

A Comparative Study of Service Quality between Public and Private Hospitals: The Case of Lusaka Urban

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Abstract— Comparative studies on service quality in public and private hospitals have yielded contradictory results. This study aimed at comparing service quality between public and private hospitals in Lusaka using the Gap Model. Data for this cross-sectional study was collected from a purposively selected sample of 228 patients using two survey questionnaires that captured client expectations and perceptions. Mean differences between perceptions and expectations in each of the five service quality dimensions indicated service quality gaps. T-test was used to test the significance of these differences. Although both public and private hospitals were not meeting client expectations, the mean for the overall service quality perception for private hospitals was higher than for public hospitals. The largest service quality gaps for public hospitals and private hospitals were recorded in the responsiveness and reliability dimensions, respectively. On the other hand, the smallest quality gaps were recorded in the empathy dimension for both types of providers. Finally, ANOVA showed that service quality dimensions were of equal importance to public hospital clients. On the other hand, reliability, responsiveness and assurance were found to be the most important dimensions for private hospital clients. These findings showed that there was a difference in service quality between public and private hospitals in Lusaka, with service quality gaps in public hospitals being larger than those of private hospitals. Efforts to improve service quality should therefore aim at closing gaps in dimensions which clients rated as the most important.

Keywords—Service; Service quality; Service quality; Dimensions, Service quality Gaps

I. INTRODUCTION

The reduction in health care expenditure by the Zambian government, especially in the 1970s, and 1990s had devastating consequences on the public health sector. These consequences included dilapidation in physical infrastructure, a demoralized work force and massive exodus of health workers to other countries and private sector where conditions of services are perceived to be relatively better [1]; [2]. All these factors made it difficult for the public health sector to uphold service quality standards. As a result, many Zambians, including policy makers turned to the private health sector as an alternative provider of health services [1].

But what is a service? And is service quality? There are no universal definitions of the two concepts in literature. In an attempt to arrive at a universally accepted definition of the concept of “service”, the Nordic school of thought led by [10] defined services as “processes that consist of a set of activities which take place in the interaction between a customer and people, goods and other physical resources, systems and/or infrastructures

representing the service provider and possibly involving other customers, which aim at solving customer's problems".

Reference [11] on the other hand defined a service as "the application of specialised competences (operant resources- knowledge and skills) through deeds, processes, and performances for the benefit of another entity or the entity itself. [11]" This definition can be said to be in two parts. The first part is that services comprise activities, deeds, processes and performances and secondly, it specifies that these activities are of benefit to the recipients.

In this study therefore, service referred to a package of activities performed by hospital staff, which were intended to benefit patients.

In the same manner, there are many approaches to defining service quality. This study adopted the user based approach that is rooted in the gap model of [15]. In this model, service quality is defined as "meeting customers' expectations", and thus views service quality as the difference (gap) between a customer's expected service and his/her perception of the service received [15]. The model recognizes that different customers have different wants and needs, hence the need to define quality from a customer perspective [14]; [12].

On the basis of the gap model [10] also held the view that the quality of a service can be judged from two perspectives by a customer. On one hand, service can be perceived from a technical perspective, that is, the 'what' of what the customer expects. This is known as the technical quality [10]; [11]. On the other hand, service can also be perceived from a functional perspective, that is, when the customer has expectations of "how" the service is delivered. This is known as functional quality [10]; [11].

In the case of healthcare, for example, the prescription by a doctor will be considered as

reflecting technical quality, while the functional perspective can manifest itself in the attitude and behaviour of medical personnel when delivering medical service [16]; [12]; [17]. The implication for this is that it is possible, for example, for a patient to describe a service encounter in which the doctor has prescribed wrong medication i.e. a technically low-quality service as being of high quality possibly due to the friendliness of the doctor (functionally high-quality service). This challenge calls for one to be explicit on the aspect of service quality they are referring to.

In view of this, this study focused on the functional aspect of service quality. Hence, service quality was viewed as the gap (difference) between a customer's expectation and their perception of the service received.

Using the gap model, [15]; [18] identified ten dimensions of service quality which they believed are used by customers regardless of the service being evaluated. However, according to [12] statistical analyses in later studies by [15]; [18] showed very strong correlation (i.e. similarities) between several service quality dimensions. The original ten dimensions were thus reduced to five fundamental ones that included:

1. Tangibles: appearance of an organisation's facilities, equipment, staff and communication tools.
2. Reliability: Ability to perform the promised service dependably and accurately.
3. Responsiveness: The Company's propensity to assist the clients and provide prompt services.
4. Assurance: Knowledge and courtesy of employees and their ability to convey trust and confidence.
5. Empathy: Caring and individualized attention the firm provides its customers.

Using these dimensions, and other related ones, a number of studies comparing service

quality between private and public hospitals have been conducted. But there still appears to be no consensus on the topic. For example, in a study conducted in Zambia by [3], most managers of private health institutions indicated that their facilities had a location advantage, good customer relations, efficient and reliable staff. But contrary to the assertions, the Zambian Ministry of Health observed in its strategic plan for 2011 – 2015, that “the lack of guidelines for the operations of private hospitals and clinics has resulted into poor patient management, irrational drug use, poor prescription methods and unnecessary delays in referring patients to specialized hospitals [4].”

Studies conducted in other countries have also yielded contradictory results, with some reporting higher service quality in public hospitals [5] and others favoring private hospital [6];[7]. At the same time, some studies have found no difference at all [8]; [9].

As a way of contributing to this debate, this study aimed at comparing service quality between public and private hospitals in Lusaka from the perspective of patients/customers. Specifically, the study sought to achieve the following objectives:

1. Establish whether there is a difference in service quality between private and public hospitals
2. Determine the nature and scope of service quality gaps for public and private hospitals
3. Establish the relative importance of the dimensions of service quality

It was in these five service quality dimensions that service quality for public and private hospitals was evaluated in this study.

II. METHODOLOGY

A. *Research Design, Target Population and Sample Size*

This was a cross sectional descriptive study. The target population for this study was patients admitted to 3 public and 13 private hospitals in Lusaka in May, 2013. Multistage sampling technique was employed. The first stage involved the random selection of two public hospitals and two private hospitals. The number of respondents (i.e. patients) from each hospital was calculated using Yamane Sample size calculation formula [20]; [21], basing on the average weekly admission. Using this method, a sample size of 228 patients was arrived at (i.e. 142 from public hospitals and 86 from private hospitals). Actual respondents were then picked purposively based on their willingness and physical ability to respond to questions.

B. *Data Collection Instruments and Process*

This study used two researcher-administered survey questionnaires that were adopted from studies conducted by [22]; [23]; [24]; [17]. In all these studies, the instruments were tested for reliability and found to have a Cronbach’s alpha coefficient > 0.7 .

The first questionnaire which captured client expectations consisted of 31 statements. The second questionnaire, which captured client perceptions also consisted of 31 statements (items) matching those in the expectation questionnaire. It however had an extra statement (i.e. item number 32) to capture client perception of overall service quality [24].

Operationalization statements in both the expectations and perceptions questionnaires were grouped under the following service quality dimensions (1) tangibles; (2) reliability; (3) responsiveness; (4) assurance; (5) empathy.

A Seven-point Likert scale ranging from “very unimportant” to “very important” was used to

measure the clients' expectations. A similar scale ranging from "strongly disagree" to "strongly agree" was used to measure client perceptions of the service received. For item number 32 in the perception questionnaire, the same scale ranged from "completely dissatisfactory" to "completely satisfactory [24]".

The expectations questionnaire was administered soon after a patient was admitted, while the perceptions questionnaire was administered at least 24 hours after admission.

C. Data Analysis Instruments and Process

Data for this study was analysed using SPSS (Statistical Package for Social Scientists) version 17.0. Both descriptive and inferential statistics were used. The first step (following data entry) was to calculate mean expectations and mean perceptions for each statement in the questionnaires, and the five service quality dimensions. This was then followed by calculation of differences between mean perception and mean expectation to establish service quality gaps [25]; [26]; [24]. Testing the significance of these gaps was done using a two-tailed t-test. Statistical significance was considered achieved with a $p < 0.05$. These comparisons were first done within each type of hospitals (i.e. public and private), and then across the two types of hospitals.

Finally, one-factor ANOVA was used to establish the relative importance of each of the five service quality dimensions by testing the differences in the mean expectations for each of the five service quality dimensions.

Ethical Considerations

This study was approved by the School of Graduate Studies at Copperbelt University. Written consent was also obtained from hospital managers and patients.

III. RESULTS

A. Differences in Overall Service Quality between Public and Private Hospitals

Results from this analysis showed that both public and private hospitals were on average not meeting their customers' (patients) expectations, i.e. client expectations exceeded perceived service quality. This was evidenced by negative gaps in all the five (5) service quality dimensions used in this study (see Tables 2 and 3 below). The mean overall service quality perception for private hospitals was however higher (5.97) than that of public hospital (5.30). This difference was statistically significant (i.e. p -value = 0.000). See Table 1 below:

TABLE 1: MEANS FOR OVERALL SERVICE QUALITY PERCEPTION

	Public Hospitals (mean)	Private Hospitals (mean)	Difference	P-value (two-tailed t-test)
Mean for overall service quality perception (Q 32)	5.30	5.97	0.66	0.000

B. Nature and Scope of Service Quality Gaps

The largest service quality gap for public hospitals was recorded in the responsiveness (-1.43) dimension, while the smallest gap was in the empathy dimension (-0.68). On the other hand, the largest service quality gap for private hospitals was recorded in the reliability dimension (-0.89), while the smallest gap was also recorded in the empathy dimension (-0.43). This information is presented in Tables 2 and 3 below.

TABLE 2: RANKED MEAN GAP SCORES FOR PUBLIC HOSPITALS

Rank #	Service Quality Dimension	Mean Expectation	Mean Perception	Service Quality Gap	P-Value
1	Empathy	6.24	5.56	-0.68	0.000
2	Assurance	6.38	5.57	-0.81	0.000
3	Reliability	6.27	5.26	-1.01	0.000
4	Tangibles	6.31	4.93	-1.37	0.000
5	Responsiveness	6.21	4.77	-1.43	0.000

TABLE 3: RANKED MEAN GAP SCORES FOR PRIVATE HOSPITALS

Rank #	Service Quality Dimension	Mean Expectation	Mean Perception	Service Quality Gap	P-value
1	Empathy	6.47	6.04	0.43	0.003
2	Tangibles	6.36	5.88	0.48	0.000
3	Assurance	6.63	5.82	0.81	0.000
4	Responsiveness	6.50	5.63	0.87	0.000
5	Reliability	6.69	5.80	0.89	0.000

C. Relative Importance of Service Quality Dimensions

To establish the relative importance of service quality dimensions to patients attending public and private hospitals, ANOVA tests using mean expectations in the five service quality dimensions were performed. Results of these tests are presented in the following tables:

TABLE 4: ANOVA RESULTS FOR PUBLIC HOSPITALS

Service Quality Dimensions	Mean	n	Std. Dev
Tangibles	6.31	142	0.69
Reliability	6.27	142	0.93
Responsiveness	6.21	142	0.90
Assurance	6.38	142	0.67
Empathy	6.25	142	0.68

Source	SS	df	MS	F	p-value	F-critical
Treatment	6.886	4	1.721	3.747	0.005	2.392
Error	195.233	425	0.459			
Total	202.118	429				

Treatment	2.34	4	0.59	0.95	0.43	2.38
Error	432.28	705	0.61			
Total	434.63	709				

Table 4 above, shows that assurance had the highest mean expectation (6.38), with the lowest being responsiveness. This finding implied that patients attending public hospitals ranked assurance as the most important service quality dimension, and responsiveness as the least important. Further analysis of the differences among the means however showed that the p-value (0.43) was greater than 0.05 and the F-value (0.95) was less than the f-critical (2.38). This led to the conclusion that there was no statistically significant difference in the mean expectations of the service quality dimensions for patients attending public hospitals. Service quality dimensions were of equal importance.

On the other hand, Table 5 below shows that there was a statistically significant difference among the mean expectations for the five service quality dimensions for private hospitals (i.e. p-value < 0.05 and the F-value > f-critical). In other words, service quality dimensions were not of equal importance to patients attending private hospitals.

TABLE 5: ONE FACTOR ANOVA FOR PRIVATE HOSPITALS

Service Quality Dimensions	Mean	n	Std. Dev
Tangibles	6.358	86	0.565
Reliability	6.684	86	0.526
Responsiveness	6.500	86	0.687
Assurance	6.626	86	0.456
Empathy	6.395	86	1.010

Source	SS	df	MS	F	p-value	F-critical
Treatment	6.886	4	1.721	3.747	0.005	2.392
Error	195.233	425	0.459			
Total	202.118	429				

Pairwise t-tests were then performed to establish how the means of the five service quality dimensions differed. Results from these tests as presented in Table 6 below, showed that reliability had the highest mean expectation, while tangibility recorded the smallest mean expectation. P-values however revealed that there was no statistically significant difference between the means for reliability and responsiveness, between reliability and assurance, and between responsiveness and assurance. These findings led to the conclusion that reliability, responsiveness and assurance were the most important service quality dimensions followed by empathy and tangibility.

TABLE 6: P-VALUES FOR PAIRWISE T-TEST

		Tangibility	Empathy	Responsiveness	Assurance	Reliability
		6.358	6.395	6.500	6.626	6.684
Tangibles	6.358					
Empathy	6.395	0.716				
Responsiveness	6.500	0.169	0.312			
Assurance	6.626	0.010	0.026	0.225		
Reliability	6.684	0.002	0.005	0.076	0.572	

IV. DISCUSSION

A. Differences in Overall Service Quality between Public and Private Hospitals

Results from this study have shown that both public and private hospitals were not meeting their clients' expectation. Service quality gaps for public hospitals were however generally larger than those existing in private hospital. These findings are consistent with those of [6] who found that the service quality perception in public hospitals was quite low compared to private hospitals but were at variance with those from a study by [5], who found that public health

providers exceeded patient expectations by a wider margin than private providers.

It therefore follows that in spite of the technical weakness characterising the private health sector (i.e. irrational drug use, poor prescription methods and unnecessary delays in referring patients to specialized hospitals) as highlighted in [4], patients attending private hospitals were relatively more satisfied than those attending public hospitals.

B. Nature and Scope of Service Quality Gaps

Analysis of the nature and scope of service quality gaps showed that the smallest service quality gap for public hospitals was recorded in the empathy dimension (-0.68), which could be said to be the best performing service quality dimension for public hospitals. These findings were contrary to what came out of studies by [23] and [17], where empathy recorded the largest gap for both private and public hospitals. This implies that the strongest point for public hospitals was in the empathy, which is about showing care and individualised attention to patients.

On the other hand, the largest gap for public hospitals was recorded in the responsiveness dimension, which could be said to be the least performing dimension or the weakest point for them. The large gap in the responsiveness dimension implies that members of staff in public hospitals were slow to react to patient demands. And one of the items in the responsiveness dimension, which also happened to have the largest gap of all the 31 items, was about the length of time that patients had to wait in the queue before they could be attended to. This means that clients were subjected to long waiting hours before they could be attended to.

The high number of patients (attracted by the almost free services provided by public hospitals), population increase (resulting from urbanization) and the high disease burden

(fuelled by the HIV/AIDS pandemic and poor living conditions) may be responsible for long waiting hours patients are subjected to. The shortage of staff in public hospitals may also contribute to long patient time in these institutions. Current statistics show that the public health sector is operating at 59% in terms of the required workforce [4]. This represents a staff shortfall of about 41%.

Given this situation, it could be argued that recording a large gap in the responsiveness dimension and a smaller gap in the empathy dimension by public hospitals means that members of staff were willing to help clients (i.e. empathy) but may have been overwhelmed by the high work load, hence the poor performance in the responsiveness dimension.

Like public hospitals, the greatest strength for private hospitals was in the empathy dimension, which had the smallest service quality gap. The empathy gap for private hospitals was however relatively smaller than the one for public hospitals. This implies that members of staff in private hospitals were showing more care for patients than their public counterparts. This finding is critical for attracting and retaining clients (customers) on the part of private hospitals. This is because when customers feel mistreated, they will look for another provider next time they are in need of a similar service, which may ultimately lead to poor sales and low profits.

On the other hand, the largest service quality gap for private hospitals was recorded in the reliability dimension, which could also be said to be the greatest weakness for these hospitals. The reliability dimension comprised items like staff ability to prepare error free bills and the reasonableness of the fees charged. This revelation implies that on average, patients had little faith in the billing system for private

hospitals and that the fees charged could have been higher than expected.

C. Relative Importance of Service Quality Dimensions

With regard to the relative importance of the five service quality dimensions to clients attending public hospital, results from the analysis have shown that all the five service quality dimensions were of equal importance. These findings were at variance with those from a study by [24] in which it found that consumers assessed the empathy dimension as being the least important in their expectation of service quality, while assurance was reported to be the most important. The findings were however in agreement with what came out of the study by [27] who also found no significant difference in the relative importance of the six service quality dimensions adopted for their study, and concluded that public hospitals needed to focus their improvement efforts across all the six dimensions. It therefore follows from these findings that if public healthcare providers are to satisfy their clients, all service quality dimensions should be given equal importance and attention.

On the part of private hospitals, the situation was different. Customers viewed reliability, assurance and responsiveness as the most important service quality dimensions. These findings were in line with those from a study conducted by [22] where it was found that health care users focused their expectations on reliability, assurance and responsiveness. The findings were however at variance with those from a study conducted by [28] who found that discipline, which was an extension of the tangibles dimension, was the most important dimension followed by assurance, responsiveness and communication.

These results mean that when trying to improve the service quality for private hospitals, priority should be given to reliability, assurance and responsiveness because they are rated as the most important service quality dimensions by patients.

V. CONCLUSION

This study has established that both public and private hospitals were not meeting their client's expectations. However, the service quality gaps for public hospitals were larger than those existing in private hospitals. This led to the conclusion that there is a difference in service quality between public and private hospitals, patients attending private hospitals being relatively more satisfied. The best performing area for public hospitals was in the empathy dimension, while their least performing area was the responsiveness dimension. Like public hospitals, the best performing area for private hospitals is the empathy dimension, while the least performing area was the reliability dimension. While public hospitals need to focus their improvement efforts on all the five service quality dimensions, private hospitals need to focus their attention on improving their reliability, responsiveness and assurance, which their clients rated as the most important service quality dimensions.

VI. STUDY LIMITATIONS AND RECOMMENDATION FOR FUTURE RESEARCH

The main limitation of this study was the picking of an equal number of public hospitals private hospitals when the population for later was more than that of the former. Proportionate sampling technique would have been employed instead. Secondly, the use of non-probability sampling techniques i.e. purposive sampling method to pick patients may have reduced the representativeness of the sample. In addition to the above, the study did not collect information on the socio-demographic characteristics of

respondents. This information would have helped to show how expectations and perceptions of healthcare service quality differ among different groups of patients.

Future studies on this topic should therefore try to use probability sampling of both hospitals and individual patients. It is also recommended that future studies should show how expectations and perceptions of healthcare service quality differ among different groups of patients so that quality improvement efforts can target specific population subgroups.

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