MATERNAL MORTALITY IN NIGERIA: X-RAYING THE ROLE OF PUBLIC EXPENDITURE ON HEALTH

[1]Mgbemena, Onyinye O. *PhD*. & [2]Ejelonu, Onyebuchi Henry

[1,2]Department of Economics, Michael Okpara University of Agriculture, Umudike.

Abstract

The Nigerian experience has been characterized by one in which the security of life and property are at its slimmest level for over a decade, as the nation witnessed incessant bombing, kidnapping and un-provoked religious extremist killings, communal clashes and land grumling, to mention but few. They have incidentally resulted in the rising population of orphans and female-households in the country. Also of as major concern is the rising merternal mortality rate across the nation, a sign of the deplorable standard of the health statues of the people. These yet-to-be resolved national issues, thus, informed this study on maternal mortality rate in Nigeria; X-raying the role of public expenditure on Health. The study adopted an ordinary time series data obtained from world development indicators for Nigeria 2021 and regressed maternal mortality rate against; female literacy, urbanization, government expenditure on the health sector and skilled birth attendant through augmented dickey fuller test for stationarity, Johansen test for a long run relationship, error correction model and multiples regression to assess the degree of influence the regressors exerts over the regressed in the research model.. The result indicated that public health expenditure has a negative deductive relationship with mortality rate, which translates to a per cent increase in government expenditure on health, reducing the maternal mortality by 3.69%. Furthermore, the study's policy recommendations were informed by the empirical outcome, which includes the need for government at levels should through the ministry of health in the country structure and implement a national health insurance scheme that would cover delivery, child and mother care for at least one month after birth, while putting effort to alleviate the incessant strike actions by doctors in the country and return stability and sanity to the medical profession in the country. Conclusively, the study asserted that Nigeria could not compete favourably on the international lite while murdering her future at birth.

Keywords: *Maternal Mortality, Female Literacy, Public Expenditure, Skilled Birth Assistant*

INTRODUCTION

The term "maternal health outcome" refers to a woman's state of health before, during, and after giving birth. Maternal mortality rates, infant mortality rates, and complications during pregnancy are only a few of the indices of maternal health. The annual number of female fatalities per 100,000 live births due to reasons related to or exacerbated by the pregnancy or the way pregnancy is treated is known as the maternal mortality ratio,

as defined by the Population Research Institute (PRI, 2020). (excluding causes which may be classified as accidental). Death of a pregnant woman or a woman within 42 days after giving birth or the end of her pregnancy is also known as maternal mortality (WHO, 2016).

An annual rate per 100,000 women of childbearing age is used to measure the maternal mortality rate. This rate includes all maternal deaths, not just those caused by pregnancy or childbirth.The high rate of maternal mortality has been a problem in many developing nations. Consequences of a society's high maternal mortality rate include the loss of a breadwinner and the isolation of the spouse.

The effects are also felt by the kids left behind who now have no mother to provide for them. Many kids are forced to work when times are tough, and many others go hungry. Problems with personal cleanliness, unnecessary injuries, sadness, a lack of motivation to learn, social isolation, abuse, and neglect at home. Health policymakers around the world have made reducing maternal mortality a top priority because of the widespread impact it has. Teenage delinquency, drug usage, theft, and a general trend toward a decline in family and cultural values are all significant repercussions on society in emerging countries (Okafor and Ejelonu, 2022).

In addition, maternal mortality is still a problem in some Sub-Saharan African countries, and Nigeria is one of them. According to the World Health Organization (2019), the country has not done nearly enough to decrease maternal mortality. Despite efforts to reduce the rate of maternal mortality by encouraging hospital births and by training and deploying more trained health professionals, Nigeria is still one of the top six countries in the world in terms of maternal mortality. A total of 50,000 recorded maternal fatalities occurred in Nigeria in 2008, and the country's maternal mortality ratio (MMR) was estimated to be 840 per 100,000 births (National Population Commission, 2013).

**Figure 1: Trend of Mortal Mortality in Nigeria from 2000 through 2019**
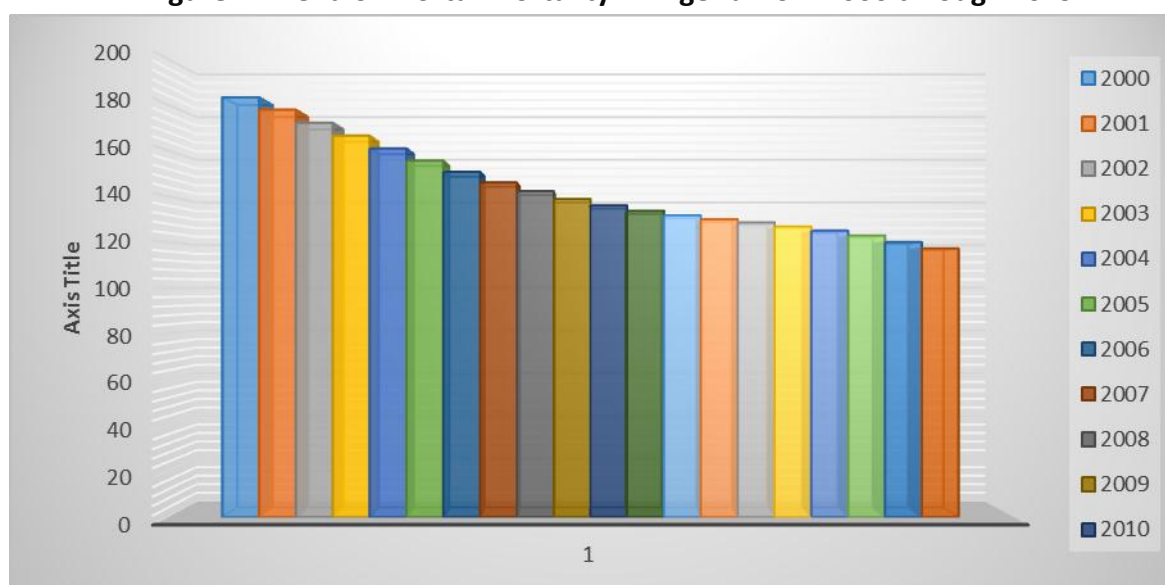
Source: *World Development Indicator (2022)*

Despite the devastating statistics of the country's health care system, a drop in maternal mortality was recorded between the years 2000 and 2019, as clearly depicted above. However, Nigeria Demographic and Health Surveys (NDHS) show that the national MMR in 2013 was 576 deaths per 100,000 livebirths and 545 deaths per 100,000, and maternal mortality rates in several states and health institutions are more significant than the national average. For example, in 2008, Kano had an MMR of 1600 fatalities per 100,000 livebirths Galadanci, Sadauki, and Yakasai (2019). In Zamfara state, 1049 fatalities per 100,000 live births were observed. Maternal mortality rates in health facilities are also high, with 927 deaths per 100,000 live births recorded for 21 health facilities in three states: Katsina (North), Lagos (South), and the Federal Republic of Nigeria.

While these figures are troubling, the most shocking aspect is that the primary causes of these fatalities are known and either avoidable or curable. Only five factors account for approximately 75% of all obstetric deaths: bleeding, hypertensive disorders, improper abortion, infection, and obstructed labor, while inadequate health care facilities account for the remaining 25%, quack midwives and untrained delivery attendants in both private and public hospitals across the federation. According to the World Bank, fully using existing measures, particularly comprehensive emergency obstetric care, would cut maternal fatalities by about 75%. (World Health Organization Health, 2010).

The fact that Nigeria is rated second in the world, behind India, and first in Africa as the country with the highest maternal mortality rates prior to the year 2000 MDGs confirms that her health care system is in disarray. Again, her failure to fulfill the MDG4 by 2015 demonstrates the shambolic state of her health system. Even though Nigeria is presently rated fourth in the world according to the CIA Fact Book (2018), its maternal health performance still needs to improve when compared with India, which was formerly ranked first, but now 53rd. According to the CIA Fact Book study, India's progress reveals a considerable improvement in her health system and an indicator that effective public health expenditure is a must for addressing the scourge of maternal mortality.

In Nigeria, however, the health expenditure structure has not reflected commitment to fiscal policy aimed towards resolving the country's health gap, such that national health spending in 2019, 2020, and 2021, for example, were N1,190.71 billion, N1329.78 billion, and 1,477.77 billion nairas, respectively (NBS, 2022). However, the health sector also got N81.47 billion under the service-wide vote, which includes N69.57 billion for GAVI/immunization; N7.4 billion for counterpart funding including global fund, health refund to GAVI and N4.4 billion for military retirees under the National Health Insurance Scheme (NHIS). Additionally, the 2023 budget shows a significant increase from the N826.9 billion allocated to the health sector in 2022 and the N547 billion allocated in 2021. While the capital expenditure increased by 94.83 per cent from the 2022 budget, the recurrent health budget also increased by 25.54 per cent (NBS, 2022).

Figure 2: Trend of Public Expenditure and Mortality in Nigeria
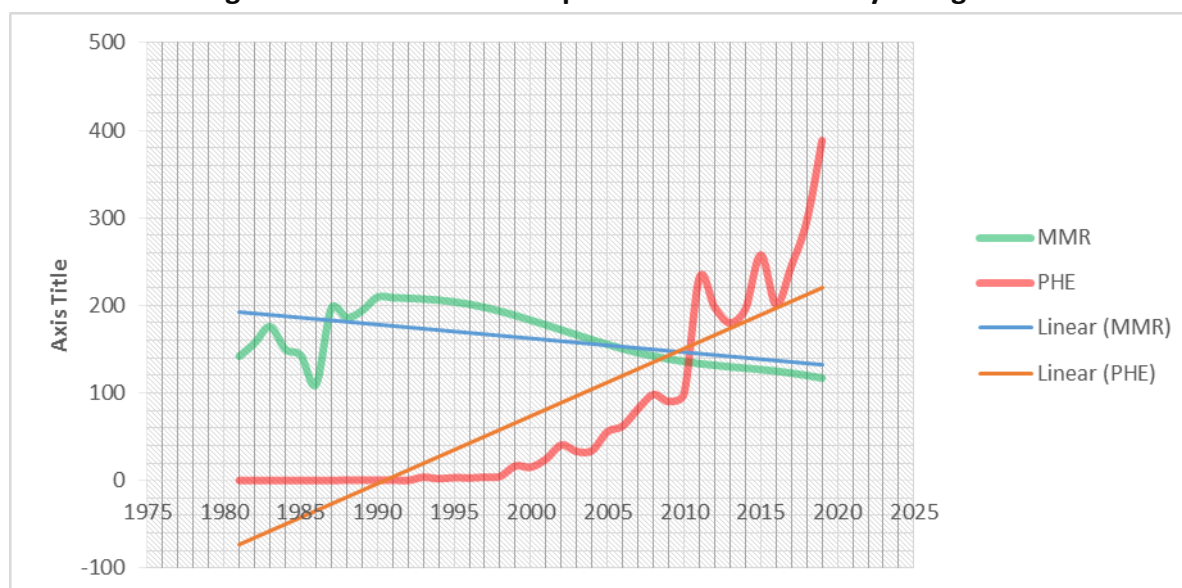
The inherent nexus between government's continuous public expenditure on health infrastructure and health care-related services across the country for various years has not relatively translated to an overall improvement in life expectancy at birth, as the country continues to lag behind MDG and SDG expectations, respectively. It is worth noting. However, that fiscal expenditure on the health sector of the economy has indicated a positive effect on the maternal mortality rate as denoted by the rising trend captured by the trend lines, while the maternal mortality rate reciprocates by a declining trend.

However, the gross desired reduction in maternal mortality rate across public and private hospitals in the country has not been achieved despite a creeping incremental approach by the government towards health sector development. This issue becomes so apparent when we analyze the financial capacity of the wealthy and the poor in the society regarding accessing expensive private health around the world out of their pockets. While the wealthy can conveniently do so, the poor are left to grapple with the government's mal-administration negligence of public infrastructures across the Nation. Therefore, the need to further re-examine maternal mortality in Nigeria by X-raying the role of public health expenditure cannot be over-emphasized.

Objective of the Study

While the wide spread of social and structural injustices persists across Africa's most populous black Nation, with various means of untimely death raging from; terrorism, starvation, poverty, communal crisis, infrastructure imbalance and largest health care loopholes, one begins to wonder if the deliberate neglect of this vital sector of any productive and developmentally oriented Nation of the globe is aimed at an indirect control of childbirth or it goes beyond that. Thus the study is concerned that, despite the gradual incremental approach towards health care provisions in the country, the rate of maternal mortality remains alarming. Following these lingering issues, the study objectively examined the following;

- Determine If public health expenditure has a positive and significant difference with a maternal mortality rate in Nigeria at 0.05% level of Significant.

- Establish the effect of skilled birth attendants on maternal mortality rate in Nigeria at 0.05% level of Significant.

- Analyze the effect of female literacy rate on maternal mortality rate in Nigeria at 0.05% level of Significant.

LITERATURE REVIEW

Implications of Public Health Spending on Maternal Mortality

A sound health-care system promotes maternal health, lowering maternal mortality. This viewpoint is corroborated by (Omoruyi, 2008), who estimated that over 70% of maternal deaths in Nigeria were caused by five major pregnancy complications: infection, haemorrhage, obstructed labour, unsafe abortion, and hypertensive illness of pregnancy. Poor access to healthcare facilities and underutilization of appropriate and efficient reproductive healthcare treatments contribute considerably to Nigeria's high maternal death rate (Omoruyi, 2008).

According to Akokuwebe and Okafor (2015), the Nigerian health system is facing the most challenging problem of maternal morbidity, both throughout pregnancy and after delivery. With the government investing around 70% to 80% of the Nation's available resources on healthcare at the point of need for citizens, the social system cannot operate differently or better to produce improved health results. Funds should be made accessible and spent on healthcare delivery at all costs in order to address healthcare demands and improve maternal mortality (Idowu, Edewor and Amoo, 2014).

Primary healthcare is an essential indication of maternal health. The social epidemiology of disease among Nigerian women includes, but is not limited to, haemorrhage and consequences of delivery, such as postpartum infections. The majority of these disorders are entirely preventable. Despite the large sums of money allocated or disbursed for Nigeria's health care system, the fact is that these monies are not used for the purpose for which they were committed. Therefore the pressing difficulties within the health care system endure (Idowu, Edewor and Amoo, 2014).

As a result, the healthcare delivery system must undergo a change that addresses the inherent corruption that syphons resources supposed to lead to efficient and effective service delivery within the sector. Primary health care should be replicated, particularly in Nigeria's rural regions, to provide pregnant mothers access to free or low-cost health care services. There is also a need for the government to invest more money in the healthcare system, as a present investment in health is low in comparison to other sophisticated countries across the world (Akokuwebe and Okafor, 2015). A well-organized community health insurance system can significantly improve resources for women's healthcare.

THEORETICAL AND EMPIRICAL REVIEW

When discussing public sector growth, it is common to begin with Wagner's law. Adolph Wagner, a German social scientist, proposed what became known as Wagner's law of rising government involvement in 1883. The most common interpretation of this law is that Wagner believed that the percentage of government expenditure in total production would inevitably rise, albeit he recognized some limits to this rise. He claimed that a larger government will inevitably precede social development and higher earnings. A belief that civilizations must evolve under certain principles is an example of historical determinism.

In order to grasp Wagner's legislation, one must first understand Wagner's perspective on the connection between the state and its citizens: the state may be understood as existing independently of individuals in society and has a general duty for society as a whole. This stands in stark contrast to the usual neoclassical concept that the state should simply represent the opinions of individual individuals.

Wagner recognized three functions of the state:

i.   Providing administration and protection;

ii. Ensuring stability; and

iii. Providing for the economic and social welfare of society.

As a result, the research is based on Wagner's thesis of rising state action, particularly in the provision of social welfare, to which the health sector belongs. However, researchers have frequently correlated improved social circumstances with increasing government expenditure, which coincides with Wagner's theoretical perspective. For example, Kilanko (2019) investigated the influence of health expenditure on health outcomes in selected West African nations. This study's health outcomes are newborn mortality, under-five mortality, and maternal mortality rates. A panel data set for 14 countries for 2000–2018 was used. Aside from examining the role of total health expenditure on health outcomes, we examine whether public and private healthcare expenditure could have different health outcomes. This research used panel data estimation method.

Panel data has some advantages over cross-sectional analysis and time series analysis in that it controls for the effect of omitted variables, takes into consideration the international differences and provides more accurate inference of model parameters via more degrees of freedom and more sample variability. A one percentage point increase in health expenditure will reduce infant mortality by 2.4 per cent, under-five mortality by 3.9 percent and maternal mortality by 4.9 per cent. These are economically significant effects too and indicate the decent contribution of health resources toward building human capital in these economics. Human capital expansion affects economic growth positively in the developing countries of West Africa, making it worthwhile to increase health expenditure in the region.

Christopher (2018) examined the effects of public health spending on maternal mortality in Nigeria. It is informed by the escalating nature of maternal mortality outcomes in Nigeria. A panel data regression analysis was employed from the years 2003 to 2015 from selected 25 States in Nigeria. The study adopted instrumental variables strategy as a solution for possible endogeneity for its econometric analysis. After controlling for other relevant covariates like female per capita income, female literacy rate, and urbanization, we realized that public health expenditure is vital in reducing incidences of maternal mortality in Nigeria.

EMPIRICAL MODEL AND ANALYSIS OF DATA

The Ex-post facto research design was used to capture the aggregates of macroeconomic variables used to investigate the effect of public health expenditure on maternal mortality in Nigeria; Ex-post facto is a method in which groups with qualities already exist are compared on some dependent variable. Also known as "after the fact"

research, an ex-post facto design is considered quasi-experimental because the subjects are not randomly assigned they are grouped based on a particular characteristic or trait. Methodologically, the study regressed for time series stationarity using augmented dickey and fuller test, the long run relationship was determined by the johansen cointegration criterion, and the causation between public expenditure on health and maternal mortality was regressed using pairwise granger causality test. The model adopted regressed; maternal mortality rate (MMR) against public health expenditure (PHE), Female Literacy (FL), Skilled Birth Attendants (SBA), and Urbanization rate (UR)

$$MMR_{t-1} = \beta_0 + \beta_1 PHE_{t-1} + \beta_2 FL_{t-1} + \beta_3 SBA_{t-1} + \beta_4 UR_{t-1} + \mu$$

Maternal mortality: Maternal mortality refers to any loss of a woman's life resulting from pregnancy complication or death within 42 days after childbirth, notwithstanding the period or site of the pregnancy, emanating from issues that are linked or escalated by the management of the pregnancy but not from an accident or incidental factors**.**

Public health expenditure: Include the government cost expenditure on medical & public health, water & sanitation, and nutrition (% of GDP).

Female Literacy: Includes the proportion of women aged 15 years and more who can read, write and carry out simple arithmetic calculations.

***Skilled Birth Attendants*:** Total number of trained birth attendants less traditional birth attendants and

Urbanization rate: the proportion of population living in urban areas.

Summary of Stationarity (Unit Root) Test

Given assuring a statistically stable and devoid of a spurious estimate, the need for augmented dickey and fuller test to ascertain the diverse stationarity of the time series data was inevitable.

Variable	ADF Statistic	Critical @ 5%	Order of Integration	Remark
MMR	-5.172157	-3.562882	I (0)	With trend and intercept
PHE	-3.696654	-3.552973	I (1)	With intercept and intercept
FL	-4.413384	-2.943427	I (1)	With intercept only
SBA	-5.478189	-2.948404	I (1)	With intercept only
UR	-8.697377	-2.945842	I (2)	With intercept only

Following the outcome from augmented dickey and fuller test presented above with indications from ADF statistics and critical values at 5% significance. The decision rule is to conclude for no unit root, as long as the statistical values of augmented dickey fuller test statistics are greater than the critical values at 5%. Thus maternal mortality rate became stationary at levels with the trend and intercept, while the coefficient for public health expenditure, female literacy and skilled birth attendant only became stationary after the first difference was taken. Although the coefficient for urbanization became stationary when the second difference was regressed with intercept only in the deter metric equation.

Test for Long Run Relationship (Johansen Test Criterion)

The study regressed for the Johansen test for cointegration to establish the relationship between the series in the regression line.

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.955655	245.9676	69.81889	0.0000
At most 1 *	0.924988	140.0321	47.85613	0.0000
At most, 2 *	0.632676	51.96854	29.79707	0.0000
At most 3 *	0.407407	17.91721	15.49471	0.0212
At most 4	0.003721	0.126765	3.841466	0.7218

The result provided above indicates the presence of a long-run relationship between the variables in the regression line, which is not desirable for a short-run oriented analysis of such. This empirical conclusion was reached following the probability values of the coefficients; None *, at most 1 *, at most 2 * and at most 3 * being less than 0.05% level of statistical significance. We carried out an error correction mechanism to estimate the speed of adjustment to our desired short-run relationship among the variables in the regression line.

Error Correction Mechanism (ECN)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ECM(-1)	-0.550578	0.591780	-0.930375	0.3765
C	-62.47078	236.2703	-0.264404	0.7932
PHE(1)	-0.207143	0.149108	-1.389216	0.1744
SBA(1)	1.863349	1.070608	1.740458	0.0914
UR(2)	-3.938583	4.246925	-0.927396	0.3607
FL(1)	4.048426	5.016599	0.807006	0.4256

The result above shows a powerful goodness of fit. The coefficient of determination (R^2) implies that about 66% of the variation in the maternal mortality rate (MMR) is caused by the changes in the Public Health Expenditure (PHE), Female Literacy (FL), Skilled Birth Attendants, and Urbanization Rate (UR). The entire model is also statistically significant, meaning that the entire result is reliable for economic analysis. The error correction model measures the degree and speed of adjustment from long-run equilibrium to short-run. From the available statistical evidence, the speed of adjustment from the long run to the short run model is (55.1%) annually. Going further, the study obtained that a one-unit increase in public health expenditure (PHE) caused the maternal mortality rate to drop by about 0.21 units. This result affirms the Wagner theory for the need for an increase in government expenditure, especially on the aspect of social welfare of the citizenry across the country and the empirical assertions made by Christopher (2018), who examined the effects of public health spending on maternal mortality in Nigeria and found that government spending has a significant effect in reducing maternal mortality rate across the country. Consequently, the coefficient of female literacy and skill-based attendant were positive, indicating an additive implication over the maternal mortality rate in Nigeria, while urbanization witnessed a deductive effect on maternal mortality rate, which by implications juxtaposes that a percent increase in urbanization would proportionate to a 3.94% decrease on maternal mortality rate in the Nation, this result is reflective of the critical Nigerian society, where the greater incidence of maternal mortality are in the rural section of

settlement in the country. Thus rural-urban migrant having to assess to adequate health care system in the cities would have less risk to life at birth.
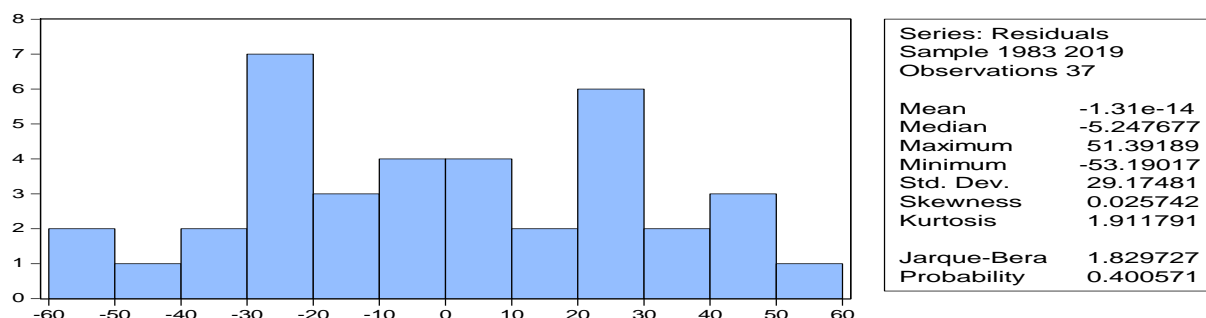
Test for Stability of Variables
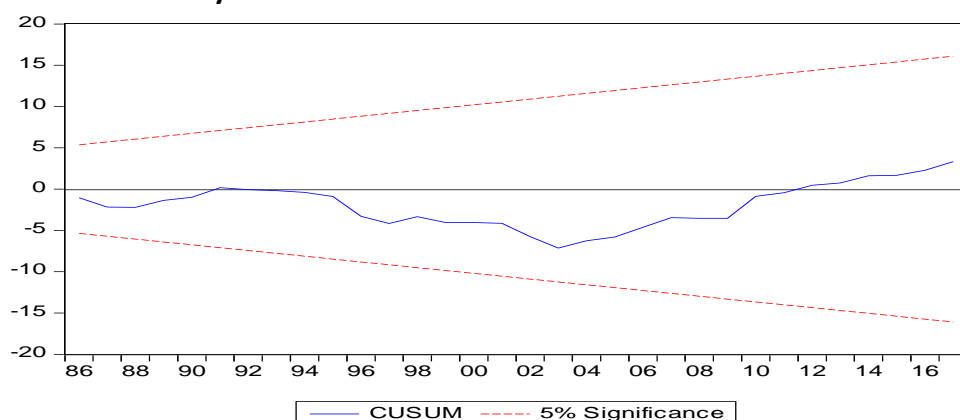
The recursive Cusum test at a 0.05% level of significance for the study period shows that the trend line stayed within the boundary, meaning that the model is statistically stable.

Test for Normal Distribution of Variables

We employed the Jarque-Bera test for the normality of the residual of our OLS estimate. The null hypothesis is that the residual of the OLS result is typically distributed.

Series: Residuals
Sample 1983 2019
Observations 37

Mean	-1.31e-14
Median	-5.247677
Maximum	51.39189
Minimum	-53.19017
Std. Dev.	29.17481
Skewness	0.025742
Kurtosis	1.911791
Jarque-Bera	1.829727
Probability	0.400571

The result of the normality test shown below reveals that Jarque-Bera value of 0.400571 > level of significance of 0.050 We, therefore, accept the null hypothesis and thus conclude that the residual of the OLS result is usually distributed.

CONCLUSION AND RECOMMENDATIONS

Adequate health care provision has been the fountain of most industrialized nations of the world, while the sector is continually improved knowing the causal linkage it has on the general health of the economy of their country, the reverse is obtainable in Nigeria, where public health care conditions remain deplorable. This administrative bias witnessed in the country against the health sector has resulted in increased maternal mortality across the country's major cities, with the gross bulk incidence of unaccounted maternal-related mortality taking place at the villages and rural areas of the country. This ugly and un-abated situation in the health sector motivated the need to examine maternal mortality in Nigeria by X–raying the role of public health expenditure between 1981 and 2019 using ordinary time series data obtained from world development indicator for Nigeria.

Objectively, the study sort to assess the relevance of public expenditure on health care on maternal mortality across the Nation. To buttress the stability and reliability of the variables implored, the study regressed maternal mortality rate against; *Public health expenditure*, *Female Literacy, Skilled Birth Attendants* and *Urbanization* through augmented dickey fuller test for stationary of the series, johanen test for long-run relationship determination, error correction model to ascertain the speed of adjustment back to the short run and multiple regression analysis to elucidate the individual parameter position with the dependent variable in the model. Furthermore, the result is indicative that public health expenditure has a negative deductive implication on maternal mortality rate, thus justifying the theory of Wagner, which is the anchor theory for the study.

Policy Recommendations

Based on the findings of our study, we proffer the following policy recommendations:

• More monitored funding to the health sector so that they can contribute more towards maternal mortality reduction across the country

• Efforts should be made to end the incessant strike actions in the health sector so that more dividends of the total spending will be reaped without interruption.

• Policies that will restrict our politicians and other elites from travelling abroad for medical treatments should be implemented, and full compliance to this policy should be adequately ensured. This will encourage our hospitals' development to meet international standards and equally preserve lives, our greatest assets.

• More healthcare centers should be built in the urban regions to meet up with the teeming population in the urban areas.

References

Adamu YM, Salihu HM, Sathiakumar N, Alexander GR. (2019). Maternal mortality in northern Nigeria: a population-based study. *Eur J Obstet Gynecol Reprod Biol*. 109:153–9.

Akokuwebe ME, Okafor EE (2015). Maternal health and the implications for sustainable transformation in Nigeria. *Res HumanitSoc Sci*; 5(6):1–3.

Christopher E. N (2018). Effects of public health spending on maternal mortality in Nigeria, 9 (20); ISSN 2222-1700 (paper).

CIA (2017): CIA Fact book; www.photius.com/rankings /2017/population/maternal_mortali-

Galadanci H, Idris S, Sadauki H, Yakasai I.(2019). Programs and policies for reducing maternal mortality in Kano state Nigeria: a review. Afr J Reprod Health;14:31–6.

Idowu A.E., Edewor P., Amoo E.O. (2014). Working Conditions and Maternal Health Challenges in Lagos State, Nigeria. *Research on Humanities and Social Sciences*; 4(9):136–47.

Kilanko, O. (2019). The Effects of Health Care Expenditure on Health Outcomes in West Africa: Analysis of Selected 14 Countries from 2000 to 2018.

Lanre-Abass BA (2018). Poverty and maternal mortality in Nigeria: towards a more viable ethics of modern medical practice. *Int J Equity Health*. BioMed Central.

National Population Commission (NPC) [Nigeria] and ICF International (2013). Nigeria Demographic and Health Survey. Abuja and Rockville: NPC and ICF International; 2014. https://dhsprogram.com/pubs/pdf/FR293/FR293.pdf.

Omoruyi G (2008). Causes of maternal mortality in Nigeria, *Sunday Observer*. Benin:

Population Research Institute (2020). Maternal mortality ratio vs maternal mortality rate. *Retrieved from www.pop.org on February 20, 2020.*

Ronsmans C., Graham W.J. (2006). Maternal survival 1: maternal mortality: who, when, where, and why. *Lancet*.368:1189–200.

WHO (2020) . WHO maternal mortality: WHO. World Health Organization. Available from: https://www.who.int/en/news-room/fact-sheets/detail/maternal-mortality.   Cited 28 June 2017

WHO, (2010). Trends in Maternal Mortality; 1990 to 2008; Estimates Developed by WHO, UNICEF, UNFPA, and the World Bank. Geneva, Switzerland. *WHO*. pp.1-55.

WHO, (2019). Trends in maternal mortality: 1990 to 2013. Estimates by WHO, UNICEF, UNFPA. Geneva: *The World Bank and the United Nations Population Division; 2014*.

DATA FOR THE STUDY

Year	MMR	PHE	FL	SBA	UR
1981	142	0.084458	68.876	17.6	22.7
1982	157	0.095946	69.381	18.3	23.4
1983	175.8	0.082786	69.924	23.1	24.1
1984	149.9	0.101549	70.455	22.8	24.9
1985	143.1	0.132025	70.934	27.4	25.6
1986	109.9	0.134124	71.376	28.6	26.4
1987	197	0.041315	71.962	28.8	27.2
1988	186	0.4228	73.661	29.3	28
1989	194	0.5753	74.096	29.1	28.8
1990	209.5	0.5007	74.316	30.8	29.7
1991	209	0.6182	74.877	31.9	30.2
1992	208.3	0.150161	75.323	33.3	30.7
1993	207.4	3.871601	75.75	32.7	31.2
1994	206.1	2.093984	76.172	32.8	31.7
1995	204.1	3.3207	76.581	33.1	32.2
1996	201.4	3.023707	76.996	35.7	32.7
1997	197.8	3.891099	79.028	38.1	33.2
1998	193.5	4.742267	80.206	39.6	33.8

1999	188.5	16.63877	80.549	41.6	34.3
2000	183.1	15.21808	80.675	40.8	34.8
2001	177.7	24.52227	80.993	41.6	35.7
2002	172	40.62142	81.395	37.2	36.5
2003	166.4	33.26798	81.924	35.2	37.4
2004	160.8	34.19848	82.344	33.8	38.2
2005	155.5	55.663	82.26	37.5	39.1
2006	150.6	62.25362	82.526	35.2	39.9
2007	146	81.90937	82.817	36.2	40.8
2008	142.2	98.21932	83.34	34.4	41.7
2009	138.8	90.2	83.623	33.1	42.6
2010	136	99.1	84.022	45.8	43.5
2011	133.6	231.8	84.284	47.3	44.4
2012	131.7	197.9	84.73	44.6	45.2
2013	129.9	179.9869	84.932	35.2	46.1
2014	128.5	195.9768	85.361	42.8	47
2015	126.8	257.7	85.542	44.2	47.8
2016	125	200.824	85.986	43.7	48.7
2017	122.8	245.188	86.22	43	49.5
2018	120	296.4428	86.247	43.3	50.3
2019	117.2	388.3671	86.478	43.1	51.2

Source: CBN Statistical Bulletin (2019) and World Development Indicators (WDI)