketing process is essential in using the appropriate promotion material and physical evidence by people utilizing the interactive process (Lovelock, 2004:15).

In this research project the following descriptions apply to the seven P's:

- ❖ Product: the delivering of babies in a maternity unit
- ❖ Price: the price index is set by the tariff codes for private hospitals and negotiated every year with each medical aid
- ❖ Place: the maternity units in two private hospitals
- ❖ Promotion: patients that made use of our facility spread the word about the quality of the product and or the expertise of the gynecologists
- ❖ People: the staff delivering the service in the maternity unit
- ❖ Process: from admission up to the discharge of the mother and child is part of the process. Included in this process are the pre-natal visits to the hospital as well as the post- natal visits
- ❖ Physical evidence: tangible cues in the maternity unit that contribute to the evaluation of the service.

### 2.3.2 The Nature of Physical Evidence

An organisation's extended value mix, 7P's represents the controllable aspects of the service delivery of which the changing physical environment can be monitored and kept up to date and in good taste (Hoffman, et al. 2005:231).

According to Ziethaml, et al. (2006:329), physical evidence refers to tangible cues included in quality service. They include all aspects of



the private hospital's physical facility (the servicescape) as well as other forms of tangible communication.

New research indicates that United State patients and physicians are more and more likely to base their choice of hospital on physical evidence (Grote, Newman & Sutaria 2007:28).

Realising the importance of physical evidence for all stakeholders, it is of essence to understand the nature of the physical evidence in a hospital.

Physical evidence is of specific essence in the hospital setting. From a strategic perspective, the importance of managing the organisation's physical evidence stems from the firm's ability to focus on these important aspects (Hoffman and Bateson, 2006:17). These authors indicate that successful businesses constantly monitor their physical environments. They believe that when responses on quality of a service become more negative the management has to evaluate the physical evidence and whether it is lacking or not keeping up with the trends in the market share (Hoffman & Bateson, 2006:12).

According to Table 2.1, Ziethaml, et al. (2006:320), describe physical evidence in the hospital as building exterior, parking, signs, waiting areas, admission office, patient care room and medical equipment.

Table 2.1 Examples of Physical evidence from the Customer's point of view

<u>Service</u>	<u>Servicescape</u>	<u>Other tangibles</u>
Hospital	Building exterior Parking Signs	Uniforms Reports/Stationary Billing statements

	Waiting areas Admission office Patient care room Medical equipment Recovery room	Website
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Source: (Zeithaml, et al. 2006:320)

## 2.4 The Role of Physical Evidence In Services

Physical evidence is important in the delivery of a service as this can close the gap between what the patient expects and the delivery of the service (Wilson, Zeithaml, Bitner and Gremler, 2008:242).

The role of the physical evidence in services can be seen in the following:

- ❖ When closing the gap between the expectations and the perceptions of the patient, the consistent physical evidence must be compatible to the goals of the organization. According to Zeithaml, et al. (2006:319), physical evidence is the tangible cues to evaluate the service before its purchase and to assess their satisfaction with the service during and after making use of the service. In fact, the servicescape is frequently one of the most important elements used in positioning a service organisation.
- ❖ There are worthwhile lessons to be learned from the way in which users divert and subvert the planned design of physical support. Servicescape acts on users in order to achieve marketing goals (Aubert-Gamet, 1997:26). The servicescape influences the consumer's behavior. He states clearly that the consumer is a co-builder of the servicescape.

- ❖ The servicescape and other elements of physical evidence essentially “wrap” the service and convey to patients the external image of what is “inside” the hospital and is used for positioning the service. It is a visual metaphor for the intangible service (Zeithaml, et al 2006:319). The physical surroundings offer the hospital the opportunity to convey an image in a way not unlike the way an individual chooses to dress for success.
  
- ❖ Bitner,(1992:57) is of the opinion that physical environment may assume a variety of strategic roles in service marketing and management, namely:
  1. The servicescape provides a visual metaphor for an organisation’s total offering
  2. The servicescape can assume a facilitator role by either aiding or hindering the ability of customers and employees to carry out their respective activities
  3. The servicescape can point out the market segment and serve as a differentiator from other markets (Bitner,1995:57).
  
- ❖ Eiglier and Langeard often refer to the physical environment that facilitates the performance and the communication of a service (Aubert-Gamet, 1997:26).
  
- ❖ The servicescape is not only a cue for the expected service quality, but also influences customers’ evaluations of other factors determining perceived service quality (Reimer and Kuehn, 2005:785).
  
- ❖ The servicescape can also serve as a facilitator in aiding the performances of persons in a particular environmental setting like a

hospital. The design can enhance or inhibit the efficient flow of activities in the service setting, making it harder or easier for the patient and employees to accomplish their goals. A well-designed functional facility can make the service a pleasure to experience from the patient's and employee's point of view (Zeithaml, et al 2006:319).

- ❖ The design of the physical facility can differentiate a hospital from its competitors and signal the market segment that the service is intended for. Ziethaml, et al (2006:319) indicates that given the power as a differentiator, changes in the physical environment can be used to reposition a hospital and then to attract a new market segment.
- ❖ The design of the physical evidence gives the patients and employees a sense of differentiation of expected roles, behaviour and relationships. The physical evidence helps patients to realize where they are welcome, where the area is restricted to employees only, or where it is prohibited for patients to go as it is the operating theater (Dorrian 1996:45).

## **2.5. The Complexity of Servicescape**

Servicescape usage is regarded as very complex. In different circumstances it affects different people as people experience circumstances in the way they are feeling that day and depending on their different needs (Lawson, et al. 2002:27). Zeithaml, et al (2006:321) argues that in hospitals the main interaction is interpersonal and therefore the service becomes interpersonal and makes servicescape even more important to set the milieu for positive interaction.

Table 2.2 indicates that the complexity of the servicescape can determine what the servicescape and other tangibles are. As seen in Table 2.2, where a service is more interactive, like in a hospital, it makes use of elaborate servicescape. These elaborate servicescapes used in the hospital industry are usually on many floors and rooms, have sophisticated equipment, and complex variability in functions performed within the physical facility (Zeithaml, et al. 2006:322).

Table 2. 2. Typology of Service Organisations Based on Variation in Form and Use of the servicescape.

	Complexity of the Servicescape	
<b>Servicescape Usage</b>	<b>Elaborate</b>	<b>Lean</b>
Self-service (customer only)	Golf course eBay	ATM Car wash Simple Internet services Express mail drop-off
Interpersonal Services (both Customer and Employee)	hotel restaurant health clinic hospital bank airline school	Dry cleaner Retail cart Hair salon
Remote service (employee only)	Telephone company Insurance company Utility Many professional services	Telephone desk      mail-order Automated voice messaging services

Source: (Zeithaml, et al. 2006:321).

## 2.6 The Effect of Physical Evidence in The Medical Setting

Hutton and Richardson (2004:20), found that the physical environment in a health care setting had a significant effect on customer satisfaction, perceived service quality, intention to re-patronize and willingness to recommend. The effect of the physical evidence in the medical setting is as follows:

- ❖ Customer satisfaction: Customers have a high regard for a pleasant physical environment and express the satisfaction easily as Reimer and Kuehn, (2005:58) mention that the servicescape has a direct and indirect effect on perceived service quality and ultimately the satisfaction of the patient.
- ❖ Perceived service quality: Physical evidence influences the customer's perception of the quality of service. Reimer and Kuehn,(2005:59) are of the opinion that patients staying longer in a facility, like a hospital, emphasise the servicescape more in their perception of quality service.
- ❖ Intention to patronize: The customer can overlook a lot of quality issues if the physical environment is pleasing.
- ❖ Willingness to recommend: Customers more readily recommend a physically pleasing environment to friends (Hutton and Richardson, 2004: 20).
- ❖ As a communication tool: Physical evidence is particularly important as communication tool for services such as hotels, hospitals and theme parks that are dominated by experience attributes. Because services are intangible, customers often rely on physical evidence to evaluate the service before they purchase and to assess their satisfaction with the service during their pregnancy and after consumption (Zeithaml et al. 2006:317). They mention the importance of the effective physical layout to close the gap between the expectations of the patients and their perceptions. Customers expect good service if the physical evidence is of high standard. Hoffman et al. (2005:231) say that due to the intangibility of

services, customers often have trouble evaluating service quality objectively. Therefore they rely on physical evidence that surrounds the service to help them with their evaluation.

Lawson and Wells-Thorpe (2002:27) conducted a study about the experience and health outcomes of mental health patients when they moved to a new facility with enhanced physical evidence. The outcome of the research showed in the new facility with the enhanced physical outcome, the patients were less aggressive and the length of stay was shorter.

## **2.7 Physical evidence of a service as a package**

An organisation's exterior appearance, interior design, and other tangibles create a package that surrounds the service (Hoffman & Bateson, 2006:17). The concept is about the package of a service, namely,

- ❖ Package the service as a whole: although the core business in the healthcare sector is delivering good healthcare, the hospital's physical environment leans it towards a package as a whole. Utilizing the firm's physical evidence to package the service does send quality cues to consumers and adds value to the service in terms of image development (Hoffman, et al. 2006:227)
- ❖ Facilitate the flow of the service delivery process: the maternity patient's service delivery is a process that flows from pre-natal to post-natal with the delivery itself in the core facility. Physical evidence can provide information to customers on how the service process works (Hoffman, et al. 2006:227).
- ❖ Socialize customers and employees alike in terms of their respective roles, behaviors, and relationships: customers and patients come from the same environment and need to be in a relationship fit,

understanding each other's values. Organizational socialization is the process by which an individual adapts to and comes to appreciate the values, norms and required behavior patterns (Hoffman, et al. 2006; 228).

- ❖ Differentiate the organization from its competitiveness: maternity patients shop around for the best product and thus differentiation is important. Differentiation can be achieved by utilizing physical evidence to reposition the service in the eyes of the customer (Hoffman, et al. 2006:226).

## 2.8 The Components of Physical Evidence

Physical evidence as discussed has several components that are all important aspects of physical evidence as they impact on customer perceptions (Bitner, et al. 2006:317).

A number of components of physical evidence can be identified, namely servicescape and other tangibles (Zeithaml, et al. 2006:317), as seen clearly in Table 2.3.

Table 2.3 Components of physical evidence

<u>Service</u>	<u>Servicescape</u>	<u>Other tangibles</u>
Hospital	<p><b>Facility exterior</b></p> <p>Exterior design</p> <p>Parking</p> <p>Signage</p> <p>Landscape</p> <p>Surrounding areas</p> <p><b>Facility interior</b></p> <p>Interior design</p> <p>Equipment</p>	<p>Uniforms</p> <p>Reports/Stationary</p> <p>Billing statements</p> <p>Website</p> <p>Business cards</p> <p>Stationary</p> <p>Billing statements</p> <p>Employee dress</p> <p>Virtual service scapes</p>



	Signage Layout Air quality temperature	
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Source: (Zeithaml, et al. 2006:317).

The term servicescape refers to both exterior attributes (such as building exterior, signage, parking, waiting areas, admission office, and the landscape) and interior attributes (such as design, layout, equipment and décor) (Zeithaml, et al. 2006:317).

Servicescape is defined as an organisation's (the place where the service is delivered) physical facility (Zeithaml et al. 2006:317). The authors say elements that affect the customers include facility exterior and facility interior.

They are of the opinion that it is apparent that hospitals rely heavily on physical evidence to communicate and create the expectations of customers (Zeithaml,et al. 2006:318). Physical evidence, particularly the servicescape, can have a profound effect on the customer's experience (Zeithaml, 2006:318). This is particularly true when the experience is personally meaningful, for example a birthing room in a hospital.

The servicescape refers to the use of physical evidence to design service environments (Hoffman et al. 2005).

In turn, the servicescape consists of a number of dimensions, namely ambient conditions, space/function and signs, symbols and artifacts (Hoffman, et al 2005:231).The servicescape consists of ambient conditions

such as room temperature, music and noise levels. Bitner's,(1992:59) model of Servicescape highlights music as just one of a range of ambient conditions influencing behavior. Studies reveal significant relationships between specific musical variables and desired consumer behavior outcomes and is displayed in a visual framework entitled the musicscape (Oakes, 2000:539).

The inanimate objects that assist the hospital in completing tasks, such as layout, furniture, equipment, bathroom facilities and pictures are of importance as to how the patients experience their hospital stay. According to Hoffman, et al. (2005:231), the third component is the signs, symbols and artifacts like signage, décor, uniforms, award plaques and personal artifacts.

Table 2.4 Components of the servicescape

<b>AMBIENT CONDITIONS</b>	<b>SPACE / FUNCTION</b>	<b>SIGNS, SYMBOLS, AND ARTIFACTS</b>
<ul style="list-style-type: none"> <li>❖ Temperature</li> <li>❖ Air quality</li> <li>❖ Noise</li> <li>❖ Music</li> <li>❖ Odor</li> <li>❖ Etc</li> </ul>	<ul style="list-style-type: none"> <li>❖ Layout</li> <li>❖ Equipment</li> <li>❖ Furnishings</li> <li>❖ Etc</li> </ul>	<ul style="list-style-type: none"> <li>❖ Signage</li> <li>❖ Personal artifacts</li> <li>❖ Style of décor</li> <li>❖ Etc</li> </ul>

Source: (Zeithaml, et al. 2006:328)

Corporate strategists are giving much more attention to experiences that the customers perceive. They recognize that the physical evidence of the service will influence the flow of the experience. The meaning the customers attach to it, their satisfaction, and their emotional connections with the company delivering the service are all important aspects (Zeithaml et al. 2006:320). Ideas and concepts are also taken from environmental psychologists to perfect the physical evidence that the patients are experiencing.

Servicescape usage is potentially influenced by the patients, their families and friends, the doctors and the employees. As the service in a hospital is of an interpersonal relationship nature, the servicescape is very important, even for initial perception. The initial perception of the hospital's servicescape can influence the complete experience of the role players. Dorrian, (1996:16) calls this one of the important moments of truth for the patients.

## **2.9 Servicescape Effects on The Customer's Behavior**

Zeithaml, et al (2006:321), presents a framework or model of environmental and behavioral relationships in service settings that explain the effects of servicescape on the behavior of the patients and the employers.

They say that the servicescape will affect the employee and the customers as they are both active in the service industry. The framework of Zeithaml, et al. (2006:328) for understanding servicescape effects on behavior, follows from the basic stimulus-organism-response theory. In this framework the multidimensional environment is the stimulus, patients and employees the organisms that respond to the stimulus, and behaviors directed to the environment are the responses. The framework is reflected in Figure 2.1. The components in the model all impact

### **❖ Physical Environmental Dimensions**

As discussed earlier in this chapter the nature of physical evidence has an influence on human behavior and therefore the dimensions are important. The physical environmental dimensions include the ambient conditions, the space and function and the signs and symbols and artifacts as

described by Hoffman, et al. (2005:231). They can clearly be seen in Figure 2.1.

In the hospital setting it would be how the patients perceive the physical environment when they entered the hospital or the unit where they are being admitted. Is the signage clear? Is it noisy and does it smell clean?

On the other hand the employees will perceive the physical environment in terms of noise, comfortable furniture and up to date working computers.

The above dimensions allow for a holistic environment with a perceived servicescape for the employee and the patient (Zeithaml, et al., 2006:328)

#### ❖ Holistic Environment

The holistic environment is the perceived servicescape by the employees and the customers. The way the employees and customers perceive the servicescape, taking into account their internal responses, will determine their behavior. The servicescape is therefore of essence (Wilson, et al. 2008:248).

#### ❖ Internal Responses:

The employee and the patient will react according to their internal belief systems in a cognitive, emotional or behavioral way (Wilson, et al. 2008:248). The patient and the employee come to the hospital with these internal belief systems and interaction takes place between the two. Each interaction will be different from the previous one as all individuals differ and are at different psychological places. The cognitive patterns are what the patient and employee think about the physical environment and unconsciously form a perception of all the future interaction with this

hospital (Zeithaml, et al. 2006:248). The employer might perceive the environment as hot and feel hot and bothered and might not be friendly at all when speaking to an insecure patient booking in for an operation. The emotional component will determine the mood and attitude of the patient and employee. Other employees and patients can experience physiological effects, such as pain and discomfort. The receptionist can have a headache and the patient a sore leg.

#### ❖ Behavior

After the social interaction between the patient and the employee, a certain behavior manifests. If the interaction in this setting was favorable the patients return to use the facility. If the employees had a positive experience, they will be willing to give an even better service and walk the extra mile (Wilson, et al. 2008:429). Environmental psychologists are of the opinion that individuals react to places with two general, and opposite forms of behavior: approach and avoidance. Approach behaviors include all positive behaviors that might be directed at a particular place, such as work, affiliate, explore and a desire to stay. Avoidant behavior is the opposite, a desire not to do the above (Zeithaml, 2003:328).

(Note: in the South African context, the affiliation of the Doctor to a specific hospital may impact the decision to return to the facility).

#### ❖ Social interaction

The social interaction between employee and customer takes place in the servicescape. However, the quality of interaction then becomes

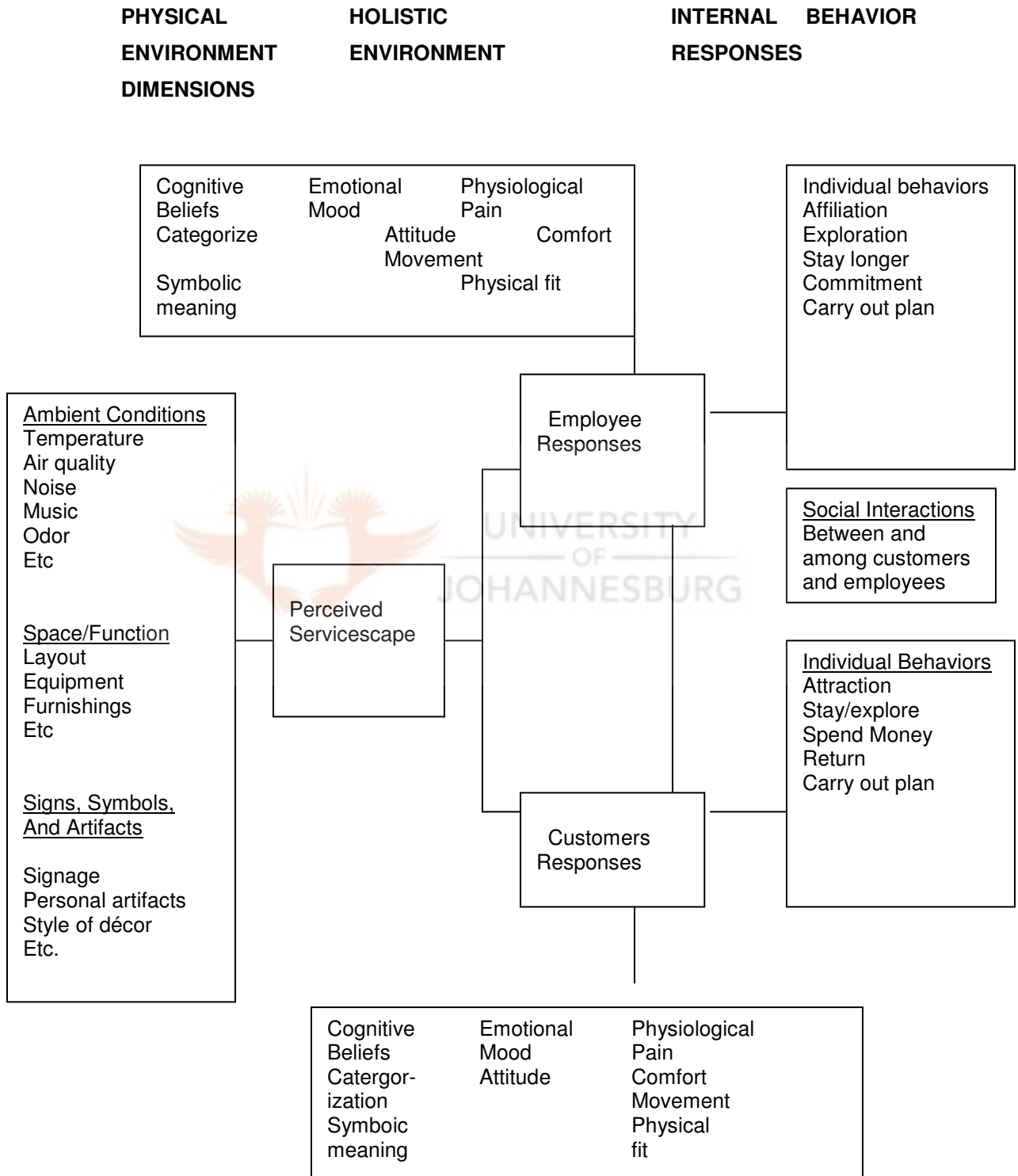
significant, depending on the behavior of the employee and customer (Wilson, et al. 2008:429).

Figure 2.1 shows that interrelationships are part of all the different aspects, namely the, physical environmental dimensions, the holistic environment, the internal responses and the behavior.

In view of this, it is imperative that physical evidence forms a major part of the strategy of the company. This begins by realizing the impact that physical evidence has on the perceptions of the customers; formulating a strategy involving processes of the patients pathway and identifying the roles of the servicescape; assessing and identifying the opportunities the servicescape can offer and being prepared to modernize the servicescape (Vandamme & Leunis, 1993:30).



Figure 2.1. A Framework for Understanding Environmental-User Relationship in Service Organisations.



Source: (Zeithaml, et al. 2006:328)

## 2.10 Conclusion

In this chapter the emphasis has been on the nature of services and more specifically the nature and role of physical evidence. By focusing on the physical evidence in a hospital setting, the patient can have a positive experience of the complete service rendered. This will lead to patients returning to use your facility and profitability will increase.





## CHAPTER THREE Service Quality

### 3.1 Introduction

In this chapter, service quality will be defined, its different components discussed and described how service quality is measured by using the specific SERVQUAL instrument. Criticism of this instrument is mentioned as well as other instruments and their usage discussed.

### 3.2 A Definition of Service Quality

Service quality researchers agree on one issue: Service quality is an elusive and abstract concept that is difficult to define and measure (Hoffman, et al., 2005:334).

Zineldin (2006:66) considers quality as a critical determinant of organisational competitiveness and long term profitability of services. As mentioned before, Crosby says service quality has become an important research topic of the apparent relationship to costs (Buttle, 1996:8).

Service quality is essential for customer service and customer services are an essential part of services (Ziethaml, et al. 2006:5) in the hospital and hospitality environment. Patients spend a great deal of their time in bed and are not participating in their normal life patterns (Lawson & Wells-Thorpe, 2002:28). They imply that this might well make them even more susceptible to the environment and thus more sensitive to it. They usually get a few minutes attention from the doctor and slightly more time from the nurses, but are generally left on their own. It is reasonable to assume that this environment may be a contributory factor to their sense of well-being and recovery. Lawson, et al. (2002:28) writes about Florence Nightingale

who had noted a century ago the importance of the surroundings of the patients and the caring by the caregivers.

Parasuraman, et al. (1988:12) describes service quality as a form of attitude, related, but not equivalent to satisfaction, that results from the comparison of expectations with performance.

Newman, (2001:26) defines service quality as perceived by the customer as the degree and direction of discrepancy between customer expectations and perceptions.

The concept of quality is viewed in the academic world as the difference between expectations and the perceptions of the outcomes. The service must satisfy the needs and demands of the customer (Moolla and du Plessis, 1997:64)

Perceived service quality has been defined as the difference between expectations and performance of the service (Liljander & Strandvik, 1992:1). They are of the opinion that if performance equals or exceeds expectations the perceived service quality is satisfactory. Otherwise it is unsatisfactory.

For the purpose of this study, service quality is defined according to Zeithaml, et al. (2006:106) as a focused evaluation that reflects the customer's perception. They say that the terms satisfaction and quality can be used interchangeably, but are of the opinion that they are different in terms of their underlying causes and outcomes.

### **3.3 The Importance of Service Quality**

Numerous studies have shown that the provision of high quality service is directly related to an increase in profits, market share and cost savings (Sohail, 2003:200). He mentions the fact that with competitive pressures and the increasing necessity to deliver patient satisfaction, the elements of excellent services are a priority. Li and Collier (2000:209) are of the opinion that service quality is a key to financial success and survival. With this effort to improve the service quality in hospitals, it is an essential part of survival in the health care industry and a means to choose which facility to use by the public, specifically in the healthcare sector.

There is increased competition for both patients and funders to choose their healthcare facility and it forces the healthcare industry, specifically hospitals to be more market-orientated (Vandamme & Leunis, 1993:32). They are of the opinion that the customer ultimately plays an active role in the provision of services of good quality. The views of patients are very important in strategy planning (Baltussen, Haddad & Sauerborn, 2002:45). They also mention the strong demand fluctuations, required excess capacity and careful planning at the level of the service provider.

Although service quality is that of the customer's definition of quality, and not the organisation's, it is still the organisation that has to survive in a very competitive environment (Berry, Parasuraman and Zeithaml, 1988:35).

Orava and Tuominen, (2002:678), did a study to analyze the quality of a professional surgical service. Their findings show that the relationship dimensions of service quality to be the most important in the medical context.

Thus, the importance of service quality is seen in the effect that it has on the organisation as a whole. It is seen in the following ways:

- ❖ Service quality has an effect on customer satisfaction (Arsali, Katircioglu & Mehtap-Smadi, 2005:509). Satisfaction will be experienced by the customer should the perception (or actual experience) exceed the expectations of customers (Zeithaml, et al., 2003:85).
- ❖ Service quality has an effect on customer loyalty (Heskett, 2002:355). This is perceived by the organisation when the perceived service quality experienced by the customer exceeds that which is offered by the competitors. The customers will stay loyal until proven wrong by continuous dissatisfaction. The delivery of service quality to customers is required in the long run if the organisation is to experience the benefit of customer loyalty (Kandampully, 1998:433).
- ❖ Service quality creates competitiveness for organisations and is associated with successful organisations (Kandampully, 1998:432). It has been said that many organisations sell a similar product of a similar quality, and that the differentiator between them is the superior service quality that is offered to the customer (Arsali et al., 2005:509).
- ❖ Service quality affects relationships and relationship marketing as customers are willing to build relationships with organisations and their marketing liaison departments that provide service quality (Zeithaml, et al., 2003:158).

### 3.4 Service quality and satisfaction

Customer service is a prerequisite for customer satisfaction (Newman, 2001:128). In this sense satisfaction is defined, according to Liljander and Strandvik, (1992:2) as the feeling emerging if the performance of a service equals or exceeds the perceived quality service.

Research on customer satisfaction in the healthcare environment has generated a diversity of variables to explain the important construct and it is building a convincing case that service strategies, implemented appropriately, can be very profitable (Andaleeb, 1998:182). The author suggests that despite the importance of service and the bottom-line profit potential for services, the consumer's perceptiveness is that the overall the quality of service is declining and customers are less satisfied. Zeithaml, et al. (2006:14-15), say there are several reasons for this. They include:

- ❖ Companies offer more tiered services for profit reasons and lose efficient customer services
- ❖ Customer expectations of services are higher because of the excellent services offered by other companies.
- ❖ Organizations cut cost to the extent that they are too lean and understaffed to provide quality care.
- ❖ Many companies give lip service, but do not deliver.
- ❖ Delivering consistent high-quality service is not easy, yet companies promise.

Carborne in (Zeithaml, et al.2006:317), a leading consultant on experience management, refers to the process of clearly identifying and managing all the various clues that customers use to form their impressions and feelings about the company. Included in these clues are the physical and tangible clues of the servicescape.

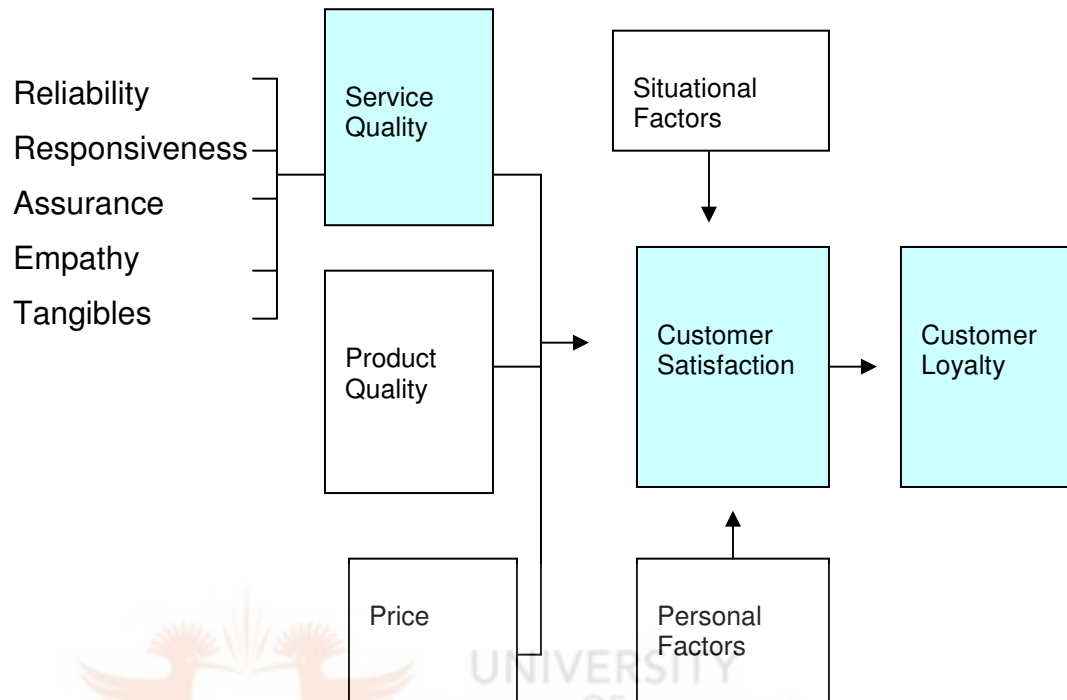
Although costs are an important aspect of patients choosing the facility for their treatment, service quality is becoming more and more important (Da Costa, 2007:37). Competitiveness among health care organisations depends on patient satisfaction. Zineldin, (2006:61) is of the view that patient satisfaction is created through a combination of responsiveness to the views and needs of the patients and is influenced by perceptions of service quality, product quality, as well as personal factors (Zeithaml, 2006:108).

Wolosin, (2007:1), suggest that in theory, a hospital's safety culture ought to be related to its service quality, meaning it deals with the service expectations of its patients, reflected in their satisfaction. He stipulates how nurses, who know how their patients perceive the quality service, can address the needs of the patients and families far more satisfactorily. Service quality also affects the customer's satisfaction. This will enhance the patient's feeling of satisfaction.

Emerging in its place is a new sophistication to business leaders who crave success and believe it goes beyond patient satisfaction (Schlossberg, 1993:2). He is of the opinion that these leaders get to know their customer's needs better than their own needs. They will deliver what is truly desired by the patients. The extreme satisfaction of a patient is customer delight. Schlossberg, (1993:4), defines customer delight as a strong positive, emotional reaction to a service.

Although certain aspects of satisfaction and quality overlap, Figure 3.1 illustrates the concepts and their location eventually lead to customer loyalty (Zeithaml, 2006:106).

Figure 3.1: Customer perceptions of quality and customer satisfaction

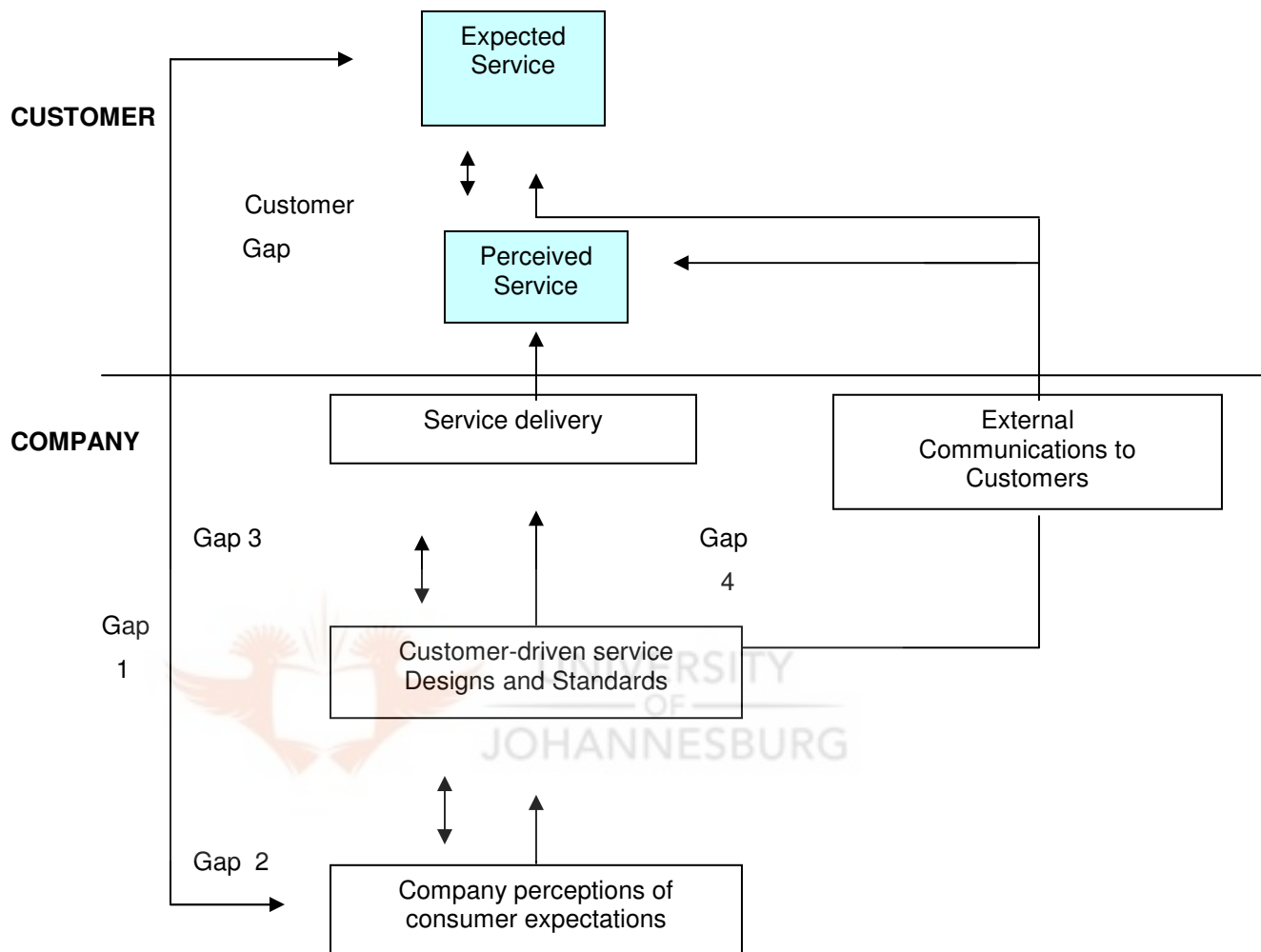


Source: (Zeithaml, 2006:107).

### 3.5 The Gaps Model

Service quality is a complex phenomenon and is illustrated in detail in the Gaps Model of Service Quality (Zeithaml, et al. 2006:46), shown in Figure 3.2.

Figure 3.2: Gaps model of Service Quality.



Source: (Zeithaml, et al. 2006:46).

It illustrates the different gaps that may exist in service quality, namely:

- ❖ The customer gap: The difference between customer expectations and their perceptions. Customer expectations and perceptions play a major role in service marketing. Customer's perceptions are subjective assessments of actual service experience (Zeithaml, 2006:49). Patients in hospitals have



different expectations and perceive service quality differently, which leads to an unsatisfactory patient (Zeithaml et al. 2006:36).

- ❖ Gap 1: Not knowing what customers want. If it is unknown what the customers wants, the service delivery can not cater for the expectations of the customers. Hospitals must make an effort to understand the expectations of their patients if they want to be competitive in the healthcare sector (Zeithaml et al. 2006:38). .
- ❖ Gap 2: Not selecting the right service designs and standards. Accurate perceptions of patients' expectations are necessary, but not sufficient, for delivering superior quality service in hospitals. Another prerequisite is the presence of service designs and performance standards (Zeithaml et al. 2006:38).
- ❖ Gap 3: Not delivering to service designs and standards. Once the designs and standards in a hospital facility are set, it needs systems, processes and people in place to ensure the service delivery (Zeithaml et al. 2006:39).
- ❖ Gap 4: Not matching performance to promises. Promises made by an organisation through marketing, creates expectations. Patients arrive at the hospital with expectations of certain service delivery and they expect it to happen (Zeithaml, et al. 2006:46).

### **3.6 Dimensions of Service Quality**

Service quality in a hospital has several dimensions. Different authors in service quality have different views on the components or dimensions of service quality (Buttle, 1996:9). There are seven main dimensions that have been addressed in the literature as crucial in the measurement of service quality and therefore patient's perception of service quality (Alasad & Ahmad, 2003:279). They are of the opinion that the dimensions mentioned are specific to hospitals. These dimensions are:

- ❖ Respect for the values, preferences and expressed needs of patients
- ❖ Co-ordination, integration and information flow
- ❖ Information and education
- ❖ Physical comfort
- ❖ Emotional support and alleviation of fear and anxiety
- ❖ Involvement of family and friends, and
- ❖ Transition and continuity.

Parasuraman, et al., (1985) initially identified ten dimensions of service quality, namely:

- ❖ reliability
- ❖ competence
- ❖ access
- ❖ courtesy
- ❖ communication
- ❖ credibility
- ❖ security
- ❖ understanding and knowing the customer
- ❖ tangibles and
- ❖ responsiveness

In their later publications, Parasuraman, et al. (1988), reduced the number to five dimensions that are still used today, namely,

- ❖ Reliability: - this involves consistency of performance and dependability. It also means that the firm performs the service well and honors its promises.
- ❖ Assurance: - this involves trustworthiness, believability, honesty. It involves having the customer's best interest at heart.
- ❖ Tangibility: - this includes the physical evidence of a service.

- ❖ Empathy: - this involves warmth, understanding and being there. It is individualized care.
- ❖ Responsiveness - it concerns the willingness or readiness of employees to provide the service.

Buttle, et al. (1996:31) finalized a 22- item scale with the above headings, and claim that the above dimensions are generic to all service contexts.

Zineldin (2006:72) expanded the SERVQUAL and technical functional quality models into a framework of five quality dimensions (5Q's), namely:

- ❖ Quality of object: - it measures the treatment itself. How do patients evaluate the perception of the treatment?
- ❖ Quality of processes:-how the health care institution provides the core function and utilizes its processes to achieve the quality.
- ❖ Quality of infrastructure :- measures the resources which are needed to provide the healthcare service, from care givers to administrators
- ❖ Quality of interaction :- the quality exchange between patients and caseworkers is measured
- ❖ Quality of atmosphere:-the relationship and interaction process between the parties is influenced by the quality of the atmosphere.

The above dimensions are specific to the health care setting and more specific to the hospitals.

Zineldin (2006:72) is of the opinion that though there are some common factors between the SERVQUAL and the 5Q's model, the 5Q's model is more comprehensive and incorporates essential and multidimensional attributes which is missing in the SERVQUAL model.

Zeithaml and Bitner (2003:119) describe the five dimensions of service quality in detail, and the proposed dimensions are those used in the SERVQUAL.

The fact that the five dimensions are so comprehensive for the healthcare sector and used in the SERVQUAL, makes the SERVQUAL dimensions relevant for use in evaluating the perceptions of patients.

### **3.7 Measuring Service Quality**

#### **3.7.1 Why measure service quality?**

Baron-Epal, Dusherat & Friedman (2001:318) emphasize the importance of service quality measurement tools for patient satisfaction. They say that the above mentioned SERVQUAL dimensions must be taken into account, as patient satisfaction is considered a significant determinant of the quality of patient care. Factors influencing patient satisfaction in the service quality dimensions may play an important role in determining the quality of patient care.

If an industry wants to cope with environmental changes and economical pressures it has to distinguish itself from the competition by high quality service (Andaleeb, 1998:181). Zineldin (2006:66) says that where there is a large amount of competition in a specific industry the only aspect of increased profits are differentiation by quality, and quality needs to be measured in a scientific proven instrument. This quality can then be compared to quality of other similar industries. This makes measurement essential.

A further importance is that service quality is an ongoing process. Benchmarking is a management tool to make sure the quality of services

stays high and progress is made as the expectations of the customers change (Da Costa, 2007:29).

There are, according to Zineldin (2006:66), two main types of quality measures that can help you in determining the service quality. Firstly there are consumer ratings and clinical performance measures. The patients or consumers can rate the service quality through their perceptions, or the service quality can be rated depending on the clinical outcome of the procedure.

### **3.7.2 Measuring Instruments**

Instruments that can be used to measure service quality in healthcare are the following:

- ❖ Customer Quality (ICQ)

Several well known service quality instruments were developed that are used in the service industry to measure service quality. These measurement tools have been developed to deal with the complex task of assessing patient satisfaction within a medical setting (Sitzia, 1999:319).

Stubbe, Bouwer & Delnoij (2007:8) described the importance of patient's feedback in health care policy decisions. They used the Consumer Quality Index Cataract Questionnaire to evaluate the reliability and the dimensional structure of this questionnaire. Their findings were that this questionnaire is a reliable and valid instrument in measuring the patient's perception of service in a hospital setting. These researchers selected 14 quality aspects of hospital care. They were subdivided into three

factors, namely, communication with specialists, nurses and communication about medication.

#### ❖ TOPSIS

TOPSIS refers to the "Technique for order preference by Similarity to ideal Solution". It is a method that assists in identifying and selecting the attributes of the service that would result in customer satisfaction (Mukherjee & Nath, 2005:174). It enables the organisation to determine the ideal solution (all the best values of attainable criteria) and the negative ideal solution (all the worst values) (Mukherjee & Nath, 2005:175). Organizations would lose customers due to poor quality service, and hence the organisation that suffers the least would deliver the best quality (Mukherjee & Nath, 2005:176).

#### ❖ PPEQ



An alternative measurement tool, such as the Picker Patient Experience Questionnaire (PPEQ), is administered in more than 300 Swiss hospitals annually, and has been developed specifically with the aim to measure patient satisfaction in the health industry. The items in the questionnaire are grouped on the basis of their face validity, into eight dimensions that have been shown to represent the most important issues of a patient's experience in hospital care (Jenkinson, Coulter & Bruster. 2002:354).

#### ❖ The SERVQUAL Instrument

The SERVQUAL model is also considered to be one of the most scrutinized and adaptable in providing a valid instrument for measuring health services quality (Andaleeb, 2001:184).

In 1988, Parasuraman, Zeithaml and Berry (1988) published a 22-item scale (SERVQUAL) to measure service quality. This instrument was based on extensive exploratory research and empirical testing.

Since the launch in 1985, SERVQUAL has become a widely adopted technology for measuring and managing service quality (Buttle, 1996:2). SERVQUAL is based on the view that the customer's assessment of SQ is paramount and Buttle, (1996:2) says the assessment is conceptualized as a gap between what the customers expect by way of service quality from a class of service providers, and their evaluations of the performance of a particular service provider.

Parasuraman, et al. (1985:44), defined the five dimensions with 22 items as follows:

- ❖ Reliability- the ability to perform the promised service dependably and accurately
- ❖ Assurance- The knowledge and courtesy of employees and their ability to convey trust and confidence
- ❖ Tangibles- the appearance of physical facilities, equipment, personnel and communication materials
- ❖ Empathy- the provision of caring individualized attention to customers
- ❖ Responsiveness- the willingness to help customers and to provide prompt service

The above five dimensions with the twenty two items is used in the SERVQUAL. These twenty two items are measured on a seven point Likert scale.

Although Buttle, (1996:8) is of the opinion that SERVQUAL has undoubtedly had a major impact on the business and academic

communities, he has several criticisms in the theoretical and operational arena.

Recently, a number of theoretical and operational concerns have been raised concerning SERVQUAL (Buttle, 1996:10-11), notwithstanding its growing popularity and widespread application. He listed the criticism as follows:

Theoretical criticisms:

- ❖ Paradigmatic objections: SERVQUAL is based on a disconfirmation paradigm rather than an attitudinal paradigm: and it fails to draw on established economic, statistical and psychological theory. Cronin and Taylor (1992) believe SERVQUAL is paradigmatically flawed as it adopts the disconfirmation model as it is best conceptualized as an attitude.
- ❖ Process orientation: it focuses on the process of service delivery, not the outcomes of the service encounter.
- ❖ Dimensionality: its five dimensions are not universals; the number of dimensions comprising service quality is contextualized. To consider this, Parasuraman et al. (1988), say that their dimensions are only a skeleton and can be adjusted to any service industry.

Operational criticisms:

- ❖ Service attribute importance:- The response of the customers may be rating the expectation statements according to the importance of each.
- ❖ Forecasted performance:- The scale of the questionnaire may be used by customers to predict the performance they would expect.
- ❖ Ideal performance:- The optimal performance, where the patient is only interested in the best performance and nothing else



- ❖ Deserved performance: - The customers, in the light of their investment, feel what performance should be. They add a value on performance to what they think they deserve.
- ❖ Equitable performance: - They think they should get care according to their perceived costs. They think it is expensive and therefore they must receive care accordingly.
- ❖ Minimum tolerable performance:- What the performance should be in their perception

Item composition criticisms:

- ❖ Four or five items cannot capture the variability within each service quality.

Moments of truth

- ❖ Customers' assessments of service quality may vary from moment of truth to moment of truth, where they experience different phases of the treatment as very important and can determine the total outcome.

Polarity

- ❖ The reversed polarity of items in the scale causes respondents' error.

Scale points.

- ❖ The seven-point Likert scale is flawed.

Variance extracted

- ❖ The overall SERVQUAL score accounts for a disappointing proportion of item variances.

Cronin and Taylor (1992; 55) are also of the opinion that Servqual is inadequate. They are of the opinion that little if any theoretical or empirical evidence supports the relevance of the expectations-performance gap as the basis for measuring service quality. In fact, the marketing literature appears to offer considerable support for the superiority of simple performance-based measures of service quality.

The shortcomings and problems do not invalidate the usefulness of the model but according to Cronin and Taylor (1992:55) care should be taken when analyzing and interpreting the results of a study (Cronin and Taylor, 1992; 55).

The following are the most serious limitations of the SERVQUAL model, according to Fick and Ritchie (1991:9)

- ❖ One of the problems with the methodology used to capture the expectations and perceptions is that the seven point Likert scale does not have the ability to distinguish between subtle differences in levels of expectations.
- ❖ The number of dimensions in the model seems too limiting.
- ❖ The SERVQUAL model should be complemented and supported by Qualitative data concerning the important aspects of expectations of the customer and the performance of the organisation for every dimension.
- ❖ The model does not take into account the cost involved in supplying a certain level of service and has no relationship with expectations of that service.
- ❖ The model does not include tangible factors which contribute to the overall quality of the service experienced by the customer. These tangible factors include facilities and technologies that are customer specific and do not lend themselves to inclusion in the measuring scale.

### ❖ The SERVPERF Instrument

The SERVPERF questionnaire is based on the same dimensions as the SERVQUAL, only measuring the service performance. This means that only perceptions are determined.

Although the SERVQUAL is a popular instrument for measuring service quality, it has been criticized regarding its reliability and validity. Nevertheless, its performance measures are used to form the SERVPERF (Landrum, Prybutok & Zhang, and 2007:104). They are of the opinion that the reliability and validity is improved in the SERVPERF.

SERVQUAL and SERVPERF are equally valid predictors of overall service quality. Adapting the SERVQUAL scale to the measurement context improves its predictive validity and conversely the predictive validity of SERVPERF is not improved by contextual adjustments (Carrilat, Jaramillo & Mulki, and 2007:472).

The weight of the emerging literature supports the efficiency of performance-based measures of service quality, and the SERVPERF scale specifically is seen as the appropriate exemplar of service quality operationalization (Cronin,et al.1994:125).

A criticism of the SERVPERF is that it means that using the SERVPERF is performance based only. Despite these criticisms, this study makes use of performance only and only measures the 5 dimensions linked to service quality.

The SERVQUAL and SERVPERF instrument are geared to evaluate the customer Gap and the four other gaps as illustrated in the Gaps Model (Clement & Selvan, 2006:4).

Cronin and Taylor (1994:128), suggest that both the SERVQUAL and the SERVPERF can be treated unidimensionally after a five-factor solution failed to fit the SERVQUAL items in many industries.

### **3.8 Conclusion**

Service quality is the characteristic that separates health care facilities from one another, and influences the patient's choice of facility. Although there are several measurement instruments to measure patient satisfaction, the SERVQUAL is widely recommended for service quality measurement in health care facilities.



## **CHAPTER FOUR The Healthcare Industry in South Africa.**

### **4.1 Introduction**

In this chapter the researcher looks at the healthcare industry in South Africa, distinguishing between the Public and Private sector. The emphasis in this study is the Private healthcare sector, more specifically the Gauteng area and the two hospitals involved in the research.

One of the fastest growing industries in the service sector is the healthcare industry (Bierman, 2008:13). A study on healthcare access, cost and quality, published by the monitor Group in 2004, ranked South Africa's private healthcare sector in the top five health systems in the world (Bierman, 2008:13).

The rapid growth of this industry has been accompanied by dramatic changes in the environment, challenging healthcare managers to find alternative ways of remaining viable (Andaleeb, 1998:181). These forces of change, including competitive pressures, alternative healthcare delivery mechanisms, changing cost structures, monitoring by public and private groups, increased information availability, and markedly better-informed customers, have begun to exert significant pressures on health care providers to reassess their strategies (Andaleeb, 1998:181).

### **4.2. Different sectors in the healthcare services of South Africa**

According to the National Department of Health, (November 2006), the definitions of the private health sector and the public health sector are as follows:

- ❖ Private health sector: “A unit delivering health services where the staff delivering the service is employed by any other organisation that is not a part of the government”.
- ❖ Public health sector: “ A unit delivering health services where the service provider is a government department. It is the employer of the staff providing the service that determines ownership - so government employees providing services on donated or leased properties, or in hospitals under public private partnership arrangements, are still public services”.

The governments of most developing countries would welcome a private healthcare sector of such high quality and the substantial private investment that had made it possible (Bierman, 2008:13)

Although health care managers often change strategies to keep the competitive advantage, they are aware of the differentiated features of the healthcare sector (Andaleeb, 1998:181).

The healthcare sector has a number of features that differentiate it from others sectors in terms of how consumers measures cost versus benefit received, as well as service quality in health care products or services (Private Hospital review 2008;1).

#### **4.2.1 Pressure on healthcare in South Africa**

The significant pressure on healthcare in South Africa provides a number of issues and concerns (Friedland, 2007; 97).

One of the key concerns in South African healthcare is inequity in service delivery, funding and lack of access to adequate, quality healthcare. The challenges facing the local healthcare sector are not unique. The

fundamental problem, where the costs of private health care cover continually outstrip general salary inflation, is a worldwide phenomenon. While the issue of affordability remains a critical healthcare issue throughout the world, it is particularly pertinent in developing countries (Private Hospital Review, 2008;2).

Delivering on expectations of affordability within South African healthcare will require innovative programmes and partnerships that are founded on both patient need and economic sustainability. Da Costa (2007; 29) says we can not afford to place the sustainability of the healthcare sector at risk. The challenge therefore, is to meet this need through effective partnership with different sectors in South Africa that share and optimize resources.

### **4.3 The presence of a third party payer**

In most instances, healthcare consumers do not pay directly for the services they utilize. Rather, healthcare tends to be funded indirectly via tax, insurance premiums or medical scheme contributions. Consumers are largely insulated from the true cost of healthcare and, as a result, the incentive to manage their utilization of healthcare services is not encouraged (Private Hospital Review, 2008; 4).

### **4.4 Emotions drive healthcare decisions**

It is widely acknowledged that the decisions of patients regarding the utilization of healthcare services are primarily driven by their emotions and the desire to be healed at any cost (Private Hospital Review, 2008:2). Healthcare treatments and interventions are often associated with a great deal of fear and uncertainty, and often a patient is unable to apply rational decision-making. Therefore service quality is an important factor when choosing a facility (Private Hospital Review, 2008; 4).

## 4.5 The role of the Private Health Sector

The private healthcare sector plays a substantial strategic role in South African healthcare and is fundamental to the delivery of healthcare services: treating approximately 3 million patients a year with over 1, 5 million being in-hospital admissions (Da Costa, 2007; 39).

An effective private hospital sector makes an important contribution by addressing the healthcare needs of the country's employed population. To this end, the case for maintaining a strong private hospital sector aligns with Government's policy objective of alleviating pressure on the State, enabling it to concentrate its efforts on treating patients who depend on it for their medical requirements (Private Hospital Review,2008;5).

The number of medically covered lives was recently 7, 1 million people, thanks partially to initiatives like the Government Employees medical Scheme (Gems). However, there are another 7 million people in South Africa who are formally employed, but with no medical aid (Friedland, 2007; 97).

In 1992, about 20% of South Africans were covered by a medical aid. This has dropped to 14%- partly due to rising medical costs (Pile, et al., 2008; 35).

The Private hospital review (2008:5), clearly states that the private health sector is not the answer to all the health sector's dreams. Private health sector models are by no means a 'gold standard'. They believe that the private health sector is working diligently to achieve excellence in health service delivery, aligning incentives by sharing risk, publishing quality outcomes and trying to engender a deeper understanding of utilization



drivers. However, they acknowledge that there is still much to be done in ensuring that more South Africans can access healthcare at the right level of intensity and affordability to meet their diverse needs.

The lack of access to adequate quality healthcare for a large portion of South Africans is a major challenge that needs to be urgently addressed (HASA review, 2008:7). South Africa with its large population of urban poor and its shortage of doctors and nurses in state clinics and hospitals has a problem of overloaded hospitals. The problem is of magnitude and is worse than in other developing countries (Mahomed and Bachmann, 1998; 127).

The medical aid industry caters for the healthcare needs of the employed or working populations. Currently, approximately 12, 6 million South Africans are believed to be employed in both the formal and informal sectors of the economy (Private Hospital Review, 2008; 8). The review also says that the overburdened state sector is required to provide medical care to those who are not economically active, or those that earn too little to afford any form of medical aid.

Medical aids are administered by a separate company and are called the administrators of the medical aids. They receive a monthly payment from the individuals and have certain rules and regulations of what they have to do when they have a claim. When a patient needs to be admitted to a private hospital, the doctor gives the patient a code for the procedures and the member must get an authorisation number before the private hospital will admit the patient (Private Hospital Review, 2008;9).

Different medical aids have different benefits as well as different types of membership. It differs from the top benefits to only a hospital plan. An

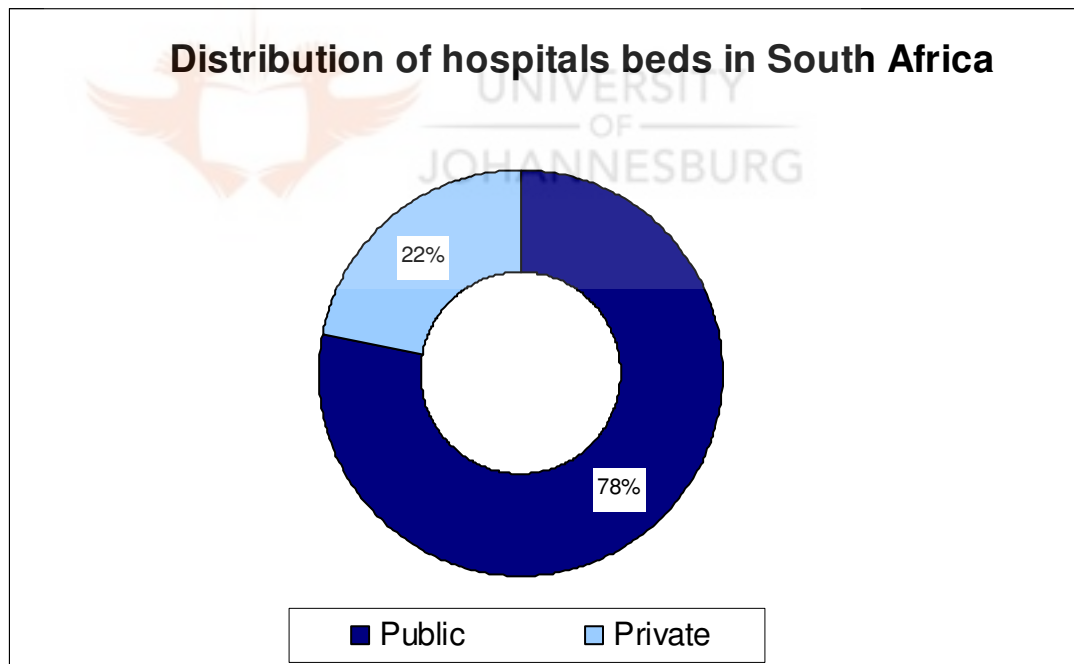
example of an administrator is Momentum, and an example of a medical aid is Netcare Medical scheme.

Some medical aids are closed medical aids, and only people employed by a company can belong to the medical aid (Netcare), while other medical aids are open medical aids like Discovery (HASA Review,2008;8).

## 4.6 The Private Healthcare Sector

The private healthcare sector contributes a mere 22% of the bed capacity in South Africa as seen in graph one.

Figure 4.1 Distribution of hospital beds



Source: (Pile, Mzolo and Rose, 2008:33).

The Private health sector consists of three major hospital groups. They are the Life Healthcare group, Network Healthcare Holdings Limited, (Netcare)

and Medi-clinic Corporation Ltd. The fourth group is the independent hospitals. The three hospital groups now account for 87, 7% of all private beds in South Africa (Pile et.al. 2008; 34).

#### **4.6.1. Life healthcare group**

The Life Healthcare group is one of the largest private hospital operations outside the United States. The group operates 62 acute facilities with a comprehensive geographical spread in seven South African provinces and Botswana and enjoys the support of approximately 2700 doctors and specialists and 120 000 employees (Website:[Http://www.lifehealthcare.co.za,1-9:13/06/2007](http://www.lifehealthcare.co.za,1-9:13/06/2007)).

#### **4.6.2. Medi-Clinic Corporation Ltd**

The Medi-Clinic group is an established leader in the private hospital industry in South Africa, commanding a market share of some 23%, has 6400 beds, and 12000 fulltime employees servicing more than 50 hospitals countrywide and in Namibia. They meet international standards and are technologically advanced as well as providing a one- stop service for patients ([Http://www.mediclinic.co.za, 1-7, 13/06/2006](http://www.mediclinic.co.za,1-7,13/06/2006)).

#### **4.6.3. Network Healthcare Holdings Limited (Netcare).**

Netcare manages 120 private hospitals and clinics, equipped with more than 11 700 beds and has 17 718 employees in South Africa and 8 850 employees in the United Kingdom. The last year has been transformational for Netcare as the continued strength of the South African operations has allowed them to advance their strategy of building comprehensive healthcare networks and looking into alternative

reimbursement models for a wider scope of service to the non medical aid citizens ( Netcare's Annual report, 2006;20).

## **4.7 Netcare hospitals**

Netcare has three regions, namely:-

- ❖ South West region
- ❖ North West region
- ❖ Coastal region

Each region has several hospital and the two hospitals used in this study are situated in the North West region and the South West region. The hospital use in the experimental group is from the South West region and has 165 beds. This hospital is a well known mother and child facility in Ekhureleni.

The hospital used for the control group is from the North West region and has 172 beds. Although this hospital has most of the different medical disciplines, it has a mother and child wing. Both hospitals have a maternity unit and admit private patients on medical aids (Netcare's Annual report, 2006;20).

## **4.8 Conclusion**

In this chapter the health services in South Africa have been discussed, comparing the difficulties of the private and public health sectors. The study's experimental and control group have been identified as part of Netcare's group of private hospitals.

## **CHAPTER FIVE Research Methodology**

### **5.1 Introduction**

In this chapter, the researcher discusses the purpose of the research, research objectives, the research methodology, data collection instruments, procedures, as well as the statistical data and the hypotheses.

### **5.2 Purpose Of The Research**

The purpose of the research is to establish how changes in physical evidence can influence how patients perceive the quality service in a maternity unit in a private hospital setting. It will also research if the descriptive data, (transforming the raw data into categories), has an influence on how the maternity patients perceive the quality service in the maternity ward in the private hospital setting.

### **5.3 Research Objectives**

A research objective or purpose gives a broad indication of what researchers wish to achieve in their research (Mouton, 1996:101). Zikmund (2003:99) describes it as the researcher's version of the business problem. He says that once the research questions and/or hypothesis have been stated, the research project objectives are derived from the problem definition. These objectives explain the purpose of the research in measurable terms and define standards of what the research should accomplish. Zikmund (2003; 100), says another advantage of the objectives of a research project is to make the size of the project manageable. Objectives can be classified as primary and secondary objectives.

For this study the primary objective will be to determine how changes in physical evidence influence the perceptions of service quality on maternity patients in the private hospital under investigation.

The secondary objectives are as follows:

- ❖ To determine the perceptions of service quality in both the experimental and the control group before and after the change in physical evidence
- ❖ To determine whether the physical evidence affects the perceptions of service quality.
- ❖ To determine if the age of the mother affects the perceptions of service quality in a maternity unit.
- ❖ To determine if it will have an effect on the perception of service quality if the mother has other children.

## **5.4 Research Methodology**

### **5.4.1 Research Design**

Zikmund (2003:65) is of the opinion that research design is a master plan specifying the methods and procedures for collecting and analyzing the needed information. It is a framework or blueprint that plans the action for the research project. The objectives of this study that were determined during the early stages of the research are included in the design to ensure that the information collected is appropriate for solving the problem.

In this research the master plan was identified and the action plan written after the objectives was clearly stated. The researcher planned the blueprint in detail according to the following headings:

- ❖ The research method

- ❖ The research format
- ❖ Data collection instruments, sources and collection
- ❖ Statistical analysis
- ❖ Hypothesis

#### **5.4.2 The Research Method**

Quantitative research underlies the natural scientific method in human behavioral research. This research must be linked to what we can measure and observe objectively (Welman, Kruger & Mitchell, 2005:28). They define objectivity as a description of something independent of feeling and opinion.

Qualitative research, also called exploratory research, is often done as a preliminary step to future research on this topic (Zikmund, 2003:110). In this study qualitative data will be provided about the effect of physical evidence on service quality which can be used in future studies.

The distinction between the qualitative paradigm and the quantitative paradigm is the quest for understanding the inquiry at all levels (Henning, van Rensburg & Smit, 2004:3). Berry, *et al.*, (1988:35), says since 1983, both qualitative and quantitative research has been done on service quality in the health industry.

When making a decision on what and how to do the research the researcher is either certain, ambiguous or uncertain, which determines the ultimate decision between qualitative or quantitative research (Zikmund, 2003:53).

The research design used in this study is a quantitative use of statistical analysis in the findings (Welman, et al. 2005:78). The study will measure the influence of physical evidence on the perception of service quality of patients in a maternity unit in a hospital setting.

### **5.4.3 The Research Format**

In this study the researcher has made use of the quasi experimental design.

The design of an experiment can be compared to an architectural plan for a structure. The architect can use several ingenuities to arrive at the requirements (Zikmund, 2003:274). He says that there are various types of experimental design.

According to Welman et al. (2005:78) experimental research involves some form of intervention. Experiments hold the greatest potential for establishing cause-and-effect relationships (Zikmund, 2003:86). For purposes of this study the research format is causal. Zikmund (2003:56) says the main goal of causal research is to identify cause-and-effect relationships among variables.

It is typical that the researcher in this study has an expectation of the relationship between the maternity patients and the physical evidence in both the maternity units in the private hospitals for the experimental and control group, as Zikmund (2003:56) states that it is usually the case in causal studies.

When designing a true experiment, the researcher often must create artificial environments to control independent and extraneous



variables. As this experiment takes place with real patients in a maternity unit it is impossible to create an artificial environment.

A quasi experiment is a study in which the researcher lacks complete control over the scheduling of treatment or must assign respondents to treatment in a non random manner. Quasi-experimental designs have been developed to deal with this problem. The quasi researcher lacks complete control over the scheduling (McDaniel & Gates, 1998:210).

Looking at the researcher's objectives and the type of information and setting needed for the research, a quasi experimental research design was implemented.

This quasi experiment does not qualify as a true experimental design because it does not adequately control the problem associated with loss of internal validity (Zikmund, 2003:191).

Examples of quasi-experiments can include,

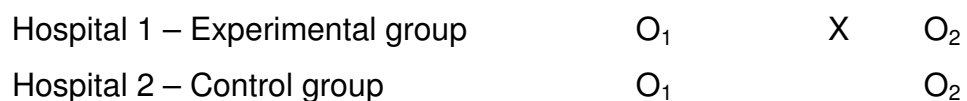
- ❖ One-Shot design: a single measure is recorded after the treatment is administered and there is no control group.
- ❖ One- Group Pretest-Posttest Design: the subjects in the experimental group are measured before and after the treatment is administered but in which there is no control group.
- ❖ Static group design: subjects in the experimental group are measured after being exposed to the experimental treatment, and the control group is measured without having been exposed to the experimental treatment (Zikmund, 2003:191).

The maternity patients are admitted to a maternity unit in a private hospital with certain physical evidence. This group is the experimental group and is pre-tested for their perception of the quality of the service. Other maternity patients in the unit are then exposed to something different, namely the new physical evidence in the unit. The Maternity patients in the experimental group will initially be accommodated in a Maternity unit in need of refurbishment and other maternity patients a few months later in a new maternity unit.

The dependent variable will be the patients in the maternity unit in the hospital. The physical evidence will be the independable variance by changing the physical environment (Goddard & Melville, 2001:32-33). For the purpose of this study the Maternity patients will complete a questionnaire in one month and then other Maternity patients will be tested in another month after the physical evidence has changed.

The control group will be Maternity patients in another maternity unit in another hospital setting without changing the physical environment.

The research design can be illustrated in the following diagram:



The quasi experiment type used in this study is therefore the Pretest-Posttest Control-group Design. As the diagram above indicates, the subjects in the experimental group are tested before and after the physical evidence are changed. According to Zikmund, (2005:277), this design has the advantage of the before and after design with the additional advantage gained from the control group. The subjects can experience a testing effect and that can be seen as a disadvantage for this design.

The “X” that the researcher is introducing in the study is the renovations of the existing maternity unit. The renovations consist of a total change in décor, new furniture and medical equipment. An interior decorator will change the total look of the unit.

#### **5.4.4 Research Data Collection Methods**

According to Zikmund (2003:63), primary data is gathered and assembled specifically for the research project at hand. The measuring instrument for this study will be obtained by making use of primary data. This will be original data collected by the researcher using a questionnaire.

Secondary data is data previously collected and assembled for some project (Zikmund, 2005:63). The secondary data the researcher has used is the research of articles, books, referendums and research papers.

#### **5.4.5 Population**

Zikmund (2003:369) defines a population or universe as any complete group of people, companies, hospitals, stores, students, or the like that share some set of characteristics. The population element refers to an individual member of the population. According to Goddard and Melville, (2001:34), a population is any group that is the subject of research interest

The population elements are pregnant patients that are admitted to the maternity unit in a private hospital setting to have a caesarian section done to enable them to give birth to their child in the specific months identified.

#### **5.4.6 Sampling**

Sampling is a separate stage of the research process (Zikmund 2003:70). Sampling is defined as any procedure that uses a small number of items or a portion of a population to make a conclusion regarding the whole population. For the purpose of this study a number of maternity patients were selected to be the sample of all the maternity patients that are making use of the two private hospital settings used in this study.

#### **5.4.7 Sampling Method**

Probability sampling is a sampling technique in which every member of the population has a known, nonzero probability of selection (Zikmund, 2003:370). The simple random sample is the best known probability sample, in which each member of the population has an equal chance probability of being selected. He also defines systematic sampling as a sampling procedure in which an initial starting point is selected by a random process and then every number is selected.

Zikmund (2003:71) says that although large samples are more precise than small samples, proper probability sampling will give a reliable measure of the whole. In this study a small sample of thirty patients will be used out of on average hundred and eighty patients.

In this study a sample will be selected according to the definition of random sampling. According to Goddard and Melville (2001:36), a random sampling is if the researcher chooses the participants at random. Zikmund, (2003:262) defines the sampling method as a

sampling procedure in which the assignment of subjects and treatments of groups is based on chance.

The first thirty maternity patients that are booked in at the maternity unit in the private hospital setting will be selected to participate in this study. They will be booked in if their gynecologist has diagnosed that they are ready to deliver their child. They will all be booked for an elective caesarian section with no anticipation of complication. They will be the first thirty maternity patients in the months of August and November at the maternity units at both private hospital settings.

#### **5.4.8 Data Collection Instruments, Sources and Collection**

##### **5.4.8.1 The Survey Instrument (The data collection instrument)**

The survey instrument was the questionnaire. Goddard and Melville (2001: 47) define a questionnaire as a printed list of questions that respondents are asked to answer. The questionnaire will be a survey used to measure the perception of maternity patients in a hospital setting.

The questionnaire was based on the SERVQUAL questionnaire that is formulated by Parasuraman et al (1988) and tested in the field. The questionnaire has been tested for validity and reliability and is a standardized instrument. The SERVQUAL questionnaire has five dimensions, namely tangibility, reliability, responsiveness, assurance and empathy. All five dimensions will be stipulated in the questionnaire.

In the research questionnaire, fifteen questions were asked in the tangible dimension, as the research is based on perception of service quality in the tangible dimension. Questions were added that are appropriate to the hospital setting and cover all the tangible aspects.

The reliability dimension has five questions, the responsiveness dimension has four questions, the assurance has eight and the empathy dimension, four.

The questionnaire makes use of the Likert scale. This scale was introduced by Likert (1903-1981) and is at present the most popular type of scale (Welman, et al. 2005:156). The Likert scale can be used for multidimensional attitudes (Welman, et al. 2005:157). In this study; a five point scale has been used, where 1 is answering in the negative form and 5 is high towards the positive form.

In this study there are a collection of statements about the perception of maternity patients about service quality. In respect of each statement, the patients have to indicate the degree in which they perceive its content.

The questionnaire is divided into three sections and starts off with instructions on how to complete the questionnaire, as well as a consent form.

- ❖ Section one: in this section the demographic information is asked that is required before answering the questions.
- ❖ Section two: this section contains the different statements on perceptions and forms the questionnaires. Section two of the questionnaire has 36 questions. The thirty- six questions have the five dimensions mentioned before, namely tangibility,

reliability, responsiveness, assurance and empathy. The research dimension that is being researched is the tangibility. There are fifteen questions under this dimension. The assurance dimension has seven questions, the reliability has five and the remaining two have five questions each.

- ❖ Section three: this section ask specific information about the delivery and the events after the delivery, that might influence the perception of the patient.

#### **5.4.8.2 The Method Of Data Collection**

There are a number of ways in which data can be collected (Goddard & Melville, 2001:63). These include personal collection, use of the telephone and electronic means. In this study, use will be made of personal collection.

In the (experimental group), the first maternity unit in the private hospital setting, the researcher will hand out the questionnaires personally and collect them personally after completion.

In the control group, researcher will deliver the questionnaires to the nurse manager of the hospital. She will personally hand out the questionnaires and collect them after completion.

### **5.4.8.3 Procedure of Collection**

In the experimental group it will be the first thirty maternity patients that have an elective caesarian section, in a maternity unit in a private hospital setting in a certain month who will complete the questionnaire on service quality. This same sampling method will be used in another month (November) with different maternity patients in a completely different environment the new setting. This will enable the researcher to determine the effect of the tangible dimension on the overall perception of service quality.

The control group will consist of the first thirty maternity patients that had an elective caesarian section, in a maternity unit in a different private setting in the same month. The same sampling will be done in the second period (November) in that hospital.

Both maternity units in the two different private hospital settings are in the same socio economic group and demographics. They are all females. This will be discussed in detail in the research chapter (chapter five).

## **5.5 Statistical Analysis**

The research design and questionnaire have been analyzed by statisticians of the University of Johannesburg. The questionnaire in question is a well known questionnaire that was formulated by Parasuraman, et al. (1988). It has already been validated and shown to be reliable (Buttle, 1995:8). The assistance of Statkon (The Statistical Consulting Service at the University of Johannesburg) will be used in the analysis of the result.



Analyses that will be conducted include descriptive analysis and descriptive analysis is defined as the tests that describe a set of characteristics of a population. It determines the answers of who, what, where and how questions (Zikmund, 2003:55). He also defines the analysis as raw data that is transformed that will make it easy to understand.

The hypothesis testing is the testing to see which of the two hypotheses is correct. The two hypotheses are the null hypothesis and the alternative hypothesis (Zikmund, 2003:499).

## 5.6 Hypothesis of the Study

The best expression of an objective is a well formed hypothesis (Zikmund, 2003:65). A hypothesis is defined as an unproven proposition or supposition that tentatively explains certain facts or phenomena that is empirically testable (Zikmund, 2003:44).

Physical evidence is one of the important factors that influence a patient's satisfaction and ultimately how they perceive the quality care (Baron-Epel, et al. 2001:318)

For the purpose of this study the hypothesis are as follow:

$H_0$ : Changes in physical evidence have no effect on the perception of service quality for maternity patients in a hospital setting.

$H_a$ : Changes in physical evidence have an influence on the perception of service quality for maternity patients in a hospital setting.

$H_0$ : There is no difference between the groups with regards to their perception of service quality in the maternity unit.

$H_a$ : There is a difference between the groups with regards to their perception of service quality in the maternity unit.

$H_0$ : There is no difference between the groups with regards to the dimensions in their perception of service quality in the maternity unit.

$H_a$ : There is a difference between the groups with regards to the dimensions in their perception of service quality in the maternity unit.

$H_0$ : The age of maternity patients has no influence on the perception of service quality

$H_a$ : The age of maternity patients has an influence on the perception of service quality for patients in a hospital setting.

$H_0$ : The number of children the maternity patient has, has no influence the perception of service quality.

$H_a$ : The number of children the maternity patient has influences the perception of service quality.

The reason for choosing the hypothesis of the physical evidence as a variable is that there was an opportunity where the maternity unit was renovated and the subjects had common characteristics before and after the renovations.

## **5.7. Conclusion**

The researcher has described in this chapter the research purpose, objectives and the research methodology in detail. Data collection

instruments, sources and collection procedures are discussed as well as looking at the statistical analyses and the different hypotheses.



## **CHAPTER SIX Findings of the Research**

### **6.1 Introduction**

The purpose of this chapter is to discuss the findings after the researched has completed the research and to make recommendations.

The discussion of the findings will reflect both groups of respondents simultaneously in the experimental and control group in the pre-test and post-test.

### **6.2 Reliability in the Study**

Prior to investigating the specific findings, reliability for the entire questionnaire was determined. Once this has been done, reliability for each dimension and group was determined.

#### **6.2.1 Reliability for the group with regards to the questionnaire**

Reliability was measured using a Cronbach's Alpha on all 36 items in the questionnaire. A Cronbach's Alpha of 0,971 was determined, which exceeds the minimum of 0, 7 cut-off as suggested by Hair, Anderson, Tatham and Black, (1998:118).

#### **6.2.2 Reliability for the group with regards to the specific SERVQUAL dimensions**

A Cronbach alpha was determined for each SERVQUAL dimension reflecting the overall reliability of the statements for each dimension. As can be seen in Table 6.1, all dimensions reflect high degree of reliability. While 1 indicates perfect

reliability, the value of 0,7 is regarded as the lower level of acceptability (Hair, et al., 1998:118).

Table 6.1 Reliability for the group with regards to the specific SERVQUAL dimensions

<b>SERVQUAL Dimension</b>	<b>Cronbach Alpha</b>	<b>Comment</b>
Tangibles	0,915	High reliability
Reliability	0.933	High reliability
Responsiveness	0.880	High reliability
Empathy	0.953	High reliability
Assurance	0.940	High reliability

### 6.2.3 Reliability in the pre-test and post-test context

Reliability was also determined in the pre-test and in the post- test situation.

The reliability for the statements was determined using a Cronbach Alpha over the 36 items on the instrument. The items had a Cronbach Alpha of 0,977 in the Pre-test and 0,959 in the Post- test, which is greater than the 0,7 suggested by Hair et al. (1998:118) as acceptable. The findings are reflected in Table 6.2 below.

Table 6.2 Reliability in the Pre-test and Post- Test

<b>Pre Test</b>	<b>Post Test</b>
0,977*	0,959*

\* Control and experimental groups were combined

### 6.3. Response Rate

The following number of questionnaires was distributed to the various groups taking part in the research. As can be seen, the groups are relatively similar. Refer to Table 6.3 for details.

Table 6.3 Number of questionnaires distributed

	<b>Pre- Test</b>	<b>Post- Test</b>
Control Group	25	34
Experimental Group	33	36

A 100% response rate was achieved due to the personal involvement of the nurse manager in the control group context, and the researcher in the experimental context.

### 6.4. Respondent Profile

There were two groups who took part in the pre-test and two groups that took part in the post- test. Thus there was a control group at Hospital X and an experimental group at Hospital Y.

#### 6.4.1. Respondents in the control and experimental group in the pre-test and post-test situation

The discussion that follows examines the composition of the control group and the experimental group in the pre-test and post-test situation.

### ❖ **Medical aid membership among the respondents**

In the pre-test control group, the largest frequency of responses (**40%**) was received from respondents from different medical aids, grouped together as on their own they had no significant number (“Other”) The medical aid which showed the second highest percentage was the Discovery Medical Aid (**32%**), followed by Spectramed with **12%**, Motto Health-Classic and Bonitas with **8%** respectively.

In the pre-test experimental group, the largest frequency of responses was received from respondents in the “Other” category (**49%**), followed by Discovery Medical aid with **33%**, Motto Health-classic and Bonitas with **9%**.

In the post-test control group, the largest frequency of responses (**47%**) was in the “Other” category which consisted of a number of difference medical aids, grouped together but which had no individual significance. The medical aid with the second highest number of members in the hospital was Discovery Medical aid (**41%**) followed by Spectramed with **6%**.

In the post-test experimental group, the largest frequency of responses (**45%**) was received from respondents in the “Other” category, followed by Discovery Medical aid with **32%** and Motto Health-Classic with **9%**.

Refer to Table 6.4 for medical aid membership among the respondents

**Table 6.4 Medical aid membership among the respondents**

<b>Medical aids</b>	<b>Percentage Pre-Test Control group</b>	<b>Percentage Pre-Test Experimental group</b>	<b>Percentage Post-Test Control group</b>	<b>Percentage Post-Test Experimental group</b>
Discovery	32	33	41	32
Spectramed	12	0	6	6
Moto Health-Classic	8	9	3	9
Bonitas	8	9	3	8
Other	40	49	47	45
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

As can be seen in Table 6.4, “Other” has the highest in all the groups, followed by Discovery. While there are subtle differences between the groups, the groups are similar in size, as a percentage.

❖ **Age of the respondents**

This was asked as an open ended question, and the responses were put in various categories, namely: younger than 19, 20-29, 30-39 and 40 years and older.

In the pre-test of the control group, the largest frequency of responses (**48%**) was received from respondents in the 20 – 29 year and the 30-39 age categories. The age category which showed the lowest percentage (**4%**) was the younger than 19 years age category. The category that showed no responses was 40 years and older.

In the pre-test of the experimental group, the largest frequency of responses (**49%**) was received from respondents in the 20 – 29 year age category. The age category which showed the second highest percentage (**43%**) was the 30 – 39 years. The category that showed the lowest percentage of responses (**8%**) was the 40 years and older and no responses from the under 19 group.



In the post-test of the control group, the largest frequency of responses (**65%**) was received from respondents in the 20 – 29 year age category. The age category which showed the second highest percentage (**35%**) was the 30 – 39 years. The category that showed no responses was the younger than 19 years of age and 40 years and older.

In the post-test of the experimental group, the largest frequency of responses (**51%**) was received from respondents in the 20 – 29 year age category. The age category which showed the second highest percentage (**40%**) was the 30 – 39 years. The category that showed the lowest percentage of responses (**9%**) was the 40 years and older and no responses from the under 19 group.

Refer to Table 6. 5 for the profile age of the respondents

Table 6.5 The age of the respondents

<b>Age</b>	<b>Percentage Pre-Test Control group</b>	<b>Percentage Pre-Test Experimental group</b>	<b>Percentage Post-Test Control group</b>	<b>Percentage Post-Test Experimental group</b>
Younger than 19	4	0	0	0
20 – 29 years	<b>48</b>	<b>49</b>	<b>65</b>	<b>51</b>
30 – 39 years	<b>48</b>	<b>43</b>	<b>35</b>	<b>40</b>
40 years and older	0	<b>8</b>	0	<b>9</b>
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

As can be seen in Table 6.5, 20-29 years have the highest in all the groups, followed by the 30-39 age categories. While there are subtle differences between the groups, the groups are similar in size, as a percentage. The post-test control group showed a slight increase in younger patients.

### ❖ Method of anaesthetic in the caesarean procedure

In the pre-test of the control group, the largest frequency of responses (**88%**) received epidural and 12% of respondents received general anaesthetic.

In the pre-test of the experimental group, the largest frequency of responses (**83%**) received epidural and 17% a general anaesthetic.

In the post-test of the control group, the largest frequency of responses (**82%**) received epidural and 18% of respondents received general anaesthetic.

In the post-test of the experimental group, the largest frequency of responses (**69%**) received epidural and 31% a general anaesthetic.

Refer to Table 6.6 for the method of anaesthetic in the caesarean procedure.

Table 6.6 The method of anaesthetic in the caesarean procedure.

<b>Method of anaesthetic in the caesarean procedure</b>	<b>Percentage Pre-Test Control group</b>	<b>Percentage Pre-Test Experimental group</b>	<b>Percentage Post-Test Control group</b>	<b>Percentage Post-Test Experimental group</b>
Epidural	<b>88</b>	<b>83</b>	<b>82</b>	<b>69</b>
General anaesthetic	12	17	18	31
Total	100	100	100	100

As can be seen in Table 6.6, epidural anaesthetic is the highest score in all the groups. While there are subtle differences between the groups, the groups are similar in size, as a percentage. There is a slight increase in those having a general anaesthetic in the post-test experimental group.

❖ **Birth complications of the respondents**

In the pre-test of the control group, the largest frequency of responses (**87%**) had no complications and 13% respondents had complications.

In the pre-test of the experimental group, the largest frequency of responses (**91%**) had no complications and 9% had complications.

In the post-test of the control group, the largest frequency of responses (**94%**) had no complications and 6% respondents had complications.

In the post-test of the experimental group, the largest frequency of responses (**91%**) had no complications and 9% had complications.

Refer to Table 6.7 for the birth complications of the respondents

Table 6.7 for the birth complications of the respondents

<b>Birth Complications</b>	<b>Percentage Pre-Test Control group</b>	<b>Percentage Pre-Test Experimental group</b>	<b>Percentage Post-Test Control group</b>	<b>Percentage Post-Test Experimental group</b>
No	<b>87</b>	<b>91</b>	<b>94</b>	<b>91</b>
Yes	13	9	6	9
Total	100	100	100	100

As can be seen in Table 6.6, no birth complications are the highest score in all the groups. While there are subtle differences between the groups, the groups are similar in size, as a percentage and only a low percentage of the groups have birth complications.

### ❖ Sex of the baby of the respondents

In the pre-test control group, the largest frequency of responses (**70%**) was received from respondents that had male babies and **30%** had female babies.

In the pre-test of the experimental group, the largest frequency of responses (**45%**) was received from respondents that had male babies and **55%** had female babies.

In the post-test of the control group, the largest frequency of responses (**55%**) was received from respondents that had male babies and **45%** had female babies.

In the post-test of the experimental group, the largest frequency of responses (**30%**) was received from respondents that had male babies and **70%** had female babies.

Refer to Table 6.8 for the sex of the babies of the respondents

Table 6.8 the sex of the babies of the respondents

<b>Sex</b>	<b>Percentage Pre Test Control group</b>	<b>Percentage Pre Test Experimental group</b>	<b>Percentage Post test Control group</b>	<b>Percentage Post Test Experimental group</b>
Male	<b>70</b>	<b>45</b>	<b>55</b>	<b>30</b>
Female	<b>30</b>	<b>55</b>	<b>45</b>	<b>70</b>
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

As can be seen in Table 6.8, males and females are a mirror image in the groups, as a percentage.

❖ Breast feeding of the respondents

In the pre-test of the control group, the largest frequency of responses (**83%**) was received from respondents that were breast feeding and 17% were not.

In the pre-test of the experimental group, the largest frequency of responses (**79%**) was received from respondents that were breast feeding and 21% were not.

In the post-test of the control group, the largest frequency of responses (**78%**) was received from respondents that were breast feeding and 22% were not.

In the post-test of the experimental group, the largest frequency of responses (**83%**) was received from respondents that were breast feeding and 17% were not.

Refer to Table 6.9 for the breast feeding of the respondents.

Table 6.9 The breastfeeding of the respondents.

<b>Breastfeeding</b>	<b>Percentage Pre Test Control group</b>	<b>Percentage Pre Test Experimental group</b>	<b>Percentage Post test Control group</b>	<b>Percentage Post Test Experimental group</b>
Yes	<b>83</b>	<b>79</b>	<b>78</b>	<b>83</b>
No	17	21	22	17
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

As can be seen in Table 6.9, breastfeeding had the highest score in all the groups. While there are subtle differences between the groups, the groups are similar in size, as a percentage.

❖ **Complications with breast feeding of the respondents**

In the pre-test of the control group, the largest frequency of responses (**95%**) was received from respondents that had no problem breast feeding and 5% had problems

In the pre-test of the experimental group, the largest frequency of responses (**73%**) was received from respondents that had no problem breast feeding and 27% had problems

In the post-test of the control group, the largest frequency of responses (**79%**) was received from respondents that had no problem breast feeding and 21% had problems

In the post-test of the experimental group, the largest frequency of responses (**88%**) was received from respondents that had no problem breast feeding and 12% had problems

Refer to Table 6.10 for complications with breastfeeding of the respondents.

Table 6.10 Complications with breastfeeding of the respondents.

<b>Complications with breast feeding</b>	<b>Percentage Pre Test Control group</b>	<b>Percentage Pre Test Experimental group</b>	<b>Percentage Post test Control group</b>	<b>Percentage Post Test Experimental group</b>
Yes	5	27	21	12
No	<b>95</b>	<b>73</b>	<b>79</b>	<b>88</b>
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

As can be seen in Table 6.10, no complications with breastfeeding are the highest score in all the groups. While there are subtle differences between the

groups, the groups are similar in size, as a percentage, although the pre-test experimental group has slightly larger numbers.

#### ❖ **Weight of the newborn of the respondents**

In the pre-test of the control group, the largest frequency of responses (**41%**) was received from respondents that had babies weighing between 3, 01 and 3, 5 kg and second and third (**27%**), with a weight of between 2, 51 and 3kg as well as 3,51 and 4 kg.

In the pre-test of the experimental group, the largest frequency of responses (**48%**) was received from respondents that had babies weighing between 3, 01 and 3, 5 kg, second (**27%**), with a weight of between 2, 51 and 3kg and third (**19%**) with a weight between 3,51 and 4kg.

In the post-test of the control group, the largest frequency of responses (**33%**) was received from respondents that had babies weighing between 3, 01 and 3, 5 g, second and third (**30%**), was from babies weighing between 2,51 and 3kg as well as 3,51kg and 4kg.

In the post-test of the experimental group, the largest frequency of responses (**51%**) was received from respondents that had babies weighing between 3, 01 and 3, 5 kg, second (**15%**), with a weight of between 2.51 and 3kg and those having babies weighing between 3, 51 and 4kg.

Refer to Table 6.11 for the weight of the newborn of the respondents.

Table 6.11 The weight of the newborn of the respondents.

Weight of the newborn	Percentage Pre Test Control group	Percentage Pre Test Experimental group	Percentage Post test Control group	Percentage Post Test Experimental group
2kg – 2.5kg	5	6	7	7
2.51kg – 3kg	<b>27</b>	<b>27</b>	<b>30</b>	<b>15</b>
3,01kg – 3.5kg	<b>41</b>	<b>48</b>	<b>33</b>	<b>51</b>
3,51kg – 4kg	<b>27</b>	<b>19</b>	<b>30</b>	<b>15</b>
4,1 kg and above	0	0	0	12
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

As can be seen in Table 6.11, 3, 01-3, 5 kg babies have the highest score in all the groups, followed by the 2, 51-3kg babies. While there are subtle differences between the groups, the groups are similar in size, as a percentage.

#### ❖ Number of previous pregnancies of respondents

This question was asked to gain an indication of previous experience of maternity care. Note that these figures may differ from the number of children. This can be described to the fact that not all pregnancies resulted in births.

In the pre-test of the control group, the largest frequency (**29%**) is of respondents that had no previous pregnancies, followed by **25%** that had one pregnancy and **21%** had two pregnancies.

In the pre-test of the experimental group, the largest frequency (**34%**) is of respondents that had no previous pregnancies, and **29%** had already one

In the post-test of the control group, the largest frequency is of respondents (**67%**) that already had one pregnancy, and **19%** had two pregnancies.



In the post-test of the experimental group, the largest frequency (**36%**) is of respondents that already had one and two pregnancies and **23%** had already three pregnancies.

Refer to Table 6.12 for the number of previous pregnancies of respondents.

Table 6.12 The number of previous pregnancies of respondents.

<b>Number of previous pregnancies</b>	<b>Percentage Pre Test Control group</b>	<b>Percentage Pre Test Experimental group</b>	<b>Percentage Post test Control group</b>	<b>Percentage Post Test Experimental group</b>
0	<b>29</b>	<b>34</b>	0	0
1	<b>25</b>	<b>29</b>	<b>67</b>	<b>36</b>
2	<b>21</b>	<b>6</b>	<b>19</b>	<b>36</b>
3	17	18	10	23
4	0	13	4	5
5	8	0	0	0
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

As can be seen in Table 6.12, the respondents with a previous pregnancy are amongst the highest in all the groups. Differences exist between the pre-test and the post-test groups regarding the number of pregnancies.

#### ❖ **Number of other children of the respondents**

In the pre-test of the control group, the largest frequency (**43%**) is from respondents that are having their second child, **35%** are having their first child followed by **14%** had three children and **8%** had two children.

In the pre-test of the experimental group, the largest frequency (**44%**) is from respondents that are having their second child, **29%** are having their first child,

followed by **12%** who had two and three children respectively and **3%** had four other children.

In the post-test of the control group, the largest frequency **77%** is from respondents that are having their second child, **23%** are having third child.

In the post-test of the experimental group, the largest frequency (**60%**) is from respondents that are having their second child, **20%** are having their third and fourth child.

Refer to Table 6.13 for the number of other children of the respondents.

Table 6.13 The number of other children of the respondents.

Number of other children	Percentage Pre Test Control group	Percentage Pre Test Experimental group	Percentage Post test Control group	Percentage Post Test Experimental group
	0	35	29	0
1	43	44	77	60
2	8	12	23	20
3	14	12	0	20
4	0	3	0	0
Total	100	100	100	100

This links back to Table 6.12 where a higher number of respondents in the pre-test groups were pregnant with their first child i.e. it was their first pregnancy. While those having a second child were the highest frequency, differences are seen in the subsequent categories and their frequencies

## 6.5 Descriptive analysis

The respondents were presented with a questionnaire (Refer to annexure A) on service quality dimensions in a Maternity unit with 5 dimensions and thirty six statements tested their perceptions. They could indicate the extent to which they agree or disagree with the statements on a Likert-type scale with five response categories, where 1 suggests that the respondent strongly disagrees and 5 denotes a strong agreement with the statement. These responses are only of the perceptions of the service quality.

### 6.5.1. Mean and Standard deviation of the statements for all the groups

The mean and standard deviation of all the statements for all the groups can be divided in the five dimensions of service quality in the questionnaire.

Table 6.14 Mean and standard deviation average of the statements for all the groups

Table	Pre-Test Control Group		Pre-Test Experimental Group		Post-Test Control Group		Post-Test Experimental Group	
	Mean	Std Deviation	Mean	Std Deviation	Mean	Std Deviation	Mean	Std Deviation
Tangibility	4.2103	.42860	3.6245	.69488	4.2012	.46928	4.3140	.60930
Reliability	4.5500	.52503	3.7798	.94115	4.4412	.50639	4.2583	.65482
Responsiveness	4.4938	.55566	3.8662	.91854	4.4191	.64761	4.3958	.69017
Assurance	4.6250	.47348	4.1326	.72614	4.5466	.51388	4.5074	.71345
Empathy	4.5729	.51856	3.9621	.87750	4.5221	.56531	4.2917	.77113
<b>MEAN SERVICE QUALITY SCORE</b>	<b>4,4904</b>		<b>3.8730</b>		<b>4,4260</b>		<b>4,3534</b>	

As seen in Table 6.14 the average mean of the different dimensions are very different in the pre-test of the control and experimental group and very similar in the post-test of the control and experimental group. The average mean of the pre-test of the experimental group are lower than the other groups.

## 6.5.2. Overall Evaluation of the Servqual Dimensions

This section has a discussion of the individual dimensions of service quality.

**Table 6.15 Tangibility**

Table Statement	Pre Test Control Group		Pre Test Experimental Group		Post Test Control Group		Post Test Experimental Group	
	Mean	Std Deviation	Mean	Std Deviation	Mean	Std Deviation	Mean	Std Deviation
The technical equipment of the maternity unit is completely up to date	4.26	.588	4.06	.659	4.52	.508	4.47	.825
The physical facilities are visually appealing	4.33	.637	3.39	.933	4.26	.710	4.46	.817
The nursing staff are well dressed	4.42	.776	4.09	.805	4.62	.551	4.58	.806
There is adequate seating at the bedside of the patient	3.71	.955	2.97	1.334	3.15	1.077	3.69	1.231
The quality of catering services are of a high standard	4.17	.917	3.88	1.166	4.33	.736	4.11	.950
The bathroom facilities in the Maternity unit are clean	4.42	.717	4.25	.672	4.50	.564	4.64	.683
The signage to the maternity unit is clear	4.54	.509	4.06	.964	4.50	.508	4.25	.874
The nursing staff's identity is visible	4.46	.658	3.97	1.075	4.59	.557	4.28	.779
The corridors in the Maternity unit are clean	4.50	.659	4.09	1.042	4.71	.462	4.57	.655
The noise levels are acceptable	3.95	1.090	3.78	1.128	3.88	1.175	4.14	.867
The décor in the maternity unit is attractive	3.96	.550	3.18	1.014	3.91	.866	4.31	.749
The curtains around the bed compliment the décor	3.92	.717	3.42	.992	3.91	.793	4.43	.698
The curtains at the windows compliment the décor	3.96	.806	3.23	1.146	3.97	.834	4.36	.762
The pictures on the wall are attractive	4.17	.565	2.73	1.172	4.15	.857	4.36	.798
The furniture in the maternity unit is appropriate	4.21	.658	3.13	.871	4.09	.866	4.19	.920
<b>Mean</b>	<b>4.21</b>		<b>3.62</b>		<b>4.2</b>		<b>4.31</b>	

In general the means in all the groups and in most statements are above 4. The means of the following questions are below 4:

- ❖ There is adequate seating at the bedside of the patient. This statement's mean is below 4 in 3 occasions, and even 2.97 in the pre-test of the experimental group.
- ❖ The noise levels are acceptable. All the statement's mean are below 4, except for the post-test experimental group, which is 4.14.
- ❖ The décor in the maternity unit is attractive. All statement's means are below 4, except for the post-test experimental group.

- ❖ The curtains around the bed and at the window compliment the décor. All groups' statement's means are below 4, except for the post-test experimental group, which is 4.43 and 4.36.

The means in the post-test experimental group are all above 4 except for the statement that deal with adequate seating.

The means of the tangible dimension are all above 4 except for the pre-test in the experimental group, which are 3.62.

**Table 6.16 Reliability**

Table	Pre Test Control Group		Pre Test Experimental Group		Post Test Control Group		Post Test Experimental Group	
	Mean	Std Deviation	Mean	Std Deviation	Mean	Std Deviation	Mean	Std Deviation
Promises made by nursing staff to deliver services are kept	4.42	.717	3.64	1.113	4.41	.609	4.14	.867
Complaints and problems are solved with great concern	4.63	.495	3.78	1.128	4.44	.561	4.33	.717
The nursing staff deliver the service correctly	4.58	.504	3.82	1.074	4.44	.561	4.28	.741
The nursing staff deliver the service at the time agreed upon	4.54	.588	3.66	1.066	4.32	.727	4.25	.770
My patient records are kept up to date by the nursing staff	<b>4.58</b>	.584	<b>4.10</b>	.790	<b>4.61</b>	.496	<b>4.31</b>	.718
<b>Mean</b>	<b>4.55</b>		<b>3.78</b>		<b>4.44</b>		<b>4.26</b>	

In general the means in all the groups in all the statements are above 4 except for the pre-test in the experimental group, where the values are above 3.

The statement's mean in the following question in the pre-test experimental group is 4.1:

- ❖ The patient's records are kept up to date by the nursing staff. This implies that even if the tangible are not refurbished yet, the respondents still perceive the records of the nursing staff as up to date.

The means of the reliability dimension are all above 4 except for the pre-test in the experimental group, which are 3.78.

**Table 6.17 Responsiveness**

Table	Pre Test Control Group		Pre Test Experimental Group		Post Test Control Group		Post Test Experimental Group	
	Mean	Std Deviation	Mean	Std Deviation	Mean	Std Deviation	Mean	Std Deviation
The nursing staff inform me of the time of the caesarean section	4.30	.822	3.87	1.167	4.12	1.066	4.17	.891
The nursing staff deliver prompt service	4.54	.721	3.85	1.034	4.44	.705	4.36	.683
The nursing staff are willing to help me	4.75	.442	3.97	1.045	4.59	.557	4.50	.811
The nursing staff help me on request	4.75	.442	3.88	1.116	4.53	.615	4.56	.652
<b>Mean</b>	<b>4.93</b>		<b>3.87</b>		<b>4.42</b>		<b>4.40</b>	

In general the means in all the groups and in all the statements are above 4 except for the pre-test in the experimental group, where the values are above 3. The means of the responsiveness dimension are all above 4 except for the pre-test in the experimental group, which are 3.87.

**Table 6.18 Assurance**

Table	Pre Test Control Group		Pre Test Experimental Group		Post Test Control Group		Post Test Experimental Group	
	Mean	Std Deviation	Mean	Std Deviation	Mean	Std Deviation	Mean	Std Deviation
The nursing staff treat me with dignity and respect	4.67	.565	4.15	.834	4.53	.788	4.58	.770
The nursing staff are friendly and courteous	4.71	.550	4.15	.939	4.65	.544	4.56	.809
The nursing staff respect the confidentiality of my treatment	4.71	.550	4.12	.857	4.58	.663	4.71	.462
The nursing staff communicate in a language that I can understand	4.50	.722	4.18	.846	4.53	.662	4.50	.878
The nursing staff communicate at a level I understand	4.63	.495	4.18	.808	4.62	.493	4.56	.773
I feel safe in the Maternity Unit	4.63	.495	4.15	.834	4.56	.561	4.56	.773
The Maternity unit is safe	4.58	.504	4.18	.808	4.61	.496	4.5	.775
My personal belongings are safe in the Maternity Unit	4.58	.504	3.94	.898	4.35	.849	4.23	.770
<b>Mean</b>	<b>4.63</b>		<b>4.13</b>		<b>4.55</b>		<b>4.51</b>	

In general the means in all the groups and in all the statements are above 4, except for the one statement in the pre-test in the experimental group, namely:

- ❖ My personal belongings are safe in the maternity unit. The respondents perceived the safety of their belongings as unsafe in the pre-test of the experimental group

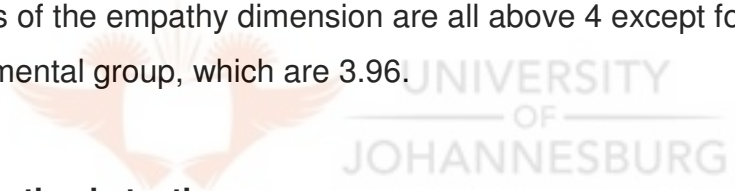
The means of the assurance dimension are all above 4.

**Table 6.19 Empathy**

Table	Pre Test Control Group		Pre Test Experimental Group		Post Test Control Group		Post Test Experimental Group	
	Mean	Std Deviation	Mean	Std Deviation	Statement	Mean	Std Deviation	Mean
The nursing staff pay individual attention to me	4.50	.590	3.85	.939	4.41	.743	4.19	.889
The nursing staff pay attention to each patient	4.63	.495	3.94	.933	4.56	.561	4.39	.803
The nursing staff understand my needs	4.58	.584	3.94	.998	4.50	.615	4.31	.822
The nursing staff have my best interest at heart	4.58	.584	4.12	.857	4.62	.604	4.28	.741
<b>Mean</b>	<b>4.6</b>		<b>3.96</b>		<b>4.52</b>		<b>4.29</b>	

In general the means of the statements in all the groups are above 4 except for the statements in the pre-test in the experimental group, which is below 4.

The means of the empathy dimension are all above 4 except for the pre-test in the experimental group, which are 3.96.



### 6.7.1 Hypothesis testing

#### ❖ Hypothesis 1

$H_0$ : Changes in physical evidence has no effect on the perception of service quality for maternity patients in a hospital setting.

$H_a$ : Changes in physical evidence has an influence on the perception of service quality for maternity patients in a hospital setting.

The Mann-Whitney Test has been used to test the influence of the physical evidence. This test is used for testing group differences when the population are not normally distributed or when it cannot be assumed that the samples are from populations that are equal in variability (Zinkmund, 2003:243).

The physical evidence (tangibles) has changed in the experimental group, but not in the control group.

The control group's results can be seen in Table 6.20.

**Table 6.20 Test statistics of the pre-test and post-test of the control group**

	<b>p value</b>	<b>Result</b>
Asymp. Sig. (2-tailed)	$p = 0.776$	$>0.05$

No statistically significant differences were indicated between the control group's pre-test and post-test ( $p=.776$ ). This means that the null hypothesis is accepted as no statistically significant difference is seen due to the change in physical evidence in the experimental group

The experimental group's results can be seen Table 6.21

**Table 6.21 Test statistics of the pre-test and post-test of the experimental group**

	<b>p value</b>	<b>Result</b>
Asymp. Sig. (2-tailed)	$p = 0.001$	$<0.05$

Statistically significant differences were indicated between the experimental group's pre-test and post-test ( $p=.001$ ). This means that the null hypothesis is rejected as a statistically significant difference is seen due to the change in physical evidence in the experimental group.



## ❖ Hypothesis 2

H<sub>0</sub>: There is no difference between the groups with regards to the dimensions in their perception of service quality in the maternity unit.

H<sub>a</sub>: There is a difference between the groups with regards to the dimensions in their perception of service quality in the maternity unit.

The Levene's test of equality of error variance has been used to test this hypothesis. This test tests the null hypothesis that the error variance of the dependent variable of the different dimensions is equal across different groups (Zikmund, 2003:544).

**Table 6.22 Significance of the five dimensions of service quality**

Dimension	p value	Significance
Tangible	p = .048	Statistically significant
Reliability	p = .048	Statistically significant
Responsiveness	p = .021	Statistically significant
Assurance	p = .129	Not statistically significant
Empathy	p = .410	Not statistically significant

There are statistically significant differences between the groups in the tangibility, reliability and responsiveness dimensions. However, there are no significance for the assurance and empathy dimension. Thus the null hypothesis is partially accepted.

## ❖ Hypothesis 3

H<sub>0</sub>: The age of maternity patients has no influence on the perception of service quality

H<sub>a</sub>: The age of maternity patients has an influence on the perception of service quality for patients in a hospital setting.

The Kruskal-Wallis test has been used to test the above hypothesis. The Kruskal-Wallis test is a test used when the researcher wishes to compare three or more groups and the data is ordinal (Zinkmund, 2003:544).

To test the hypothesis the responses were combined irrespective of whether they were in the pre-test (or not) or the post-test (or not). They were precoded to obtain groups of similar size, namely: 17-25, 26-31 and 32-42 years.

The results can be seen Table 6.23.

**Table 6.23 Test statistics of the groups in terms of age**

	P value	Result
Asymp. Sig. (2-tailed)	p = .242	>0.05

There was no statistically significant differences indicated between the ages ( $p=.242$ ), accepting the null hypothesis that the age of maternity patients has no influence on the perception of service quality for patients in a hospital setting.

❖ **Hypothesis 4**

$H_0$ : The number of children the maternity patients has, has no influence the perception of service quality.

$H_a$ : The number of children the maternity patient has influences the perception of service quality.

The Kruskal-Wallis test has been used to test the above hypothesis. The Kruskal-Wallis test is a test used when the researcher wishes to compare three or more groups and the data are ordinal (Zinkmund, 2003:544).

To test the hypothesis the responses were combined irrespective of whether they were in the pre-test (or not) or the post-test (or not). They were precoded to obtain groups of similar size, namely: no other children, 1 other child and 2-3 other children

The results can be seen Table 6.24

**Table 6.24 Test statistics of the groups in terms of number of children**

	P value	Result
Asymp. Sig. (2-tailed)	$p = .294$	$>0.05$

There was no statistically significant differences indicated between the number of children ( $p=.294$ ), accepting the null hypothesis that the number of children of maternity patients has no influence on the perception of service quality for patients in a hospital setting.

## 6.6 Conclusion

The findings of the research indicate that there is a high reliability in all 5 dimensions.

It furthermore indicates that the average means in all the statements are above 4 except for the pre-test of the experimental group. This group's results are from the respondents before the maternity unit was refurbished and are statistically significant lower.

The hypothesis of the research were tested and resulted in the following:

- ❖ Changes in physical evidence have an influence on the perception of the service quality for maternity patients in a hospital setting.
- ❖ There is a partial difference between the groups with regard to the dimensions in the perception of service quality in the maternity unit.
- ❖ The age of the maternity patients and the number of children of the respondents have no influence on the perception of service quality for patients in the maternity unit.



## **Chapter Seven Findings and recommendations**

### **7.1 Introduction**

In the previous chapter, the research findings were presented. The final chapter will focus on the main conclusion by answering the primary and secondary objectives set out in Chapter 1. The managerial implications and recommendations will be identified as well as the limitations and recommendations for further research.

### **7.2 Summary**

The study consisted of a literature study that clarifies the physical evidence dimension of service quality, service quality and various questionnaires to measure service quality. After this it described the healthcare industry and specifically the private health sector.

Research was conducted in maternity units to attempt to determine the effect of changes in physical evidence made in the facility.

Reference to the literature study and research findings will be used to achieve the objectives formulated in chapter 1. Conclusions will be based on the literature study and the empirical research. The empirical research was conducted in two private healthcare facilities and represented the control and the experimental group.

### **7.3 Objectives of the Study**

The primary and secondary objectives in chapter 1 will be answered.

### 7.3.1 Primary Objectives

The primary objective of this study was to determine how changes in physical evidence influence the perceptions of service quality on maternity patients in the private hospital under investigation.

The primary objective of the empirical research was achieved. The findings indicated in the pre-test and post-test groups of the experimental group that physical evidence has an influence on perception of service quality. The pre-test and the post-test of the control group's were utilized to establish that there is no change in perception of service quality if the physical evidence stays the same.

### 7.3.2 Secondary Objectives

The secondary objectives were as follow:

- ❖ To determine the perceptions of service quality in both the experimental and the control group before and after the change in physical evidence
- ❖ To determine whether the physical evidence affects the perceptions of service quality.
- ❖ To determine if the age of the mother affects the perceptions of service quality in a maternity unit.
- ❖ To determine if it will have an effect on the perception of service quality if the mother has other children.

The perceptions of service quality in both the control group and the experimental group in the pre-tests and post-tests were tested by conducting the questionnaire in the facilities.

Physical evidence does affect the perception of service quality as it was determined in the Mann-Whitney test. The null hypothesis was rejected as a significant difference is seen due to the change in physical evidence in the experimental group.

Both the null hypotheses were accepted as the Kruskal-Wallis indicated in both the hypothesis that age and the number of children had no influence on the perception of service quality.

#### **7.4 Discussion on Hypothesis**

The following hypotheses were researched in the study:

- ❖  $H_0$ : Changes in physical evidence has no effect on the perception of service quality for maternity patients in a hospital setting.
- $H_a$ : Changes in physical evidence has an influence on the perception of service quality for maternity patients in a hospital setting.

The null hypothesis is rejected as a statistically significant difference is seen due to the change in physical evidence in the experimental group.

- ❖  $H_0$ : There is no difference between the groups with regards to the dimensions in their perception of service quality in the maternity unit.
- $H_a$ : There is a difference between the groups with regards to the dimensions in their perception of service quality in the maternity unit.

There are statistically significant differences between the groups in the tangibility, reliability and responsiveness dimensions. However, there is no

significance for the assurance and empathy dimension. Thus the null hypothesis is partially accepted.

- ❖  $H_0$ : The age of maternity patients has no influence on the perception of service quality
- $H_a$ : The age of maternity patients has an influence on the perception of service quality for patients in a hospital setting.

There were no statistically significant differences indicated between the ages, accepting the null hypothesis that the age of maternity patients has no influence on the perception of service quality for patients in a hospital setting.

- ❖  $H_0$ : The number of children the maternity patients has, has no influence the perception of service quality.
- $H_a$ : The number of children the maternity patient has influences the perception of service quality.

There were no statistically significant differences indicated between the numbers of children, accepting the null hypothesis that the number of children of maternity patients has no influence on the perception of service quality for patients in a hospital setting.

It can therefore be concluded that changes in physical evidence has an influence on the perceptions of service quality for maternity patients in a hospital setting, that there is a difference in the tangibility, reliability and responsiveness dimensions of service quality perceptions in the maternity unit, but no difference when it comes to assurance and empathy.

The age of the maternity patients and the number of children they have, have no influence on the perception of service quality in the maternity unit.



## 7.5 Management Implications and Recommendations

The managerial implications are that physical evidence is important in the maternity wards in a hospital setting. Physical evidence, reliability and responsiveness are the three dimensions that have an influence on the perception of service quality if the physical evidence change in the maternity unit. Assurance and empathy are the two dimensions that stays constant even when the physical environment changes.

When an organisation in the health industry has a strategy of differentiation, detail attention of the physical evidence in their hospitals are important. It will be the physical evidence that differentiate them from the competition and will ensure them a competitive advantage in the market place.



Management needs to be aware of the following specific areas of concern:

- ❖ Adequate seating around a bed is always important for patients in any circumstances.
- ❖ Noise levels must be acceptable at all times, although changes in the physical evidence made the noise levels more acceptable.
- ❖ The décor in a maternity unit is important and does influence the perception of service quality
- ❖ Curtains around the bed and at the windows get noticed by the maternity patients.
- ❖ Patient's records that the nursing staff keeps up to date are important and are perceived as above 4 out of a 5 Likert scale in any circumstances.

- ❖ Maternity patients perceive that their belongings are not safe in the unit where the physical evidence has not changed.
- ❖ Maternity patients perceived the nurses as having their best interest at heart in any physical environment in the research.

## **7.6 Limitations**

The limitations in the research are the following:

- ❖ The study was conducted in Gauteng
- ❖ The pilot study was done in the private hospitals in the healthcare industry, and excluded the public sector
- ❖ The patients that completed the questionnaire were maternity patients

## **7.7 Recommendation for further research**

The recommendations for further research are the following:

- ❖ To research the patient's perception of service quality nationally
- ❖ To research the patient's perception of service quality in the public sector in the health industry
- ❖ To research the patient's perception of service quality in all the different units in the hospital setting

## **7.8 Conclusion**

This study has shown its importance through the use of a Quasi-experiment that physical evidence is an important dimension in the perception of service quality for patients in a maternity unit in the private health sector. This should be considered by management for future planning in the strategies of an organisation in the healthcare industry. By

including this dimension in the strategies, the organisation can be sure of a competitive advantage in the current economic climate.



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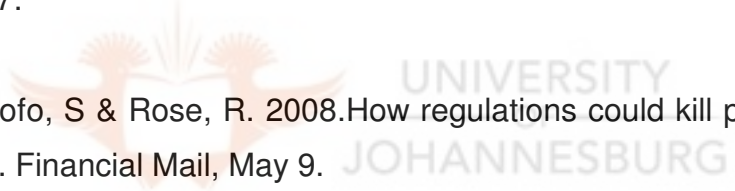
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### **Annexure A: The questionnaire**

## **SERVICE QUALITY IN THE MATERNITY UNIT**

My name is Magriet Holder, the hospital manager of Netcare Clinton Hospital. I am currently doing a research project on Service Quality in Maternity Units as part of my studies at the University of Johannesburg. I would appreciate it if you could take part in the survey as it would benefit patients using this Maternity Unit in the future.

**In order to comply with the ethical requirements of the degree. I request that you consent to the following:**

- ❖ The demographic information (excluding your contact details) that appears on your inpatient sticker may be used for the purpose of this research (Section 1).
- ❖ The information regarding the birth procedure be retrieved from your file (Section3).
- ❖ To complete the question regarding the service quality in the Unit (Section 2).

My study leader is Prof Adele Berndt from the University of Johannesburg. Her contact details are 011 559-2455. Feel free to contact her if you require any further information.

## CONSENT FORM

I,.....(full names and surname) hereby give Magriet Holder consent to use the data described in section one to three in her research project at the University of Johannesburg.

NAME:..... DATE:.....

SIGNATURE:.....



## SECTION ONE:

Patient Sticker

## SECTION TWO:

To what extent do you agree with each of the following statements regarding the service quality received at the Maternity Unit? Use the following scales: 1= Strongly disagree, 2= Disagree, 3=Neutral, 4= Agree, 5=Strongly agree.

<b>TANGIBILITY:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
The technical equipment of the Maternity unit is, up to date					
The physical facilities are visually appealing					
The nursing staff are well dressed					
There is adequate seating at the bedside of the patient					
The quality of catering services are of a high standard					
The bathroom facilities in the Maternity unit are clean					
The signage to the maternity unit is clear					
The nursing staff's identity is visible					
The corridors in the Maternity unit are clean					
The noise levels are acceptable					
The décor in the maternity unit is attractive					
The curtains around the bed compliment the décor					
The curtains at the windows compliment the décor					
<b>RELIABILITY</b>					
Promises made by nursing staff to deliver services are kept					
Complaints and problems are solved with great concern					
The nursing staff deliver the service correctly					
The nursing staff deliver the service at the time agreed upon					
My patient records are kept up to date by nursing staff					
<b>RESPONSIVENESS</b>					
The nursing staff inform me of the time of the caesarean section					
The nursing staff deliver prompt service					
The nursing staff are willing to help me					
The nursing staff help me on request					
<b>ASSURANCE</b>					
The nursing staff treat me with dignity and respect					
The nursing staff are friendly and courteous					
The nursing staff respect the confidentiality of my treatment					
The nursing staff communicate in a language that I can understand					
The nursing staff communicate at a level I understand					
I feel safe in the Maternity unit					
The maternity unit is safe					
My personal belongings are safe in the Maternity unit					
<b>EMPATHY</b>					
The nursing staff pay individual attention to me					

The nursing staff pay attention to each patient					
The nursing staff understand my needs					
The nursing staff have my best interest at heart					

**Thank you for completing this questionnaire.**

### **SECTION THREE:**

Method of antithetic in the caesarean procedure? Epidural/General antithetic

Complications? Yes/No

If Yes, the nature of the complication

Number of previous pregnancies?

Number of other children?

Sex of baby?

Baby's weight?

Breast feeding?

Complications with breast feeding? Yes/No

