

DEVELOPMENT AND VALIDATION OF HEALTHCARE SERVICE QUALITY CONSTRUCT

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Abstract

The aim of the paper is to develop a healthcare service quality construct that will meet a complete coverage of the components used by patients in the evaluation of healthcare service quality. In that regard, the research was to put together and to develop a healthcare service quality measurement model that addresses the criteria patients use in evaluating healthcare. This study involved two phases. The first phase identified models through secondary data and interviews with patients respectively. The second phase involved a quantitative survey to examine and verify the models and the scale developed for the healthcare service sector. A structured questionnaire was constructed based on this and was further refined through the pilot study and in-depth interviews with experts in the healthcare sector. The study arrived at the underlying constructs and sub-constructs of healthcare service quality as well as determining which of the sub-constructs have greater impact on the patient's overall perception of service quality in the hospital. Relationships between patients' satisfaction and healthcare service quality dimensions were established. Industry players can therefore use the model and the scale to evaluate patients' perceptions of their healthcare service providers and thus can be used as an important tool to identify and bring to the fore the problem sections of the service. This will ensure a higher level of patient satisfaction and thus ensure loyalty, repeat patronage and positive recommendation behaviour, which is the ultimate goal of the healthcare service provider. The current research which is the only study of its type therefore, examines empirically

the unclear constructs in the health sector for evaluating health service quality which becomes useful for improving the level of services in areas deemed defective by the consumers of healthcare services.

Keywords: Service Quality, Measurements Validation, Patient Satisfaction, Health care Institutions

INTRODUCTION

Even though healthcare service quality studies have centered on improving the quality of medical services performed for the patients and has been enhanced through better physicians, higher qualified nurses and better diagnostic equipment, it is still evident that other components of the hospital affecting the service delivered to the patients are equally vital. The health context was selected since it is one of the most significant components of human life and a basic input of human development. Good health is needed in every aspect of life in order to keep the body in good shape. Ill health in the body disrupts an individual's level of activeness and further prevents the body from functioning optimally. Thus the health of a nation is its wealth and it is the major lesson that we can learn today. Owing to this, health care management has become a critical aspect of our lives which governments, agencies, and bilateral institutions need to protect with respect to patients' satisfaction. This is achieved through a set of programmes that are geared towards meeting the expectations of the sick and to attain a high level of patient satisfaction. The concept of service quality becomes pivotal in this pursuit to realizing the desired success. Consequently, the present paper is intended to arrive at a healthcare service quality model that covers dimensions that are of value to patients. It is thus intended to develop a comprehensive model for the healthcare institutions. In this quest, the paper hopes to identify the best method for measuring service quality amongst the tested measures and to recommend a healthcare service quality model for the healthcare sector. The research classified service quality as functional areas which were referred to as constructs and then service quality dimensions within each construct were referred to as sub-constructs.

Service quality has been defined in different ways by researchers. Kasper et al. (1999) defined service quality as the extent to which the service, the service process and the service organisation can satisfy the expectations of the user. Parasuraman et al. (1988), an authority in the area of service quality, defined service quality as a function that differentiates between service expectation and perception of the actual service delivered. In today's competitive environment, the delivery of quality service is an essential strategy for survival and sustainability

and hence makes the current study relevant. According to Powers (1997), high service quality is expected to offer a competitive edge for an organization which can result in organizational growth. In the extant literature, whereas service quality has been assessed using the service quality instrument (which quantifies service perception using dimensions of reliability, responsiveness, assurance, tangibles and empathy) from the studies of Parasuraman et al. (1985, 1988), other methods have resorted to the use of simple questionnaires that fit into a particular sector or industry. Others on the other hand, have employed the GAP model where performance-based measurements are adopted. Notwithstanding, it has been proposed that the dimensions used in any measurement should be industry-specific (Teas and DeCarlo, 2004). Whereas service quality has been identified as a critical success factor for organisations to build their competitive advantage and increase competitiveness (Parasuraman et al., 1985), an accurate measurement of service quality as perceived by patients in the hospitals has yet to reach a consensus in the developing world context. In that regard, there is the need for a healthcare service quality model that covers dimensions that are of value to patients to be developed. This follows a recommendation from Yeboah (2014) for the need to develop an accurate measurement of service quality in the health sector of developing countries.

In the next section, we review the theoretical basis of the research, recent studies in service quality as well as a meta-analytical discussion on patient satisfaction. The research design and the discussion of the methods used are enumerated. We then present and discuss our findings and implications and draw conclusions based on them. The paper concludes with limitations and indications for future research.

Service quality has received attention from researchers, yet insufficient attention has been given to the analysis of service quality models by authors such as Gronroos (1983, 1984), Parasuraman et al.(1985, 1988), Zeithaml et al.(1988, 1993) and Berry et al. (1988). The Nordic School (Gronroos, 1983, 1984) and the Gap Analysis School (Parasuraman, Zeithaml and Berry, 1985) represent the two main bodies of research that have notably appeared in the literature and on which numerous other researchers have built their studies. The Gap Analysis School indicates that discrepancies or gaps exist regarding executive perceptions of service quality and the tasks associated with service delivery to consumers. It further explained that these gaps can create major impediments in attempting to deliver a service which consumers would perceive as being of high quality. The gaps can be subdivided into the gaps on the marketer and consumer sides as enumerated below: **Gap 1** represents the difference between consumer expectations and management perceptions of the consumers' expectations. **Gap 2** on the other hand, is the difference between management perceptions of consumer expectations and service quality specifications. Again, **Gap 3** represents the difference between

service quality specifications and the service actually delivered. **Gap 4** also describes the difference between service delivery and what is communicated about the service to consumers. **Gap 5** on the other hand is on the consumer side, and it shows the difference between a consumer's actual and perceived quality of service. On the other hand, the Nordic School (Gronroos, 1980, 1982, 1983, 1984) basically defined perceived service quality as being dependent on two variables; expected and perceived service. Perceived service is influenced by a technical and a functional dimension and answers the question of what the consumer gets whiles the functional quality answers how the consumer gets it. On the other hand, the technical quality dimensions address technical solutions, know-how, computerized systems and machines. Functional service qualities comprise accessibility, appearance, long-run customer contacts, internal relations in the hospitals, attitudes, behaviours and service mindedness of the service personnel (Gronroos, 1983).

Several studies in the extant literature have highlighted some of the indices valued by patients when assessing the effectiveness of health institutions. A study in Ghana presented by Atinga, Abekah-Nkrumah and Domfeh (2011) focused on patient satisfaction with a medical service encounter rather than on the efficacy of treatment. In this study, patient satisfaction was defined as a subjective evaluation of various aspects of a medical encounter. With the use of a longitudinal study, the study used questionnaires and interviews contained information that pertains to the dimensions of service quality, satisfaction and the demographic characteristics of patients. The service quality dimensions were captured in four main headings, namely, communication, provider-patient relationship, environment and waiting time. Atinga et al's (2011) findings indicated that cleanliness of the hospital environment emerged as a strong factor influencing patient satisfaction with quality of care. This suggests that, since hospitals exist as healing institutions, a very tidy environment is necessary not only as a primary measure to control disease outbreak, but also to provide some form of psychological relief to the patients. Waiting time was also identified due to the inadequate numbers of health professionals in the tested facilities.

Tang (2012) also conducted a study on patients' satisfaction with medical service assessment of medical service in the health delivery system in China. It was to assess the extent to which patient satisfaction with medical service delivery influences patient's life satisfaction. The author measured five key dimensions - assessment of the medical treatment process, assessment of doctor-patient communication, assessment of waiting time for medical service, assessment of the medical facility and hospital environment, and assessment of medical cost. The findings revealed that patients' assessment of doctor-patient communication had the largest positive influences on the level of satisfaction, followed by the treatment

process, quantity and quality of medical facility, the quality of hospital environment, and medical cost. Another study by Jackie & Tam (2007) was to investigate empirically the impact of improvement in service delivery of customer satisfaction and repeat patronage in Hong Kong. With the use of a longitudinal approach, the findings indicated that physical evidence, waiting time period and communication are vital indicators in determining the quality of healthcare service as perceived by patients. Recommendations based on these findings included encouragement of internet booking in healthcare, networking of all hospital records and reports, effective interaction between health personnel and patients on their health issues and the maintenance of a good physical environment as well as the provision of adequate space for staff and patients.

The study by Radmila Janicic, Danica Lecic-Cvetkovic, VinkaFilipovic, Zoran Vukasinovic & Vesna Jovanovic, (2011) centered on patients' satisfaction as a key in healthcare services. The outcome of the study by Janicic et al (2011) indicated that, patients stressed long waiting time, processes and poor communication of personnel as factors that contributed to the unsatisfactory healthcare service they received. They therefore recommended the need for the patient to be listened to, the need for medical staff to be in a good relationship with patients, their family members, as well as care from hospital staff and managers in the process of giving healthcare services.

Hitherto, several other studies have measured service quality among health institutions and have employed different methodologies. While some have utilized Parasuraman et al.'s (1988) SERVQUAL model, others have resorted to the (SERVPERF) model by Cronin and Taylor, (1992). Others, on the other hand, have relied on models that are deemed necessary to the health setting. Studies conducted by Brown & Swartz (1989) measured three (3) gaps and concluded that the first gap identified existed between patients' expectations and experiences, the second gap was identified between patients' expectations and physician perception of their expectation while the third and final gap identified the difference between patients' experience and the physician's perceptions of their experience. Paul (2003) on the other hand compared the two predominant service quality measures, namely SERVQUAL and SERVPERF and concluded that SERVPERF appears to be a more suitable model for the measurement of service quality. Hill and McCrory (1998) further measured service quality conceptualized as (perceptions minus importance) and tested perceptions and the importance of clinical and non-clinical service factors from the perspectives of patients and the staff. They concluded that perceptions of frequently visiting patients were significantly more positive than first-time patients. Hygiene was ranked as one of the top most important issues while several other factors were identified as decisive and would demand improvement. The study thus suggested

the need to improve service quality by making efforts to reduce the inconsistency between the respondents' important ratings and their perceptions, and instead, to begin with factors with the highest importance in ratings and with the largest discrepancies. In a related study comparing two countries (UK & US), Schlegelmich et al., (1992) identified few differences between patients' evaluations of the service encounter in both countries with greater dissatisfaction existing in the US market due to the unrealistic expectations created. The identified dimensions included treatment-related information, professionalism, communication skills, technical competence, emotional problems and perceived unfriendliness. In line with the objectives of the current study, the study, therefore seeks to develop a healthcare service quality construct that meets a complete coverage of the dimensions used by patients in the evaluation of healthcare service quality.

METHODOLOGY

The aim of the paper is to determine the underlying constructs and sub-constructs of healthcare service quality. The models are tested from literature and in healthcare. Constructs studied were physician medical services and nursing services which are the core medical services that can affect patients' expectations and perceptions of the hospitals' service provided. For the research to achieve its aim, a multi-step process which demands systematic adherence to best practices was followed at each stage of the research process (Churchill, 1979; Blankson et al., 2007).

Development of constructs and sub-constructs

The constructs for the study was developed through a two-stage phase. The first phase was to identify models through secondary data. The second phase involved a quantitative survey to examine and verify the models and the scales for the healthcare sector. To achieve that, detailed focus group discussions with patients was applied. Subsequently, three focus group discussions, each made up of ten randomly sampled patients and administrators of hospitals were held. The first group was made up of outpatients, the second group was made up of inpatients and the third group was made up of medical personnel of Korle Bu Teaching Hospital in Accra respectively. For the purpose of this research, the Greater Accra Region has been selected as the survey locale due to the region's central role in the socioeconomic and political development of the country. The region, according to the 2010 Population and Housing Census is the second most populous (4, 010, 054) in the country after Ashanti Region, representing 16.3% of the total national population (Ghana Statistical Service, 2012). Additionally, the region represents the various geographical settings of the country, i.e. cosmopolitan, metropolis,

districts and rural communities. Following good practices (Kirk and Miller, 1986), the participants were asked to freely talk and then list the constructs and the sub-constructs that best described their expectations of healthcare services in the hospitals. To enhance content validity, the researchers researched the literature for previous use of the employed technique. The research further conducted in-depth interviews with experts in the field to assess the internal validity. From the results obtained by using the above mentioned methods, the researcher concluded that the content validity is acceptable. The measures employed to enhance the validity of the survey instrument is consistent with best practice in the literature (Churchill, 1979; Blankson et al., 2007).

Data collection

With the use of a survey method, face-to-face interview was conducted on patients who were randomly sampled. Questions were structured and asked in a prearranged order. The use of structured questionnaire has been justified by previous researchers given that it is the one of the most effective instruments for collecting data in direct surveys (Malhotra, 1999). The questionnaires for the study contained a fixed - alternative question with the respondent choosing from a predetermined set of responses answered on a 7-Likert scale. A tentative questionnaire was constructed based on this and was further refined through the pilot study and in-depth interviews with experts in the healthcare sector. The researchers were able to determine the underlying constructs and sub-constructs of healthcare service quality as well as determining which of the sub-constructs have greater impact on the patient's overall perception of service quality in the hospital. Relationships between patients' satisfaction and the dimensions were established. The sample size and the response rate are consistent with related studies. At the end of the period, 397 questionnaires were received out of which 382 were found complete and processed for analysis. This number was made up of 178 males representing 46% and 204 females representing 54%. Descriptive statistics, factor analysis and multiple regression were used for the data analysis.

Data Analysis Methods

The use of qualitative research provides insight and understanding of the problem, whereas quantitative research seeks to quantify the data and apply some form of statistical analysis. When a new research problem is being addressed, quantitative research must be preceded by appropriate qualitative research. It is often viewed that qualitative and quantitative research is complementary rather than competitive (Malhotra, 1999) and the argument of integrating qualitative and quantitative research has been emphasized by leading scholars in marketing

(Churchill, 1979). Content analysis was used for the qualitative data analysis. This enabled the researcher to convert the text obtained from the interviews to numerical variables, which was used as the base for the quantitative data analysis. After the in-depth interviews were performed, coding units were determined. Descriptive and inferential statistics within IBM's Statistical Package for Social Sciences (SPSS) version 20 was used for the analysis.

EMPIRICAL RESULTS

Reliability Test

The preferred measurement instrument is expected to be reliable in terms of its ability to measure service quality constructs. Therefore, a reliability test was conducted to determine which of the instruments under consideration provides the most consistent results if the measurements are repeated. In doing so, the Cronbach's Alpha Coefficient was used to measure how reliable each of these instruments measure the five dimensions of service quality which are responsiveness, reliability, tangibility, empathy, and assurance. As can be seen from Table 1, the weighted SERVPERF produced the highest result with the Cronbach's alpha ranging from 0.916 for responsiveness to 0.955 for empathy. The second, after Weighted SRVPERF, was Weighted SERVQUAL which recorded an alpha coefficient range of 0.813 for empathy to 0.906 for assurance. SERVPERF and SERVQUAL followed in that order with an alpha coefficient range of 0.798 for reliability to 0.903 for tangibility and 0.725 for assurance to 0.806 for empathy. It should therefore be noted that although all the instruments under study provided significant assurance of reliability in measuring the dimensions of service quality, the Weighted SERVPERF was seen to be more reliable compared to the other instruments. The model is predicated on the assumption that service quality is dependent on five major factors of reliability, tangibles, empathy, assurance and responsiveness (Parasuraman et al., 1988). The scale for the measurement of healthcare service quality was developed and tested by utilizing the 4 different inputs described by (*Cronin and Taylor, 1992*) which tested for measurement using factor analysis. SERVQUAL, Weighted SERVQUAL, SERVPERF, Weighted SERVPERF testing was thus performed through factor analysis. The most appropriate scale for measurement of healthcare service quality for the current research was then chosen. The measurements are described as follows:

- SERVQUAL: measurement of the difference between expectations and perceptions (E-P)
- WEIGHTED SERVQUAL: measurement of the difference between expectations and perceptions multiplied by weights [$W^*(E-P)$]
- SERVPERF: An un-weighted performance based measurement (P)
- WEIGHTED SERVPERF: A weighted performance based measurement (W^*P)

Table 1 demonstrates the Cronbach's Alpha Coefficient used to measure how reliable each of these instruments measure the five dimensions of service quality.

Table 1: Cronbach's Alpha Coefficients

Dimension	SERVPERF	Weighted SERVPERF	SERVQUAL	Weighted SERVQUAL
Tangibles	0.903	0.926	0.743	0.888
Reliability	0.798	0.919	0.788	0.826
Responsiveness	0.802	0.916	0.792	0.892
Assurance	0.871	0.939	0.725	0.906
Empathy	0.852	0.955	0.806	0.813

Validity Test

The researchers sought to measure the extent to which the various instruments under study correctly represented the concepts under study. As a result, content validity was derived through an exhaustive step-by-step approach throughout the research process. A thorough literature review was first conducted to determine the major constructs of healthcare service quality.

Due to the perceived unique nature of the Ghanaian healthcare sector, three focus group discussions were conducted which were used to select the appropriate set of constructs for healthcare services. It can therefore be inferred that the tools adequately covered all the constructs necessary to measure service quality in the health sector of Ghana. Again to further compare the validity of the four models, correlation was found between the individual models under three criteria. These criteria were:

- Whether the patient would visit the health facility again?
- Whether the patient would recommend the health facility to other people?
- And the overall satisfaction of the patient.

From the results, it was evident that each of the models under discussion was positively related to the criteria of willingness to visit the health facility again, willingness to recommend the facility to others as well as overall patient satisfaction, as demonstrated in Table 2. It was also found that Weighted SERVPERF had the strongest correlation with the three criteria, followed by SERVPERF, Weighted SERQUAL and SERVQUAL respectively.

Table 2: Correlation among service quality instrument and the criteria

	SERVPERF	Weighted SERVPERF	SERVQUAL	Weighted SERVQUAL
Overall satisfaction	0.65	0.68	0.61	0.63
Re-visit facility	0.66	0.67	0.58	0.57
Recommend to others	0.64	0.63	0.49	0.53

Again in exploring the relationship between overall customer satisfaction and selected service quality attributes, a correlation analysis and multiple regression analysis were performed. The factors considered in explaining service quality in the hospitals included tangibility, reliability, assurance, empathy, and responsiveness. The Pearson's correlation coefficient (r) was used to measure the strength of the relationship between the overall satisfaction of the respondents and the service quality attributes. The correlation between overall satisfaction and these five factors was positive and was significant at 0.01 level (2-tailed). Tangibility, reliability, and assurance had relatively strong correlation with patient satisfaction while empathy and responsiveness had relatively moderate correlation with patient satisfaction. The correlation coefficient of 0.828 was found to exist between the overall patients' satisfaction and reliability and it is statistically significant ($p<0.01$) while the relationship between overall satisfaction and assurance yielded a correlation coefficient of 0.824, this relationship is equally statistically significant ($(p<0.01)$). A further look at Table 3 indicates a statistically significant relationship between the independent variables and patients' overall service satisfaction.

Table 3: Results of Correlation Matrix between Overall Service Satisfaction and Service Indicators

	Tangibility	Empathy	Responsiveness	Reliability	Assurance
Overall Service Satisfaction	.720*	.670*	.543*	.828*	.824*
N = 382					

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

The factor changes in overall satisfaction were positively correlated with tangibility, empathy, responsiveness, reliability, and assurance as perceived by the patients.

In order to determine the nature of relationships a multiple regression analysis was conducted. The multiple regression analysis was used because it provides the most accurate interpretation of the independent variables. The five independent variables were expressed in terms of the standardized factor scores (beta coefficients). The significant factors in the

regression model have been shown based on the order of importance as revealed by the beta coefficients. The dependent variable (patients' overall level of satisfaction) was measured on a 5-point Likert-type scale and was used as a surrogate indicator of patients' evaluation of perception of service quality.

The equation for patients' overall level of satisfaction has been expressed in the following:

$$Y_s = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 \quad (1)$$

Where,

Y_s = patients' overall level of satisfaction

β_0 = constant (coefficient of intercept)

X_1 = reliability

X_2 = tangibility

X_3 = assurance

X_4 = empathy

X_5 = responsiveness

$B_1 \dots B_5$ = regression coefficient of the factors of service quality

To predict the overall fitness of the regression model, the multiple correlation coefficient (R), coefficient of determination (R squared), and F ratio were examined. Firstly, the overall relationship between the independent variable, i.e. the selected factors of service quality, and the overall satisfaction of patients (R) was found to be 0.877, which showed that patients had positive and high overall satisfaction levels with five dimensions. Secondly, the R squared of 0.769, suggests that about 76.9% of the variation in patients' overall satisfaction was explained by the five factors. Lastly, the F ratio ($F = 411.983$; $df = 6,742$; $p < 0.01$), which explained the statistical significance of the overall regression model was considered highly statistically significant in the current study. The regression model achieved a satisfactory level of goodness-of-fit in predicting the variance of patients' overall satisfaction in relation to the five factors, as measured by the above-mentioned R , R^2 , and F ratio (see Table 4 for details).

The beta coefficients may be used in explaining the relative significance of the five independent variables, which are the dimensions of service quality, in enhancing the overall patient satisfaction (dependent variable) in the regression analysis. As far as the relative significance of the five service quality dimensions are concerned, reliability ($B_5=0.461$, $p<0.01$) carried the heaviest weight for patients' overall satisfaction with service quality, followed by tangibility ($B_1=0.420$, $p<0.01$), assurance ($B_6=0.267$, $p<0.01$), empathy ($B_2=0.063$, $p<0.05$), and responsiveness ($B_3=0.059$, $p<0.05$). These results showed that a unit increase in satisfaction

with reliability would lead to a 0.461 unit increase in patients' overall level of satisfaction, if all other variables are held constant.

Table 4: Regression Results of Patients' Overall Satisfaction Level

Based on the Dimensions of Service Quality

	R	R Square	Adjusted R Square	Std. Error
	.877	.769	.767	.736
	Sum of Squares	df	Mean Square	F
Regression	1340.416	6	223.403	411.983 0.000
Residual	402.359	742	.542	
Total	1742.774	748		
Independent Variables	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	
(Constant)	.297	.073		4.094 .000
Tangibility	.420	.047	.419	8.997 .000
Empathy	.063	.047	.062	1.346 .017
Responsiveness	.059	.032	.000	.003 .022
Reliability	.461	.050	.432	9.285 .000
Assurance	.267	.051	.258	5.203 .000

DISCUSSIONS

The study made use of the dimensions of service quality and the functional areas in the hospitals. With an analysis of the total experience in the hospital by patients, the constructs studied comprised of doctors' medical services and nursing services which are the core medical services that can affect patients' expectations and perceptions. With regards to the current study, the most successful constructs of perceived service quality for the health sector was weighted SERVPERF. This further explains that in the health sector of Ghana, the impact of SERVPERF on patients with respect to satisfaction is enormous. Although there are other important constructs and dimensions that are applicable, SERVPERF makes the greatest impact in predicting patients' satisfaction. Paul (2003) indicated that, out of the two predominant service quality measures, namely SERVQUAL and SERVPERF, SERVPERF appears to be a much better model for the measurement of service quality in the context. The SERVPERF scale was originally developed by Cronin and Taylor (1992) and is known to be one of the important variants of the SERVQUAL scale since it is based on the perception component alone. The current study supported the adoption of weighted SERVPERF as the suitable measurement

construct in the health sector. The choice of the SERVPERF technique is also tied to the evidence that it is more applicable in developing countries (Jain and Gupta, 2004).

In verifying which of the sub-constructs have greater impact on the patients' overall perception of service quality in the studied hospitals, the beta coefficients proved that reliability is most valued by patients, followed by tangibility, assurance, empathy and responsiveness in that order. With reliability being the ability to perform the promised service dependently with accuracy, patients believed that consistency with time during service delivery was very salient. With accurate services delivered to patients, it is assumed that sincerity, error-free service records and the provision of services right on time are most valued. Tangibles on the other hand, which discusses the appearance of the physical facilities, equipment and appearance of personnel ranked second. In that regard, the use of state-of-art equipment with visually appealing physical facilities is appreciated by patients. Again, with respect to assurance which is the knowledge and courtesy of employees and their ability to inspire trust and confidence, it is believed that behaviours such as consistently being courteous to patients, ability to answer patients' questions, making patients feel safe and instilling in them, confidence is crucial to quick recovery. Empathy on the other hand is the caring and individualized attention the facility provides its patients. In this respect, patients believe that individual attention, ability to understand the patients' specific health needs and a 24-hour service provision is also very important and ranks fourth. Lastly, Responsiveness which is the willingness to help customers and provide prompt service is valued by patients as the fifth. In this instance, patients are told when exactly the service will be performed and services are delivered promptly. In this order, patients value the dimensions as being important to them.

RECOMMENDATIONS

With the results that perceived service quality is best defined using weighted SERVPERF for health services, it is recommended that public and private hospitals adopt the constructs in an attempt to meet the growing concerns of the sick. With regards to the concept of service quality, more effort is required in relation to service delivery and communication with patients. In the hospital the nurse is the patient's main contact with the medical services. This is so because the nurse represents the first "medical service point of contact" to the patient as the nurse greets the patient, takes care of the basic on-going medical needs of the patient and responds at all hours of the day. Thus the nursing staff can be regarded as the actual medical service provided by the hospital. In that regard, hospital administrators need to provide training to their nurses concerning nurse-patient interaction with an emphasis on the importance of depicting responsiveness, reliability and empathy to patients' needs. This will go a long way to improve

service quality levels depicted in the facilities. Patients would therefore build a positive perception of the services received which is believed would make the medical services more appreciated by the patients. The use of electronic information boards in the out-patient department (OPD) halls of the hospitals is inevitable especially in this modern day facility. These screens give information such as doctors on duty, services provided, direction to specific departments in the facility among others. This can help ease the pressure on the information desk (if any) and will project the image of the facility.

LIMITATIONS WITH DIRECTIONS FOR FUTURE RESEARCH

The study examined perceived service quality and the impact on patients' satisfaction without considering the effects of moderating factors to the relationships. Future studies therefore need to consider the moderating factors of the relationships between perceived service quality and patients' satisfaction before generalisations are drawn. On a more practical note, by using the above data, healthcare directors can push for the right action and attitudes required from their staff, including doctors, nurses, admission and discharge personnel that is needed to satisfy and retain patients. They can promote interactions that are likely to yield positive impact on patients' decision. Hospitals would be able to tailor strategies that offer the best health services to patients.

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APPENDIX: THE WEIGHTED SERVPEF INSTRUMENT

PERCEPTIONS

This survey deals with your opinions of hospitals. Please show the extent to which you think hospitals should possess the following features. The following statements relate to your feelings about the particular hospital XYZ you chose.

Tangibles

- P1. XYZ hospital has modern looking equipment.
- P2. XYZ Hospital's physical facilities are visually appealing.
- P3. XYZ Hospital's reception desk employees are neat appearing.
- P4. Materials associated with the service (such as pamphlets or statements) are visually appealing at XYZ hospital.

Reliability

- P5. When XYZ hospital promises to do something by a certain time, it does so.
- P6. When you have a problem, XYZ hospital shows a sincere interest in solving it.
- P7. XYZ hospital performs the service right the first time.
- P8. XYZ hospital provides its service at the time it promises to do so.
- P9. XYZ hospital insists on error free records

Responsiveness

- P10. Employees in XYZ hospital tell you exactly when services will be performed.
- P11. Employees in XYZ hospital give you prompt service.
- P12. Employees in XYZ hospital are always willing to help you.
- P13. Employees in XYZ hospital are never too busy to respond to your request.

Assurance

- P14. The behavior of employees in XYZ hospital instills confidence in you.
- P15. You feel safe in your transactions with XYZ hospital.
- P16. Employees in XYZ hospital area consistently courteous with you.
- P17. Employees in XYZ hospital have the knowledge to answer your questions.

SERVQUAL IMPORTANCE WEIGHTS

Listed below are five features pertaining to hospitals and the services they offer. We would like to know how much each of these features is important to the customer. Please allocate 100 points among the five features according to how important it is to you. Make sure the points add up to 100.

1. The appearance of the hospitals physical facilities, equipment, personnel, and communication materials. _____ points
2. The hospitals ability to perform the promised service dependably and accurately. _____ points
3. The hospital's willingness to help customers and provide prompt service. _____ points
4. The knowledge and courtesy of the hospital's employees and their ability to convey trust and confidence. _____ points
5. The caring, individual attention the hospital provides its customers. _____ points

Total: 100 points