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DETERMINANTS OF HEALTHCARE PROVISION IN PUBLIC FACILITIES: A CASE OF NAKURU COUNTY, KENYA

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Abstract

Health in Vision 2030 targets improvement of infrastructure, healthcare financing, management style including devolution, ICT, procurement processes, training and basic sanitation. Most of these processes are taking longer than expected time to achieve, especially after the failure by the country to achieve fully the Millennium Development Goals which were laid down by the United Nations. This has prompted a study on Determinants of Healthcare Provision in Public Facilities in Nakuru County, Kenya. This study identified four aspects of the system which included management style, IT, training of health practitioners and resource allocation. The objectives of the study are to understand how these four factors influence healthcare provision in selected facilities. Data was collected by use of a structured questionnaire from 74 sampled Administration staff, Pharmacists, Procurement officers, financial officers, IT support staff and nurses across 36 health facilities in Nakuru County. A stratified random sampling technique was used to achieve the desired representation of the various subgroups within the population and simple random sampling was applied to identify respondents from the facilities. Data was analyzed through inferential statistics using SPSS. The study found out that training and delivery of health services are positively and significant related (r=0.245, p=0.036), management style and delivery of health services are positively and significant related (r=0.364, p=0.011). It was further established that information and technology and delivery of health services were positively and significantly related (r=0.234, p=0.030) while resource allocation

and delivery of health services were also positively and significantly related (r=0.139, p=0.021). Based on the findings and conclusion, the study recommend that public facilities needs to adopt favorable training program since it was found to have positive and significant effect on healthcare provision The study recommends facilities to have a good management style that will ensure that management is effective; one of these is to embrace a good communication channel where issues can be addressed soberly and amicably.

Keywords: Training, Management, Resource allocation, Public facilities, Kenya

INTRODUCTION

Services delivery is defined by International Organization for Standardization (ISO) as a relative concept and if the inherent characteristic of a service meets the requirements of the patient, it can be rated as high quality (Reinartz, 2004). Most countries world over have made health as a right to their respective citizens. While high and some middle income countries have made this a reality by providing universal health coverage to all, most low income countries still have enormous challenges and barriers towards achieving quality health care for all. Part of this challenge is inequitable resource allocation towards health care across geographic and socioeconomic levels. The need to improve service delivery is gaining prominence worldwide. Service delivery is crucial since clients tend to seek out high quality services in the first place and are more likely to complete the treatments that they receive (Brook et al., 2000). In Kenya, enhancing the quality of care is a priority in health reforms (Ministry of Medical Services (MoMS, 2008).Most people with great need for healthcare have the greatest difficulty in accessing health services and least likely to have their health met (Balarajan et al, 2011). This situation is further worsened by the patients or customers perception of functional issues which they perceive and interact with during the course of seeking treatment such as physical facilities, internal process; interactions with doctors, nurses and other support staff as poor and unresponsive (Boshoff & Gray, 2004; Algılananhizmet & Connor , 2003). Quality in health service may comprise of newer technology, newer and effective medication, and better staff to patient ratios, affordability, efficiency and effectiveness of service delivery (Tam, 2005). The global community recognizes that health is central to the global agenda of reducing poverty as well as an important measure of human well-being. Better health contributes not only to broad economic development, but also to the achievement of Millennium Development Goals (MDGs) three of the eight MDG's – reducing child mortality, improving maternal health and enhancing fight against HIV/AIDS, malaria and other diseases- are health specific (Reinartz, 2004). In addition, good health makes

an acknowledged contribution to the achievement of all other goals, in particular those related to the eradication of extreme poverty and hunger, education and gender equality. Most importantly health goals also focus on problems which disproportionately affect the poor. Building and strengthening health systems are therefore crucial to make progress towards the MDGs and other national goals (Louma *et al*, 2010).

Most developing countries, including Kenya recognize that good health is a prerequisite to socioeconomic development. Since independence the government of Kenya has designed and implemented polices aimed at promoting access to modern healthcare in an attempt to attain its long term objective of health for all. In a number of policy documents, it has set forth the provision of health services should meet the basic needs of population, be geared to providing health services within easy reach of Kenyans and place emphasis upon preventive, promotive and rehabilitative services without ignoring curative services.

As stated in the Economic Recovery Strategy for Wealth and Employment Creation (ERSWEC 2003-7) and vision 2030, the government is determined to provide “equitable and affordable healthcare at the highest affordable standard” to her citizens. It is important to note that good health plays an important role in boosting the human capacity to be productive thus enhancing economic growth, eradication of poverty and realization of other goals.

THEORETICAL FRAMEWORK

This section discusses various theories relating to the governmental resource allocation and how budgetary allocation needs to be accounted for under the various standards. It also involves equity theory.

Kurt Lewin Theory

Kurt Lewin Theory was propagated by Kurt Lewin in 1890. Kurt Lewin developed a change model as a three-stage process. The first stage he called "unfreezing" which involves overcoming inertia and dismantling the existing "mind set". It must be part of surviving. Defense mechanisms have to be bypassed. In the second stage the change occurs. This is typically a period of confusion and transition. The third and final stage he called "freezing". The new mindset is crystallizing and one's comfort level is returning to previous levels.

This study was guided by Kurt Lewins theory of change which gives direction on the process of doing things differently to ensure sustainability and efficiency in an organization (Marr *et al*, 2004). The Kurt Lewin change theory model is based around three step process which are Unfreeze, Change and Freeze that provides a high level approach to change.

It gives a manager or other change agents a framework to implement a change effort, which is always very sensitive and must be made as seamless as possible. The Kurt Lewin model can help a leader do the following three steps: Make a radical change, minimizing the disruption of the structure's operations and making sure that the change is adopted permanently.

The change theory can be well adopted by the various arm of government to ensure that the devolution of health services to the grassroots is well executed, operational and function to the greater good of the people. The changes will come with resistance due to the initial centralized system but with good understanding of the process of change, most administrators will be able to pass this through to their team members in terms of change in management style, implementation of IT, regular training and streamlining the procurement process.

When a structure has been in place for a while, habits and routine have naturally settled in. The organization as a whole is going in the right direction, but people or processes may have strayed off course. Unfreezing means getting people to gain perspective on their day-to-day activities, unlearn their bad habits, and open up to new ways of reaching their objectives. Basically, the current practices and processes have to be reassessed in order for the wheels of change to be set in motion. Once team members have opened up their minds, change can start. The change process can be a very dynamic one and, if it is to be effective, it will probably take some time and involve a transition period. In order to gain efficiency, people will have to take on new tasks and responsibilities, which entails a learning curve that will at first slow the organization down.

Change will only reach its full effect if it's made permanent. Once the organizational changes have been made and the structure has regained its effectiveness, every effort should be made to cement them and make sure the new organization become the standard. Lewin extended his theory by including "force field analysis" which offers direction for diagnosing situations and managing change within organizations and communities. Lewin assumed that in any situation there are both driving and restraining forces that influence any change that may occur. According to Lewin's theory, human behavior is caused by forces like beliefs, expectations, cultural norms, and the likes within the life space of an individual or society. These forces can be positive, urging us toward a behavior, or negative, propelling us away from a beneficial behavior therefore any organization must balance these behaviors in order to ensure optimal service to its clients.

Resource based View Theory

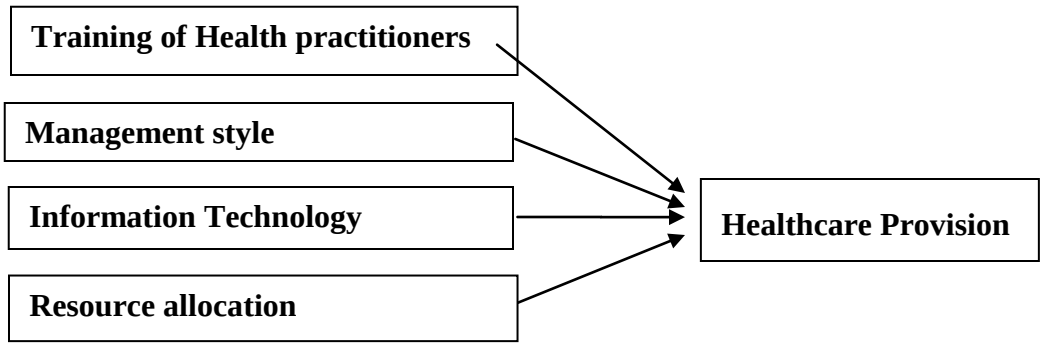
Resource based View Theory was propagated by Penrose in 1959. Resource-based view (RBV) has emerged as one of the substantial theories of strategic management (Barney, 1986)

it is said that it has overlooked the role of entrepreneurial strategies and entrepreneurial abilities as one of the crucial sources of the competitive advantage of a firm.

The resource-based view argues that firms possess resources, a subset of which enables them to achieve competitive advantage, and a further subset which leads to superior long-term performance (Barney 1991; Grant 1991; Penrose1959; Wernerfelt 1984).The link between IS resources and firm performance has been investigated by a number of researchers. Mata et al. (1995) used resource-based arguments to suggest that five key IS drivers, customer switching costs, access to capital, proprietary technology, technical IT skills, and managerial IT skills lead to sustained competitive advantage. Wright et al. (2001) pointed out that the RBV has played a key role in legitimating the relevance of HRM to strategic management.

The RBV suggests that the resources possessed by a firm are the primary determinants of its performance, and these may contribute to a sustainable competitive advantage of the firm (Hoffer &Schendel, 1978; Wenerfelt, 1984). According to Barney (1991), the concept of resources includes all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness (Barney, 1991). Amit &Schoemaker (1993) define resources as stocks of available factors that are owned or controlled by the firm, which are converted into final products or services.While resources are the source of a firm's capabilities, capabilities are the main source of its competitive advantage (Grant, 1991).

Figure 1. Conceptual Framework



EMPIRICAL LITERATURE REVIEW

Training of health practitioners

Gupta *et al* (2009) argue that shortage of skilled staff is a stumbling block to delivery of devolved health services. The new organizational structures and staffing levels may require a quantity of technically trained health staff, especially managers that the country simply does not

possess. In some countries, the shortage is made worse by the reluctance of highly skilled health workers, such as doctors, to move out of the capital city. In countries, where expatriate staff is recruited for government positions to compensate for this shortage, these workers face both considerable obstacles to maintaining the technical quality of their work, such as their limited knowledge of local languages and culture, and potentially also resentment by some of their national colleagues (Gupta *et al*, 2007).

Management style

According to Vidmar, (2014) the sub county level indicated that health sector commitment to equity exists in theory but more often than not it doesn't arise in the resource allocation process. For example, at the central level one interviewee noted that "Kenya is still far away from equity. We document it, yes, but we put it aside when it comes to the resource allocation process". The study also noted that resource allocation followed the forces of supply and demand, with provinces which have more facilities getting larger share of resources than those with few facilities.

Mwamuye, &Nyamu (2012) conducted a study ondevolution of health care system in Kenya in Mombasa County, Kenya. The study analyzed the dynamics of health care devolution in Kenya within the context of the new constitution, and in particular Mombasa County. The paper looks into how the present level of health devolution can strategically be implemented within the county, and the factors involved in improving health service delivery in the counties under the devolved set up.

Information Technology

Previous researches have been used as the basis of building a conceptual framework for this study. In Bangladesh, a project with a different level of scale was developed to register, schedule and track immunization of children. Based in the city of Rajashahi, a computerized system was introduced to replace a manual record keeping system (Ahmed, 2004). Over a period of three years, the new system was able to increase immunization rates from around 40% to over 80%. A critical element of the success of this intervention was that it was designed to meet the interests and needs and provide tangible benefits to a number of different stakeholders. It reduced the time health workers spent searching records; it made it easier for managerial staff to supervise the immunization system and monitor performance; it improved immunization protection for children and ultimately their health, a positive benefit for the families reached by the system

Resource allocation

Bosset et al, (2013) did a study to investigate the relation between decentralization and equity of resource allocation in Colombia and Chile. The findings suggested that decentralization, under certain conditions and with some specific policy mechanisms, can improve equity of resource allocation. In these countries, equitable levels of per capita financial allocations at the municipal level were achieved through different forms of decentralization: the use of allocation formulae, adequate local funding choices and horizontal equity funds. Findings on equity of utilization of services were less consistent, but they did show that increased levels of funding were associated with increased utilization.

This suggests that improved equity of funding over time might reduce inequities of service utilization. In Chile, the pattern of allocation of national sources of funds was highly skewed in favour of the wealthier municipalities in terms of local revenues before decentralization.

Research Gaps

From the literature review, most studies have focused on factors affecting healthcare provision in private health facilities and not on the government facilities and those that have done so have focused on Nairobi County. No similar studies have also been carried out within Nakuru County and populations of different regions differ in terms of economic, political and social life. This study intended to fill these research gaps as it addresses these issues.

RESEARCH METHODOLOGY

Research Design

This study involved the use of descriptive approach, and quantitative and analytical analysis. According to Upagade and Shende (2013) a descriptive survey is mainly concerned with describing facts from the field study. It is a self-report that requires collection of equitable information from the sample selected (Orodho, 2005).

Target Population and Sampling

William (2003) describes a population as any complete group, and a population element refers to an individual member of the population. Burns and Grove (2003) describe a target population as the entire aggregation of respondents that meet the designated set of given criteria. The target population for this study included 73 dispensaries, 32 health centers and 13 sub county hospitals.

74 Administration staff, Pharmacists, Procurement officers, financial officers, IT support staff and nurses across 36 health facilities in Nakuru County were sampled. A stratified random sampling technique was used to achieve the desired representation of the various subgroups within the population and simple random sampling was applied to identify respondents from the facilities.

Table 1. Study Population

Health Facilities	Number of health facilities
Dispensaries	73
Health Centers	32
Sub county hospitals	13
Total	**118**

Data Collection Instruments and Procedure

Primary data was collected using a structured questionnaire developed to answer to the study objectives. A structured questionnaire is preferred in this study because since it offers an effective way of collecting information from large samples in a short period of time and at a reduced cost. Additionally, a questionnaire facilitates easier coding and analysis of data collected.

The responses were measured on an ordinal (Likert) scale for the closed ended questions. Likert scale is an interval scale that specifically uses five anchors of strongly disagrees, disagree, neutral, agree and strongly agree. The Likert scale has scales that assist in converting the qualitative responses into quantitative values (Mugenda & Mugenda, 2003, Upagade & Shende, 2012).

Study questionnaire was self-administered by the respondents. The methods of administration was appropriate for the study because of the diverse experiences and roles the respondents had with respect to utilizing data for decision making, the huge spread of the facilities in the population, cost effectiveness and for increased chances for a higher response rate.

RESULTS AND DISCUSSIONS

Correlation Analysis

Table 1 presents the correlation coefficients for the study variables.

Table 1. Correlation Analysis

		Delivery of health services	Training	management style	IT	Resource allocation
Delivery of health services	Pearson Correlation	1.000				
	Sig. (2-tailed)					
Training	Pearson Correlation	.440**	1.000			
	Sig. (2-tailed)	0.003				
management style	Pearson Correlation	.568**	.331*	1.000		
	Sig. (2-tailed)	0.000	0.026			
IT	Pearson Correlation	.375*	0.124	0.186	1.000	
	Sig. (2-tailed)	0.011	0.416	0.221		
Resource allocation	Pearson Correlation	.388**	0.156	.449**	0.088	1.000
	Sig. (2-tailed)	0.008	0.306	0.002	0.565	

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

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

Regression Analysis

The results presented in table 2 present the fitness of model used of the regression model in explaining the study phenomena. Training, management style, IT and resource allocation were found to be satisfactory variables in explaining the delivery of healthcare services. This is supported by coefficient of determination also known as the R square of 48.1%. This means that Training, management style, IT and resource allocation explain 48.1% of the variations in the dependent variable which is delivery of healthcare services in the public sector. This results further means that the model applied to link the relationship of the variables was satisfactory.

Table 2. Model Fitness

Indicator	Coefficient
R	0.693
R Square	0.481
Adjusted R Square	0.429
Std. Error of the Estimate	0.3767297

Further, the results imply that the independent variables are good predictors of delivery of healthcare services. This was supported by an F statistic of 9.25 and the reported p value (0.000) which was less than the conventional probability of 0.05 significance level.

Table 3. Analysis of Variance

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	5.251	4	1.313	9.25	0.000
Residual	5.677	40	0.142		
Total	10.928	44			

Regression of coefficients results in table 4 shows that training and delivery of health services are positively and significant related (r=0.245, p=0.036). The table further indicates that management style and delivery of health services are positively and significant related (r=0.364, p=0.011). It was further established that information and technology and delivery of health services were positively and significantly related (r=0.234, p=0.030) while resource allocation and delivery of health services were also positively and significantly related (r=0.139, p=0.021)

Table 5. Regression of Coefficients

Variable	B	Std. Error	t	Sig.
(Constant)	1.242	0.629	0.385	0.702
Training	0.245	0.112	2.176	0.036
Management style	0.364	0.137	2.663	0.011
Information Technology	0.234	0.104	2.246	0.030
Resource allocation	0.139	0.109	1.275	0.021

Thus, the optimal model for the study is;

Delivery of healthcare services = $1.242 + 0.245\ X_1 + 0.364\ X_2 + 0.234\ X_3 + 0.139$

CONCLUSIONS AND RECOMMENDATIONS

The first objective of the study was to determine the effect of training of health practitioners in the provision of healthcare in public facilities in Nakuru County. The findings from the regression results revealed that training of health practitioners have a positive and significant effect on healthcare provision. This is also supported by the majority of respondents who responded that training influences healthcare provision. This means that a favorable training leads to an improvement in healthcare provision.

The second objective of the study was to determine the effect of management style on the provision of healthcare in public facilities in Nakuru County. The findings from the regression results revealed that management style has a positive and significant effect on healthcare provision. This is also supported by the majority of respondents who responded in their opinion that management style influences healthcare provision. This means that a favorable management style leads to an improvement in healthcare provision.

The findings from the regression results revealed that IT has a positive and significant effect on Healthcare provision. This is also supported by the majority of respondents who responded in their opinion that IT influences healthcare provision. This means that the use of IT in the facilities leads to an improvement in Healthcare provision. The use of IT in healthcare will make service delivery efficient and this improves service delivery. By having an IT policy it will help in the automation of all health records and general activities of the facility hence efficiency. The findings from the regression results further revealed that resource allocation has a positive and significant effect on healthcare provision. This is also supported by the majority of respondents who responded in their opinion that resource allocation influences healthcare provision. This means that good allocation of resources leads to an improvement in healthcare provision.

SCOPE FOR FURTHER STUDY

The study sought to find the determinants of healthcare provision in public facilities**:** case of Nakuru County. This called for the analysis of public facilities, thus area for further studies could consider the same study to be conducted but on private facilities for the purposes of making a comparison of the findings with those of the current study. Other scholars should also conduct the same study on a different county or other countries to establish the determinants of healthcare provision. The same study could also be done and perhaps use other variables other than the one done in the study

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