



# EFFECTS OF HOSPITAL ACCESSIBILITY ON CONSUMER PREFERENCE IN PRIVATE HOSPITALS IN NAKURU COUNTY, KENYA

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## ABSTRACT

Private healthcare system in Kenya have grown tremendously over the last two decades due to various reasons, among them lack of adequate and quality public healthcare services and introduction of user fees. This study therefore aimed at empirically examining the determinants that have influenced consumers' choice for private health service providers in Nakuru County. In achieving this broad objective, the study sought to examine the effects of hospital accessibility on consumer preference for health services provided by private hospitals in Nakuru County. Descriptive survey design was adopted in the study. Structured questionnaires were used to gather primary data from in-patients with minor ailments in these hospitals through the assistance of the staff, as well as the hospital administrators. Study sample size was 136 in-patients and 9 hospital administrators, where the sampling technique was employed on determining individual respondents was convenient sampling method after choosing the hospitals purposively. Descriptive statistics (mean, standard deviation and frequencies) and inferential statistics particularly Pearson correlation and regression were used to test the relationship between variables under study whereas research hypotheses was tested at 0.05 significant levels. It was established that there was a positive relationship between hospital accessibility and consumer preference ( $r = 0.367$ ,  $p < 0.05$ ) which is statistically significant. That patients' preference is determined by a complex interplay between a variety of patients and the provider characteristics. Patients often attach greater importance to their previous healthcare experiences or to doctors' recommendations than to comparative information presented. The study recommended that the hospital management should consider mobilizing resources for scaling up supportive infrastructure that promote accessibility to quality services. The management should also consider organizing update trainings through workshops on the essence of timeliness in service provision. Additionally, patients base their decisions on choice of private hospital not only on outcome indicators but on a variety of provider characteristics. Findings from this study should not be underestimated. It will provide important source of knowledge for managers within the healthcare institutions, as well as the service industry in general. Health Care provider must focus towards the understanding the factors that influence the choice of health services.

**KEY WORDS:** Hospital accessibility; physical location, timeliness, promotion, information, consumer preference

## BACKGROUND OF THE STUDY

Today's patients can access medical records electronically, schedule appointments and order prescriptions through online patient portals, and even communicate with physicians via text message. This increase in the ease of access to information, as well as the newfound rapidity in patient-provider communications, has necessitated a greater concern with overall patient satisfaction. Patient satisfaction has become so critical because it is a motivating factor in patient retention, evidenced by hospitals with higher reported levels of patient satisfaction also claiming high levels of patient loyalty and retention (Prakash, 2010).

According to Motwani & Shrimali (2014), with the growing importance of service marketing mix, hospital administrators are becoming increasingly marketing oriented. Hospital administrators are keen to identify the factors which may affect patients' decision selection of hospital. They also identified that in hospital service price transparency, placing hospital services at convenient location of patients, behavior of medical staff, tangibility and process through technology plays important role in differentiating services from competitors.

The Kenyan health sector comprises of the public system, with major players including the Ministry of Health (MOH) and parastatal organisations,



and the private sector, which includes private for-profit, NGO, and FBO facilities. Health services are provided through a network of over 4,700 health facilities countrywide, with the public sector system accounting for about 51 percent of these facilities. The public health system consists of the following levels of health facilities: national referral hospitals, provincial general hospitals, district hospitals, health centres, and dispensaries. National referral hospitals are at the apex of the health care system, providing sophisticated diagnostic, therapeutic, and rehabilitative services. The two national referral hospitals are Kenyatta National Hospital in Nairobi and Moi Referral and Teaching Hospital in Eldoret. The equivalent private referral hospitals are Nairobi Hospital and Aga Khan Hospital in Nairobi. Provincial hospitals act as referral hospitals to their district hospitals. They also provide very specialized care. The provincial level acts as an intermediary between the national central level and the districts. They populations and between districts and provinces (66 percent of the population of Western Province is below the poverty line, compared with 46 percent in Central Province). They are related to gender, education and disability. The goal to reduce health inequalities can only be achieved effectively by involving the population itself in decisions on priority setting and consequently in the allocation of the resources. (MOH, 2010).

## STATEMENT OF THE PROBLEM

The aim of any private enterprise is to make a profit. Private hospitals are businesses that endeavor to offer health services at a quality reasonable profit. A number of marketing strategies (such as hospital accessibility), have been adopted in order to attract clients to receive health services from private hospitals. However, despite such initiatives, it remains unclear whether potential clients consider these initiatives in their demand of a health service provider. Hence it is important to establish the determinants of consumer preferences for health services among private hospitals in Kenya. According to Brelje (2015), little research has been done in an effort to pinpoint which factors, if any, hold greater weight in individuals' choice of health care institution or provider. Others studies like Sirisinsuk, Fungladda, Sighasivanon, Kaewkungwal, & Ratanawijitrasin (2003) have reported that the ability to provide accessible and cost-effective health services to patients depended on a thorough understanding of the factors influencing demand of health Hospital. Hence, the study aimed at establishing the determinants of consumer preferences for health services provided by private hospitals in Nakuru County.

### 1.3 Research Objective

Effects of hospital accessibility on consumer preference for health services provided by private hospitals in Nakuru County, Kenya.

### 1.4 Research Hypotheses

**H<sub>01</sub>** Hospital accessibility does not have a statistically significant influence on consumer preference for health services provided by private hospitals in Nakuru County, Kenya.

## 2.0 LITERATURE REVIEW

### 2.1 Hospital Accessibility

Hospital accessibility is considered as a critical factor for utilization of healthcare (Baker & Liu, 2006). Previous studies indicate the importance of physical access to service providers in influencing an individual's decision to choose healthcare service provider and to utilize health care services. Other previous studies acknowledge that accessibility is represented in terms of physical access of an individual to a service provider in his/her area of residence (Ager & Pepper, 2005). The associated costs of travel, the lost opportunity cost of work day pay and availability of transport mode are all interlinked to accessibility hence affecting the provider choice and utilization. Accessibility is measured as distance in earlier studies to measure its impact on healthcare utilization (Buor, 2003; Dwivedi & Sundaram, 2000). According to Melin & Granath, (2004), accessibility implies the customer's/ patient's ability to easily arrive at and depart from the service location or to experience the service without great difficulty due to effective spatial orientation and layout.

Study by Jung, Feldman, & Scanlon (2011) reveal that the effect of perceived overall reputation and availability of particular clinical services on hospital choice was much larger than the effects of quality scores, perceived cost, or non-profit status. Kotler & Clarke, (1987) argued that layout accessibility is an especially crucial element in services because of its potential effect on the customer's ability to experience and enjoy the service offering, especially through ease of ingress and egress considerations. They noted that having to stand in lines for long periods of time might even cause some customers to miss primary aspects of the service. Time access is another measure of accessibility. Melin & Granath, (2004), explain that it deals with three distinct issues: the opening hours, the length of waiting time (in the service providing waiting area) and the time between calling and having an appointment. In addition Jones (2003), places concern over lengthy waiting times in hospital and out-patient



clinics as a consistent source of dissatisfaction to patients.

Patients and visitors coming to a major medical institution have one significant non-health issue on their minds - finding the desired destination. Assistance is often needed but all too seldom found. This problem can be observed at many large medical centres. They depict access related circumstances that are both undesirable and more common than thought (Melin & Granath, 2004). The first impressions that patients and visitors have of a hospital are typically based on these activities: finding a parking space, finding the main entrance or desired door, obtaining directions (either from a staff member or from signs), and finding their way to the final destination. Long before a patient sees the physician, receives medical assistance, or benefits from the most sophisticated medical technology, the initial impression of the hospital and how helpful it is derives from access related functions (Melin & Granath, 2004).

Singh & Shah (2011) revealed that availability of good doctors, nearness to the hospitals, infrastructure of the hospital, recommendation from the friends/relatives and affordability were came out to be the most preferred reason for selecting the particular hospital. Further various researchers identified different factors that are preferably focused by patients while selecting any hospital. According to the patients important factors were found to be appropriate instructions given by the physician (McMullan *et al.*, 2004), health insurance (VafaeiNajar *et al.*, 2006), nearness to the hospital awareness of the services that patients are supposed to take delivery of, supportive surrounding (Mawajdeh *et al.*, 1997 & Heller 1982).

According to Baltussen *et al.*, (2002) provider characteristics particularly distance and waiting time (Chu-Weininger & Balkrishnan, 2006) were found to be inversely and significantly related to consumer satisfaction. The longer the distance to the nearest health Hospital, the lower the level of satisfaction associated with the choice of a given provider's services. Stated differently, proximity to health facilities increases satisfaction while longer distances reduce health care satisfaction. Similarly, longer waiting times are associated with lower levels of satisfaction.

Wan and Soifer (2012) summarized the models which were used to explain the use of health services into three major approaches. The first, used individual attributes, incorporates social and behavioural variables to predict utilization behaviour. For example, the above-mentioned Rosenstock's health-belief model, which suggests that the readiness to take health action is determined by perceived susceptibility and severity

of a health problem, perceived benefits and barriers to taking action and cause which instigate appropriate behaviour, exemplifies this approach. The second approach variables derived from organizational, economic, and ecological frameworks. The concepts of service availability, coordination, accessibility, and methods of financing refer to ecological and functional relationships between economic or community resources and the recipients of services. The third approach assumes that use behavior is a joint function of both personal attributes and organizational factors. The study however did not focus on other influencing factors such as quality of medical services.

## RESEARCH METHODOLOGY

### 3.1 Research Design

This study adopted descriptive survey design in which opinions of determinants on consumer choices were sought. The data collected was both quantitative and qualitative in nature. Kathuri & Garg (2014) describes a survey design as an attempt to According to (Orodho, (2005) this research design describes the variables as they exist. The design was appropriate for the study because data was collected at one particular point in time without manipulation of variables and this was used to determine the variables that have an effect on the consumer's demands of health services.

### 3.2 Area of Study

Private hospitals in Nakuru County are 9 within the Central business centre which offer a wide range of health services (Local Authority Business Register, 2016). The proposed study was undertaken among these private hospitals in Nakuru County, Kenya. The main economic activity of the residents in the town and its environs is business and agriculture. The location of the study was chosen because the consideration of the consumers while choosing services offered by these health service providers. These services varied from one private hospital to another thus giving different preference to the consumers (patients) because of their demographics, accessibility, service quality and cost.

### 3.3 Target Population

Surbhi (2017) defines a population or universe as the aggregate of all the elements. A population must be defined in terms of elements (patients). Assuming all patients beds are occupied, the study only focused on the 9 Private hospitals in Nakuru which offer in patient services. The study was conducted amongst a population of 206 in-patients assuming all the bed capacity is occupied. The study considered the determinants of consumer preferences of health services provided by private hospitals in Nakuru



County, Kenya in year 2016 between the months of August to October. Nakuru town was chosen because of the larger number of private hospitals and also a place where the county administration is based. The researcher conducted the research to give an

understanding of the determinants of demand of health services provided by private hospitals in Nakuru County, Kenya. The accessible population is summarized in Table 1

**Table 1: Summary of the bed capacity in private hospitals in Nakuru County**

Private Hospitals	Population
Valley Hospital	25
Nakuru War Memorial	36
Nakuru Nursing & maternity Home	30
Mediheal Hospital	20
The Nairobi Women	15
St. Elizabeth Medical Centre	10
Evans Sunrise Medical Centre	40
Baraka Maternity & nursing Home	15
Crater Medical Centre	15
<b>TOTAL</b>	<b>206</b>

Source: Local Authority Business Register, 2016

### 3.5 Sample Size and Sampling Procedure

Purposive sampling was used to select the desired sample from the population that was involved in the study on the private hospitals in Nakuru County offering a wide range of health services. The method was also used for sampling the respondents (in-patients with minor ailments who were able to fill the instrument) who were expected to provide information on service quality. The customers (patients) and more specifically the in-patients gave information on their customer demographics, hospital accessibility, service quality and hospital service cost in relation to their demands on the private hospitals. The rationale behind this was to ensure that only private hospitals with well-established facilities and have been in operation for a reasonable period of time to take part in the study. The sample size (n) of the study was determined using Israel (1992) as shown in the equation 1 below:

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{206}{1 + 206(0.05)^2} = 136$$

Where;

n = optimum sample size,

N = number of bed capacity in private hospitals,

e = probability of error (i.e., the desired precision, e.g., 0.05 for 95% confidence level).

Nakuru County, the sample size was the in-patient on their demand of health care providers. Stratified sampling techniques were used to ensure that all hospitals (private) are included in the study. Convenience sampling techniques was used to determine the number of in-patients with minor ailments with assistance from the hospital staff. The patients were selected purposely provided they were willing to give information on the determinants of their demand to the health providers. The distribution of the sample is given in Table 2.

**Table 2: Sample Size of the Respondents**

Private Hospitals	Population	Sampled Patients
Nakuru War Memorial	36	24
Nakuru Nursing & maternity Home	30	19
Mediheal Hospital	20	13
The Nairobi Women	15	10
St. Elizabeth Medical Centre	10	7
Evans Sunrise Medical Centre	40	26
Baraka Maternity & nursing Home	15	10
Crater Medical Centre	15	10
<b>Total</b>	<b>206</b>	<b>136</b>





### 3.6 Instrumentation

Customers' questionnaire was used to generate the required data. Section A of the instrument captured the respondents' bio-data whereas section B and C elicited data on determinants of consumer preferences of health services provided by private hospitals in Nakuru County, Kenya. Data collection tool was constructed using close ended Likert type statements (items).

### 3.7 Validity and Reliability of Research Instruments

Validity is the degree to which a test measures what it purports to measure (Orodho, 2005). It is also used to check whether an instrument is biased, the language, format and the layout of the data collection tool is appropriate (Kasomo, 2006). Before the actual study the customers (in-patients) will be checked for content and construct validity. Content validity ensures that the items in the data collection tool cover the subject area adequately whereas construct validity on the other hand ensures that the instrument actually measures what it is supposed to measure (Fraenkel & Wallen, (2000). Experts from the department of Business Administration, Kabarak University through the supervisor assisted in validating the instruments. Their comments were used to improve the instruments before the actual data collection.

According to Mugenda & Mugenda (2007) reliability is the ability of an instrument to yield the same results when used repeatedly to collect data from the same group. The customers' questionnaire was piloted for reliability using a sample of 20 inpatients drawn from the private hospitals in Nakuru County which did not take part in the actual study. The Cronbach alpha method was used to estimate the reliability coefficient of the data collection tool. This method was appropriate in situations where a tool is administered once (Kothari, 2004). The instruments yielded a reliability coefficient of 0.78 which was acceptable as recommended by Frankel & Wallen (2000).

### 3.8 Data Collection Procedure

The researcher sought a research permit through Post- Graduate School, Kabarak University. Once the permit was granted the researcher formally contacted the customers through their respective private hospitals. The researcher explained to respondents the purpose of

the study and sought their consent to participate in the research. The dates and venues for administering the questionnaires were set. The respondents were briefed on how to fill the questionnaires before they are administered. Each respondent were given a questionnaire which he/she was to fill where drop and pick method was employed.

### 3.9 Data Analysis and Presentation

Collected data was organised, cleaned and coded, coded data was keyed into a computer and analysed with the aid of the Statistical Package for Social Sciences (SPSS) V.20. Qualitative data were analysed and presented using frequencies and percentages. Descriptive statistics which included frequency distribution tables and inferential statistics tables were used to present data. Inferential statistics were employed using multiple regression in testing the relationship between independent variables and the dependent variable. Pearson Correlation was used to test research hypotheses at 0.05 significance level.

The study employed the following regression model

$$Y = a + \beta_1 X_1 + \epsilon_i$$

Y = Consumer preferences on health service providers

a = Intercept term

$\beta_1, \beta_2, \beta_3$  and  $\beta_4$  = Slope Coefficients

$X_1$  = Hospital Accessibility

$\epsilon_i$  = Error term which assumes to be normally distributed

## 4.0 RESULTS AND DISCUSSIONS

### 4.1 Hospital Accessibility and Consumer Preference for health services

The distance between the hospital and the patient's residence are considered as measures of accessibility to health care. Health care organisations, whose products are primarily' services, must consider three distribution decisions: physical access, time access, and information all and promotional access. Table 3 shows that the respondents are affected by distance to a great extent (43.3%), moderate extent (31.7%), little extent (15.4%), very great extent (5.8%) and no extent (3.8%). This finding implies that consumers consider factors like physical access, time access, and information all and promotional access when making preference on which private hospital to attend to.

**Table 3: Cumulative Descriptive Percentage on Hospital Accessibility**

Response	Frequency	Percentage
Very Great Extent	6	5.8
Great Extent	45	43.3
Moderate Extent	33	31.7
Little Extent	16	15.4
No Extent	4	3.8
<b>Total</b>	<b>104</b>	<b>100</b>

The study findings are in agreement with Melin & Granath, (2004) who acknowledges that hospital accessibility implies the customer's/ patient's ability to easily arrive at and depart from the service location or to experience the service without great difficulty due to effective spatial orientation and layout. Also Singh & Shah (2011) found out that availability of good doctors, nearness to the hospitals, infrastructure of the hospital, recommendation from the friends/relatives and

affordability came out to be the most preferred reason for selecting the particular hospital which agrees with the findings for the study.

#### 4.2 Correlation between Hospital Accessibility and Consumer Preference for Health Services

H<sub>02</sub>: Hospital accessibility does not have a significant influence on consumer preferences for health services provided by private hospitals in Nakuru County, Kenya

**Table 4: Pearson Correlation Coefficient between Effects Hospital Accessibility on Consumer Choice**

Variables		Hospital Accessibility	Consumer Preference
Accessibility	Pearson Correlation	1	.367**
	Sig. (2-tailed)		.002
	N	104	104
Consumer Pref	Pearson Correlation	.367**	1
	Sig. (2-tailed)	.002	
	N	104	104

\*\* . Correlation is significant at the 0.05 level (2-tailed).

From Table 4, the results reveal that there is a relatively weak positive relationship between hospital accessibility and consumer preference ( $r = 0.367$ ,  $p < 0.05$ ). Hypothesis states that accessibility does not have a significant influence on consumer preferences of health services provided by private hospitals in Nakuru County, Kenya. The researcher accepts the alternative hypothesis (H<sub>a</sub>) and concludes that there is sufficient evidence, at 5% level of significance that there is a positive relationship between hospital accessibility and

consumer preference of health services provided by private hospitals in Nakuru County, Kenya. Hospital accessibility is an important issue most. Generally, patients are averse to travel time and prefer a provider that is close.

#### 4.3 Regression Results

Table 5 indicates the regression result of consumer preference and the explanatory variables.

**Table 5: Regression Result of Consumer Preference and the Explanatory Variables**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.345	.334		1.033	.304		
Hospital Accessibility	.109	.111	.090	.978	.031	.726	1.378

a. Dependent Variable: Consumer preference

The regression model for the regression was



$$Y = a + \beta_1 X_1 + \varepsilon_i$$

$$\text{Consumer preference} = 0.345 + 0.109X_1 + 0.334$$

Regression results in table 5 indicated that hospital accessibility was also found to have a positive relationship which is statistically significant with consumer preference ( $\beta = 0.109$ ,  $P < 0.05$ ). Given that the p value was 0.031, a value less than 0.05 the test significance level, the research hypothesis which read that "Hospital accessibility does not have a statistically significant influence on consumer preference for health services provided by private hospitals in Nakuru County, Kenya" was rejected. This implied that hospital accessibility has a statistically significant influence on consumer preference.

## 5.0 SUMMARY, CONCLUSION AND RECOMMENDATION

### 5.1 Summary

The results show that hospital accessibility was a critical factor influencing the consumer preference for services offered in private hospitals. Consumers were concerned with access to the hospital as well as access to the services offered. The results indicate that the patients considered the hospital location, time spent in the hospital, information access and promotional activities when making choices on whichever private health care to attend.

The results reveal that there is a relatively weak positive relationship between Hospital accessibility and consumer preference ( $r = 0.367$ ,  $p < 0.05$ ) and statistically significant indicating a positive association between the two variables.

### 5.2 Conclusions

It can be concluded that the effects of hospital accessibility has a significant effect on consumer preference for health service provider on private hospitals in Nakuru county Kenya. This was articulated by hospital location, time spent in the hospital, information access and promotional activities.

### 5.3 Recommendations

The hospital management should consider mobilising resources for scaling up supportive infrastructure that promote accessibility to quality services. Such may include investment in latest medical equipment.

The management should also consider organizing update trainings through workshops on the essence of timeliness in service provision as a way of promoting hospital accessibility and subsequently customer preference for the services provided in the facility.

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