

## **Effect of Health Expenditure on the Standard of Living in Nigeria**

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### **Abstract**

**H**ealth care expenditure is an essential component for a higher standard of living since a healthy population translates to an excellent labor force, which makes an economy function effectively. However, this is extremely difficult to achieve, especially in developing countries. Therefore, this paper examined the effect of health expenditure on the standard of living in Nigeria. Specifically, it investigated the relationship between health capital expenditure, health recurrent expenditure and out-of-pocket health expenditure, on standard of living using time series data from 1990 to 2021 and the Dynamic Ordinary Least Squares (DOLS) method was adopted in carrying out the empirical analysis. The paper found that health capital expenditure and out of pocket health expenditure had a positive but insignificant relationship with standard of living while health recurrent expenditure had a positive significant relationship with standard of living. The paper recommends that the Nigerian government should address the insignificant relationship between health capital expenditure, and standard of living by building new hospitals and clinics, buying medical equipment, and training healthcare workers. Also, government needs to prioritize allocation of adequate funds to sustain and improve healthcare services and implement policies such as tax incentives and subsidies to encourage citizens to invest more in their healthcare which will reduce out-of-pocket expenses for essential healthcare service.

**Keywords:** *Standard of living, Health capital and recurrent expenditure, Out of pocket health expenditure*

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## **Background to the Study**

Nations who prioritize development frequently employ effective health care funding to raise the standard of living of its citizens where individuals have access to quality healthcare, freedom to pursue their interests and goals without being hindered by low standard of living. The ideal standard of living would include a healthy and sustainable environment, where people can enjoy clean air and water, access to green spaces, and a diverse range of cultural and recreational opportunities. In this society, there would be a fair distribution of resources and equal opportunities for all individuals, regardless of their background or circumstances.

According to the World Health Organization's global report (2022), Nigeria's health recurrent expenditure as a percentage of overall government expenditure stood at 63.7% in 2001, which decreased to 37.8% in 2003, but then increased to 48.3% in 2004 before declining to 42.9% in 2005. Similarly, Nigeria's health capital expenditure as a percentage of total government expenditure on health was 5.2% in 2001, which decreased to 3.4% in 2003 before increasing to 4.2% in 2004 and then declining to 3.5% in 2005. Between 2006 and 2010, health capital expenditure fluctuated between 2.4% and 4.2%. In 2019, the percentage was 3.2%, showing a preference for recurrent expenditure such as human resources for health and office overhead expenses. Nigeria spent 3.6% of its GDP on health in 2019. This is lower than the average for Sub-Saharan Africa, which was 6.2% in the same year. Despite Nigeria's pledge to allocate 15% of its annual budget to the health sector, analysis of the federal ministry of health and its agencies between 2001 to 2021 revealed a different story. The highest allocation the country has given to the Ministry was 6.08% in 2012, and the average budgetary allocation to the Federal Ministry of Health in 20 years is 4.69%, falling below the 15% Abuja Declaration commitment by 10.31%. This is in contrast to Rwanda, Eswatini, Ethiopia, Malawi, the Central African Republic, and Togo, who have kept their promise of the Abuja declaration. Furthermore, capital expenditure, which should lead to increased investment in the health sector, lags behind. Over a 20-year period, recurrent costs account for 78% of overall health expenditure, while capital costs account for only 22% (Obi & Ozolua, 2021).

According to World Bank in 1990, Nigeria had a poverty rate of 47.2%, which decreased to 40.1% in 2019. However, despite this decrease, Nigeria still has one of the highest poverty rates in the world. In terms of access to basic services, between 1990 and 2018, the proportion of the population with access to improved water sources increased from 49% to 71%. Similarly, the proportion of the population with access to improved sanitation facilities increased from 23% to 47% during the same period. The COVID-19 epidemic had worsened the country's poverty and inequality, resulting in increased unemployment, food insecurity, and restricted access to healthcare (Adedokun, Adekanmbi & Uthman, 2021). Despite the fact that Nigeria is one of the world's top oil producers, a large number of its citizens live in poverty and lack access to basic necessities such as healthcare and Nigeria had one of the world's lowest per capita health expenditures in 2019, with only \$81 spent per person. It also has a high poverty rate, with more than 40% of the population living below the poverty line, indication more than 80 million people. Countries such as

Norway, Switzerland, and the United States, on the other hand, have less than 1% of their populations living in extreme poverty. (National Bureau of Statistics, 2021).

The Nigerian government has made several efforts to improve the standard of living by implementing several poverty reductions programs, including the National Poverty Eradication Program (NAPEP), the Subsidy Reinvestment and Empowerment Program (SURE-P), and the National Social Investment Program (NSIP), National Health Insurance Scheme (NHIS) all of which were designed to provide financial assistance, vocational training, more access to health care and other forms of support. The government also raised healthcare funding (Aghedo & Okekearu, 2020; Oluwole, 2019; World Bank, 2021)

Despite all these government initiatives and programs, Nigeria still faces significant challenges in improving its standard of living. These challenges include inadequate funding, poor infrastructure, corruption, and inadequate human resources. The objective of this paper hence examines the effect of health capital expenditure, health recurrent expenditure and out of pocket health expenditure on standard of living in Nigeria from 1990 to 2022. The rest of the paper is structured into three sections which are materials and methods, presentation and analysis, conclusion and recommendations.

## **Materials and Methods**

### **Conceptual Review**

Health expenditure includes both public and private spending on healthcare services, as well as donations from international sources (World Health Organization (2019), It is a measure of the resources allocated to the health sector and is used to assess the efficiency and effectiveness of healthcare systems. Olayiwola, Oloruntuyi and Abiodun (2017), stated that the pattern of health finance is intertwined with the delivery of health services. Nigeria, like the rest of the world, have a variety of health-care financing options. Tax-based governmental health financing derived from the earnings of all levels and sectors of government's tax-based revenue, household out-of-pocket health spending, the private sector (donor funding), and health insurance are some of these sources. Grants and loans from donor institutions such as the World Bank, the World Health Organization, and the European Union, among others, are used to fund health care as well.

Standard of living as a measure of an individual's or group's overall well-being in a given society, based on access to basic goods and services such as food, water, shelter, and healthcare, as well as their ability to participate in social, cultural, and political activities (United Nations Development Programme (UNDP), 2020). Alkire and Foster (2011), described standard of living as a measure of poverty that represents an individual's or household's overall material well-being and entails having access to basic necessities like food, housing, and clothing, as well as other resources that contribute to a decent quality of life. The World Bank (2021), defined standard of living as the level of wealth, material goods, and necessities available to a certain individual or group in a given society. It is a broad and multidimensional concept that encompasses various aspects of life, such as

income, education, health, housing, and social relationships. The World Bank uses a variety of indicators to measure the standard of living of a population, including poverty rates, income per capita, and access to basic services.

### **Empirical Review**

Several studies have used various data sources and statistical methodologies to examine the effect of health expenditure on standard of living in Nigeria. A study conducted by Adeyeye (2023), examined the relationship between health expenditure and standard of life in Nigeria using a spatial econometric model. The study found a positive relationship but, stronger in urban regions than in rural areas between the two variables. This finding is consistent with the premise that when health expenditure is concentrated in places where it is most needed, it has a stronger influence on standard of living. According to the study, Nigeria should prioritize health spending in urban areas, where the demand is greater. In another study, Eke (2022), used fixed effects regression to assess the impact of health expenditure on standard of living in 36 Nigerian states. Based on the findings, a 1% increase in health spending is connected with a 0.1% rise in standard of life. This discovery holds true across a wide range of control variables and estimating methodologies. According to the study, Nigeria should prioritize preventive care and improve access to healthcare for children and the elderly.

Similarly in another study, Adebayo (2021), used time series data from 2011 to 2020 using the Ordinary least squares (OLS) regression approach to investigate the relationship between healthcare expenditures and standard of living in Nigeria. The findings showed a beneficial relationship between health expenditure and level of life but was not linear. It also showed that the impact of health care expenditure on standard of living is stronger in the early phases of economic development. The study recommended that Nigeria should raise its health spending, particularly on preventive care, and enhance access to healthcare, particularly in rural regions.

The study by, Jeff-Anyeneh, Ananwude, Ezu, and Nnoje (2020), examined the effect of government expenditure on standard of living and determined the effect of government recurrent and capital expenditure on the standard of living in Nigeria. The long and short run estimates were done by utilizing an Autoregressive Distributive Lag (ARDL) model using data that spanned from 1981 to 2018. The study found that government recurrent expenditure has a significant effect on the standard of living in Nigeria. In another study, Okechukwu and Okoye (2020), investigated the relationship between expenditures on health and standard of living in Nigeria from 1981 to 2017 using the Autoregressive distributed Lag technique. The findings revealed that health expenditure has a positive and significant impact on Nigeria's standard of living in both the short and long run. Furthermore, the study revealed that health expenditure accounts for a significant portion of the variation in Nigeria's standard of living.

Also, Ogbuagu and Ewubare (2019), used time series data from 1981 to 2017 to analyze the impact of government spending on education, health, and consumption on Nigeria's

standard of living. On several equation models, such as the Vector error correction model and the impulse response function model, they used the ordinary least square method of estimation. In the short run, their findings revealed that education spending had a positive and significant impact on standard of living. However, health and consumer expenditure had no substantial impact on Nigeria's standard of living. While, Oshikoya and Afolabi (2019), examined the impact of out of pocket health expenditure on standard of living in Nigeria. Cross-sectional study was conducted among 1,200 adults in Nigeria. Data were collected using a structured questionnaire. The results showed that out of pocket health expenditure was high, with an average of 15% of household income being spent on healthcare. Out of pocket health expenditure was significantly associated with lower standard of living, with those who spent more on healthcare having lower levels of household assets. The findings suggested that out of pocket health expenditure is a major barrier to accessing healthcare in Nigeria and that it has a negative impact on standard of living. Similarly, Nduka, Ananwude, and Osakwe (2019) used the Autoregressive Distribute Lag (ARDL) and Granger Causality approach, to re-examined how the standard of living of the citizens are affected by the expenditure pattern of the Federal Government of Nigeria from 1981 to 2018. The outcome of the study based on data applied revealed that government expenditure has significant effect on the standard of living of her citizens.

Similarly, Olaniyan and Lawanson (2018), utilized a time series analysis to assess the relationship between health expenditure and standard of living in Nigeria from 1981 to 2016. The study revealed a significant and beneficial relationship between health expenditure and standard of living. The study suggested that the Nigerian government should raise its health spending in order to improve standard of living. In a similar study by, Olagunju, Ebibola and Ogunleye, (2017) investigated the relationship between health expenditure and standard of living in Nigeria using time series data from 1980 to 2015 and adopted the linear regression model. The study found that there is a negative relationship between health expenditure and standard of living in Nigeria. This means that as health expenditure increases, standard of living decreases. The study also found that a 1% increase in health expenditure is associated with a 0.25% decrease in standard of living. The study concludes that increased health expenditure may lead to decreased standard of living in Nigeria.

Also, Essendi and Mills (2017), conducted a systematic review to investigate the impact of health expenditure on the standard of living in low- and middle-income countries. The authors discovered that increased health expenditure is associated with improved health outcomes and lower mortality rates, which in turn can improve the standard of living. While the articles evaluated provide insight into the relationship between health expenditure and Nigerian standard of living, there is a research gap in investigating the specific processes through which increasing health expenditure can improve living standards.



**Theoretical Framework**

This paper is anchored on Kee (2009), model of health expenditure which is also referred to as the "Human Capital and Health Expenditure Model" or simply the "Human Capital Model". The first was based on the model's slope homogeneity, while the other was based on the slope heterogeneity. In an evaluation of provincial health expenditures, Kee identified a few key characteristics that health-care expenditure decisions are influenced not just by income but also cost of health-care services. Decisions in the case of higher out-of-pocket payments are based on the price level; the government is heavily involved in health supply and supervision, making the health sector a complicated mechanism; health supply to elderly population is thus linked to more health expenses.

Dynamic model considered are of such form:

$$hit = \alpha + \beta hit + \varepsilon + \sum_{it} U_{it} \dots\dots\dots(1)$$

I is the provinces and t is time,  $\beta$  is a K x 1 vector where K is number of independent variables, X is a K x NT matrix of income and non income variables,  $\mu_i$  is province specific parameter and  $U_{it}$  is the stochastic error term. The model also identifies three main factors that influence the supply of healthcare services: the healthcare services, cost in producing healthcare services, and the availability of healthcare providers. The implicit form of the model is represented mathematically as follows: Demand for healthcare services.

$$Q = f(E, Y, I, T) \dots\dots\dots(2)$$

Where: E represents educational level of the population, Y represents level of income of the population, I represent the availability and type of health insurance coverage, T represents advancements in healthcare technology while supply of healthcare services is mathematically as:

Supply of healthcare services

$$Q = g(P, C, N) \dots\dots\dots(3)$$

Where: P represents the healthcare services price, C represents healthcare services production cost, N represents availability of healthcare providers. The equilibrium level of healthcare services in the market can be determined by setting the demand for healthcare services equal to the supply of healthcare services:

$$f(E, Y, I, T) = g(P, C, N) \dots\dots\dots(4)$$

Equation (4) shows that the equilibrium level of healthcare services is determined by the level of education and income in the population, the availability and type of health insurance coverage, advancements in healthcare technology, healthcare services price, health care services production cost, and availability of healthcare providers.

Kee's model emphasizes the importance of healthcare technology and human capital investment in improving life expectancy, standard of living, and promote economic growth, while also considering the influence of market forces such as price and supply on the availability and affordability of healthcare services .

**Method and Model Specification**

This study used the *ex post facto* research design and times series retrieved from Central Bank of Nigeria Statistical bulletin (2021) World Health Organization (2022) Global Health Expenditure database, and United Nation Development Programme [UNDP] (2021). This paper used Dynamic Ordinary Least Squares (DOLS), a technique proposed by Stock and Watson (1993) that eliminates feedback in the cointegrating system by augmenting the cointegrating regression with lags and leads of the differenced values of the explanatory variables, so that the resulting co integrating equation error term is orthogonal to the entire history of stochastic regressor trend. The advantages of using Dynamic OLS (DOLS) are that it can handle mixed orders of integration, does not require cointegration among regressors, and is robustness to stationarity determination errors.

The specification for the DOLS estimator is given as:

$$Y_t = \alpha + \beta X_t + \sum_{j=-q}^{j=p} \delta \Delta X_{t-j} + E_t \dots \dots \dots (5)$$

The paper adapted the model used by Nduka, Ananwude, and Osakwe (2019) in analyzing expenditure of the Federal Government of Nigeria and its effect on the Standard of Living of her Citizens the model's implicit form is:

$$SL = f(GREX, GEEXP) \dots \dots \dots (6)$$

Where SL is standard of living, proxy by per capita income GREX is health recurrent expenditure, GEEXP is health capital expenditure. With an adjustment to highlight the objectives of the paper as well as type of data used in the analysis. The implicit function and model are shown below:

$$SL_t = f(HCE_t, HRE_t, OPHE_t) \dots \dots \dots (7)$$

SL<sub>t</sub> is standard of living at a time t in Nigeria at, HCE<sub>t</sub> represents health capital expenditure at a time t in Nigeria, HRE represents health recurrent expenditure in Nigeria at time t, OPHE stands for out-of-pocket health expenditure in Nigeria at a time t.

The following functional models are proposed to establish the functional relationship between health expenditures and standard of living in Nigeria:

Therefore, explicitly the model becomes:

$$SL_t = \beta_0 + \beta_1 HCE_t + \beta_2 HRE_t + \beta_3 OPHE_t + \mu_t \dots \dots \dots (8)$$

Where; Building equation (8) into a DOLS model:

$$SL_t = \alpha_0 + \alpha_1 HCE + \alpha_2 HRE + \alpha_3 OPHE + \sum_{i=1}^m \alpha_4^i \Delta HCE_t + \sum_{i=1}^n \alpha_5^i \Delta HCE_{t+i} + \sum_{i=1}^p \alpha_6^i \Delta HCE_{t-i} + \sum_{i=1}^q \alpha_7^i \Delta HRE_t + \sum_{i=1}^r \alpha_8^i \Delta HRE_{t+i} + \sum_{i=1}^s \alpha_9^i \Delta HRE_{t-i} + \sum_{i=1}^t \alpha_{10}^i \Delta OPHE_t + \sum_{i=1}^u \alpha_{11}^i \Delta OPHE_{t+i} + \sum_{i=1}^v \alpha_{12}^i \Delta OPHE_{t-i} + \mu_t \dots \dots \dots (9)$$

**Presentation of Data and Analysis**

**Table 1:** Descriptive Statistics on Effect of Health Expenditure on Standard of Living in Nigeria.

	SL(PCI)	HCE	HRE	OPHE
Mean	1963.072	23.47846	124.2431	70.98615
Std. Dev.	447.2643	16.63856	118.4431	4.589051
Skewness	-0.22389	0.340097	0.778937	-0.88865
Kurtosis	1.479071	1.917438	2.444258	3.110881
Jarque-Bera	2.723213	1.770822	2.963803	3.435323
Probability	0.256249	0.412545	0.227205	0.179485
Observations	26	26	26	26

**Source:** Authors Computation, 2023 (Eviews-12)

The mean and standard deviation statistics shows high variation in the time series for SL and HRE, while HCE and OPHE show low measures of variance depicted on table 1. The skewness shows symmetry for HCE and HRE as their coefficients are positive while PCI and OPHE are negatively skewed. The kurtosis for (SL, HCE, and HRE) are platykurtic given their coefficients are less than 3 while OPHE shows a normal kurtosis. The p-value of Jacque-Bera normality test indicates normal distribution in all variables (SL, HCE, HRE, OPHE) (given the p-value is greater than 0.05 level of significance) Thus, the null hypothesis of normal distribution is accepted for all variables.

**Table 2:** Unit Root test results Summary using the ADF Test Statistics

Variables	ADF Test Statistics	Critical Values	Order of Integration
SL (PCI)	-2.064037	-1.952910	I(1)
HCE	-5.420947	-2.967767	I(1)
HRE	-3.791709	-3.622033	I(1)
OPHE	-4.181365	-3.622033	I(1)

**Note:** Test includes both Trend and Intercepts and all at 5% level of significance.

**Source:** Authors Computation, 2023 (Eviews-12)

The test for stationarity is to determine if there are shocks in the series of the data and then adjust and correct these shocks to make suitable the data for regression analysis, the stationarity test results in table 2 shows all variables are stationary at first difference order



of integration I (1). At this order of integration, standard of living test statistics of -2.064037 was found to be greater than the critical value of -1.952910 at 5% level of significance. Health capital expenditure had a test statistic of -5.420947 and was found to be greater than the critical value of -2.967767 at 5% level of significance. Furthermore, health recurrent expenditure also had its test statistic of -3.791709 greater than its corresponding critical value of -3.622033 at 5% level of significance. Lastly out of pocket health expenditure was statistically significant at 5% having its test statistic of -4.181365 greater than its critical value of -3.622033.

**Table 3:** Result of Engel and Granger Residual Based Cointegration Test

Variable	ADF Test Statistics	95% Critical Value	Order of Integration	Remarks
Residual	-1.99475	-1.95641 (0.0461)	I (0)	Stationary

**Source:** Authors Computation, 2023 (Eviews-12)

Since all the variables were found to be integrated at first difference in table 2; and satisfied the Engle-Granger residual-based tests for cointegration approach which necessitates every variable in the equation to be static at first modification (difference). The result found in Table 3, which showed the Augmented Dickey Fuller Test Statistics of -1.99475 is greater than 5% critical ADF value of -1.95641 level with a probability value of 0.0461 this indicates that despite that the series individually exhibit random walks, there seems to be a stable long run relationship among the variables used in the model and are stationary. Therefore, the hypothesis of cointegration among the variables cannot be rejected.

**Table 4:** Dynamic Ordinary Least Square result  
**Dependent Variable: SL (PCI)**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
HCE	18.23821	9.409507	1.938275	0.0813
HRE	2.436664	0.917778	2.654959	0.0241
OPHE	0.988586	22.72121	0.043509	0.9662
C	1337.963	1487.906	0.899225	0.3897
R-squared	0.932328			
Adjusted R-squared	0.851123			
F-statistic	19.15541			
Prob(F-statistic)	0.0002			

**Source:** Authors Computation, 2023 (Eviews-12)

The coefficient of determination as measured by the  $R^2$  (R-squared) result, which is 0.93 indicates the goodness of fit of the statistics, which shows that changes in health capital expenditure, health recurrent expenditure and out of pocket health expenditure accounts

for 93 percentage of total variation in standard of living in Nigeria. While about 7% were as a result of the stochastic disturbance (error) term.

### **Test of Hypotheses**

The hypotheses were tested by using multiple linear regression and determined using p-values of the t-statistics (or t-value) the rejection/ acceptance criteria were that, if the p-value is less than 0.05, we reject the null hypothesis. But if it is more than 0.05, the null hypothesis is not rejected.

### **Test of Hypotheses One**

**H<sub>01</sub>:** Health capital expenditure has no significant effect on standard of living in Nigeria.

From regression result in Table 4, the calculated t-value for the relationship between health capital expenditure and standard of living is 1.938275 and the p-value computed is 0.0813 at 5% level of significance. Since the p-value is greater than 0.05 (or 5%) i.e.  $0.0813 > 0.05$ , the null hypothesis ( $H_{01}$ ) is accepted and conclude that health capital expenditure has a positive but insignificant effect on standard of living in Nigeria.

### **Test of Hypotheses Two**

**H<sub>02</sub>:** Health recurrent expenditure has no significant effect on standard of living in Nigeria.

The estimates from the regression result in Table 3 revealed that the calculated t-value for the relationship between health recurrent expenditure and standard of living is 2.654959, with an associated p-value of 0.0241 at 95% confidence level. This implies that  $0.0241 < 0.05$ . The null hypothesis ( $H_{02}$ ) is rejected and conclude that health recurrent expenditure has a positive and significant effect on standard of living in Nigeria.

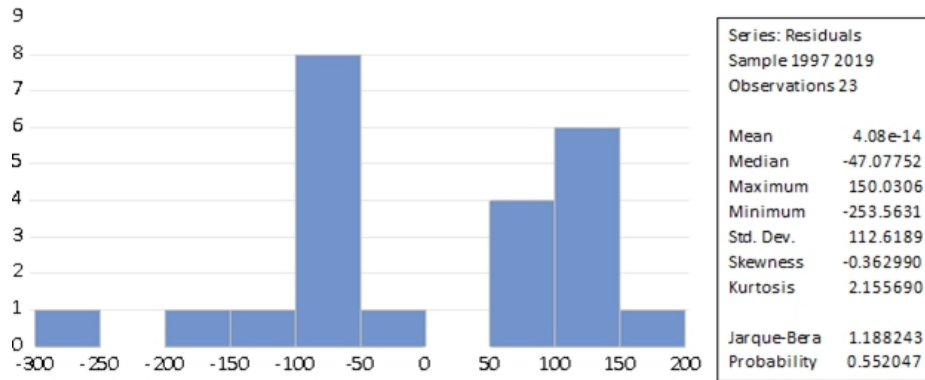
### **Test of Hypotheses Three**

**H<sub>03</sub>:** Out of pocket health expenditure has no significant effect on standard of living in Nigeria.

The calculated t-value for the relationship between out-of-pocket health expenditure and standard of living was found to be 0.043509 with an associated p-value of 0.9662 at 95% confidence interval level. This means  $p > 0.05$ . Based on this, the null hypothesis ( $H_{03}$ ) is accepted and conclude that out of pocket health expenditure has an insignificant, but positive effect on standard of living in Nigeria.

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## Normality test



**Figure 1:** Normality Test

**Source:** Authors plot, 2023 (Eviews-12)

The normality test is conducted to ensure that the data employed in this research are normally distributed. Observing from the normality diagram in Figure 1 as well as the Jarque-Bera value of 1.188243 and its corresponding p-value of 55 % which is greater than 5 % significant level, it confirms that the data are normally distributed.

## Discussion of Findings

The findings of this paper agreed with that of Olagunju, Ebibbola and Ogunleye (2017), whose study found a negative relationship between health capital expenditure and standard of living in Nigeria. The negative relationship between health capital expenditure and standard of living is due to the fact that health capital expenditure is often used to build hospitals and clinics in rural areas, where there is a low population density. This implies that the benefits of health capital expenditure are not evenly distributed across the population in Nigeria.

The findings also agreed with the works of Jeff-Anyeneh, Ananwude, Ezu, and Nnoje (2020), who examined the effect of government expenditure on standard of living and determined the effect of government recurrent and capital expenditure on the standard of living in Nigeria from 1981 to 2018 and found that government recurrent expenditure has a significant effect on standard of living in Nigeria. Nevertheless, that is not the true reflection of the living standard in the country.

Also, the finding is similar to that of Oshikoya and Afolabi (2019), who examined the impact of out-of-pocket health expenditure on standard of living in Nigeria. The results showed that out of pocket health expenditure has a positive but insignificant relationship with standard of living. This indicates that out of pocket health expenditure is significantly associated with lower standard of living, because those who spent more on healthcare have lower levels of household assets. This also, indicates that many people in Nigeria are unable to access the healthcare they need because health services are

expensive, those who spend more on healthcare have lower levels of household assets, which can have a significant impact on their health and well-being.

### **Conclusion and Recommendations**

The paper utilized Dynamic ordinary least square (DOLS) in analyzing the effect of health expenditure on standard of living in Nigeria between 1990 and 2021. The findings revealed that.

health capital expenditure does not significantly impact standard of living in Nigeria, suggests that the benefits of investing in medical equipment and facilities may not be realized immediately. This could be owing to the time lag required for new healthcare facility construction and operationalization, also the time required for medical staff to obtain experience in using new medical technology. While health recurrent expenditure has a significant positive effect on standard of living in Nigeria this indicates that allocating adequate funds for healthcare will be sufficient to improve standard of living. The positive but insignificant relationship between out-of-pocket health expenditure and standard of living indicated that people are not prepared to pay for healthcare services from their pockets because they do not have enough to improve their standard of living which, might be difficult and will result in disparities in access to healthcare.

### **Recommendations**

- i. Health capital expenditure can improve in Nigeria through a multi-facet approach which involves investing in health capital expenditure such as; building new hospitals, clinics buying medical equipment, (such as MRI machines and X-ray machines), renovating existing healthcare facilities, training healthcare workers, conducting research on new healthcare technologies to improve the healthcare infrastructure. This can be achieved by improving the transparency and accountability of healthcare spending and investing in infrastructure to improve the efficiency of healthcare service delivery.
- ii. Given the significant positive effect of health recurrent expenditure on standard of living, policymakers should prioritize allocating adequate funds to sustain and improve healthcare services, including recurrent expenditures such as staffing, equipment, and operational costs. This investment can contribute to improved standards of living in Nigeria.
- iii. Since out-of-pocket health expenditure does not significantly affect standard of living, efforts should be made to reduce the burden of out-of-pocket payments for healthcare. Policymakers should consider implementing measures such as health insurance schemes or social health protection programs to provide financial risk protection and ensure equitable access to healthcare services.

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