



**EFFECT OF FISCAL DECENTRALIZATION ON HEALTH OUTCOMES IN KENYA**

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### ABSTRACT

Management of health system in Kenya was devolved in March 2013 whereby the national government retained oversight and regulatory functions while county government were assigned curative, preventive and promotive health services within their jurisdiction. Countries such as USA, Australia, Canada, India and Nigeria have had mixed health outcomes after devolution while others have had to reverse devolution of healthcare governance. Following decentralization of healthcare governance in Kenya, investment into healthcare rose significantly. However, the actual impact on key health outcomes in Kenya was yet to be determined objectively. The research aimed to evaluate the effect of fiscal decentralization on health outcomes in Kenya. An analytical design was adopted. Secondary data was obtained from annual economic survey reports and statistical abstracts obtained from Kenya National Bureau of Statistics. Both descriptive and regression analysis was conducted at 95% confidence interval. Results indicated that fiscal decentralization had positive and significant effect on immunization coverage and skilled delivery. Further fiscal decentralization was recommended.

**Key Words:** Fiscal Decentralization, Health Outcomes

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## INTRODUCTION

Public servants are required to exercise the principles of good governance which include fair election of leaders, participation in decision making, responsiveness in delivery of public services within reasonable time frame, effectiveness and efficiency in conduct and management of resources as well as openness and transparency in running the affairs of an institution (Jimenez, Smith, & others, 2005).

Other principles of governance include the rule of law, ethical conduct of businesses, competency and capacity in providing governance in addition to innovation and openness while introducing changes to the running of public institutions. Besides, public governance entails promoting sustainability, sound financial systems, promoting diversity, cohesion and accountability (Jimenez et al., 2005).

According to Bovaird (2009), the principles of good governance are applicable in all industries including healthcare. Good governance is seen as a foundation of promoting good practice, accessibility, affordability and quality of healthcare services. However, governance in health sector is applied at various levels from international bodies such as UN and WHO to national governments, local (county) governments and specific institutions overseeing running of health sector in a region or geographical boundary (Jimenez et al., 2005).

International attention has shifted to the role of governance and leadership as a measure to improve access to quality healthcare services. Governance is expected to facilitate implementation of transparency, accountability, predictability, responsiveness and improved participation of citizens to meet their desired health needs. Moreover, governance is not only based on the general principles stated above but also must have a direct effect on performance and outcomes (Ham & Timmins, 2015).

Savedoff (2011) recommends that measurement of good governance in health care should be based on two principles. The first is the rule based measurement that focuses on evaluating whether a

particular institution has developed the required rules, policies and strategic plans that foster application of the principles of governance. For example, evaluating whether the County Department of Health has developed a policy on management of wastes in the county. The other principle of assessing good governance is outcome based measures whereby the work of an institution is measured based on the numerical and percentages of outcomes. For example, the patient to health workers ratio is a measure of effort made by the responsible institution to improve the quality of healthcare (Savedoff, 2011).

The vision 2030 postulated that Kenya would devolve health care to the household level in an aim to guarantee the citizens right to quality healthcare. It is through the vision 2030 that the role Community Health Extension Workers (CHEWs) was recommended to improve health of all citizens. Thereafter, the government recruited CHEWs in large numbers and villages were subdivided into healthcare units. The CHEW provided liaison between the healthcare institutions and the community (GoK, 2007). However, the idea of devolving healthcare governance existed before drafting vision 2030. All government health centers were governed by Facility Health Management Teams (FHMT) that comprised administrators of the institution, community leaders, and citizens. The FHMT defined pricing, stocking and planned all development activities for their health facilities (MOH, 2011).

The new constitution of Kenya was described as the most progressive in the history of Kenya. Through it, Kenyan Citizens right to health and right to free emergency services were guaranteed. Besides, the constitution devolved the management of health services in a mechanism where the national governments and county governments would share responsibilities. The county governments acquired control of most of the functions namely preventive, promotive services, waste management, running of funeral homes, public health services and majorly

the running of the health facilities under the county governments (GOK, 2010).

The devolution of health services in Kenya is characterized by the national and county governments having shared responsibility. The county governments were mandated to deliver services at the county level and to manage preventive and promotive healthcare activities in the rural areas while the national government retained healthcare policy making, running of national referral centers and management of major diseases like Tuberculosis, HIV/AIDS among others (GOK, 2010). Whether the arrangement in devolution of healthcare in Kenya has had an impact for the last three years of implementation is subject to analysis of trends in quality healthcare indicators.

At the county level, The County Health Management Team (CHMT) chaired by the County Medical Director of Health is responsible for policy, laws and programs development, research, implementation of health policies, human resource management, quality compliance and other functions assigned by the County Executive Committee Member for Health. Moreover, CHMT provides support to the Sub-County Health Management Team (SCHMT). The SCHMT is mandated to implement health policies at the Sub-County level, carry out evaluation of capacity and needs assessment of health facilities, exercise disciplinary measures among health personnel as well as facilitate capacity building for the Sub-County Health Personnel (County Assembly of Kiambu, 2014; County Assembly of Laikipia, 2014).

### **Statement of the problem**

After devolution, expenditure in healthcare increased by close to three folds (from 42.7 billion in 2013 to 121.7 billion in 2015) and the number of personnel per 100,000 population increased from 259 in 2012 before devolution to 301 in 2015 while the number of healthcare institutions also increased from 8,375 in 2012 to 9959 in 2014. However, a spot check on the diarrhoea diseases burden increased after devolution from 5.3 % in 2012 to

6.8% in 2015 (Kenya National Bureau of Statistics, 2016). Hence, created the doubt whether devolved healthcare governance and subsequent increased investment in healthcare has led to improved health outcomes.

Additionally, countries that devolved healthcare governance before Kenya such as USA, Australia, Canada, India and Nigeria have had mixed health outcomes (positive and negative). In US, Australia, India and Canada, decentralization of healthcare governance improved health outcomes while in Nigeria, it was found to have worsened health care outcomes, hence contributing negatively to economic growth. In India and Canada, it was established that the improvement in health outcomes would be better if good governance practices were effected (Abdulraheem, Olapipo, & Amodu, 2012; Bossert, Larrañaga, & Ruiz Meir, 2000; Ham & Timmins, 2015; Jimenez et al., 2005; Kaur, Prinja, Singh, & Kumar, 2012; Okojie, 2009).

Countries such as Sweden, Canada and Denmark among others that had decentralized healthcare governance have had to recentralize following widening of inequalities in accessibility of health services (Duckett, 2010; Fredriksson, 2012; MacAdam & Mackenzie, 2008; R. Saltman, Bankauskaite, & Vrangbaek, 2007). Moreover, a descriptive survey done in 2015 in Kenya showed 73% of patients and health workers felt that devolved governance did not deliver some of the health outcomes (Muchomba, 2015).

The main goal of decentralizing healthcare governance is to improve accessibility and affordability of quality health services that are tailored to meet individual needs within the expected time frame (Sreeramareddy & Sathyanarayana, 2013). Consequently, improved access and affordability would lead to improved health outcomes such as reduction in disease burden, disability, morbidity and mortality (Sreeramareddy & Sathyanarayana, 2013).

The rising burden of diseases despite increase in healthcare expenditure four years after devolution

and mixed findings regarding success of decentralized healthcare governance across the world has made it difficult to generalize the effect of decentralized healthcare governance in Kenya (Cannon & Ali, 2018; Gitonga & Keiyoro, 2017; Kimathi, 2017; Tsofa, Molyneux, Gilson, & Goodman, 2017; Wagana, 2017). Therefore, this study aimed to evaluate how fiscal decentralization of healthcare governance affected health outcomes in Kenya based on the annual economic survey reports.

### Objectives of the study

The objective of the study was to investigate the effect of fiscal decentralization on health outcomes in Kenya.

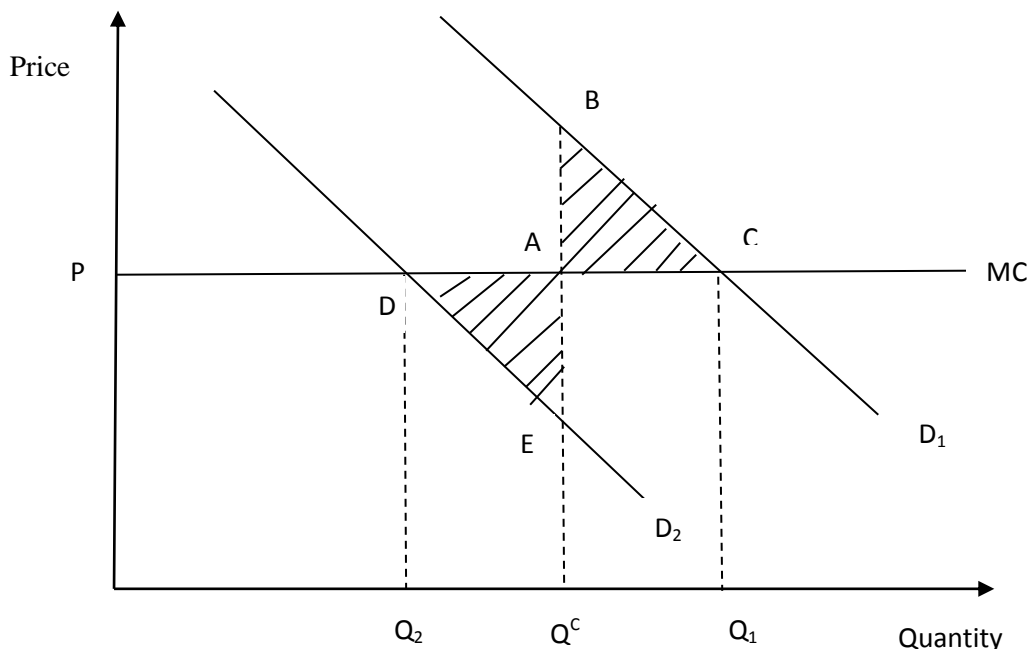
## LITERATURE REVIEW

### Theory of Fiscal Federalism

Fiscal federalism refers to the financial relationship between independent units of a government and a separate central government (Federal Government) when providing public goods to the citizens. According to the theory of fiscal federalism, a

federal government is best in addressing challenges that face governments today such as income distribution and stability of the economy because the independent member states have different levels of income and needs. A federal government is able to raise funds through taxes, regulation and provision of services and goods. Income generated is redistributed to the independent member governments through transfers and grants. The decentralized governments are expected to use funding from the national government to provide public goods that meet the needs of the citizen under their jurisdiction. However, the autonomy of the member governments limits their accountability to the federal government (Arowolo, 2011).

The net effect of decentralization as described in the above theories is increase in consumption of goods due to ability of the decentralized units to tailor goods and service to meet the preferences of a unique society within the jurisdiction of the decentralized unit. The entire society making a federal system gains economic welfare when there is decentralization.



**Figure 1: The welfare increases from decentralization**

From the graph above, MC represented the cost people are willing to pay for a particular health service or commodities at a given time.  $Q_c$  represents the equilibrium quantity consumed.

After decentralization, services are brought closer to the people in an efficient manner. This shifts demand to  $BCD_1$  and consequently increases the quantity of services/goods consumed as



represented by  $Q_1$ . An example is the introduction of Huduma Centres in Kenya. They decentralized government services making them easily accessible to the citizens. Subsequently, demand of the services improved increasing the quantity of services consumed. After decentralization, the Marginal Cost (MC) remains the same but there is a welfare gain represented by triangle BAC. On the other hand, centralization reduces accessibility of services/goods although people are willing to pay the same price for it. Therefore, demand reduces as represented by curve DED2. The quantity of goods consumed also reduces to  $Q_2$  resulting to a consumer loss (welfare loss) as indicated by the triangle ADE despite the fact the Marginal cost of goods and services remains the same (Rubio, 2011).

Health services and commodities are public goods that are demanded both locally and nationally because in addition to providing individual satisfaction, they have critical externalities to the

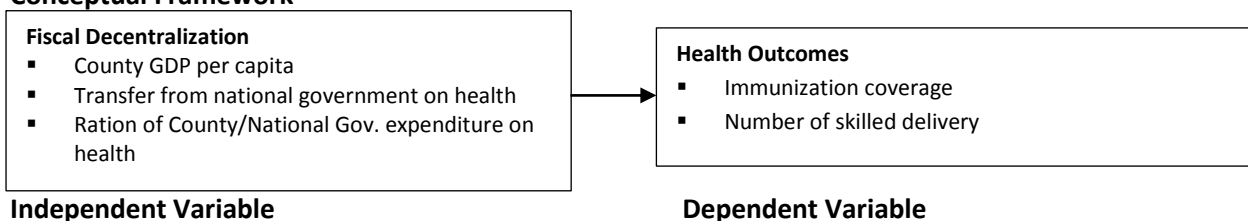
society. For example, interventions to control spread of major diseases such as HIV/AIDS have consequences to individuals as well as to the entire society. Although such intervention may require federal government intervention, decentralised units can be still useful to acquire welfare gains (Rubio, 2011).

A county government interest in health of its residents can be measured by the amount it spends in healthcare. Decentralization increases health budgets as new hospitals, technology, human resources and commodities are required. Besides, the GDP per capita of a county government will influence health outcomes in that increased GDP per capital increases ability to fulfil health needs hence leading to better health outcomes (Nixon & Ulmann, 2006). The following (table 1) is a summary of empirical literature that investigated association between fiscal decentralization and health outcomes.

**Table 1: Effect of fiscal decentralization on health outcomes**

	Author And year	Country	Methodology	Finding
1	Uchimura & Jutting (2009)	China	Done in Chinese counties. Used county expenditures and revenues compared with infant mortality	There was significant association
2	Cantarero and Pascual (2008)	Spain	Used ratio of subnational spending over total	There was inverse relationship between fiscal decentralization and health outcomes
3	Jiminez-Rubio	Canada	Used ratio of subnational spending over total	There was inverse relationship between fiscal decentralization and health outcomes
4	(Jiménez-Rubio et al., 2010)	Various Countries	Used share of autonomous tax revenue over the general government tax revenue over infant mortality	Decentralization has had a positive and substantial influence on the effectiveness of public policy in improving population's health (reduction in infant mortality rate).

**Conceptual Framework**



**Independent Variable**

**Dependent Variable**

**Figure 2: Conceptual framework**

**Source: Author (2019)**

## METHODOLOGY

This research was a quantitative research that used secondary data from the Kenya National Bureau of Statistics Annual Economic Surveys. The study was carried out in Kenya. The 47 counties in Kenya comprised the target population. Effect of devolution in Kenya was the unit of analysis while individual counties comprised the units of observation. Secondary data was collected using a checklist. The study utilized secondary data from Annual Statistical Abstracts and Economic Surveys for the year 2012, 2013, 2014, 2015, 2016 and 2017 constituting five years after devolution. They were downloaded from *The KNBS website [www.knbs.or.ke](http://www.knbs.or.ke)* or from The National Treasury

website [www.treasury.go.ke](http://www.treasury.go.ke). Secondary data at County level was obtained from March 2013 when devolution of health services to the county level began up to December 2017. Data was collected using a checklist in Microsoft Excel Software. The findings were typed into the Microsoft excel sheet after which that was used to export it to Statistical Packages for Social Sciences (SPSS) version 22 for further panel data regression analysis.

## FINDINGS

Table 2 showed descriptive statistics for immunization coverage, skilled delivery, health expenditure, foreign aid, literacy level, and population density. The statistics includes minimum, maximum, mean and standard deviation.

**Table 2: Descriptive Statistics**

	Mean	Standard deviation	Minimum	Maximum
Immunization coverage (Percent)	71.64	15.86	20.4	129.74
Skilled Delivery (Percent)	82.33	13.64	46.26	100
Central Government Transfer (Millions)	5815.67	2567.55	1500	15400
County revenues (Millions)	898.48	2168.47	35.6	11710
Health Expenditure (Millions)	1276.29	958.68	5.2	5435.05
Foreign aid (Millions)	343.08	237.37	3.92	1060
Literacy level	53895.79	36822.14	3674	140145
Population density	655.52	1426.73	6	6084.65
Area under political Jurisdiction	12575.85	16293.4	218.86	68680.29

Source: Author (2019)

Table 2 showed that the mean immunization coverage for the 24 counties was 71.64 percent with a standard deviation of 15.86 percent. The least immunization coverage was 20.4 percent and the maximum were 129.4 percent. This indicated that there was high variability in immunization coverage in Kenya. Skilled delivery had the mean of 82.33 percent with a standard deviation of 13.64 percent. The minimum was 46.26 percent and a maximum of 100 percent. This indicated that there was high variability in birth rate at home and birth rate health facilities with some counties the more births occurring at home than in the health facilities. Central government transfers to the

county government had a mean of KES. 5.8 billion with a standard deviation of KES. 2.6 billion. The least transfer was KES. 1.5 billion and the maximum was 15.4 billion. Government transfer to the county government indicates high variability as standard deviation is almost half the mean.

For revenues collected by county government, the mean was KES. 898.47 million with a standard deviation of KES. 2.2 billion. The least collected by county government was KES. 35.6 million and a maximum of KES. 11.710 billion. This showed that some counties were very productive in revenue collection while others were collecting very little. For health expenditure, the mean expenditure was

KES. 1.3 billion with a standard deviation of KES. 958.66 million. The minimum health expenditure was KES. 5.2 million and the maximum was KES. 5.4 billion. Hence, some counties were making huge investment in health compared to other. The mean foreign aid received was KES. 343.08 million with a standard deviation of Ksh.237.34 million. The minimum aid was KES. 3.92 million and the maximum was KES. 1.06 billion. Foreign aid seemed to vary greatly in the counties. The mean secondary school enrolment was 53, 895 with a standard deviation of 36,822. The minimum enrolment was 3674 and the maximum was 140,145 students. This showed that in some counties a lot of the young people were in school while in other they are out of

school. The mean population density was 655.52 with a standard deviation of 1426.7. The minimum of the population density was 6 and the maximum was 6084.65. This showed that the distribution of the population in the county was very variable. There is a county with 6 people per square kilometre while another had 6084 people per square kilometre.

### Regression Analysis

To achieve the research objective, the study estimated two regression model. In the first model, the dependent variable was immunization coverage while in the second, the dependent variable was skilled delivery. The results were shown in table 3.

**Table 3: Regression Output for immunization coverage**

Dependent Variable: Immunization coverage			
Independent Variable:	Coefficient	Std. Error	Prob.
Central Government transfers	-4.3033	1.0361	0.000***
Revenues	1.3571	1.4369	0.347
Health expenditure	2.6276	2.6707	0.327
Foreign Aid	14.1523	7.1267	0.049**
Secondary School enrolment	0.1546	0.0619	0.014**
Population density	2.8528	1.8453	0.125
Area under political Jurisdiction	0.3827	0.1451	0.009
<b>R-squared:</b>	<b>0.1557</b>		
<b>F-Statistic</b>	<b>3.40</b>		
<b>Probability (F-statistic)</b>	<b>0.0023</b>		
<b>No. of Observation</b>	<b>137</b>		

Source: Author's (2019)

Note: (\*\*\*), (\*\*) and (\*) indicates that the effect is significant at 1%, 5% and 10% respectively.

From Table 3 showed that government transfer, revenues, health expenditure, foreign aid, secondary school enrolment, population density and area under political jurisdiction explain 15.57 percent of variations in immunization coverage at county level as indicated by the R-squared. The overall model had a F-statistic of 3.4 with a p-value less than 1 percent and hence the overall model is significant at 1 percent.

Table 3 showed that the government transfer, foreign aid, secondary school enrolment and area

under political jurisdiction are statistically significant at 5 percent while county revenue, health expenditure, and population density are not statistically significant at 5 percent.

The objective of the study was to find out the effect of fiscal decentralization on health outcomes in Kenya. Using immunization coverage as the measure of health outcome and government transfer as the measure of fiscal decentralization, the study found that limited fiscal decentralization (dependency on national government) had a



negative and statistically significant effect on health outcome. The study found that the coefficient of government transfer was -4.30 and was significant at 1 percent level of significance. This indicated that a KES. 1 billion increase in government transfer to county government reduced immunization coverage by 4.3 percent. The results were similar to a study by Jimenez-Rubio et al. (2010) that found fiscal decentralization have a positive effect on health outcome. It contradicts previous studies by Cantarero and Pascual (2008) and Jiminez-Rubio

(2011) that found that fiscal decentralization has an inverse relationship with health outcome. The expectation was that fiscal decentralization should have a positive effect, as the county could easily target the health issues that need more funding in a local community compared to central government. However, fiscal decentralization may lead to mismanagement of funds at the early stages of decentralization that can have a negative effect on the health outcomes.

**Table 4: Regression Output for skilled delivery**

Dependent Variable: Skilled delivery			
Independent Variable:	Coefficient	Std. Error	Prob.
Central Government transfers	- 4	0.7353	0.000***
Revenues	-1.1554	1.0197	0.259
Health expenditure	8.4455	1.8953	0.000***
Foreign Aid	7.4997	5.0575	0.141
Secondary School enrolment	0.1732	0.0439	0.000***
Population density	4.8598	1.3096	0.000***
Area under political Jurisdiction	0.3059	0.1030	0.004
<b>R-squared:</b>	<b>0.4144</b>		
<b>F-Statistic</b>	<b>13.04</b>		
<b>Probability (F-statistic)</b>	<b>0.000</b>		
<b>No. of Observation</b>	<b>137</b>		

Source: Author's (2019)

Note: (\*\*\*), (\*\*) and (\*) indicates that the effect is significant at 1%, 5% and 10% respectively.

Table 4 showed that government transfer, revenues, health expenditure, foreign aid, secondary school enrolment, population density and area under political jurisdiction explained 41.44 percent of variations in skilled delivery at county level as indicated by the R-squared. The overall model had a F-statistic of 13.04 with a p-value less than 1 percent and hence the overall model is significant at 1 percent.

The table showed that the government transfer, expenditure on health, secondary school enrolment, population density and area under political jurisdiction are statistically significant at 1 percent while county revenue and foreign aid was not statistically significant at 5 percent.

Using skilled delivery as the measure of health outcome and government transfer as the measure of fiscal decentralization, the study found that fiscal decentralization has a positive and statistically significant effect on health outcome. The study found that the coefficient of government transfer was -4 and was significant at 1 percent level of significance. This indicated that a Ksh. 1 billion increase in government transfer to county government reduced skilled delivery by 4 percent. The results agreed with the study by Jimenez-Rubio et al. (2010) that found fiscal decentralization have a positive effect on health outcome. However, the study contradicted previous studies by Cantarero and Pascual (2008) and Jiminez-Rubio (2011) that found that fiscal decentralization has a negative

relationship with health outcome. The expectation was that fiscal decentralization should have a positive effect, as the county can tailor health services according to the needs of the local community compared to central government. However, fiscal decentralization may lead to mismanagement of funds at the early stages of decentralization that can have a negative effect on the health outcomes.

### **SUMMARY**

The objective of the study was to examine the effect of fiscal decentralization on health outcomes. The empirical finding showed that fiscal decentralization can have positive or negative significant effect on health outcomes.

### **CONCLUSIONS**

Based on the study findings, the study concluded that fiscal decentralization has a positive and significant effect on health outcomes.

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### **POLICY IMPLICATIONS**

The study found that generally fiscal decentralization has a positive effect on health outcomes. This indicated that it is important that funds transferred to devolved unit be managed well to ensure that there is improvement in health outcome. The county governments should endeavour to raise their fiscal resources and reduce dependency on national government.

### **Areas for Further Research**

The focus of the study was limited to the skilled delivery and immunization coverage in Kenya and how decentralization affected these health outcomes. The study proposes more research on how decentralization affect other health outcomes like morbidity and specific disease burden.

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