

# THE PERCEIVED IMPACT OF RESTRUCTURING ON SERVICE QUALITY IN A HEALTH CARE ENVIRONMENT

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## Abstract

This study evaluates health care employees' perceptions of service quality in a hospital environment after the process of restructuring and assesses whether their perceptions are influenced by biographical profiles. A sample of 143 clinical and non-clinical employees from three of the largest regional hospitals within the Ministry of Health in Lesotho was drawn using cluster sampling. Data was collected using an adapted version of SERVQUAL whose psychometric properties were statistically determined. Data was analyzed using descriptive and inferential statistics. The results indicate that employees were fairly convinced that the process of transformation undertaken in the health care organization led to enhanced service quality in terms of improved empathy, assurance, responsiveness, tangibles and reliability, although in varying degrees and, reflect areas for improvement.

**Keywords:** Service Quality, Tangibles, Reliability, Responsiveness, Assurance, Empathy, Business Strategies, Integrated Delivery Network

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## 1 Introduction

Health care is a government priority as it is in the interest of every country to have a healthy nation. Health services are fundamental to every health system and identifying strategies to improve health services is vital (Loevinsohn & Harding, 2005). There are some key resources that health service delivery relies on, such as motivated staff, equipment, information, finance and adequate drugs. Some of the aspects that assist in health service delivery are improving access, coverage and quality of health services and these can be determined by the ways in which services are organized and managed and on incentives influencing providers and users (Clancy, 2006).

Loevinsohn and Harding (2005) note that many countries allocate more resources towards health services which do not necessarily address the problem of service delivery. Mehrotra and Jarrett (2002) assert that health service delivery is fundamental for the community specifically those people who are in the rural areas where health services are not accessible. They further emphasize that the quality of health services provided at grassroots level are poor due to lack of adequate resources and inefficient political will to ensure proper functioning. Improving health service delivery requires efforts from stakeholders within the health systems such as policy makers in the ministries of health, finance and public administration, health

service managers and workers, public and private providers, clients as well as the communities (WHO, 2012).

This paper aims to evaluate health care employees' perceptions of service quality in a hospital environment after the process of restructuring and to assess whether these perceptions are influenced by biographical profiles.

### 1.1 Health care provision and service delivery

Walshe and Smith (2006) describe that the provision of health care services within a regional or national health care system can be classified into three sectors, namely, primary, secondary and tertiary care. The sectors can be modeled as subsystems of the whole health care system, even though in some countries the boundaries between these sectors are often unclear and many times shift as health services provision moves from one sector to the other. The three sectors overlap and a patient can be expected to move from one sector to another depending on his or her clinical needs. For example, a patient may begin from the first sector where the patient is diagnosed and this is where primary health care takes place. The patient can later be transferred to secondary care to be hospitalized or access some services not provided at primary care level. Tertiary care plays an important role in cases where a patient requires specialized care which cannot

be provided at secondary level. The movement through the sectors increases costs for the patients. This situation brings more pressure on health organizations to manage the increasing health care costs and require attempts to develop the capacity of primary health care providers and facilitate the ability of the patients to provide self-care (Walshe & Smith, 2006).

### **1.2 Constraints in delivering health services**

Oliveira-Cruz, Hanson, and Mills (2003) maintain that some of the constraints within health service delivery operate on five levels, namely, Community and household level, Health services delivery level, Health sector policy and strategic management level, Public policies cutting across sectors and, Environmental and contextual characteristics. Other constraints that were analyzed include the lack of demand for effective intervention and, barriers to the use of effective interventions. In addition, the constraints of health service delivery such as shortage and distribution of qualified staff, poor technical guidance and supervision, inadequate drug and medical supplies, lack of equipment and infrastructure as well as poor accessibility are issues of concern which have to be managed by health sectors. Travis, Bennett, Haines, Pang, Bhutta, Hyder, Pielemeier, Mills & Evans (2004) add that financing and the use of information are further problems facing health systems. Oliveira-Cruz, Kurowski, and Mills (2003) emphasize that improved health care services can be realized through national and international commitment to enlarge access to priority health interventions.

### **1.3 Strategies to strengthen and improve the delivery of health services**

According to Shi and Singh (2008), health professionals should not only focus on their roles at the workplace but should also have a better understanding of forces outside their profession that can affect their current and future practices. Furthermore, they emphasize that policy makers should not only focus on one health care sector when they deal with certain problems as the impact may be felt in the entire system. Peters, EL-Saharty, Siadat, Janovsky, and Vujicic (2009) suggest that some of the strategies that can be implemented to strengthen the health services are the expansion and involvement of community health workers, the establishment of user fees and community management, decentralization, performance incentives, social marketing and re-organizing outreach workers.

Nauert (2002) mentions that the health care industry has been denying patients quality health services and there are certain business strategies that the health industries had to put in place to curb such poor service delivery. Such business initiatives

include key components like environmental assessments of market wants, needs and demands, strengths and weaknesses as well as external threats and opportunities of the health industries. According to Healey and Kuehn (2011), technology plays an important role as an innovation element in health service delivery for the reason that records are easily kept and electronic communication assists in collecting, analyzing and disseminating health related information. The other two innovation elements are a business model for health care system in which more emphasis will be on wellness and prevention, performance outcomes and development of a value network that is sustainable and will probably need an external catalyst. Battacharyya, Khor, MCGahan, Dunne, Daar, & Singer (2010) suggest marketing strategies that can be implemented to improve health services especially for the poor such as social marketing, tailoring services to the poor, franchising, high volume and low unit cost. Social marketing involves implementing marketing techniques to attain behavioural change by creating training and peer education programs that concentrate on behavior change in schools, prisons, the sex industry and the public. Tailoring services to the poor focuses on tailoring services and products towards the needs of the poor while franchising, high volume and low unit cost concentrate on the enlargement and sustainable distribution of products and services of specific quality in reproductive health with low costs.

Battacharyya et al. (2010) added that other marketing activities involve operating activities and financial strategies which aim to provide products and services at lower costs while maintaining quality of services. These financial strategies include lower operating costs through simplified medical services, high volume and low unit costs, cross subsidization and income generating mechanisms. Leggat, Bartram, Casimir, and Stanton (2010) similarly emphasize that improvement in health service delivery substantially relies on job satisfaction and empowerment of health workers and found that improved autonomy, decision making and empowerment were linked to lower patient mortality rates. Similarly, Mukherjee and Malhotra (2006) emphasize that freedom to plan one's work, participation in decision making, role clarity and psychological support from supervisors motivates employees to improve service delivery. The need for efficient health services is a concern for countries worldwide but in the end people have to be provided with quality services within an integrated delivery network (coordinated continuum of services) that are not fragmented (Ramagem, Urrutia, Griffith, Cruz, Fabrega, Holder & Montenegro, 2011). Some of the benefits of an integrated delivery network include improved access to health services, decreased inappropriate costs, prevention of duplication of infrastructure and services, reduction of costs and responding better towards people's health needs (Ramagem et al., 2011).

Travis et al. (2004) elaborate that strengthening health systems is fundamental to attain enhanced service delivery, but stress that strengthened health systems cannot achieve expected results unless they are effective. Shortell (2004) describes that health systems requires advanced knowledge that should be put into action to attain the improved health services. Travis et al. (2004) argue that the problem is not putting the existing knowledge into practice but identifying effective health systems that will lead to expected outcomes. Vertical approaches (planning, staffing, management and financial systems) and horizontal approaches (operate within the existing health system's structures) are used with the aim of improving services.

There is a need for policy relevance and innovations techniques, more focus on strengthening commitment and investment in terms of research capacity of the developing countries (Travis et al., 2004). Stable (2000) argues that health care services can be improved through transparent processes that take place during the engagement of the new model for effective delivery of service and highlights four phases that should be considered for effective service delivery, namely, identification of a problem, community profile (the population group to whom the services are delivered), implementation (services required, quality of services, costs and challenges must be known) and evaluation (expectations of what is required should be clear).

Effective communication and consultation are regarded as key elements that need a careful consideration in any change process taking place in an organization (Stable, 2000). Wright and Baker (2005) maintain that using appreciative inquiry allows easy transition from conversation to action and provides energy as well as motivation for the health workers in order to improve health services as it allows them to feel a sense of ownership and responsibility for both their decisions and actions. Similarly, Conner and Finnemore (2003) suggest same time/same place (face-to-face collaboration) and same time/any place methods of communication (phone and video conferencing, team room and digital collaborative technology). Although the former saves time and costs, it limits social and physiological benefits but the latter is beneficial for health care providers where working with shifts is concerned and results in improved work efficiency and improved service delivery. Furthermore, effective communication across the structural departments within an organization enhances successful implementation of its plans (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004). McCallin (2001) explains that teamwork cannot function well without proper communication among health workers; hence, team effectiveness relies on effective communication. According to Robinson, Gorman, Slimmer & Yudkowsky (2010), factors that contribute to effective communication among nurses and physicians include,

but are not limited to, clarity and precision of message that relies on verification, collaborative problem solving, maintenance of mutual respect and authentic understanding of the unique professional role. Working together as a team to solve problems and respect for one another contributes a lot to good relationships and effective communication (Robinson *et al.*, 2010).

Unlike other countries that have opted for other health reforms for improved health services, Cambodia used contracting as an approach to improve health service delivery (Soeters & Griffiths, 2003). Campinha-Bacote (2002) acknowledges the various models that have emerged to overcome the challenges of health service delivery and believes that the cultural competence model may add more value in health service delivery. She explains her model as a continuous process whereby health care providers should make an effort to attain the ability to work within the cultural context of the customer. The model needs health workers to be culturally competent. The model is categorised into five parts, namely, cultural awareness, cultural knowledge, cultural skill, cultural encounters and cultural desire.

Cultural awareness is about self-examination and indepth exploration of one's own cultural and professional background. It includes individual's recognition of biases, prejudice and assumptions about other people who are different and helps to avoid the risk of cultural imposition. Cultural knowledge involves learning or acquiring educational foundation from different cultural and ethnic groups. Health providers have to take into consideration knowledge of clients' health-related beliefs and cultural values, disease incidence and prevalence and treatment efficacy which will eventually allow them to understand the clients' world view (Campinha-Bacote, 2002). Brown and Busman (2003) share the experience of Saudi Arabia whereby more expatriates are employed due to high population growth and low number of health workers which affects the health service delivery due to the cultural and communication barrier between the patients and the expatriates. Some mechanisms such as education and training for Saudi Arabian health workers have been implemented but they cannot reach the number that is needed. On the other hand, cultural skill assists health providers to gather relevant data concerning the clients' prevailing problem and performing a culturally based physical assessment. Cultural encounters provides an opportunity for health providers to interact with clients from different cultural backgrounds and, therefore, helps them not to be stereotyped when it comes to other individuals' culture and values. Through Cultural encounters, health workers can identify clients' linguistic needs and find an interpreter where necessary. Cultural desire has to do with the health providers' care towards the clients since people are concerned about

how much one cares than how much one knows (Campinha-Bacote, 2002).

Ensor and Cooper (2004) mention that some of the interventions implemented by different countries brought significant changes in health service delivery. Those interventions are education and information provided to community educators through training, funds provided to reduce transport costs for patients who travel to the health centres and maternity waiting homes near districts hospitals. Community educators are basically women in the target communities who can encourage or influence families of the importance of maternal care and help to facilitate admission to hospital during emergencies. Basic education plays a key role to some extent to increase the desire and actual use of health services. Education yet again assists individuals to make informed decisions concerning their lifestyle, that is, they can take care of their health themselves without relying on health services. This implies the need to implement methods of improving literacy. Countries such as Zimbabwe and Ethiopia report high use of hospitals and decreased rates of complications for the subsequent delivery as a result of these interventions. On the contrary, Ghana and Zaire also established maternity homes but were not positively received because they were located in isolated areas without facilities to prepare food. The need for consultation with the community is essential before implementation of any intervention. Burundi invested in roads with the aim of improving access to health care. Bangladesh implemented a door-to-door provision of family planning services and it has been successful in overcoming consumer costs and social objections to women obtaining services outside the home. However, it has been reviewed as it was expensive. Recent policy re-oriented the focus to delivery of services to the community clinics as opposed to door-to-door provision (Ensor & Cooper, 2004). Powers and Jack (2008) advocate the use of volume flexibility which is categorized into internal and external strategies. Volume flexibility has to do with the organization's ability to efficiently manage output levels in response to the fluctuations in demand for its current products or services without incurring high transition penalties or large changes in performance outcome. The internal strategies in this regard are based on the resources, processes and capabilities that the organizations own. On the other hand, external strategies that include outsourcing (provided that the outsourcing strategy is understood) and strategic alliances, risk pooling, managed care controls as well as pricing and rationing strategies can be implemented. Demand management strategies (promotion programs, induced demand techniques) can be used to reduce demand uncertainty (Powers & Jack, 2008).

During the transformation that took place in South Africa in 1994, the new government established three service delivery initiatives with the aim of improving service delivery. The first initiative was

Bathopele which means people first. This initiative was published in 1997 and has eight principles: (1) to regularly consult with customers about a level and quality of public service they get (2) To set service standards so that people will be aware of what to expect in terms of level and quality of services they have to receive (3) To increase access to services to allow citizens to have equal access to the services to which they are entitled, (4) To ensure high level of courtesy and consideration, (5) Provision of more and better services and information for people to be well informed of services that they ought to receive, (6) Increasing openness and transparency about services (7) To remedy failures and mistakes and (8) give possible value for money (economical and efficient provision of services) (Russell & Bvuma, 2001). The second initiative was Public Private Partnerships which aimed at improving services and cost effectiveness. The third initiative was Alternative Service delivery. It includes Information Technology, significant management improvement, accelerated training and development of staff at all levels, redeployment of resources in the budget to higher priority areas, effective review and accountability measures and seeks to focus attention on innovative delivery solutions at the customer end (Russell & Bvuma, 2001).

#### **1.4 Challenges experienced in health care service delivery**

Some of the challenges faced in health care delivery systems are improving quality, increasing access and reducing costs (Andaleeb, 2001). McIntyre and Klugman (2003) share the challenges that South Africa experienced during the restructuring of health services. They explained that there is a lack of effective communication between the senior provincial officers and local government representatives especially in policy decisions which eventually affects their daily planning and delivery of services. Jacobs, Lauderdale, Meltzer, Shorey, Levinson & Thisted (2001) take this concept further by pointing out that communication is not only a barrier among health workers but also a problem between a health worker and a patient. Jacobs et al. (2001) explain that a language barrier still exists in many hospitals. Various studies that have been undertaken reveal that patients who are unable to speak the English Language well receive unsatisfactory health services and this denies them to receive preventive and other services. Although interpreter services are introduced, they are not adequate in number and in some cases untrained nonclinical employees have to interpret which result in negative clinical consequences such as breach of patient confidentiality, misdiagnosis and inadequate or inaccurate treatment (Jacobs et al., 2001). Kulwicki, Miller, and Schim (2000) agree that there is lack of bilingual health care providers and there is a need for

cultural awareness, for example, in some countries, culturally, female patients cannot be diagnosed by male health providers. Duncan and Breslin (2009) assert that it is difficult for health workers to provide innovative services due to inadequate incentives.

Some of the challenges facing the United States of America within the health care systems are the rise of value and services delivered of which they include quality and cost features (Shortell, 2004). Shortell (2004) points out that health systems also face challenges at managerial level. Also, several health reforms do not have explicit objectives and this makes it difficult to evaluate the success and failures in attaining the objectives (Preker & Harding, 2003).

### **1.5 Decentralization of health services: Experiences from International and local countries**

There are some benefits that are obtained from decentralization of services such as being able to make decisions based on people's needs since decision makers are much closer to the people and their needs. This helps local decision makers to align the services and public expenditure with their local needs and preferences. Eventually this may lead to improved service delivery (Saavetra-Costas, 2009). The decentralization involved in South Africa's process of restructuring of health services was in two forms, namely, the devolution of authority to provincial and local governments and, the decentralization of services from provincial health to health district. National government in this regard was responsible for policy development while provinces had a responsibility of service provision and hospital services with more focus on curative primary health care. Some of the challenges faced during the restructuring process were uncertainties about responsibilities and line of accountability, the health workers had to account to both provincial and facility managers, poor staff morale and working conditions, problems concerning infrastructure, availability of drugs and, staff attitude towards patients. According to the analysis of the study, people believe that the focus was on restructuring and transition and less on service delivery (McIntyre & Klugman, 2003).

Regmi, Naidoo, Greer, and Pilkington (2010) mention that many countries opt for decentralization of services with the aim of improving service delivery in aspects such as accessibility, reduction of costs and community participation. A successful decentralization of health service experienced by Nepal reports the benefits of improved availability of drugs due to pressure from local representatives, ability of community to communicate their needs and expectations to the public health representatives locally, reduced absenteeism for the reason that local representatives are around physically to assess the situation and an increase in community satisfaction with the services (Regmi et al., 2010). However, a

failure in Nepal is that little fiscal decentralization took place which led to more resources still being controlled and managed at central level.

Sakyi (2010) identified some of the shortfalls during the decentralization of services that took place in Ghana as lack of effective and timeous communication, inadequate information concerning reforms, lack of participation of and consultation with health workers, the top-down style of communication and the communication gap between district managers and relevant stakeholders that affected service delivery. Eggleston, Ling, Qingyue, Lindelow, and Wagstaff (2008) report that changes in China's health sector were only seen in urban areas and only improved quality to a certain degree and results indicate that China requires improvement in health service delivery with regard to quality, responsiveness to patients, efficiency and equity.

According to Ramani and Mavalankar (2006), India implemented health reforms in 2004 which took place in nine states and improvements reported include the establishment of logistic management system to coordinate the purchase of drugs, storage and distribution of drugs and medicines. Following its success, the system was replicated in over 450 government hospitals in one of the states where health reform took place. The Telemedicine Centre plays a key role in improving health service delivery. The country, however, still experiences challenges especially in rural areas in terms of access, affordability and equity of services. According to Aksan, Ergin, and Ocek (2010), Turkey embarked on health reforms with the aim of addressing issues such as inequalities in access to health services and fragmentation in financing and delivery of health services. Restructuring of the Ministry of Health in Turkey was done with the aim of enhancing the stewardship function. Some of the health services like laboratory and radiodiagnostic services were outsourced to improve health services. The government also incorporated private hospitals by increasing incentives for investment.

### **1.6 Measuring the quality of services**

Service quality is defined as "the valuation that the consumer makes of the excellence or superiority of the services" or "discrepancy between consumer's perceptions of services offered by a particular firm and their expectations about firms offering such services" (Zeithaml, Berry, & Parasuraman, 1988). According to Ramsaran-Fowdar (2008), theoretical perspectives on service quality were developed in 1980s. There are two types of service quality, namely, technical quality which refers to core service delivery or service outcome and, functional quality which involves service delivery processes or the manner in which customers receive the service. Lu and Liu (2000) add that in the health care environment, technical quality involves factors such as average

length of stay, re-admission rates, infection rates and outcome measures whilst functional quality includes factors like doctors' and nurses' attitudes towards patients, cleanliness of facilities and quality of food given to patients.

Jensen and Markland (1996) emphasize that it is critical for individuals who deliver services to be assessed because good service is determined by their performance and any changes made, affects their work. Jensen and Markland (1996) advocate that organizations should evaluate quality measurement systems like SERVQUAL and identify the one that will best suit the needs of the organization. Babakus and Mangold (1992) believe that SERVQUAL has been known for its potential usefulness in the hospital environment and mention that service industries identify quality as the main determinant of cost reduction, market share and return on investment. This instrument can also be used internally to understand the employees' perceptions about the service quality with the aim of improving services (Fedoroff, 2012). This instrument comprises of five dimensions: (1) tangibles - physical facilities, equipment, and appearance of personnel (2) reliability - ability to perform required services dependably and accurately (3) Responsiveness - willingness to assist customers and provide prompt services (4) assurance - knowledge and courtesy of employees and their ability to inspire trust and confidence and (5) empathy - caring and individual attention given to the customers (Carrillat, Jaramillo & Mulki, 2007). Assessing these dimensions in a health care environment is critical as they repeatedly surfaced as challenges and areas for improvement in the preceding discussions.

Hence, this paper aims to evaluate health care employees' perceptions of service quality (tangibles, reliability, responsiveness, assurance, empathy) in a hospital environment after the process of restructuring and to assess whether these perceptions are influenced by biographical profiles (gender, job category, age, tenure, qualification) respectively.

## 2 Research design

### 2.1 Respondents

In this study the population comprises of employees from three of the largest regional hospitals within the Ministry of Health in Lesotho who were in the employ of the organization from before the restructuring, making up a population of approximately 800 clinical and support staff. It must be noted that management for clinical and support staff is already included in the population of 800. The researcher used a sample of 143 employees. The adequacy of the sample was determined using the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (0.883) and the Bartlett's Test of Sphericity (1696.124,  $p = 0.000$ ) for the five sub-dimensions assessing service quality after the process of transformation, which respectively indicated

suitability and significance. The results indicate that the normality and homoscedasticity preconditions are satisfied. A computer programme was used to select employees from the Ministry of Health staff list who were in the employ before and after the restructuring took place. Managers of the respective departments distributed the questionnaires to the selected subjects during one of their weekly meetings.

The composition of the sample may be described in terms of age, gender, job category, tenure and education. With regards to age, 36.4% of the participants were between 26-35 years followed by those between 36-45 years (33.6%), thereby indicating that the majority of the sample (70%) was between the ages of 26-45 years old. There were more females (81.1%) than males (18.9%) and more clinical services staff (72%) than non-clinical services employees. The majority of the respondents served the organization for 11-20 years (33.6%), followed by 1-5 years (25.9%), followed by 6-10 years (23.8%) thereby indicating that 83.3% of the sample have a tenure of 1-20 years. The majority of the participants have a diploma (51%) and a further 27.3% hold a degree.

### 2.2 Measuring Instrument

Data was collected using a questionnaire that was adapted from both SERVQUAL developed by Parasuraman, Zeithaml and Berry (1988) and SPUTNIC (undated) and comprised of two sections. Section A comprised of biographical data relating to age, gender, job category, tenure and education and was measured using a nominal scale. Section B consisted of 22 items pertaining to the perception of employees of the sub-dimensions of service quality (tangibles, reliability, responsiveness, assurance, empathy) after the process of restructuring. Subjects were reminded that the items relate to their perceptions of the sub-dimensions of service quality *after* the process of restructuring. Section B was measured using a five point Likert scale ranging from (1) strongly disagree, (2) disagree, (3) neither agree nor disagree, (4) agree to (5) strongly agree. In-house pretesting was adopted to assess the suitability of the instrument. Pilot testing was also carried out using 12 subjects, selected using the same procedures and protocols adopted for the larger sample. The feedback from the pilot testing confirmed that the questionnaire was appropriate in terms of relevance and construction.

### 2.3 Measures/statistical analysis of the questionnaire

The validity of the questionnaire was assessed using Factor Analysis. A principal component analysis was used to extract initial factors and an iterated principal factor analysis was performed using SPSS with an Orthogonal Varimax Rotation. In terms of the validity of the section relating to perceptions of service

delivery after the process of transformation, the five service quality dimensions (assurance, reliability, tangibles, empathy, responsiveness) were generated with respective eigenvalues being greater than unity (4.664, 3.056, 2.756, 2.601, 1.832). The items assessing perceptions of the transformation process were also reflected as having a very high level of internal consistency and reliability, with the Cronbach's Coefficient Alpha being 0.922.

## 2.4 Statistical analysis of the data

Descriptive statistics (means, standard deviations) and an inferential statistic (correlation, Mann-Whitney

test, Kruskal-Wallis ANOVA) will be used to evaluate objectives and hypothesis of the study.

## 3 Results

### 3.1 Descriptive Statistics

The perceptions of health care employees regarding the sub-dimensions of service quality (tangibles, reliability, responsiveness, assurance, empathy) was assessed by asking respondents to rate the various aspects of service quality using a 1 to 5 point Likert scale. The results were processed using descriptive statistics (Table 1). The greater the mean score value, the more positive the perceptions of service delivery after the process of transformation.

**Table 1.** Descriptive statistics: sub-dimensions of service quality

Dimension	Mean	95 % Confidence Interval		Variance	Std. Dev.	Minimum	Maximum
		Lower Bound	Upper Bound				
Tangibles	3.247	3.103	3.390	0.746	0.864	1	5
Reliability	3.105	2.974	3.237	0.627	0.792	1	4.6
Responsiveness	3.310	3.183	3.438	0.592	0.769	1	5
Assurance	3.338	3.256	3.495	0.516	0.718	1	4.75
Empathy	3.385	3.269	3.501	0.488	0.698	1	4.8

From Table 1 it is evident that the respondents have varying views of the sub-dimensions of service quality after the process of transformation, which in descending level of mean score value is:

- Empathy (Mean = 3.385);
- Assurance (Mean = 3.338);
- Responsiveness (Mean = 3.310);
- Tangibles (Mean = 3.247);
- Reliability (Mean = 3.105).

From the results it is evident that employees believe that after the restructuring health care workers have improved levels of empathy, followed by assurance, responsiveness, tangibles and lastly, reliability. Whilst respondents have a most positive view of the impact of restructuring on service delivery, when compared again a maximum attainable score of 5 it is evident that there is room for improvement in each of the sub-dimensions of service quality. In order to assess where these improvements lie, frequency analyses were conducted.

In terms of empathy, respondents believed that as a result of the restructuring the hospital/clinic (64.6%) and hospital personnel (52.8%) is able to give patients individual attention and 57% felt that the hospital/clinic has the patient's best interests at heart. Furthermore, whilst 49.2% of the respondents agreed that the restructuring has enabled personnel of the hospital/clinics to better understand the specific needs of patients, 38.7% were not convinced that the restructuring has led to such improvement. In addition, 42.9% of the respondents are uncertain

whether the process of restructuring has made the operating hours of the hospital/clinics convenient to all its patients.

In terms of assurance, respondents believed that as a result of the restructuring process personnel has learnt to behave in ways that instills confidence in patients (51.1%), are consistently courteous to patients (56.1%) and have the knowledge to answer patient's questions (71.8%). However, 51.7% of the respondents were not convinced that the process of restructuring has made patients feeling safer in their interactions with the hospital/clinic.

In terms of responsiveness, respondents agreed that after the restructuring the personnel of the hospital/clinic are able to tell patients exactly when services will be performed (67.6%) and are always willing to help patients (62.7%). Furthermore, whilst 35% of the respondents felt that as a result of the restructuring personnel in the hospital/clinic are never too busy to respond to patients' requests, 37.1% were not convinced and a further 37% disagreed. In addition, a significant percentage of the staff were not convinced that after the restructuring, personnel of the hospital give prompt service to patients (43.7%) and a further 22.5% disagreed that they do.

In terms of tangibles, respondents believed that as a result of the restructuring the physical facilities at the hospital/clinic are visually more appealing (68.3%), personnel in the hospital/clinic are neat in appearance (61.5%) and that materials associated with the service such as pamphlets or statements are

visually appealing (64.8%). However, whilst 37.1% of the respondents indicated that after the restructuring the hospital/clinic has modern equipment, a significant 46.9% disagreed and a further 16.1% were uncertain.

In terms of reliability, respondents reflected that as a result of the restructuring when a patient has a problem the hospital/clinic shows a sincere interest in solving it (60.1%) and that the hospital/clinic insists on error-free records (64.6%). Furthermore, whilst 33.8% of the respondents agreed that the restructuring has ensured that when the hospital/clinic promises to do something by a certain date it does it, a significant percentage disagreed that this happens (38.7%) and a further 27.5% were uncertain. In addition, whilst 64.6% of the respondents indicated that the restructuring has enabled the hospital/clinic to provide its service at the time that it promises to do so, 31.5% disagreed and a further 28.7% were uncertain. Also, 38% of the respondents were uncertain that as a result

of the restructuring the hospital/clinic gets things right the first time and 41.6% indicated that they do not get things right the first time.

### 3.2 Inferential Statistics

Inferential statistics were conducted to test the hypotheses of the study relating to perceptions of the sub-dimensions of service quality after the process of restructuring.

#### 3.2.1 Relationship between sub-dimensions of service quality

Hypothesis 1. There exists significant intercorrelations amongst the sub-dimensions of service quality (tangibles, reliability, responsiveness, assurance, empathy) respectively (Table 2).

**Table 2.** Intercorrelations: sub-dimensions of service quality

Sub-dimension of Service Quality	r	Tangibles	Reliability	Responsiveness	Assurance	Empathy
<b>Tangibles</b>	r	1				
<b>Reliability</b>	r	0.477	1			
	p	<b>0.000*</b>				
<b>Responsiveness</b>	r	0.281	0.469	1		
	p	<b>0.001*</b>	<b>0.000*</b>			
<b>Assurance</b>	r	0.245	0.509	0.690	1	
	p	<b>0.003*</b>	<b>0.000*</b>	<b>0.000*</b>		
<b>Empathy</b>	r	0.117	0.502	0.642	0.687	1
	p	<b>0.164</b>	<b>0.000*</b>	<b>0.000*</b>	<b>0.000*</b>	

\*  $p < 0.01$

Table 2 indicates that the sub-dimensions of service quality (tangibles, reliability, responsiveness, assurance, empathy) significantly intercorrelate with each other at the 1% level of significance, except for tangibles and empathy which show no significant relationship. Therefore, hypothesis 1 may only be partially accepted at the 1% level of significance. In particular, strong, direct and significant relationships were noted between assurance and responsiveness and empathy respectively at the 1% level of significance.

#### 3.2.2 Impact of biographical variables

The influence of the biographical variables (gender, job category, age, tenure, qualification) on health care

employees' perceptions of the sub-dimensions of service quality as a result of the process of restructuring were evaluated using tests of differences (Mann-Whitney test, Kruskal-Wallis Analysis of Variance) respectively.

Hypotheses 2. There is a significant difference in the perceptions of health care employees varying in biographical profiles (gender, job category, age, tenure, qualification) regarding the sub-dimensions of service quality as a result of the process of restructuring (tangibles, reliability, responsiveness, assurance, empathy) respectively (Table 3 to Table 6).

**Table 3.** Mann-Whitney test: sub-dimensions of service quality and gender

Sub-dimension of Service Quality	Mann-Whitney U	Z	p
<b>Tangibles</b>	1530.0	-0.188	0.851
<b>Reliability</b>	1515.0	-0.264	0.792
<b>Responsiveness</b>	1261.5	-1.587	0.113
<b>Assurance</b>	1239.0	-1.703	0.089
<b>Empathy</b>	1157.5	-2.070	0.038**

\*\*  $p < 0.05$



Table 3 indicates that there is a significant difference in the perceptions of male and female health care employees regarding empathy whereby females reflect higher levels of empathy as reflected in the mean scores (Mean = 3.432) than males (Mean = 3.185) at the 5% level of significance. No other significant differences were noted between males and

females regarding the remaining sub-dimensions of service quality (tangibles, reliability, responsiveness, assurance) respectively. Hence, hypothesis 2 may only be accepted in terms of gender and empathy at the 5% level of significance.

**Table 4.** Mann-Whitney test: sub-dimensions of service quality and job category

Sub-dimension of Service Quality	Mann-Whitney U	Z	p
<b>Tangibles</b>	1756.5	-1.378	0.138
<b>Reliability</b>	2022.0	-0.172	0.864
<b>Responsiveness</b>	1649.5	-1.865	0.062
<b>Assurance</b>	1202.5	-3.894	0.000*
<b>Empathy</b>	1353.0	-3.140	0.002*

\*  $p < 0.01$

Table 4 indicates that there is a significant difference in the perceptions of health care employees varying in job category (clinical and non-clinical staff) regarding assurance and empathy whereby clinical staff reflected higher levels of assurance as reflected in the mean scores (Mean = 3.491) than non-clinical staff (Mean = 3.044) and the former also reflected higher levels of empathy (Mean = 3.480) than the

latter (Mean = 3.143) at the 1% level of significance. No other significant differences were noted between clinical and non-clinical staff regarding the remaining sub-dimensions of service quality (tangibles, reliability, responsiveness, assurance) respectively. Hence, hypothesis 2 may only be accepted in terms of job category and assurance and empathy respectively at the 1% level of significance.

**Table 5.** Kruskal-Wallis Anova: sub-dimensions of service quality and age and tenure

Sub-dimension of Service Quality	Age			Tenure		
	Kruskall-Wallis Statistic	Df	p	Kruskall-Wallis Statistic	Df	p
<b>Tangibles</b>	7.705	4	0.103	4.950	4	0.293
<b>Reliability</b>	5.129	4	0.274	4.901	4	0.298
<b>Responsiveness</b>	1.991	4	0.737	8.870	4	0.064
<b>Assurance</b>	1.917	4	0.751	4.029	4	0.402
<b>Empathy</b>	2.126	4	0.713	3.719	4	0.445

Table 5 indicates that there is no significant difference in the perceptions of health care employees varying in age and tenure regarding the sub-dimensions of service quality (tangibles, reliability,

responsiveness, assurance) respectively. Hence, hypothesis 2 may be rejected in terms of the sub-dimensions of service quality and age and tenure respectively.

**Table 6.** Kruskal-Wallis Anova: sub-dimensions of service quality and qualification

Sub-dimension of Service Quality	Kruskall-Wallis Statistic	Df	p
<b>Tangibles</b>	2.008	4	0.734
<b>Reliability</b>	16.092	4	0.003*
<b>Responsiveness</b>	9.708	4	0.046**
<b>Assurance</b>	9.749	4	0.045**
<b>Empathy</b>	20.376	4	0.000*

\*  $p < 0.01$

\*\*  $p < 0.05$

Table 6 indicates that there is a significant difference in the perceptions of health care employees varying in qualification regarding reliability and empathy respectively at the 1% level of significance and responsiveness and assurance respectively at the

55 level of significance. Mean analyses indicate that the perceptions of health care employees regarding the sub-dimensions of service quality (reliability, empathy, responsiveness, empathy) after the process of restructuring became more positive as their

qualifications increased up until a Degree qualification and dropped for health care employees with a Masters degree. No significant differences were noted in the perceptions of health care employees varying in qualification regarding tangibles after the process of restructuring. Hence, hypothesis 2 may only be accepted in terms of qualification and reliability, empathy, responsiveness and empathy respectively at the 1% level of significance and not in terms of tangibles.

## 4 Discussion of results

### 4.1 The sub-dimensions of service quality after the restructuring

The results reflect that employees were fairly convinced that the process of transformation undertaken in the health care organization led to enhanced service quality in terms of improved empathy, assurance, responsiveness, tangibles and reliability (Mean scores ranged from 3.105 to 3.385 against a maximum attainable score of 5) thereby respectively indicating increased some room for further improvement. In terms of their perceptions of the restructuring in enhancing empathy, employees were not convinced that the restructuring has enabled personnel of the hospital/clinics to better understand the specific needs of patients nor made the operating hours of the hospital/clinics convenient to all its patients. In this regard, Nauert (2002) suggests adopting business strategies such as environmental assessments of market wants, needs and demands and Ramgem *et al.* (2011) emphasizes that an integrated delivery network will improve access to health services and respond better towards people's health needs. Except for the current strategies used to improve health services such as flexible hours, efficiency measures and, information technology, Powers and Jack (2008) suggest that organizations can increase their flexibility by relying on multi-skilled employees like nurse practitioners and physician assistants. In terms of the service quality dimension of assurance, employees did not believe that the restructuring process made patients feel safer in their interactions with the hospital/clinic. This triggers the importance of South Africa's first service delivery initiative of Bathopele which means people first and is based on eight principles of service delivery (Russell & Bvuma, 2001). With regards to responsiveness, a significant percentage of the employees were not convinced that responding to patient's requests improved after the restructuring. Oliveira-Cruz, Hanson, and Mills (2003) mention that one of the constraints of health service delivery is the shortage and distribution of qualified staff. Nauert (2002) suggests the business strategy of incorporating system linkages with key physicians and other providers and the strengthening of executive direction to enhance business performance (Nauert, 2002). In terms of

tangibles, employees felt that the restructuring did not result in the provision of modern equipment. This is ironic as Clancy (2006) believes that equipment is a fundamental resource for health service delivery and Oliveira-Cruz, Hanson, and Mills (2003) identify the lack of equipment as a constraint of health care service delivery. In terms of the service quality dimension of reliability, a large percentage of employees felt that the restructuring did not improve reliability of service in that services were not still delivered according to set date and time and things are not done right the first time. This result confirms Loevinsohn and Harding's (2005) notion that allocating more resources to health services does not necessarily address the problem of service delivery. This is particularly true, considering that the quality of health care service delivery depends on job satisfaction and empowerment of health workers (Leggat *et al.*, 2010), participation in decision making and psychological support from supervisors (Mukherjee & Malhotra, 2006) as well as effective communication (McCallin, 2001; Robinson *et al.*, 2010).

Furthermore, the five sub-dimensions of service quality as perceived by employees after the process of transformation correlate significantly with each other at the 1% level of significance except for tangibles and empathy which do not relate. The implication is that business strategies designed and adopted, during and after the restructuring process, to improve each sub-dimension of service quality individually has the potential to snowball and improve employee perceptions of health care service delivery as a whole. Conversely, failure to manage each of the sub-dimensions of service delivery after the transformation process can perpetuate negative perceptions of the restructuring and bring about a failed process in enhancing health care service delivery. The significant relationships amongst these five sub-dimensions of health care service delivery emphasizes the need for an unfragmented and integrated delivery network as proposed by Ramagem *et al.* (2011).

### 4.2 The impact of biographical variables

The results also indicate that perceptions of the service quality dimension of empathy after the restructuring process is significantly influenced by gender, job category and qualification. The qualification of employees also influenced their perceptions of reliability, responsiveness and assurance after the restructuring. No other biographical influences were noted. Whilst these biographical influences were noted, employees' perceptions of these sub-dimensions of service delivery may also be influenced by staff attitude towards patients (McIntyre & Klugman, 2003).

## 5 Recommendations and conclusion

The results of the study reflect obvious recommendations which when implemented have the

potential to result in enhanced service delivery and a more successful restructuring process (Table 7).

**Table 7.** Recommendations to enhance each of the sub-dimensions of service quality

Sub-dimensions of service quality	Recommendation
Empathy	<ul style="list-style-type: none"> <li>• Understand the specific needs of patients.</li> <li>• Adopt business strategies such as environmental assessments of market wants, needs and demands</li> <li>• Make operating hours of the hospital/clinics convenient to all patients and take cognisance of those travelling distances.</li> <li>• Increase flexibility in service delivery by relying on multi-skilled employees like nurse practitioners and physician assistants.</li> </ul>
Assurance	<ul style="list-style-type: none"> <li>• Make patients feel safer in their interactions with the hospital/clinics as medical setbacks can be a daunting experience.</li> <li>• Adopt and effectively implement the eight principles of Bathopele for enhanced service quality and delivery.</li> </ul>
Responsiveness	<ul style="list-style-type: none"> <li>• Respond to patients' requests promptly.</li> <li>• Ensure that the hospital/clinics are sufficient and qualified staff.</li> <li>• Incorporate system linkages with key physicians and other service providers.</li> <li>• Ensure strengthened executive direction in order to enhance business performance.</li> </ul>
Tangibles	<ul style="list-style-type: none"> <li>• Ensure the provision and effective utilisation of modern equipment.</li> <li>• Ensure that staff are trained to use the modern equipment and that they are not under-utilized.</li> </ul>
Reliability	<ul style="list-style-type: none"> <li>• Deliver promised service according to set date and time.</li> <li>• Do things right the first time as this is imperative in health care.</li> <li>• Ensure that staff are satisfied, empowered, engage in decision making and receive psychological support from supervisors and effective communication and these motivate employees to perform optimally and enhance service quality.</li> </ul>
Overall	<ul style="list-style-type: none"> <li>• Monitor employee attitudes to patients.</li> <li>• Ensure an unfragmented and integrated health care service delivery network</li> </ul>

Health care service delivery is a challenge in many countries and health care organizations are trying to overcome the obstacles to improved health services. Whilst identifying strategies to improve health services is vital, it is also imperative to ensure that the strategies are selected by taking cognisance of the cultural and environmental context in which they are to be implemented. The provision of quality health care service delivery means ensuring improved and equal access to health services, enlarged access to priority health interventions, reduction in costs to ensure affordability and responding effectively to people's health needs. Accomplishing this not only requires business and financial strategies but also effective human resource management and communication strategies because keeping staff motivated is imperative in nurturing proper attitudes towards patients thereby enhancing health care service quality. Regular service delivery surveys will provide feedback on patients' perceptions of service quality in relation to tangibles, reliability, responsiveness, assurance and empathy and provide insight into staff attitudes and behaviours. People must be provided with a well coordinated continuum of services in an

integrated way in order to ensure effective service quality.

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