

# Assessment of Expected and Perceived Service Quality in Nigerian Public Hospitals

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## Abstract

Although there is a proliferation of studies on the quality of health care in developed countries, this research is based in an emerging economy in Africa, Nigeria. Providing services to customers based on their needs and expectations is essential for the success of any service provider and a key factor in providing high quality service. This study uses a combination of secondary data and primary data collected from a sample of 200 Nigerian hospital patients at three public hospitals. The questionnaire is based on the five SERVQUAL dimensions (*Tangibles, Reliability, Responsiveness, Assurance, and Empathy*), which were adapted to fit with the study's objectives. The results were analyzed using SPSS. They revealed a strong statistical significant difference ( $p > .000$ ) between patients' expectations and perceptions (experience) of service quality. The greatest discrepancy in SERVQUAL related to the *Assurance* dimension and for *Overall Service Delivery*. These differences between service expectations and perceptions implied that patients' expectations were not met after experiencing public hospital services in Nigeria. This calls for management and personnel to leverage this information and use it to develop a strategic framework, implement personnel training programs, and design a program to ensure improvements in the efficiency and effectiveness of the hospital service delivery system. Moreover, continuous evaluation is needed to ensure that increased service performance and the interest of customers are prioritized.

**Keywords:** Services, SERVQUAL, Service Quality, Service Provision, Customer Expectations, Customer Perception, Hospital, Nigeria.

## 1. Introduction

Living longer is everyone's dream. Every individual yearns to live life to the fullest and fulfill his/her lifelong goals (Olaniyan, Lawanson, & Olasehinde, 2014). This includes individuals in Nigeria, a country, where, according to Wagstaff and Claeson (2010), the health care system is so incapacitated that 10 percent of the world's maternal deaths occur there. This is the worst figure globally for childbirth death. Simply put, health care services in Nigeria are unsatisfactory and fail to meet the needs of the general public (Worlu, Kehinde, & Borishade, 2016). As Akinsola (2007) argues, health is one's greatest wealth and being healthy a prerequisite for leading a life that is productive (Shaibu & Ibrahim, 2016). The critical objectives of a health care system should be patient satisfaction and service quality. Patients have become more demanding and want more information about their health and the health services provided; if they are not satisfied with the services, they will then choose an alternative

option. Quality is an important deciding factor for health services but its intangible nature makes it difficult to measure. Generally, assessment of service quality relies on customer perception and expectations. Customer satisfaction is a key strategy for long-term success and profitability in the health care system, all the more as today, the healthcare sector has become financially lucrative and highly competitive. One factor used to assess the quality of services provided is a patient's opinion of the differences between perception and expectations. This has become a proxy for assessing the health of the organization itself. Therefore, the quality of services delivered should meet or exceed expectations. This is an important source for identifying problems and setting action plans for quality improvement in a health care organization. It is also recognized as an integral part of building a competitive advantage and long-term profitability. As the example of Nigeria suggests, the health care sector in low- and middle-income countries face many challenges. Issues such as: ensuring improved health; decreased mortality and morbidity rate; and decreased chronic diseases, are still important priorities. They reflect the overall state of health provision.

What are the trends and underlying reasons for the growth in services today? According to a recent report from the *World Economic Forum* (2018), the health care sector tends to place a larger priority on the availability of skilled, local talent. This issue is becoming more important as the population of many countries is aging. In no other part of the service sector is customer service more important than in health care. Unlike other service suppliers, where a customer may, for example, use an airline and experience poor service and never use this company again; health care provides fewer choices. Unfortunately, while many doctors and medical professionals spend large amounts of time to improve their technical skills and medical knowledge (Kraft, Porter, & Wilfond, 2015), they neglect the one thing that should matter most – customers' service experience.

For most people, health care is not a choice. It can be scary and unsettling, but because it is also a necessity, many feel that a positive service experience is not to be expected. What does the health care industry have to do with great customer service? It comes down to two simple concepts: attention and communication. Patients in a hospital want to feel as though they are the only ones there. While they do not expect luxury accommodations or gourmet food, they nonetheless expect someone to care about them, treat them with compassion, and provide specific and current information about their condition (Bruno, Dell'Aversana, & Zunino, 2017). Through marketing, hospital patients have come to expect safe and effective treatment in a clean, comfortable environment. Millions of dollars are spent annually by medical technology companies, pharmaceutical companies (and related providers) to project a positive image of the essential goods and services they provide in order to attract customers and improve profitability. These images are what hospitals invest in and what patients ultimately pay for. However, at times a company's priorities are placed above the needs and wants of its patients (Torpie, 2014).

The relationship between medical staff should be therapeutic. As far back as 2000, the World Health Organization (WHO) was advocating that more emphasis should be placed on the individual (WHO, 2000). Patient-centered care as opposed to paternalism (doctors 'know it all' and allow only limited questions from their patients) was studied by Delaney (2018), who identified the benefits of this type of approach to health care service. According to this research, there is greater collaboration between patients and medical staff when a patient is actively involved in the decision-making process. This collaboration makes it easier for patients to manage life-style changes designed to improve their overall health. Giving a patient decision-making power can also lead to his/her declining traditional medical treatment and exploring alternative medicines (Verhoef & White, 2002). Patient-centered care has become a major force in the redesign of some health care services. But, based on cost restrictions faced

by many health organizations, a compromise needs to be reached between the two alternatives. Using an experience-based strategy, design science endeavors to combine both consumer and staff input in an effort to connect the roles and experiences of the consumer and staff within their environment (Bate & Robert, 2006). This helps reduce costs for the organization and by ensuring that patients are better informed, it allows the patients to better manage and evaluate their own health and health status.

This study focuses on Nigeria public hospitals and examines their expected and perceived service quality. More specifically, it seeks:

1. to assess patients' expectations and perceptions of the service quality provided in Nigerian public hospitals;
2. to analyze the gap between patient perception and expectation of service provision (based on SERVQUAL's five service dimensions), in Nigerian public hospitals; and
3. to offer suggestions for service improvement based on the findings.

## 2. Literature Review

Service quality is a major challenge in management (Blackiston, 1988; Langevin, 1988; Sherden, 1988). But a higher level of service quality remains a key strategy for service providers to gain market share (Brown & Swartz, 1989; Parasuraman, Zeithaml, & Berry, 1988; Rudie & Wansley, 1985; Thompson, DeSouza, & Gale, 1985). Since services occupy a strategic place in public disclosure, it is important to establish how service quality is perceived by the public. Service quality though is a difficult concept to directly measure (Brown & Swartz, 1989; Carman, 1990; Crosby, 1979; Garvin, 1983; Parasuraman, Zeithaml, & Berry, 1985; Rathmell, 1966). Quality is not easily measured and there is a lack of uniform agreement on its definition.

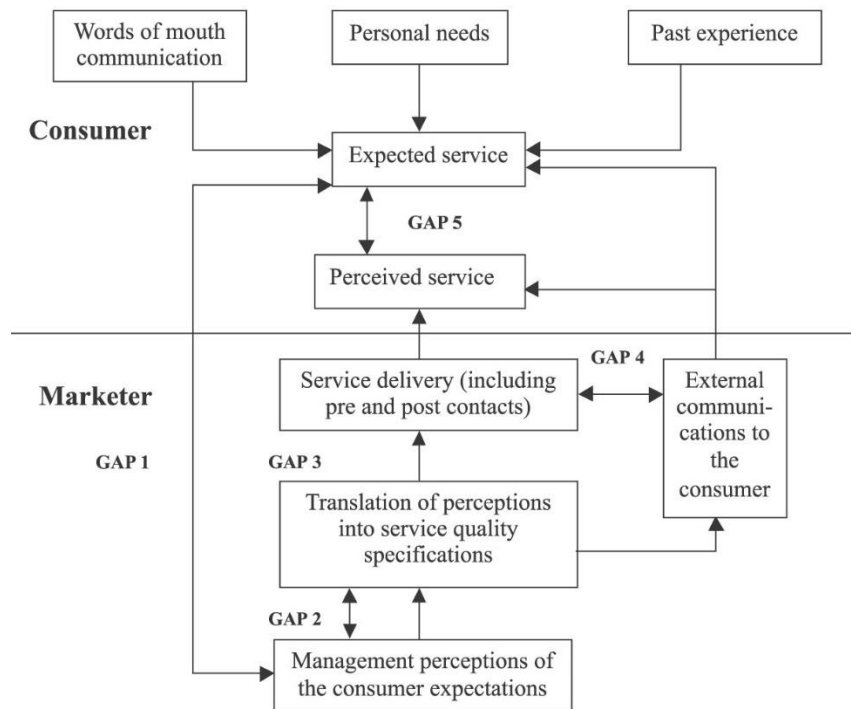
### - *The SERVQUAL Model*

"To assess customers expected and perceived service quality, there is need to understand the customer relationship with the service provider" (Zeithaml, Bitner, & Gremler, 2010, p. 151). The SERVQUAL model (Parasuraman *et al.*, 1988) is the most widely used scale for measuring service. Service quality is defined by the following five dimensions:

- *tangibles*: comprised of physical facilities, equipment and appearance of personnel;
- *reliability*: encompasses the ability of providers to perform the service which was promised as accurately as possible;
- *responsiveness*: employees' willingness to provide prompt service for the customer;
- *assurance*: employees' knowledge and courtesy as well as their ability to inspire truth and confidence; and
- *empathy*: employees' ability to care and provide individualized attention to the customers.

The representation of how customers evaluate service quality is assessed by applying the SERVQUAL scale (Parasuraman *et al.*, 1988; Parasuraman, 1995) (Figure 1). This is a multi-item instrument for measuring the expectations and perceptions of service provision (Babakus & Mangold, 1992). The difference between perception and expectation is identified as a 'gap' in service provision (Parasuraman, Berry, & Zeithaml, 1991a). A 'positive' gap score indicates that customers' expectations have been met or even exceeded, whereas a 'negative' gap indicates a failure to meet expectations. Generally, the gap scores are analyzed as an aggregated score of respondents' reporting of the factors contributing to each of the five service dimensions. In summary, the results of the expectations and perceptions of the five dimensions (and their respective 'gap' scores), signal the strengths or weaknesses in the service provided, and can be used to inform the organization and managers that action needs to be taken to

decrease and prevent undesirable outcomes. SERVQUAL has been widely used as a reliable and valid instrument for measuring service quality, although it has been criticized at both methodological and conceptual levels. According to McDougall and Leveresque (1995), the five SERVQUAL dimensions can be restrained to two dimensions relating to ‘core services’ and ‘augmented services’. These are equivalent to the technical and the functional dimensions identified in an earlier paper by Gronroos (1988). SERVQUAL has also been used to assess services in a wide range of service-oriented companies such as banking, telecommunication companies, hotels, insurance, as well as maintenance and repair of apparatus.



**Figure 1: SERVQUAL Gap Model**

Source: Parasuraman *et al.* (1985, p.44)

### **Overview of Service Quality Issues in Nigerian Public Hospitals**

Businesses cannot survive without spending time to build customer satisfaction and brand loyalty. Service organizations cannot successfully compete without providing good service to their customers since their major goal is to serve customer needs. The health care environment has become highly competitive, and service quality performance is the way to improve competitive advantage. Cheng Lim and Tang (2000) argued that customer-based expectations of service quality play an important role when choosing a hospital. Wisniewski and Wisniewski (2005) indicated that the perception of service quality - from the patients' perspective - should be routinely monitored and assessed. Service quality is subjective and difficult to measure directly, as it is the gap between patients' priorities and their perceptions. These gaps need to be identified by management in order resolve service issues (Silvestro, 2005).

Over the past decades, public hospitals in Nigeria have failed to provide adequate care for their patients (Akinsola, 2007). This issue was identified by Ogunbekun, Ogunbekun, and Orobato (1999) who stated that a lack of funding, low quality service, and inadequacy of the public health system as a result of the resource and financial challenges faced by public hospitals, have created a service quality delivery gap (now filled by private hospitals), resulting in low to middle class patients having limited options. Ogaji and Etokidem (2012), define

'quality of care' as a level of performance, equated to the quality of the health care provided. Public health care in Nigeria is characterized by inefficient service quality, leading patients to shun public health care providers and seek alternative help from private hospitals in the country; or to travel abroad. The interface between workers and customers is responsible for the public hospital sectors' objectives predominately being unmet (Harrison-Walker, 2001). Customer satisfaction is considered the most significant success indicator in health care (Pakdil & Harwood, 2005). Therefore, for hospitals to improve performance and gain a competitive advantage their patients' expected and perceived satisfaction with of the services provided must be met. For example, a study in Greece found that hospital managers measure the quality of service in order to identify specific issues. This data was used to improve hospital performance and address increased competition from private hospitals (Baralexix & Sophianou, 2005). In Ireland, a study on perceived service quality in a maternity hospital determined that the number of staff available to meet patients' needs, was correlated with patients' satisfaction with perception of service.

Customers' demand for higher standards of service is a result of the awareness that they gained from their previous experience. Wang *et al.* (2004) emphasized that in the current business environment and today's 'customer era,' the focus of service providers should be on providing customer value and service quality. Therefore, for hospitals to differentiate and increase their competitive advantage, service must be more efficient and responsive in order to meet patients' needs. Since a satisfied patient believes that the organization has the potential to understand his/her health care needs (Rathert & May, 2007), the goal of public hospitals has to be an improvement in the provision of their *Responsiveness* to the needs of patients. Due to the intangible nature of services, it is the perception of the patient of the service provision that is the primary determinant of the quality and value of that service (Duggirala, Rajendran, & Anantharaman, 2008). Lim, Nelson, and Tang (2000), argue that customer-based determinants and perceptions of service quality play an important role when choosing a hospital. Public hospitals must ensure that patients are provided with quality health care in a timely manner. It is important to keep in mind that patients' awareness of what they want – as well as their previous experience - can impact their perception (Wang, *et al.* 2004) as their different expectations are based on their prior knowledge (Reisig & Stroshine Chandek, 2001).

### 3. Methodology

Primary data was collected using a survey that included a set of structured, closed-answer questions that were administered to patients at three Nigerian public hospitals. Non-probability convenience sampling (Creswell, 2014) was used, since the data could not be collected from the whole target population and there was no sampling frame available (Saunders, Lewis & Thornhill, 2016). Although larger samples would be more robust and reliable, smaller sample sizes can be useful if limitations are taken into account (Barnett, 2002). Access, funding, population size and the number of variables are all important considerations in any effort to collect primary data. A small sample size can impact the reliability of the results as the data set could have higher variability (or large standard error), which leads to a biased result (Hacksaw, 2008). The size of any sample of a population is typically related to the alpha level, the type of analysis, the anticipated effect size and the level of power of the analysis (Statistical Solutions, 2019).

A standard questionnaire consisting of 20 items was used to measure the SERVQUAL dimensions of the three hospitals. It consisted of two parts: the first part asked for personal information on the respondents (age, gender, educational qualification and length of patronage) and the second part consisted of two sections relating to patients' expectations and perceptions of the five dimensions of services quality. The *Expectations Section* required respondents to



indicate on a five-point Likert scale (from strongly disagree to strongly agree), the level to which they believe the public hospital possessed the characteristics described in each statement. The *Perception Section* required respondents to indicate their experience of the public hospital service provision, based on the same Likert scale. The difference between the expectations and perceptions of the service quality were calculated, to identify the gap(s) in the service provision.

The questionnaire developed for this study used questions relating to the five service dimensions from the SERVQUAL Gap Model that were identified by Parasuraman *et al.* (1985). This conceptual model has been applied to a wide range of contexts and been an accepted approach to identifying the differences between *Expected* and *Perceived* service quality in multiple contexts. When using a questionnaire, content validation is critical, as it determines the degree that measures the identified constructs (Anastasia, 1988). According to Newman *et al.* (2002), the purpose of testing questions for a survey or an interview is to improve the validity and reliability of the data that is collected. Haynes, Richard, and Kybany (1995) defined content validity as the degree to which elements of an assessment instrument are representative of the targeted sample for an assessment purpose. The content validity of this questionnaire was assessed by experts with a medical background. A draft version of the questionnaire was distributed for review to a select group of experienced hospital staff, patients, and academics for checking and correction. This was to ensure that the survey questions accurately reflected the concepts they were measured. The comments were used to improve the survey and incorporated into the final version.

The management teams in the three Nigerian public hospitals granted permission for the study. The survey was distributed to adults (males and females 18 years and older), who reside in the Rivers State of Nigeria, and have previously - or are currently - using the hospital services. The aim of the study was explained to each participant who was assured that his/her response would be amalgamated and anonymized in order to keep all individual responses confidential. A total of 250 questionnaires were distributed with 200 usable surveys returned, resulting in an 80% response rate (70 usable surveys from Hospital 'A', 65 from hospital 'B', and 65 from Hospital 'C'). The questionnaires were completed either online or on a hardcopy (based on the respondents' preference) and responses entered into an excel spreadsheet.

## 4. Results

### - *Demographics*

According to LeCompte and Schensul (1999), data analysis is a process used to reduce data to a story and its interpretation. The study employed descriptive statistics and identified the mean, frequency distribution, percentage and standard deviation of the responses. A brief overview of the demographic data is provided in this section. The age of the respondents demonstrates a reasonable distribution of respondents' ages between 18 years and over 50 years of age. The percentage of respondents between the ages of 18 to 25 years was 17.5%; 26-30 years old, 27%; 31-35 years old, 18.5%; 36-40 years old, 14.5%; 41-45 years old, 19.5%; and those over 45 years old, 2.5% of the total. The gender of the respondents was fairly evenly split, with 52.5% females and 47.5% males. 83% of the respondents held a Bachelors' degree or above. The employment data indicated that 80% of the respondents were in full-time employment, 15.5% in part-time employment, 3% unemployed, 1% unable to work due to illness, and 0.5% not in the labor force. The hospital patronage of the respondents shows that almost 60% of the respondents have been associated with the hospital for more than a year (those attending for the first time were less than 7% of the total sample).

### - *SERVQUAL Dimensions*

Descriptive statistics, such as the measure of central tendency and dispersion (standard deviation) were used. Svensson (2006) claims that using a quantitative research approach is

preferred for investigating participant perceptions and can also be used to discover hidden values, feelings, attitudes and motivation. The aim was to apply a deductive approach with an emphasis on testing the theories related to the study topic (Bell & Bryman, 2007). The response frequencies for each of the service quality expectations and perceptions in Nigerian public hospitals were based on the five service dimensions using a Likert scale: Strongly Disagree=1; Disagree=2; Neutral=3; Agree=4; and Strongly Agree=5. Each of the five service dimensions included four questions, and the respondents were asked to rate their expectations, and then provide their perceptions of the service quality provided by the public hospital they attended. To aid interpretation of the data collected for each SERVQUAL dimension, separate tables for each of the service dimensions are compiled: *Tangibility* (Table 1), *Responsiveness* (Table 2), *Reliability* (Table 3), *Empathy* (Table 4), and *Assurance* (Table 5).

The following information is provided. Every item for Respondents' expectations and perceptions of service quality has a frequency response with Strongly Disagree =1 and Strongly Agree = 5, and for every item, the minimum value recorded is 1 and the maximum value 5. The mean and Standard Deviation (SD) for the expectations and perceptions of each item are also included in the Tables. The Overall Mean and Overall Standard Deviation (SD) for Respondents' Expectations and Perceptions for each of the five dimensions of service quality are included underneath each table. Each table also includes the median value for the questionnaire responses for both expectations (all equal 2, except for item 8. *Personnel pay attention to patients and understand specific needs*), and perspectives (all equal 4). This is a consistent pattern of difference for all results.

**- Tangibility**

The highest mean Likert score for patients' expectations of *Tangibility* (Table 1) was for item 3, *Hospital environment is generally clean and well organized* (3.76 with a standard deviation (SD) of +/-1.08), then 4, *Hospital facilities and medical services are appealing* (3.68, SD +/-1.08), followed by item 1, *Hospital facilities are updated and easy to use* ranked (3.59, SD +/-1.12), and the lowest score was for item 2, *Hospital personnel is neat and well dressed*, ranked (3.37, SD +/-0.62). The overall sum of the mean values of the Likert responses of patients' expectations for *Tangibility* was 14.4, with a SD of +/-3.9. In contrast, the values for patients' perceptions of *Tangibility* were item 2 (2.6, SD +/-1.1) then item 4 (2.36, SD +/-1.0), followed by item 3 (2.3, SD +/-0.7). The lowest score was item 1 (2.21, SD +/-1.0). The overall sum of the mean values for perceptions of *Tangibility* was 9.9, with SD of +/-3.72.

**Table 1:** Participants' Rating of Expectations (Ex) and Perceptions (Pe) of the Services Provided by Nigerian Public Hospitals on the SERVQUAL Dimension of *Tangibility*

Ex: Expectation Pe: Perception	Strongly Disagree =1		Disagree =2		Neutral =3		Agree =4		Strongly Agree =5		Item Mean		Item SD	
	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe
<i>Tangibility</i>														
1. Hospital facilities are updated and easy to use	11	33	27	100	36	30	84	26	42	11	3.59	2.21	1.12	1.0
2. Hospital personnel is neat and well dressed	10	24	11	78	30	46	105	37	44	15	3.37	2.6	0.62	1.1

3. Hospital environment is generally clean and well organized	13	25	12	90	32	38	95	28	48	19	3.76	2.3	1.08	0.7
4. Hospital facilities and medical services are appealing	12	25	17	106	35	34	94	22	42	13	3.68	2.36	1.08	1.0

Source: Authors (2019)

Notes: N= 200. Median Values are highlighted in grey

**Tangibility** Expectations - Overall Sum of Mean Values = 14.4 and Overall SD of +/-3.92

**Tangibility** Perceptions - Overall Sum of Mean Values = 9.9 and Overall SD of +/-3.72

**- Responsiveness**

The highest mean Likert score for patients’ expectations of *Responsiveness* (Table 2) was item 8, *Personnel pays attention to patients and understands specific needs* (3.69, SD +/-1.0) then 5, *Hospital personnel handles complaints and questions very fast* (3.67, SD +/-1.0), followed by item 6, *Hospital personnel explains procedure before giving care* (3.63, SD +/-1.0). The lowest score was for item 7, *Hospital personnel is prompt and efficient in its response to media and non-medical services* (3.58, SD +/-0.9). The overall sum of the Likert values of patients’ expectations for *Responsiveness* was 14.57, with a SD of +/-3.92. In contrast, the values for patients’ perceptions of *Responsiveness* were item 7 (2.46, SD +/-0.6) then item 5 (2.42, SD +/-1.0), followed by item 8 (2.28, SD +/-1.1). The lowest score was for item 6 (2.17, SD +/-1.0). The overall sum of perceptions for *Responsiveness* was 9.34, with a SD of +/-3.72.

**Table 2:** Participants’ Rating of Expectations (Ex) and Perceptions (Pe) of the Services Provided by Nigerian Public Hospitals on the SERVQUAL Dimension of *Responsiveness*

Ex: Expectation Pe: Perception	Strongly Disagree =1		Disagree =2		Neutral =3		Agree =4		Strongly Agree =5		Item Mean		Item SD	
	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe
5. Hospital personnel handles complaints and questions very fast	9	31	32	98	36	39	73	19	50	13	3.69	1.0	2.42	1.0
6. Hospital personnel explains procedure before giving care	10	29	21	99	37	27	97	27	35	18	3.63	1.0	2.17	1.0
7. Hospital personnel is prompt and efficient in its response to media and non-medical services	12	20	29	110	40	35	79	28	40	7	3.58	0.9	2.46	0.6
8. Personnel pays attention to patients and	9	20	22	29	33	88	93	43	43	20	3.69	1.0	2.28	1.1



<i>understand specific needs</i>														
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Source: Authors (2019)

Notes: N= 200. Median Values are highlighted in grey

**Responsiveness** Expectations - Overall Sum of Mean Values = 14.4 and Overall SD of +/-3.92

**Responsiveness** Perceptions - Overall Sum of Mean Values = 9.9 and Overall SD of +/-3.72

**- Reliability**

The highest mean Likert score for patients’ expectations of *Reliability* (Table 3) was item 11, *The hospital personnel can be relied on to keep to time* (3.66, SD +/-1.1) then 9, *The hospital personnel can be relied on as being trained and qualified* (3.65, SD +/-1.03), followed by item 10, *The hospital personnel carries out service correctly and completely* (3.53, SD +/-1.05). The lowest score was for item 12, *Hospital keeps accurate records* (3.53, SD +/-0.6). The overall sum of the mean values for patients’ expectations for *Reliability* was 14.47, with a SD of +/-3.73. In contrast, the values for patients’ perceptions of *Reliability* were item 11 (2.54, SD +/-1.13) then item 12 (2.52, SD +/-0.4), followed by item 9 (2.5, SD +/-1.12). The lowest score was for item 10 (2.44, SD +/-1.1). The overall sum of perceptions for *Reliability* was 10.06, with a SD of +/-3.79.

**Table 3:** Participants’ Rating of Expectations (Ex) and Perceptions (Pe) of the Services Provided by Nigerian Public Hospitals on the SERVQUAL Dimension *Reliability*

Ex: Expectation Pe: Perception	Strongly Disagree =1		Disagree =2		Neutral =3		Agree =4		Strongly Agree =5		Item Mean		Item SD	
	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe
<i>9. Hospital personnel can be relied on as being trained and qualified</i>	11	33	27	100	36	30	84	26	42	11	3.65	2.5	1.03	1.12
<i>10. Hospital personnel carries out service correctly and completely</i>	10	24	11	78	30	46	105	37	44	15	3.53	2.44	1.05	1.1
<i>11. Hospital personnel can be relied on to keep to time</i>	13	25	12	90	32	38	95	28	48	19	3.66	2.54	1.1	1.13
<i>12. Hospital keeps accurate records</i>	12	25	17	106	35	34	94	22	42	13	3.53	2.52	0.6	0.4

Source: Authors (2019)

Notes: N= 200. Median Values are highlighted in grey

**Reliability** Expectations - Overall Sum of Mean Values = 14.47 and Overall SD of +/-3.73

**Reliability** Perceptions - Overall Sum of Mean Values = 10.06 and Overall SD +/-3.79

**- Empathy**

The highest mean Likert score for patients’ expectations of *Empathy* was item 14, *Personnel understand patients’ specific needs* (3.68, SD +/-1.0) then 13, *Hospital personnel are friendly and polite when handling the patients* (3.62, SD +/-1.1), followed by item 16, *Prompt attention*

to patients' beliefs and emotions and 15, *Personnel prioritize patients* (both having a Likert score of 3.6, with SDs +/-1.0 and +/-0.7 respectively). The overall sum of the mean values for patients' expectations for *Empathy* was 14.51, with a SD of +/-3.77. In contrast, the values for patients' perceptions of *Empathy* were items 14 and 15 (both 2.52, with SDs of +/-1.04) then item 16 (2.4, +/-SD 0.7). The lowest score was item 13 (2.51, +/-SD 0.9). The overall sum of the mean values of perceptions for *Empathy* was 9.95, with a SD of +/-3.67.

**Table 4:** Participants' Rating of Expectations (Ex) and Perceptions (Pe) of the Services Provided by Nigerian Public Hospitals on the SERVQUAL Dimension *Empathy*

Ex: Expectation Pe: Perception	Strongly Disagree =1		Disagree =2		Neutra l =3		Agree =4		Strongly Agree =5		Item Mean		Item SD	
	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe
<i>Empathy</i>														
13. Hospital personnel is friendly and polite when handling the patients	15	33	19	83	27	40	102	25	37	19	3.62	2.51	1.1	0.9
14. Personnel understands patients' specific needs	10	18	19	102	27	35	107	34	37	11	3.68	2.52	1.0	1.1
15. Personnel prioritizes patients' interest	12	24	17	91	46	46	88	21	37	18	3.6	2.52	0.7	1.1
16. Prompt attention to patients' beliefs and emotions	13	29	19	81	45	50	81	25	42	15	3.6	2.4	1.0	0.7

Source: Authors (2019)

Notes: N= 200. Median Values are highlighted in grey

*Empathy* Expectations - Overall Sum of Mean Values = 14.51 and Overall SD of +/-3.77

*Empathy* Perceptions - Overall Sum of Mean Values = 9.95 and Overall SD of +/-3.67

#### - Assurance

The highest mean Likert score for patients' expectations of *Assurance* was item 17, *The personnel has the knowledge to answer all patients' questions* (3.6, SD +/-1.2), then 19, *Hospital personnel is highly skilled* (3.52, SD +/-1.0), followed by 18. *Personnel is consistently polite with patients* (3.51, SD +/-1.0), and the lowest score was for item 20, *Hospital personnel is trustworthy* (3.44, SD +/-0.56). The overall sum of the mean values of the Likert values of patients' expectations for *Assurance* was 14.2, SD of +/-3.75. In contrast, the values for patients' perceptions of *Assurance* were items 17 and 19 (both 2.5, SDs +/-0.9 and +/-0.8 respectively) then item 18 (2.4, SD +/-0.7). The lowest score was for item 20 (2.0, SD +/-0.5). The overall sum of the mean values of perceptions for *Assurance* was 8.99, with SD of +/-2.99.

**Table 5:** Participants’ Rating of Expectations (Ex) and Perceptions (Pe) of the Services Provided by Nigerian Public Hospitals on the SERVQUAL Dimension Assurance

Ex: Expectation Pe: Perception	Strongly Disagree =1		Disagree =2		Neutral =3		Agree =4		Strongly Agree =5		Item Mean		Item SD	
	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe	Ex	Pe
<i>Assurance</i>														
17. Employees have the knowledge to answer all patients’ questions	19	30	25	85	60	40	77	15	19	30	3.6	2.5	1.2	0.9
18. Employees are consistently polite with patients	15	31	36	93	55	34	84	11	10	31	3.51	2.4	1.0	0.7
19. Hospital employees are highly skilled	16	29	28	98	59	26	81	18	16	29	3.52	2.5	1.0	0.8
20. Hospital employees are trustworthy	18	26	24	104	62	28	77	15	19	29	3.44	2.0	0.56	0.5

Source: Authors (2019)

Notes: N= 200. Median Values are highlighted in grey

*Assurance* Expectations - Overall Sum of Mean Values = 14.2 and Overall SD of +/-3.75

*Assurance* Perceptions - Overall Sum of Mean Values = 8.99 and Overall SD of +/- 2.99

**- SERVQUAL Gap**

The difference between the expectations and the perceptions of the respondents on each of the 20 items representing the five service dimensions of SERVQUAL were calculated using the above data (Table 6). The findings revealed that for all items, the respondents expected more from the service performance in the Nigerian Hospitals than what they experienced. All of the 20 paired items used in the questionnaire revealed a strong positive correlation value with a p-value of less than 0.000. Using paired t-tests, all items had a large t-value with Significance (2-tailed) also less than 0.000. These results demonstrate a statistically significant difference between the pre- and post-hospital visit for all items.

**Table 6:** Calculated Paired (Dependence) T-Test Results Comparing Patients’ Expectations and their Perceptions for all Items in the Questionnaire

Paired T-Tests	Correlation Value	p-value	t-Value	Sig (2-tailed)
<i>Tangibility</i> 1. Ex-Pe	0.835	0.000	25.736	0.000
<i>Tangibility</i> 2. Ex-Pe	0.819	0.000	23.940	0.000
<i>Tangibility</i> 3. Ex-Pe	0.827	0.000	24.227	0.000
<i>Tangibility</i> 4. Ex-Pe	0.779	0.000	19.024	0.000
<i>Reliability</i> 1. Ex-Pe	0.901	0.000	22.513	0.000
<i>Reliability</i> 2. Ex-Pe	0.818	0.000	23.664	0.000
<i>Reliability</i> 3. Ex-Pe	0.827	0.000	24.227	0.000
<i>Reliability</i> 4. Ex-Pe	0.796	0.000	25.388	0.000
<i>Responsiveness</i> 1. Ex-Pe	0.810	0.000	24.385	0.000
<i>Responsiveness</i> 2. Ex-Pe	0.804	0.000	22.168	0.000
<i>Responsiveness</i> 3. Ex-Pe	0.795	0.000	22.150	0.000
<i>Responsiveness</i> 4. Ex-Pe	0.898	0.000	18.212	0.000
<i>Empathy</i> 1. Ex-Pe	0.819	0.000	21.667	0.000

<i>Empathy 2. Ex-Pe</i>	0.800	0.000	23.394	0.000
<i>Empathy 3. Ex-Pe</i>	0.838	0.000	23.083	0.000
<i>Empathy 4. Ex-Pe</i>	0.850	0.000	22.834	0.000
<i>Assurance 1. Ex-Pe</i>	0.843	0.000	12.717	0.000
<i>Assurance 2. Ex-Pe</i>	0.778	0.000	10.664	0.000
<i>Assurance 3. Ex-Pe</i>	0.798	0.000	13.316	0.000
<i>Assurance 4. Ex-Pe</i>	0.798	0.000	13.556	0.000

Source: Authors (2019)

The results from the paired t-tests indicate that the expectations and perceptions of service quality are significantly statistically different at a p-value of 0.000. The difference between the perceptions (post-service) and the expectations (pre-service) of participants for each of these five service dimensions impact the *overall* perception of the quality of the services provided. In order to verify the direction of the differences, the mean value for each of the five service dimensions for the patients' perception of the services were subtracted from the mean value for their expectations. A *positive* SERVQUAL gap indicates that the participants believe that they were provided quality service, while a *negative* result indicates a lack of satisfaction. The SERVQUAL Gap for the Nigerian hospitals was calculated by subtracting the sum of the responses to the four scales for each attribute for expectation from those for perception.

The findings reveal that respondents expected more from the service performance than what they experienced (Table 7). This demonstrates a negative gap in the service provision on all dimensions. Overall, on the five quality service dimensions, *Responsiveness* had the highest patient expectations compared to perceptions, with *Assurance* the lowest difference value. Patient perceptions (being post-service experiences) had *Reliability* as the highest value and *Assurance* was also the lowest value. The greatest service gap was for the *Assurance* dimension and the smallest service gap was for *Reliability*.

**Table 7:** SERVQUAL Gap between Patients' Expectations and Perceptions of Service Quality in Nigerian Public Hospitals on the Five Service Dimensions

Service Dimensions or Attributes	Mean Value of Expectation (Ex) (4 scales)	Mean Value of Perception (Pe) (4 scales)	SERVQUAL Gap (Using Mean Values) = (Pe) – (Ex)
<i>Tangibility</i>	3.60	2.48	-1.12
<i>Reliability</i>	3.62	2.52	-1.10
<i>Responsiveness</i>	3.64	2.34	-1.30
<i>Empathy</i>	3.63	2.49	-1.14
<i>Assurance</i>	3.51	2.25	-1.26

Source: Authors (2019)

## 5. Discussion

The SERVQUAL Model used to explore the pre- and post-hospital experience of 200 patients attending Nigerian Public Hospitals shows a statistically significant difference (at p-value < 0.000), between these two perspectives. The following discussion explores some of the issues relating to each of the service dimensions.

The ServQual Gap for *Tangibility* was -1.12, indicating that there is dissatisfaction with this aspect of service provision. Yavas, Benkenstien, and Stuhldreier (2004) state that *Tangible* elements are significant factors that can be used to explain customer's satisfaction and improvements on this dimension of service can lead to higher satisfaction. This dimension includes the physical aspects of services such as the appearance of the hospital, which includes cleanness, if the facilities are updated and easy to use and if the medical services are appealing.

The highest mean score was item 3, *Hospital environment is generally clean and well organized*, (3.76) and the lowest score was item 1, *Hospital facilities are updated and easy to use*, (3.59). These findings are supported by Du Plooy and De Jager (2007) who studied *Tangibility* and *Assurance* as determinants of service quality for public health care in South Africa. They found patients' dissatisfaction with the service dimensions measured. Personal safety and the cleanliness of facilities were regarded as the most important variables in the *Assurance* and *Tangibility* dimensions that contributed to a positive service experience in the Nigerian Public Hospitals.

The ServQual Gap for *Reliability* was -1.1. According to Dabholkar, Thorpe, and Rentz (1996), the *Reliability* dimension is the ability of personnel to provide dependably an accurate service to customers. In the Nigerian public hospitals item 11, *The hospital personnel can be relied on to keep to time*, had the highest expectation score (3.66). This is in line with the findings of Yesilada and Direktör's (2010) study on health care service quality with a comparison of public and private hospitals in Northern Cyprus. The findings indicate gaps in the reliability of the hospitals and the patients' perceived service provisions, which fell below expectations in both hospital settings. This is in keeping with a study by Purcărea, Gheorghe, & Petrescu (2013) who assessed the level of perceived service quality of public health care services in Romania using the SERVQUAL scale.

Parasuraman, *et al.* (1988), state that the *Responsiveness* dimension involves willingness to help customers and provide prompt service. This dimension depicts whether the hospital personnel is willing to attend to patients and provide the services needed at the right time. Respondents' overall expectation was high for the *Responsiveness* dimension. Item 8, *Personnel pays attention to patients and understands specific needs*, ranked the highest (3.69), with the lowest score of (3.58) for item 7, *Hospital personnel is prompt and efficient in its response to media and non-medical services*. This finding is supported by Purcărea *et al.* (2013) who studied the assessment of perceived service quality of public health care services in Romania.

The *Empathy* dimension refers to care and individual attention to customers, including access or approachability, ease of contact, effective communication, and understanding of customers (Parasuraman, Berry, & Zeithaml, 1991b). The highest expectation score (3.68) was for item 14, *Personnel understands patients' specific needs*, and the lowest for two items (3.60) 16, *Prompt attention to patients' beliefs and emotions*, and 15, *Personnel prioritizes patients*. These findings concur with Arasli, Haktan Ekiz, and Turan Katircioglu's (2008) study on the service quality of public and private hospitals in Cyprus. Their findings show that the *Empathy* dimension is strengthened by giving priority to inpatients needs. However, a positive relationship between staff and its professionalism were not met in the hospital setting. A study by Rehaman and Husnain (2018) on the impact of the service quality dimensions relating to patients' satisfaction in the private health care industry in Pakistan revealed that the most important factors impacting service perception were *Tangibility* and *Empathy*. Kang and James (2004) claimed that customer's satisfaction can be attained by offering individualized and flexible service suited to their needs.

*Assurance* includes the knowledge and courtesy of the personnel and its ability to instigate customers' trust and confidence in building competence, courtesy credibility, and add security (Parasuraman, Berry & Ziethaml 1991c). Thus, the hospital personnel providing services must be knowledgeable in delivering quality service in order to meet patients' expectations. The overall expectation towards *Assurance* dimension was high, with the 17, *Employees have the knowledge to answer all patients' questions* having the highest score (3.61) and the lowest being 20, *Hospital employees are trustworthy* (3.44). This result is consistent with a study by



Du Plooy and De Jager (2007), who studied *Tangibility* and *Assurance* as determinants of service quality for public health care in South Africa. The findings indicate that the level of satisfaction was the highest for clear communication provided in the *Tangibility* and *Assurance* categories. Another study by Martins *et al.* (2015) on assessing obstetric perceived service quality at a public hospital found that *Assurance* was the quality dimension that contributes the most to patient perceived quality of service.

### **- Overall Service Quality**

The findings in this study indicate that there is a statistically significant difference between patient expectations and perceptions of health care in Nigeria public hospitals. This could be due to different patient experiences and their knowledge of services provided elsewhere. This concurs with the study by Reisig and Stroshine Chandek (2001) who stated that different customers had dissimilar expectations as a result of their knowledge of the services provided. A negative service gap occurs when a high initial expectation of a service does not match perception after experiencing the service. Hence, it is difficult for two customers to perceive service the same way. This idea is supported by Ford, Edvardsson, Dickson, and Enquist (2012) who suggest that it is only the customer that can define both quality and value in the hospitality field.

This study also shows that there are lapses in the services delivered, hence the gaps between expected and perceived service quality as rated by respondents. In service performance, it is only when a service experienced by a customer exceeds his/her expectations that the customer is satisfied. This means that even if a hospital delivers quality service, the customer (after experiencing the service) may be unhappy and believe that the service provided was poor, the service will be perceived as being sub-standard. When a customer is not satisfied with any of the service elements, then the organization has failed to meet its customer expectations and not provided him/her with an experience of acceptable quality and value (Ford *et al.*, 2012). Hence, this study of patient experience at Nigerian public hospitals that reveal that there are major lapses in Gap 5, *The Service Quality Gap*. This identifies a discrepancy between the patients' expectations and their perceptions of the quality of services delivered. Patients in this health care system perceived the actual service performance, in the context of what they expected, and this influences their judgment of service quality. The analysis of the responses from 200 samples showed that their expectations were higher than their perception of service, hence a negative gap score.

## **6. Conclusion**

This study investigated patients' expectations and perception of service quality provision in Nigerian public hospitals. Based on data collected from patients attending three Nigerian hospitals, it assessed their perception of service quality. The results suggest that patients define health care quality in terms of the five dimensions used in the SERVQUAL model: *Tangibility*, *Reliability*, *Responsiveness*, *Assurance* and *Empathy*. This model was used to determine if patients' expectations were exceeded - or not. The results identify the areas where service provision was lacking. They provide a starting point for hospital management to prioritize their efforts to reduce the gap between the current service provision and the patients' expectations and perceptions of the quality of the services delivered.

All the SERVQUAL dimensions showed a gap between patients' expectations and perception of the actual services, clearly demonstrating that more work should be done to improve service quality in Nigerian public hospitals. The initial priority should be placed on reliability and assurance as these two dimensions had the lowest results. Improvement in these two areas will be the most valuable element of service quality delivery. Providing for an ongoing assessment of the service quality gaps by hospital management and appropriate

improvements over time will result in a more effective and efficient service delivery system. It will also serve as a measure to expose hospital strengths and weaknesses and help in designing and implementing an effective service delivery system. The overall low quality of service in public hospitals outlined in this study could be attributed to a combination of funding and hospital personnel paying less-than-needed attention to service delivery methods to patients. This leads to the following recommendations for management in the hospital and policy implications.

*- Recommendations for Management:*

The negative scores in the findings of this study demonstrate the need for major improvements to meet or exceed patients' expectations. To start with, hospital management must place more emphasis on training their personnel in order to build patients' trust and confidence. This training should be embedded in the hospital's activities and aim to continuously update the personnel's knowledge of patient expectation changes to ensure ongoing implementation and evaluation of the changes. Addressing these gaps with the SERVQUAL, as applied to Nigerian hospital service providers, rationalizes the need for designing strategies and procedures increasing the likelihood of success in meeting patients' expectations through a more positive quality service evaluation. This then will impact the patient's experience and lead to a more positive long-term patient-hospital relationships. It will also help hospital management improve specific – as well as overall - services, eventuating in a gain in competitive advantage, by designing programs that ensure the daily provision of effective quality service.

*- Policy Implications for Service Quality in Nigerian Public Hospitals:*

In 2005, a National Health Insurance Scheme (NHIS) was implemented in Nigeria (Obalum & Fiberesima, 2012). The idea was to provide accessible, quality service healthcare for all Nigerians. Unfortunately, only employees in the federal formal sector, who represent approximately 5% of the working population of Nigeria have been enrolled (Tangcharoensathien et al, 2011). The overall plan was to have states nationwide adopt the plan, thereby expanding healthcare in the formal sector and later to the informal sector. However, almost 15 years later, only two states in the country have adopted this plan. A major area of contention is how to pay for the program; and once in place how to provide adequate service to those in the system. Some possibilities have been considered such as a community-based health insurance plan funded by community households or a tax-based system funded by taxes for those outside the formal system.

Since healthcare financing is a major issue in policy implementation, the Nigeria government has instituted a number of programs to address this problem. The inception of the National Health Policy in 2005 (Federal Ministry of Health, 2005) sought to provide options such as increased private sector contributions and prepay systems. This would enable an expansion of healthcare to not just the formal sector but to the rural poor, providing both promotive as well as preventative care. In 2006, the Federal Ministry of Health further clarified the *National Health Policy* (Federal Ministry of Health, 2016) to provide for equitable, quality health care while at the same time developing a system that would ensure efficiency and sustainability. The *National Health Bill* (Saka, 2012) was signed into law in 2014 in an effort to improve the country's healthcare services and provide healthcare especially to the country's most vulnerable – women, children and the elderly (Obi, 2014).

Moreover, as part of the *National Planning Commission: Vision 2020* (Udoudo & Itoro, 2016), the *National Strategic Health Development Plan 2010-2015* (Federal Ministry of Health, 2010) was conceived as a collaborative effort to ensure accessible, affordable, efficient, equitable health care provisions and consumption with improved service quality at local, state and federal levels. While all these plans represent an admirable attempt to provide and improve

service quality in Nigerian public hospitals, efficient and sustainable funding of these plans still remains a major area of contention and continue to undermine legislative efforts.

- *Significance of the Study*

This study was significant in that patients became more aware of the type and quality of services which they want service providers to deliver. Offering the right service to patients, at the correct level, may serve as competitive advantage for Nigerian public hospitals. The country's health care system continues to deteriorate despite having qualified health care professionals (Agrebeshola, 2019; World Bank, 2008). The result is that the general population has little or no confidence in the Nigerian public health care system. Yet, an organization that consistently satisfies its customers enjoys both higher retention levels and greater profitability due to increased customer loyalty (Wicks & Roethlein, 2009). As a result, service providers must ensure that they meet customers' expectations. According to Leone et al., (2005), a customer's preferences and attitudes are formed relative to their perception to the different brands competing for their attention. Therefore, the results obtained from this research will be useful for the management and staff of public hospitals to help identify the needs and wants of their patients (customers) and gain an increased understanding of how to improve their health care services.

- *Research Limitations and Recommendations for Future Study*

This research applied a quantitative approach to assess patients' perceptions and expectations of service quality in Nigerian public hospitals. A qualitative approach was appropriate to identify the relationship between variables but it is weak in terms of identifying the reasons for the relationship between variables (Chisnall, 1997) since customers have complex perceptive attitudes. Applying qualitative research for future studies will provide rich data to learn more about service perception in this context. An increased sample size could be used for more analyzes and potentially be used to determine how service quality impacts profitability and the competitive advantage of a public hospital. Lastly, in future studies the questionnaire should be provided to both the patients and hospital personnel to gather (potentially) contrasting views and decrease mono method bias.

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