

## **IMPACT OF GOVERNMENT EXPENDITURE ON HEALTH SECTOTR DEVELOPMENT IN NIGERIA.**

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### **ABSTRACT**

This research work examined the impact of Government expenditure on Health sector development in Nigeria from 1980 to 2017. The specific objectives were to: investigate the effects of capital and recurrent expenditures and per capita GDP on life expectancy in Nigeria. Data was generated from the World Bank World Development Indicators (WDI) and Central Bank of Nigeria Statistical Bulletin. The study conducted first and second order test. The study relied on the combinations of Ordinary Least Squares (OLS) and error correction mechanism (ECM) for estimating both long run and short run between the dependent and explanatory variables. The unit root test result shows that all the variables except life expectancy are stationary at first difference. Thus, life expectancy is found to be integrated of order zero [I(0)] while the other variables are integrated of order one [I(1)]. The cointegration test result shows evidence of two cointegrating vectors among the series. This indicates that the variables have long run relationship. The parsimonious ECM indicates that the lagged of life expectancy has significant positive effect on current level of life expectancy. This is an indication that the average number of years accruable to Nigerians is partly influenced by the previous life expectancy. The contemporaneous capital expenditure is found to exert significant positive effect on life expectancy. Again, the contemporaneous and lagged values of recurrent expenditure generated significant positive influence on life expectancy. This suggests that the effectiveness of overhead cost on life expectancy in Nigeria tend to manifest in the short run. Contrarily, the lagged values of per capita GDP seem not to significantly influence life expectancy in the short run, but its long term impact on life expectancy is positive and significant at 5 percent level therefor the study recommended that budgetary allocations to the health sector should be improved and optimally put into use.

**Keywords:** Expenditure, growth, Development, Expectancy, Investment

## **1. INTRODUCTION**

### **1.1 Background to the Study**

The promotion of broad-based economic growth and development is predicted on the quality of healthcare delivery. This paradigm forms the basis for huge allocation of public fund to the health sector to improve life expectancy of the citizenry with a view to increase their contribution to the overall growth and development of the economy. Like other developing countries of the world, Nigeria has been making relatively huge financial commitment to the health sector overtime.

Budgetary allocations from both Federal, state and local governments constitute bulk of the allocations to the health sector. These allocations are mainly organized into recurrent and capital expenditure (Matthew, Adegboye and Fasira, 2015). Capital expenditure encompasses monies spent on health infrastructures such as building new hospitals, acquisition and upgrade of hospital facilities and equipment as well as provision of long-term care in the health sector. On the other hand, recurrent expenditure covers monies spent on payment of salaries and allowances, including hazard allowance, employment benefits and other overhead cost. Poor investment in health sector as evidenced in the decline of capital expenditure has remained a source of worries and concern to the health sector (Yaqub, Ojapinwa and Yussuff, 2012).

Soyinbo (2005) posits that the proportion of the total health spending to the Gross Domestic Product (GDP in Nigeria between 1998 and 2000 was below 5 percent compared to 5.3 percent, 6.2 percent and 7.5 percent in Kenya, Zambia and South Africa respectively. This has generated adverse effects on the health status of Nigerians. Successful financing system for the healthcare has been described by Olakunle (2012) as a key challenge in Nigeria which impairs effective service delivery in the health sector. Adinma and Adinma (2010) outline corruption, limited institutional capacity, and unstable economic and political environment as constraints to optimal financing of health sector in Nigeria.

The large dependence of state and local government on federal allocations due to their poor capacity to boost their internally generated revenue has constrained their ability to fund primary healthcare services. This generates negative implications on the health status of rural dwellers. It is worrisome that the federal government lacks adequate control mechanism on funds allocated for both primary and secondary health services. This often increases the tendency of misappropriating these funds at the expense of quality healthcare delivery. Another challenge that hinder effective funding of the health sector is the poor coordination of financial assistance from donor agencies at federal, state and local levels. Adequate coordinating of donor funds and

tracking of donor resource flow are major bottlenecks in the Nigerian health sector (WHO, 2008).

The perennial under funding of primary healthcare services in Nigeria has dire consequences on the overall performance of the health system development. This generates negative spill-over effects on the life expectancy of majority of Nigerians who largely depend on primary health care for medical services. Moreover, poor budget management has remained a key challenge to effective public spending in the Nigerian health sector. This often impairs the actualization of intended and desired objectives. Despite huge budgetary allocations by the federal and sub-national governments to the health sector, the health status of Nigerians in terms of life expectancy has been consistently ranked low. It is against the backdrop that this study examined the effect of public health expenditure on life expectancy in Nigeria. The objective of this study was to examine the impact of government capital and recurrent expenditure as well as the impact of Gross Domestic Product per capita on health sector development in Nigeria, proxied by expectancy life

## **2. LITERATURE REVIEW**

### **2.1. Theoretical Literature**

#### Bowen's Model of Public Expenditure

Bowen's Model of efficient supply of public goods assumes that government spending on social goods should be equal to the social marginal utilities associated with these goods. However, Bowen argues that individual valuation of public goods differs which make it imperative for them to contribute differently to the provision of these goods. Given that public goods are available to all members of the society, they are required to contribute towards their provision. Within the Bowen framework, the optimal quantity for the social goods involves the tangency of the marginal cost curve of the social goods and community indifference curve (Agiobenebo, 2003). The community indifference curve defines the vertical summation of individuals' indifference curve. Therefore, based on Bowen's proposition, the marginal cost of supplying social goods must be equal to the sum of the marginal rate of substitution for each of the individuals.

**Figure 1: Bowen’s Model for optional public good**

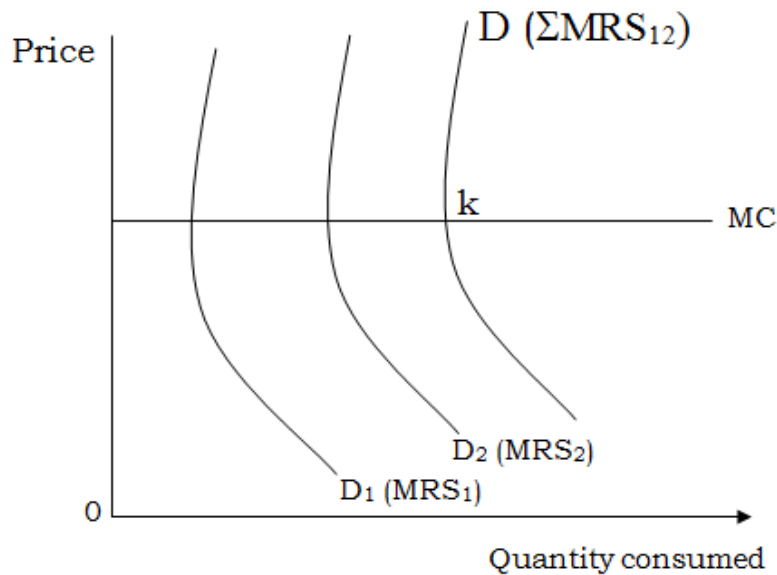


Figure 1 above shows Bowen's framework for optimal supply of public goods. The cost curve is assumed to be horizontal while the demand curve represented by  $D_1$  and  $D_2$  are for individuals 1 and 2 respectively. The simultaneous consumption of the available public good is made positive due to the non-exclusion and joint consumption features associated with public goods. Consequently, aggregate demand for the available public goods is derived by vertical summation of the individuals' marginal rate of substitution at the point labeled 'D' ( $\sum MRS_{12}$ ). The equilibrium point 'K' is not an individual's equilibrium but community equilibrium. The key drawback of Bowen's model is its failure to identify the free rider behavior of individuals in terms of demand for public goods.

## 2.2 Empirical Literature

Matthew, Adegboye and Fasina (2015) examined the impact of public healthcare expenditure on health outcomes in Nigeria using time series data which spanned through 1979-2012. The study measured health outcomes via life expectancy and employed a combination of co-integration test and Vector Error Correction Model (VECM) as analytical techniques. The results indicate that budgetary allocations to the health sector significantly impacted on life expectancy during the study period. Thus, the study recommended for increase and restructuring of budgetary allocations to the health sector.

Ogunbenle et al. (2013) empirically analyzed the linkage among public health expenditure, economic growth and life expectancy in Nigeria. A Vector Autoregressive (VAR) model was

adopted as the method of analysis. Evidence from the findings shows no bi-directional causality between public health expenditure and life expectancy in Nigeria. Similarly, it was found that economic growth does not granger cause life expectancy in Nigeria during the period under review. Conversely, the result shows evidence of bi-directional causality between public expenditure on healthcare and economic growth. The study suggested for increased investment in the health sector in order to salvage the Nigeria's economy from it dire conditions.

Desphande, Kumar and Rameswami (2014) investigated the impact of national healthcare expenditure on life expectancy in developing countries. A panel data collected from the sampled countries was analyzed with the application of ordinary Least Squares (OLS). The result shows that health care expenditure in the selected countries does not significantly impact on life expectancy during the period under investigation. The study therefore concludes that in developing countries, quality rather than quantity of expenditure seems to impact on health outcomes.

Yaqub, Ojapinwa and Yussuff (2012) assessed the effectiveness of public health expenditure on health outcomes in Nigeria. The estimation techniques adopted by the study include Ordinary Least Squares (OLS) and Two-stage Least Square. The findings reveal that public healthcare expenditure negatively impacted on infant and under five mortalities in Nigeria during the study period. The study recommended for reduction in the level of corruption in order to achieve long term objectives in the health sector.

Mixon and Ulmann (2006) evaluated the existence of causal relationship between health expenditure and health outcomes in fifteen countries of the European Union using panel data set from 1980 to 1995. The study adopted a fixed effect model to examine the causal effects of public health expenditure on life expectancy and infant mortality among the selected countries. The result indicates that increase in health care expenditure is significantly related with marginal improvement in life expectancy.

Rodriguez and Sobrino (2015) explored the impact of public health care spending on life expectancy in Latin America and Carribean countries (LAC). The study primarily seek to examine if life expectancy at birth experiences diminishing returns to increases in government healthcare expenditure, The panel data obtained from the selected countries were analyzed using Ordinary Least Square (OLS). The main finding is that life expectancy at birth declines with increases in fiscal healthcare spending. The study concluded that life expectancy in less responsive to changes in public health care spending.

Akinkugbe and Aeikhena (2006) examined the effects of public health care spending on health status using multi-country annual time series data over the period 1980 to 2003 for 45 sub-

Saharan African (SSA) and 12 Middle East and North African (MENA) countries. The study adopted Ordinary Least Square (OLS) as the estimation technique. It was found that public health care expenditure as a share of the gross domestic product significantly impacted on the measures of health status in both regions (SSA and MENA). The study concludes that public healthcare expenditure is key determinant of health status in the selected countries.

### **3. METHODOLOGY**

This study adopted factorial research design. The choice of this approach stems from its suitability for estimating the effect of two or more explanatory variables on a dependent variable. The estimation techniques utilized in this study were the Ordinary Least Squares (OLS) and Error Correction Model (ECM). The Error Correction Model (ECM) was used to ascertain the short-run dynamics of coefficients of the lagged explanatory variables and the speed with which the model converges to equilibrium in the long-run. The ECM was equally helpful in taking care of the shortfalls that characterize time series data. Notably, statistical and other second order tests were conducted. These tests are discussed as follows:

#### **i. Unit Root Test**

This test was conducted to determine the stationarity status of each of the variables under investigation. This test is necessary in order to avoid the estimation of biased and inconsistent parameters. Thus, the Phillips-Perron (PP) procedure to unit root test is applied and the general model with constant and trend is expressed below:

$$\Delta R_t = \omega_0 + \omega_1 R_{t-1} + \sum_{i=1}^b \beta_i \Delta R_{t-i} + \lambda_t \quad (3.1)$$

Where:  $R_t$  = variables in the model

$\omega_1$  and  $\beta_i$  = parameter estimate of the variables

$b$  = lag length

$\Delta$  = First difference operator

$\lambda_t$  = Random error term

**ii. Cointegration Test**

The second step in this time series analysis is to test for the presence or otherwise of cointegration between the series of same order of integration through forming a co-integration equation. The basic idea behind co-integration is that if in the long- run; two or more series move closely together, even though the series themselves are trended, the difference between them is constant. It is possible to regard these series as defining a long-run equilibrium relationship, as the difference between them is stationary (Hall and Henry, 1989).

This test is used to find-out if the variables included in the model have long-run relationship. The Johansen system of cointegration was applied in carrying out this test. The Max-Eigen statistic and Trace statistic form basis for rejecting the null hypothesis of no cointegration among the underlying variables. A lack of co- integration suggests that such variable have no long-run relationship: in principal they can wander arbitrarily far away from each other (Dickey et al, 1991). We employ the maximum likelihood test procedure established by Johansen and Juselius (1990). Specifically, if  $Y_t$  is a vector of  $n$  stochastic variables, then there exists a  $P$ -lag vector autoregression with Gaussian errors. The general model for the cointegration is the form:

$$\lambda_{trace}(r) = -T \sum_{i=r+1}^n \ln(1 - \hat{\lambda}_i) \tag{3.2}$$

$$\lambda_{max}(r, r+1) = -T \ln(1 - \hat{\lambda}_{r+1}) \tag{3.3}$$

Where  $\hat{\lambda}$  denotes the estimated values of the characteristic roots and  $T$  denotes the number of observations. Basically, the trace statistic tests the null that the number of distinct cointegrating vectors is equal to or less than  $r$ . The further the estimated characteristic roots are from zero, the greater the value of computed trace statistic. On the other hand, the Max-Eigen statistic tests the null hypothesis that the number of cointegrating vectors is  $r$ , against the alternative of  $r + 1$ . In this case, the critical values for both trace and Max-Eigen statistics have been calculated by Johansen and Juselius (1990). Evidence of at least one cointegrating vector at 5 percent indicates that the underlying economic time series have long run relationship.

The model is stated in the functional form below:

$$LXP = F(HCE, HRE, GPC) \tag{3.4}$$

The econometric model of equation (1) is expressed in log-linear form as:

$$\ln LXP = h_0 + h_1 \ln HCE + h_2 \ln HRE + h_3 \ln GPC + u_t \quad (3.5)$$

Where: LXP = Life expectancy at birth

HCE = Government healthcare capital expenditure

HRE = Government healthcare recurrent expenditure

GPC = GDP per capita

$h_0$  = Constant term

$h_1 - h_4$  = Coefficients of the explanatory variables

ln = Natural logarithm notation

$u_t$  = Random error term

The error correction model (ECM) of the deterministic equation stated in (3.4) above is expressed as:

$$\Delta \ln LXP = m_0 + \sum_{i=1}^n v_1 \Delta \ln LXP_{t-i} + \sum_{i=1}^n v_2 \Delta HCE_{t-i} + \sum_{i=1}^n v_3 \Delta \ln HRE_{t-i} + \sum_{i=1}^n v_4 \Delta \ln GPC_{t-i} + \phi \text{ECM}_{t-1} + e_t \quad (3.6)$$

Where: LXP, HCE, HRE, GPC and ln are as explained in equation (3.4)

$m_0$  = constant term

$v_1 - v_5$  = short-run parameter estimates of the lagged explanatory variables

$g$  = lag length

$\Delta$  = first difference operator

$\phi$  = Coefficient of the ECM

$e_t$  = lag length



## 4. RESULTS

### 4.1 Test for Unit Root

Following the assumption that time series data are not usually stationary at levels, the variables under investigation were subjected to unit root test using the augmented Dickey-Fuller (ADF) method to examine their level of stationarity. The outcome of the test is showed below in table 3.

**Table 4.1: Summary of unit root test result for LXP, HCE, HRE and GPC**

Variable	ADF Test Statistics		Order of Integration
	Levels	1 <sup>st</sup> difference	
Log(LXP)	-4.231 (0.010)	NA	NA
Log(HCE)	-0.786 (0.957)	-6.219 (0.000)	I(1)
Log(HRE)	0.049 ( 0.995)	-8.236 (0.000)	I(1)
Log(GPC)	-1.361 ( 0.856)	-5.206 (0.001)	I(1)

**Source: Author's computation**

**NB: Figures in bracket represent the MacKinnon (1996) probability values**

From the outcome of the unit root test summarized in table 4.1 above it was observed that all the variables except life expectancy are stationary at first difference. This is evidenced in the associated MacKinnon (1996) probability values of the ADF statistics for each of the variables. Put differently, life expectancy is found to be integrated of order zero [I(0)] while the other variables are integrated of order one [I(1)]. The non-stationarity of the series is consistent with the time series characteristics of macroeconomic variables.

### 4.2 Test for Cointegration

The cointegration test for the variables in the model relied on the Johansen and Juselius (1990) method and the result is reported as follows in table 4.2

**Table 4.2.: Result of cointegration test for LXP, HCE, HRE and GPC Series: LXP HCE HRE and GPC**

<b>Series: LOG(LXP) LOG(HCE) LOG(HRE) LOG(GPC)</b>				
<b>Lags interval (in first differences): 1 to 3</b>				
<b>Hypothesized</b>	<b>Eigenvalue</b>	<b>Trace</b>	<b>0.05</b>	<b>Prob.**</b>
<b>No. of CE(s)</b>		<b>Statistic</b>	<b>Critical Value</b>	
None *	0.689391	76.51465	47.85613	0.0000
At most 1 *	0.485962	36.76116	29.79707	0.0067
At most 2	0.329327	14.13556	15.49471	0.0793
At most 3	0.016146	0.553451	3.841466	0.4569
<b>Hypothesized</b>	<b>Eigenvalue</b>	<b>Max-Eigen</b>	<b>0.05</b>	<b>Prob.**</b>
<b>No. of CE(s)</b>		<b>Statistic</b>	<b>Critical Value</b>	
None *	0.689391	39.75349	27.58434	0.0009
At most 1 *	0.485962	22.62560	21.13162	0.0306
At most 2	0.329327	13.58211	14.26460	0.0639
At most 3	0.016146	0.553451	3.841466	0.4569

**Source: Researcher's Computation**

**NB: \* represents rejection of null hypothesis at 5 percent level**

The summarized outcome of the cointegration test in table 4.2 above revealed that the Trace statistics show evidence of two cointegrating vectors. Similarly, the Max-Eigen statistics indicate that there exists two cointegrating equation in the model. Thus, on the basis of the above results, it is established that the variables are cointegrated and have long run relationship.

### **4.3 Estimation of Long run Regression Model**

The long run regression result estimated using Ordinary Least Squares technique is summarized in table 4.3 as follows

**Table 4.3. Outcome of the long run model**

Dependent Variable: LOG(LXP)				
Method: Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(HCE)	-0.044376	0.007628	-5.817828	0.0000
LOG(HRE)	-0.001965	0.010914	-0.180037	0.8582
LOG(GPC)	0.058275	0.011089	5.255393	0.0000
C	3.506984	0.053338	65.75015	0.0000
R-squared	0.861646	Mean dependent var		3.865447
Adjusted R-squared	0.849439	S.D. dependent var		0.052390
S.E. of regression	0.020329	Akaike info criterion		-4.854285
Sum squared resid	0.014050	Schwarz criterion		-4.681907
Log likelihood	96.23141	Hannan-Quinn criter.		-4.792954
F-statistic	70.58232	Durbin-Watson stat		0.738223
Prob(F-statistic)	0.000000			

**Source: Researcher’s computation**

The regression result in table 4.3. above reveals that capital and recurrent expenditure have negative coefficients while per capita GDP is associated with positive coefficients. Notably, capital expenditure is significant in explaining changes in life expectancy during the sampled period. A percentage change in capital expenditure decreases life expectancy by 0.044376 percent. This finding is consistent with the statistical criterion, but its negative coefficient deviated from the theoretical a priori expectation. This suggests that investment in critical infrastructure such as building of new hospitals, medical technology and other equipment seems to enhance life expectancy in the long run. On the other hand, recurrent expenditure does not significantly impact life expectancy in the long run. This indicates that recurrent expenditure in the form of payment of salaries of health workers, hazard allowances and other overhead costs do not contribute significantly to improving the average number of years lived by Nigerians in the long run. More importantly, per capita GDP has significant positive impact on life expectancy. In this case, a percentage increase in per capita GDP boosts life expectancy by 0.0582 percent. This finding suggests that out of pocket spending by households play important role in boosting longevity in Nigeria. The model is found to be very well fitted as evidenced from the high coefficient of determination of 0.862. This implies that 86.2 percent variations in life expectancy are explained by healthcare capital and recurrent expenditures, per capita GDP, proxy for out of pocket healthcare spending and per capita carbon dioxide emissions. Although the entire model is consistent with the statistical criteria as it is highly significant at 1 percent level as evidenced in the result of F-test for overall significance, it equally shows evidence of

serial correlation given that the computed Durbin-Watson statistic (0.738) is less than its critical value (1.65) at 5 percent level. The presence of autocorrelation in this model poses a problem of inefficiency in macroeconomic forecast using the OLS estimates.

#### 4.4 Error Correction Model

The error correction model (ECM) which shows the short run behavior of the lagged dependent and explanatory variables as well as the speed of convergence is transformed into a parsimonious ECM. The result is shown in table 4.4 as follows.

**Table 4.4: Result of the Parsimonious ECM**

Dependent Variable: DLOG(LXP)				
Method: Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(LXP(-3))	1.413134	0.162099	8.717700	0.0000
DLOG(HCE)	0.004757	0.001872	-2.541270	0.0186
DLOG(HCE(-2))	0.001768	0.001687	1.048182	0.3059
DLOG(HRE)	0.005421	0.002252	2.406741	0.0249
DLOG(HRE(-1))	0.006550	0.002479	2.642260	0.0149
DLOG(HRE(-2))	0.006342	0.002480	2.557240	0.0180
DLOG(HRE(-3))	0.003531	0.002303	1.533491	0.1394
DLOG(GPC)	0.003217	0.002970	1.083244	0.2904
DLOG(GPC(-2))	0.004237	0.002828	1.498022	0.1483
DLOG(GPC(-3))	0.004338	0.002832	1.531951	0.1398
ECM(-1)	-0.143078	0.032378	-4.418992	0.0002
C	-0.008468	0.002134	-3.969026	0.0007
R-squared	0.804409	Mean dependent var		0.003981
Adjusted R-squared	0.706614	S.D. dependent var		0.005025
F-statistic	8.225425	Durbin-Watson stat		2.352641
Prob(F-statistic)	0.000016			

**Source: Author's Computations**

Table 4.4 presents a summary of the parsimonious ECM result. The short run behavior of three period lag of life expectancy shows that it has significant positive effect on current level of life expectancy. This is an indication that the average number of years accruable to Nigerians is partly influenced by the previous life expectancy. The contemporaneous capital healthcare expenditure is found to exert positive and significant impact on life expectancy. Similarly, the contemporaneous and lagged value of recurrent expenditure has significant positive effect on life

expectancy. These findings demonstrate that public expenditure is important source of improved longevity in Nigeria in the short run. The result further shows that the current and lagged values of per capita GDP have generated positive, but insignificant effect on life expectancy. This suggests that the effectiveness of out of pocket spending on life expectancy in Nigeria tend not to manifest in the short run. The model is found to be associated with very high coefficient of determination of 0.804409. This is very satisfactory as 80.44 percent changes in life expectancy are jointly explained by the lagged explanatory variables. Moreover, the coefficient (-0.143078) of the ECM is in tandem with the expected theoretical and statistical criteria as it is negatively signed and highly significant at 1 percent level with a speed of 14.3 percent of adjusting short run deviations in the long run.

**Table 4.5: Serial Correlation test result**

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.511077	Prob. F(2,20)	0.2448
Obs*R-squared	4.463232	Prob. Chi-Square(2)	0.1074

**Source: Author's Computations**

The result above shows no evidence of autocorrelation as the calculated probability value (0.1074) of the chi-square statistics is greater than 0.05. In other words, the residuals are not serially correlated.

**Table 4.6: Heteroscedasticity test result**

Heteroskedasticity Test: White			
F-statistic	0.205278	Prob. F(11,22)	0.9953
Obs*R-squared	3.164888	Prob. Chi-Square(11)	0.9884
Scaled explained SS	6.849609	Prob. Chi-Square(11)	0.8111

**Source: Author's Computations**

The heteroscedasticity test result in Table 4.6.1 above shows that the probability value (0.9884) of the chi-square statistic exceeds 0.05. In view of this finding, the null hypothesis of heteroscedasticity is rejected at 5 percent level.

Capital and recurrent healthcare expenditures are found to exert significant positive effects on life expectancy in the short run. This finding is very welcoming as it meets both a priori and statistical provisions and equally coincides with previous findings by Matthew, Adegboye and Fasina (2015), Mixon and Ulmann (2006) and Akinkugbe and Aeikhena (2006) among others which identified public healthcare financing as key determinant of life expectancy. The policy

implication of this finding is that budgetary allocations to the health sector are effective in improving health outcomes, especially life expectancy. Additionally, per capita GDP has significant positive influence on life expectancy in the long run. This is in agreement with previous finding by Day and Trougnant (2005) which revealed that real per capita health care spending significantly influenced the health status of the Canadian population. Again, both the static and short run models are well fitted as they are associated with high coefficients of determination. The outcome of the short run regression shows that the parameter estimate of the ECM is well-behaved, but also reveals that the model is to slowly reconcile short run disequilibrium in the long run given its 14.3 percent speed of adjustment.

## **5. CONCLUSION AND RECOMMENDATIONS**

Thus, the conclusion drawn on the basis of the findings is that public healthcare spending is an important driver of health sector development in Nigeria. It is also concluded that aside being a source of rapid growth and development in the health sector, public healthcare financing is a major determinant of longevity improvements in Nigeria.

### **5.1 Recommendations for Policy**

In order to boost longevity among the Nigerian population following the findings of this study, these recommendations was considered:

1. Annual budgetary allocations to the health sector should be improves to meet the united nations minimum benchmark.
2. The monthly salary, hazard allowances and other benefits accruable to medical doctors and other health workers should be prioritized in the total recurrent expenditure in order to motivate them to be fully committed to their duties in terms of quality service delivery and hospitality.

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