

Funding Mechanisms on Quality of Healthcare Projects in Kenya: A Case of Ward-Level Prioritized Healthcare Projects in Keiyo South Sub-County, Elgeyo Marakwet County

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Abstract: Good health is a primary concern for all nations globally and therefore countries worldwide strive towards coming up with well-thought-out healthcare systems which guarantees citizens healthy lives as well as advocate for and promote wellbeing for everyone. Constitution of Kenya, 2010, indicated right to health as one of the basic human rights that should never be compromised at all cost. The research therefore sought to evaluate the influence of funding mechanisms on quality of healthcare projects in Kenya: A case of ward-level prioritized healthcare projects in Keiyo South Sub-County. The research adopted Equity of Access to Healthcare Theory. The research made use of descriptive research and correlation research designs with a target population of 500 persons and a sample size of 208 persons determined using Silverman's formula. Interview guides and questionnaires were used in data collection. The results were analyzed and presented in form of mean, percentages, frequencies and standard deviation whereas inferential statistics made use of Pearson Correlation to display the strength and direction of the relationship among the predictor and response variable. ANOVA was used to establish the goodness of fit of the linear regression model. A conclusion was made that funding mechanisms at county level have a big influence on quality of healthcare projects. The research recommended use of expert-guided public participation meetings during project's prioritization. The research further recommended that the National Treasury & Planning should always give top priority to the county governments when it comes to the release of funds to them so as to ensure that there is smooth operations at the counties.

Key Words: funding mechanisms, healthcare, quality

I. INTRODUCTION

Background of the Study

Nations globally strive to ensure that their citizens are able to have universal access to healthcare. In the year 2015, the UN General Assembly developed a new development blue print that aimed at transforming the world through the introduction of the 2030 Agenda. The goal set out in the agenda is to have an healthcare system which guarantee people healthy lives as well as advocate for and promote wellbeing for everyone. The 2030 Vision for Sustainable Development recognizes and appreciates the pressing need to put quality of care in the center

of global, regional, and national policy frameworks and plans (Wangia & Kandie, 2019).

According to World Health Organization (WHO) report of 2018, Africa has recorded quite impressive improvement in health care service provision. However, the sustainability of the gains met can only be realized if countries give priority to the people who need the health services the most and deliver the most needed essential services equitably. Mulaki & Muchiri (2019), pointed out in a study of Kenya Health System Assessment that there are inadequate health experts and the few that are available are not distributed equitably and more so to the more deserving areas bringing about inequalities in terms of access to quality medical care. Similarly, the study pointed out that devolved governments do not have the requisite expertise to effectively oversight healthcare workers. According to a report by the International Rescue Committee (IRC, 2015), only 63% of the Kenyans are able to get to a public hospital, health centre or dispensary within an hour away from their homes. The gap in distribution of health facilities in counties is still huge and more so in rural counties. Around 50% of the 47 county governments in Kenya have one health facility for every 10,000 catchment population and less than 4.2 health facilities for every 100km² (Kimathi, 2017).

According to EMC County Health Strategic & Investment Plan(CHSIP) for the period 2017-2022, most people in the county still lack access to affordable healthcare with an estimated 52% of the residents being within 5 kilometer radius to the health facility. Mortality rates are still high particularly among women and children. The ratio of doctor to patient in the county is 1:8000 whereas a nurse to patient ratio is 1:1000 (EMC, 2018).

Statement of the Problem

Quality healthcare provision to citizens is a top priority for most nations globally; and countries have continuously increased allocation of funds towards its financing. In Kenya, there has been significant improvements in the quality of healthcare service delivery post devolution though there still exist some teething challenges. One of the notable challenge is late

disbursement of monies by the National Government to the devolved units which has adversely affected the daily operations of counties such as payment of salaries, suppliers, and implementation of county's work plans, programs and development projects (Kipsaat & Mbatia, 2020). Health facilities are unevenly spread across all the 47 counties, with the rural counties being the most affected (Noor *et.al.*, 2006). Mwai *et.al.* (2014), in their assessment on county's health preparedness in Kenya, found out that close to 50% of the 47 county governments have less than 2 hospitals for every 10,000 persons and not more than 4.2 hospitals for every 100km². Counties in the remote and marginalized areas will take longer time to develop since the national government does not allocate sufficient resources to assure a basic level of service delivery to its citizens (World bank, 2011).

In 2015, Elgeyo Marakwet County Assembly passed Equitable Development Act (EDA) which aims at ensuring that there is equal and equitable apportionment of resources for development projects across the 20 wards in the county by allocating 60% of the development funds to the wards directly and project's prioritization to be done strictly by the locals during public participation meetings although sometimes regions which are considered very remote are never represented in those meetings hence are disadvantaged. In the 2020/21 financial year, EMC Annual Development Plan (ADP) indicated that the county's health department is still faced with poor infrastructural development with primary care units not sufficiently equipped to provide all the needed services which have continuously hindered efficient and timely delivery of health services. In addition, shortages of staff across most cadres have left existing staff with heavy workload (ADP, 2019). The KDHS 2014 report revealed that 35% of deliveries in EMC take place outside health facilities by unskilled birth attendants (KDHS, 2014).

According to EMC 2017-2022 CHSIP, there is no infrastructure planned targeting the most remote and hard-to-access areas other than motorbike and commodity kits. It also revealed that although health facilities that have been constructed in EMC from 2013-2018 have increased from 83 to 129, over half of dispensaries and health centres have broken-down infrastructure especially the ones whose construction dates back to early 1980s. The distribution of health infrastructure is skewed, with some areas especially in the remote and hard-to-access areas of the county are facing significant gaps while others especially in the highlands and urban areas have surplus.

It is for this reason that this study investigated the influence of funding mechanisms on quality of healthcare projects focusing mainly on healthcare projects prioritized at the ward-level.

Objective of the Study

The objective of the research was to establish how funding mechanisms at the county level influence the quality of healthcare projects in Keiyo South Sub-County, Elgeyo Marakwet County.

Research Hypothesis

The study tested the following Null hypothesis:

H₀₁: There is no significant influence of funding mechanisms at the county level on quality of healthcare projects in Keiyo South Sub-County, Elgeyo Marakwet County.

II. LITERATURE REVIEW

Funding Mechanisms

Healthcare expenditures in many countries have increased enormously in the past decade. Conversely, it has been noted that there has been huge differences across countries in terms of levels of expenditure and trends in different periods. Because of their capacity, high-income countries spend twice as much of their income on healthcare as compared to less developed and developing countries but the trend in less developed and developing countries has been changing over time as is reflected in gradual increase of funds allocated towards financing healthcare. In this 21st century, developing countries have been greatly boosted by development partners to better their healthcare systems. The financial support provided by development partners that goes towards financing healthcare in developing countries account for about 25% of the total expenditure on healthcare. The funds from development partners if prudently used have a potential of drastically reducing inequalities in health outcomes (Ospina & Roser, 2017). Netherlands for example, is the largest financier in Europe among the countries under the umbrella of OECD. System of Health Accounts report noted that in the year 2011, Netherlands spent 12% of its GDP on healthcare while Kenya in the year 2017 spent 4.8% of its GDP on healthcare (Van den Berg *et.al.*, 2014). The improvement of healthcare provision in African countries is hugely constrained by shortages in financing. To give an example of Sub-Saharan African countries whose population make up 11% of the total population in the world but their disease burden as stated by International Finance Corporation account for 24% of the global disease burden. What is more worrying is that the regions have not given healthcare the much attention it deserves as seen in their budget allocation to healthcare which is less than 1% of the total global expenditure (Miriti, 2016).

Since the promulgation of Kenya's 2010 constitution, Kenya have had a twin-tier level of government, that is, the central government and forty-seven county governments. These twin governments have brought significant changes in the way devolved functions including health are run. The national Ministry of Health (MOH) deals with development of policies and research issues and overall leadership while on the other hand the county governments have taken up the task of delivery healthcare services to Kenyans (Mulaki & Muchiri, 2019). The focus of devolution is to redistribute decision-making authority, finances and management responsibility among central government and the lower level governments (Santiso, 2001). A study comparing devolution in Indonesia and Kenya done by McCollum *et al.* (2018) indicated that devolution has

transformed power relationships leading to increased fiscal, governmental and political responsibilities at lower level governments which has given citizens an opportunity to participate and determine the way health system should be governed.

Kenya is experiencing very noticeable challenges in financing its healthcare because of the strained and limited budget. Firstly, individuals and households from poor and vulnerable backgrounds and who are the majority are not able to get comprehensive healthcare services because majority of them are not part of healthcare scheme. The second challenge is the division of health financing systems which led to ineffectiveness and inefficiencies in service provision and investment programs. The third issue is myriad of challenges around health systems and public governance; outstanding among these is lack of a working quality assurance mechanisms, ineffective corporate governance as well as accountability mechanisms (Gimoi, 2017).

International Budget Partnership (IBP) report for Kenya in 2019 noted that cash flow transfer by the national government to counties remain a challenge. Counties rely heavily on the national transfers which in most cases are received late in the financial year leaving little time to spend before the books are closed. Health budgets were found to be consistently underspent in most counties. Counties also revealed poor budget formulation and management practices. Kenya’s counties over-budget for expenditure and are too optimistic about the revenues and this has been found to cripple down counties development budgets. Late approval of county policies by the County Assembly also is found to slow down the budget implementation. The Public Finance Management(PFM) Act requires that any public funds designated by the county should be created through policies that have been approved by the County Assembly (Lakin & Kinuthia, 2019). The spirit of the Kenyan constitution that talks about monies following functions should be actualized by the national government. To ensure that county projects run uninterrupted, the national government ought to release enough funds to the county governments on time.

Theoretical Framework

In the year 2001, Goddard & Smith developed Equity of Access to Healthcare Theory. The theory came up with a general theoretical framework to be used in examining whether there is equitable access to healthcare. The theory mentions that the objective of a properly designed healthcare system is to guarantee equitable access to healthcare services by all those who are in need. The policy makers in most advanced nations and especially in Europe apply Egalitarian principle in addressing health inequalities in their countries. Egalitarian principle states that financing of healthcare system should be done in consideration of the capacity of the patients to meet the cost and the spread of healthcare should be need-based. Despite the overall improvements in healthcare globally, evidence have shown that many third world countries are still struggling to

meet healthcare demands of their citizens. Inadequate finances in developing countries has made it difficult for the developing countries to address inequalities in access to healthcare for all because the available funds are not sufficient to fund collection of data that can show the inequities and inequalities of healthcare. Applying equity principle to healthcare in many developing countries has deeply promoted equitable access to healthcare (Manesh, 2005).

III. METHODOLOGY

The researcher made use of descriptive research design. The researcher chose this design because the study focused on a large population and a limited geographic scope. Again, this design permits collection of data from respondents in their natural setting. Moreover, the design provides an accurate depiction of the subject characteristics, meets the objectives of the study and allows generalization of the results of the research sample. The study targeted a population of 500 persons who are undertaking critical roles in the management of healthcare projects in Keiyo South Sub-County. A sample of 208 persons was obtained from this population using Silverman (2008) formula as shown below;

$$n = \frac{X^2pqN}{e^2[N - 1] + X^2pq}$$

Where:

e= Expected error

n= Sample size

N= Whole population

X= Level of significance (X=1.96)

p= Probability that an individual has the characteristics or outcome being studied (p=0.5)

q= Probability that an individual does not have the features being studied (p=0.5)

Therefore;

$$n = 1.96^2 \times 0.5 \times 0.5 \times 532 / \{ 0.05^2(532-1) + 1.96^2 \times 0.5 \times 0.5 \}$$

$$n = 208$$

The researcher interviewed all key informants.

Table 1: Sample Size

Category	Target Population	Sample Size
Ward Development Committee	78	32
Hospital Management Committee	384	160
Facility In-charges	32	13
Senior County/Sub-county Health Officials	6	3
Total	500	208

The research adopted simple random sampling to the critical people mandated with the management of healthcare projects.

Further, the study used semi-structured questionnaires and interview guides, close-ended questions generated quantitative data while open-ended questions and interview guides generated qualitative data. Sample of the pilot study is supposed to be made up of at least 10% of the actual samples (Johanson, 2009). Since the main study had 208 samples, 21 of the pre-test questionnaires were administered in the pilot study which took place in the neighbouring Keiyo North Sub-County within EMC. The response that was gathered from the piloting exercise was used to fine-tune the questionnaires and interview guides that were used the actual study. To test both content validity and construct validity, the pre-testing was undertaken before actual data collection. Construct validity related to addressing the vagueness and clarity of questions in the questionnaire.

Content Validity on the other hand denotes the correctness and usefulness of the inferences (Mugenda and Mugenda, 2003). Reliability refers to the level of uniformity that an instrument shows on repetitive trials (Wambugu, et.al, 2015). The questionnaires used in the piloting exercise were similar to the ones that were used in the main study to ensure there was consistency in responses. A Cronbach-Alpha Coefficient was determined by use of Statistical Package for the Social Sciences (SPSS) to check the degree of internal uniformity and validity of questionnaires. The coefficient basically shows how variables are related to each other. As stated by Mugenda, O.M and Mugenda, A.G. 2003, a reliability of not less than 0.70 is recommended. The collection of data began after all the approvals and permits had been received by the researcher. The University issued the researcher with a recommendation letter. The researcher also obtained a license from National Commission for Science, Technology and Innovation (NACOSTI). The questionnaires were administered to the respondents by the researcher with the assistance of a research assistant who was contracted for a period of two months. The research assistant was given extensive training on data collection procedures before he began the work. A few questionnaires were emailed to the respondents who were unreachable physically. Before the interviews, an introductory letter written by the researcher was sent to the senior county and sub-county health officials to enable them prepare in advance for the interview. The interview sessions were made to be as brief as possible to avoid interviewee boredom. The analysis was done using a SPSS. A summary of quantitative data was done using descriptive statistics in the form of mean, SD, percentages and frequency tables. This ensured that the researcher meaningfully described the distribution of scores. By use of inferential statistics, the researcher was able to explain the correlation between variables. The researcher made use of coefficient of correlation to explain the correlation between variables.

The researcher used a simple linear regression model to examine how funding mechanisms at county level influence the quality of healthcare projects in Keiyo South Sub- County. The model is as shown below;

$$y = \alpha + \beta_1 X_1 + e$$

Where;

y= quality of healthcare projects

α= constant,

β₁= beta coefficient,

X₁=funding mechanisms at county level

e= error term

ANOVA was also used to check the goodness of fit of the model

Table 2: Questionnaire Return Rate

Responses	Frequency	Percentage
Returned responses	189	90.87
Non-Responses	19	9.13
Total	208	100.00

The response rate of 90.87% was good enough to make in-depth analysis and draw conclusions from. According to Mugenda & Mugenda (2003), a return rate of 50% is acceptable, 60% is good, 70% is very good and 80% and beyond is excellent.

IV. FINDINGS AND DISCUSSIONS

The research sought to establish how funding mechanisms at the county level influence the quality of healthcare projects in Keio South Sub-County in the County Government of Elgeyo Marakwet. In order to find out this, a Likert scale of 5 – 1 was used whereby the respondents were required to state their level of agreement or disagreement with the statements. The results are displayed in the Table 3 below.

Table 3: Funding Mechanisms at the County Level and Quality of Healthcare Projects

Statement	n	Mean	SDV
1. Funds allocated to healthcare projects during public participation are sufficient.	189	3.84	1.087
2. Every healthcare facility in the ward is benefiting from development funds in every financial year.	189	3.50	1.051
3. Release of development funds at the county level is sometimes affected by disagreements between the county executive and county assembly.	189	4.12	0.952
4. The delay to release funds by the national government have adversely affected healthcare projects.	189	4.05	0.938
5. Physical infrastructure investment is not matched with other investments such as human resource and commodities therefore affecting the functionality of the facilities after completion.	189	3.92	0.996
6. Budgeting process at the county level takes long to complete hence affecting health care service delivery.	189	3.86	1.012

7. The absorption rate of health development funds is good.	189	3.79	1.082
8. Hospital management committee take part in project's prioritization.	189	3.89	1.016
9. Project's funds are well utilized	189	3.63	1.026
Composite Mean	3.83		1.018

The Table 3 shows that the composite mean is 3.83 and the standard deviation is 1.018. The findings showed that funding mechanisms at the county level influence the quality of healthcare projects. Release of development funds at the county level is sometimes affected by disagreements between the County Executive and the County Assembly had the highest mean of 4.12 and standard deviation of 0.952. In the second position with a mean of 4.05 and S.D of 0.938 was the delay to release funds by the National government hence adversely affecting healthcare projects. Physical infrastructure investment is not matched with other investments such as human resource and commodities therefore affecting the functionality of the facilities after completion came third with a mean of 3.92 and S.D of 0.996. Hospital management committee take part in project's prioritization came fourth with a mean of 3.89 and S.D of 1.016. This was followed by budgeting process at the county level takes long to complete hence affecting health care service delivery with a mean of 3.86 and S.D of 1.012. Funds allocated to health projects during public participation are sufficient ranked sixth with a mean and S.D of 3.84 and 1.087 respectively. In the seventh position with a mean of 3.79 and S.D of 1.082 was the absorption rate of health development funds is good. Proper utilization of project's funds had the second lowest influence with a mean of 3.63 and S.D of 1.026 and lastly every health facility in the ward is benefiting from development funds in every financial year had the least influence with a mean of 3.50 and S.D of 1.051. Statements on funding mechanisms (predictor variable) that were set by the researcher were answered by the respondents to determine the strength and the relationship of the independent and dependent variable. The study determined that there was a strong relationship between the predictor and response variables.

Correlation Analysis between Funding Mechanisms at County Level and Quality of Healthcare Projects.

The researcher aimed at establishing the correlation between funding mechanisms and quality of healthcare projects using the Pearson Correlation Coefficient. This enables the researcher to establish the relationship between funding mechanisms and quality of healthcare projects. The findings showed existence of a strong positive association of 0.861 between funding mechanisms and quality of healthcare projects, which shows a significant relationship with p-value of 0.007 which is less than the test significance level of 0.05. This shows that funding mechanisms at the county level influence the quality of healthcare projects.

Table 4: Correlation Analysis between Funding Mechanisms at County Level and Quality of Healthcare Projects.

Variable		Funding Mechanisms at County Level	Quality of Healthcare Projects
Funding Mechanisms at County Level	Pearson Correlation Sig. (2-Tailed) n	1 189	0.861** 0.007 189
Quality of Healthcare Projects	Pearson Correlation Sig. (2-Tailed) n	0.861** 0.007 189	1 189

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

ANOVA was used to establish the goodness of fit of the linear regression model on Table 5 below. It was established that the F-significance value of 0.007 was less than 0.05 ($p < 0.05$). The F-ratio was significant, $F(1, 187) = 383.817$ was significantly larger than the critical value of $F = 3.86$. This shows that the model was significant.

Table 5: ANOVA for Funding Mechanisms at County Level and Quality of Healthcare Projects.

Factor	Sum of Squares	df	Mean Square	F	Sig.
Regression	862.392	1	862.392	383.817	0.007 ^b
Residual	420.167	187	2.247		
Total	1282.559	188			

a. Dependent Variable: Quality of Healthcare Projects.

b. Predictors: (Constant) Funding Mechanisms

Table 6: Model Summary for Funding Mechanisms at County Level and Quality of Healthcare Projects.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.861 ^a	0.741	0.738	1.171

a. Predictors (Constant), Funding mechanisms at the county level.

The findings in Table 6 above give an elaborate description of the degree to which the independent variable contributes to the whole variability of the model. The R^2 is given as 0.741 showing that funding mechanisms at the county level contributes 74.1% of the variations of the dependent variable, quality of healthcare projects. This therefore implies that the other factors which were not measured in this model accounted for 25.9%. The study arrived at a conclusion that funding mechanisms at the county level have a major influence on the quality of healthcare projects.

Table 7: Coefficient of Funding Mechanisms at the County Level and Quality of Healthcare Projects.

Variables	Un-standardized Coefficients		Standardized Coefficients	t
	B	Std. Error	Beta	
(Constant)	0.899	0.198		4.540
Funding Mechanisms	0.889	0.141	0.861	6.305
a. Dependent Variable: Quality of Healthcare Projects				

The results in Table 7 shows un-standardized beta value of 0.889 pointing out that a unit increase of funding mechanisms at the county level contributed to 88.9% increase in the variations of quality of healthcare projects given funding mechanism at $p < 0.05$. The regression model would be such as; Quality of healthcare projects = $0.899 + 0.889$ (funding mechanisms) + e; $t = 6.305$; $p < 0.05$.

The results therefore revealed that funding mechanisms at the county level has a significant influence on quality of healthcare projects. Hence, the null hypothesis of the study was rejected.

The outcome of the current study on the variable, funding mechanism at the county level ($R^2 = 0.741$) explains 74.1% of the variations in quality of healthcare projects. The model was deemed significant.

The findings were further supported by analysis of qualitative data acquired from key informers who were interviewed. When asked about the quality of healthcare projects, senior county officials had this to say;

"The quality of healthcare projects has definitely improved post devolution but we are cognizant of the fact that we are still faced with a number of challenges. The county governments rely heavily on the funds from the national government which in most cases delay when it comes to their disbursement. Funds are normally received towards the end of the second quarter and because of that, project's completion usually fall behind schedule. Concerning the absorption rate of development funds in the health department, 60% of the funds are absorbed and the remaining 40% are rolled over to the next financial year. The reason as to why the county does not achieve 100% absorption rate is because of delayed release of monies from the national government, tedious tendering procedures and contractors who delay projects commencement after award."

These findings agrees with the outcome of a study by Lakin & Kinuthia, (2019) who found out that the slow pace of overall budget execution in counties is to a large extent attributed to delayed release of funds to counties by the national government. The study established that counties receive a substantial percentage of their funds very late in the financial year, making it nearly impractical to fully spend them down. Similar findings by Ngigi & Busolo, (2019) on devolution in Kenya established that inadequate allocation of monies to counties is the biggest hindrances to the realization of devolution dreams. The push

and pull between the Senate, the Commission of Revenue Allocation and the NT and other state agencies is responsible for the delayed disbursement of funds to the counties.

V. CONCLUSION

The research findings showed existence of a strong positive correlation between funding mechanisms at the county level on quality of healthcare projects. Allocation of sufficient funds towards financing healthcare projects during public participation meetings, swift approval and release of development funds by the National Government to the counties as well as good absorption of those funds with prudent use contribute to improvement in quality of healthcare projects.

VI. RECOMMENDATIONS

The researcher made the following recommendations: The research established that funding mechanisms at the county level is very key in determining the quality of healthcare projects. The researcher therefore recommends thorough consultations involving all the stakeholders spearheaded by experts from the county health and finance departments and other relevant departments during ward-level public participation meetings so as to prioritize health projects putting in mind expert advice especially on the costings of the project as well as scope which ensures that the physical infrastructure is aligned well with the necessary medical equipment, medical personnel and commodities. The researcher further recommends that the National Treasury & Planning should at all times give top priority to counties when it comes to release of funds to counties. The funds should always be released on time. The county governments on the other end should fasten the necessary legislations required for fund's operationalization.

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