

**DISTRIBUTION OF HEALTHCARE FACILITIES FOR MONITORING  
MATERNAL MORTALITY IN ACHIEVING SUSTAINABLE DEVELOPMENT  
GOALS IN NIGERIA**

**BY**

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***Abstract***

Public Health statistics is the process of collection, analysis and dissemination of health related data to provide adequate information to improve the health living condition of the populace. Health monitoring is a regular collection of data on relevant components of health and its determinants. This study determined the statistical distribution of healthcare facilities as tool for monitoring maternal mortality in achieving sustainable development goals in Nigeria. The usage of timely data in public health corroborate the aim of Sustainable Development Goals declaration that emphasis to achieve the overall health goal, universal health coverage and access to quality health care is paramount. Database were obtained and reviewed majorly from relevant literatures. It further revealed the coverage estimates for maternal health indicators, flaws and solutions to Nigeria healthcare system particularly the Primary Health Care and ascertained that medical surveillance and monitoring represent a useful component in the healthcare system in achieving Sustainable Development Goals III. Therefore, building a system well-grounded in routine monitoring and medical intelligence as the backbone of the health sector is necessary and serve as pathway to reducing maternal mortality in Nigeria.

***Keywords:*** Maternal mortality, Statistical distribution, Healthcare facilities, Monitoring and Sustainable Development Goals .

## **Introduction**

Maternal mortality is defined as the loss of life of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the site and duration of the pregnancy, from any cause traced or related to the pregnancy or its management but not from accidental or incidental causes. It can also be referred to deaths due to complications from pregnancy or childbirth.

Health facilities in Nigeria are all classified based on their management or the services they render. Under management classification, there are private hospitals and government hospitals. On the other hand, if they are classified by the services rendered, Government hospitals and private health facilities since they operate under the same regulation and standardization.

Nigeria has one of the highest maternal mortality rates in the world, second only to India (WHO 2008). From 2000 to 2017, the global maternal mortality ratio declined by 38% from 342 deaths to 211 deaths per 100,000 live births, according to UN interagency estimates (WHO 2019). This translates to an average annual rate of reduction of 2.9%. While substantive, this is less than half the 6.4% annual needed to achieve the sustainable development global goal of 70 maternal deaths per 100,000 live births (WHO 2019).

Maternal mortality is one of the key health challenges in developing countries and sub-Saharan Africa in particular (WHO 2015). According to estimates in 2015, there were 303,000 maternal deaths with most of them occurring due to complications related to pregnancy and childbirth. Almost all of the 303,000 deaths occurred in low-resource settings such as sub-Saharan Africa (Ross and Von XYlander 2016); and most of these deaths could be prevented.

Two regions, sub-Saharan Africa and South Asia account for 86% of maternal deaths worldwide. Sub-Saharan Africans suffer from the highest maternal mortality ratio – 533 maternal deaths per 100,000 live births or 200,000 maternal deaths a year (WHO 2019). According to the World Health Organization (WHO), Nigeria accounts for over 34% of global maternal deaths. The lifetime risk of dying during pregnancy, childbirth, postpartum or after abortion for a Nigerian woman is 1 in 22 compared to 1 in 4900 in developed countries (Guardian, 2022). The inability to obtain high-quality healthcare in most Nigeria health facilities contributes significantly to this high maternal mortality rate. Most Nigeria healthcare facilities, especially the primary health centres, where women access maternal care, require an increased influx of health providers.

The most widely accepted strategy for reducing maternal and newborn mortality is to encourage women to give birth in a health facility rather than at home (UNIGME 2018, Campbell and Graham 2006). Health facilities which offer maternal and newborn care are more likely to provide infection control and – ideally – are staffed by Skilled Birth Attendants (SBAs). To achieve the Sustainable Development Goals (SDGs) for maternal health and newborn health, the number of maternal fatalities must decrease by more than 90 to less than 3000 per year. Maternal mortality reduction is a central theme under SDG 3 (Guardian 2022).

### ***Nigeria Healthcare Facility system***

The Nigerian health care has suffered several down-falls (HERFON 2010, Asangansi and Shaguy, 2009). Despite Nigerian's strategic position in Africa, the country is greatly underserved in the health care sphere. Health facilities (health centers, personnel, and medical equipments) are inadequate in this country, especially in rural areas (HERFON 2010; Nigeria Primary Health Care Policies 2010). While various reforms have been put forward by the Nigerian government to address the wide ranging issues in the health care system, they are yet to be implemented at the state and local government area levels (Nigeria National Health Conference 2009; Nigeria Primary Health Care Policies, 2010).

According to the 2009 communique of the Nigerian national health conference, health care system remains weak as evidenced by lack of coordination, fragmentation of services, dearth of resources, including drug and supplies, inadequate and decaying infrastructure, inequity in resource distribution, and access to care and very deplorable quality of care.

For decades ago, communicable diseases outbreak was a threat not only to lives of individuals but also national security. Today it is possible to track outbreaks of diseases and step up medical treatment and preventive measures even before it spreads over a large populace (Schiffbauer *et al.*, 2008; Soteriades and Falagas, 2006). Medical and epidemiological surveillance, besides adequate health care delivery, are essential functions of public health agencies whose mandate is to protect the public from major health threats, including communicable diseases outbreak, disaster outbreak, and bioterrorism (Schiffbauer *et al.*, 2008; Soteriades and Falagas, 2006).

Provision of timely information aimed at combating possible health menace among many other things is an important function of public health. Hence, inadequate tracking techniques in the public health sector can lead to huge health insecurity, and hence endanger national security, etc (Moe *et al.*, 2007)

### **The Primary health care plan**

August 1987, the federal government launched its primary health care plan with the following major objectives: (The Library of Congress Country Studies 2010; Awosika 2005)

- i. Improve collection and monitoring of health data
- ii. Improve personnel development in the health care
- iii. Ensure the provision essential drug availability
- iv. Improve material and child care, and family planning
- v. Educate people on prevailing health problems and the methods of preventing and controlling them.

This health care plan made little impact on the health sector, as it continued to suffer major infrastructural, and personnel deficit, in addition to poor public health management.

### **The Tertiary healthcare plan**

Tertiary healthcare plan focuses on the following objectives:

- i. Treatment of cases that cannot be treated in primary health system,
- ii. Specialty on treatment of diseases
- iii. Improve material and child care, and family planning

### **Indicators of health care in Nigeria**

In spite of the huge development in the health care in relation to the last decades (The Library of Congress Country Studies 2010; Akande 2004), much is still needed to be done in the health care system (Adeyemo 2005). Although the total expenditure in health amounts to 4.6% GDP (The Library of Congress Country Studies 2010), financial managerial competency, besides inadequate funding, remains a major problem. Current statistics show that health institutions rendering health care in Nigeria are 33,303 general hospitals, 20,278 primary health centers and posts, and 59 teaching hospital and federal medical centers (Omoruan *et al.*, 2009). This represents a huge improvement in regards to the last decades; nonetheless, health care institution continues to suffer shortage.

The backward and forward reference searches on second phase keywords search revealed increasing role of health information, communication as integral to leadership (Dougherty and Conway, 2008; Yangarber *et al.*, 2005; de Stampa *et al.*, 2010), as well as increasing role of medical intelligence/surveillance in the health care system in the United States and Europe (Steinberger *et al.*, 2008; Costagliola *et al.*, 1991).

## **Major flaws in the Nigerian health care system**

In spite of the various reforms to increase the provision of health to the Nigerian people, health access is only 43.3% (Onwujekwe *et al.*, 2010). The inadequacy of the health care delivery system in Nigeria could be attributed to the peculiar demographics of the Nigerian populace. About 55% of the population lives in the rural areas and only ~45% live in the urban areas. About 70% of the health care is provided by private vendors and only 30% by the government (Omoruan *et al.*, 2009; Health Insurance report 2005). Over 70% of drugs dispensed are substandard. Hence, the ineffectiveness of the NIHS had recently been attributed to the fact that the scheme represents only 40% of the entire population, and 52–60% are employed in the informal sector. Over half of the population live below the poverty line, on less than \$1 a day and so cannot afford the high cost of health care (Steinberger *et al.*, 2008). Also, a recent study by Akande had reported a poor referral system between the various tiers of health care which probably tells on the poor managerial functions of the health care delivery system (Akande and Monehin 2004).

At the primary health care level, some have sort solutions to the aforementioned flaws. For example, several community health financing schemes [Community Based Health Insurance (CBHI)] from individuals' (taxi drivers, market women, etc.) effort to provide the health needs for their communities are documented (Onwujekwe *et al.*, 2010). Some urban subpopulations have also initiated the scheme. The number of CBHI probably exceeds 585 according to a recent report by Obinna Onwujekwe and colleagues (2010). Problems encountered in the CBHI are its very small and inadequate funding capabilities. That notwithstanding, some CBHI have increased their scope to be registered as health maintenance organizations. Also, quality of health care provided is not accessed, although this remains a problem for the NHIS too (Onwujekwe *et al.*, 2010).

## **Distribution of healthcare facilities as a tool for Monitoring Maternal Mortality**

Studies by Tomlin *et al.*, 2020 shows surveys were conducted in Ethiopia, the Indian state of Uttar Pradesh and Gombe State in North-Eastern Nigeria. At each facility, the staffing, infrastructure and commodities were quantified. These formed components of four “signal functions” that described aspects of routine maternal and newborn care. A facility was considered ready to perform a signal function if all the required components were present. Readiness to perform all four signal functions classed a facility as ready to provide good quality routine care. From facility registers we counted deliveries and calculated the proportions of women delivering in facilities ready to offer good quality routine care. Results shows In Ethiopia the proportion of deliveries in facilities classed as ready to offer good quality routine

care rose from 40% (95% confidence interval (CI) 26–57) in 2012 to 43% (95% CI 31–56) in 2015. In Uttar Pradesh these estimates were 4% (95% CI 1–24) in 2012 and 39% (95% CI 25–55) in 2015, while in Nigeria they were 25% (95% CI 6–66) in 2012 and zero in 2015. Improved facility readiness in Ethiopia and Uttar Pradesh arose from increased supplies of commodities, while in Nigeria facility readiness fell due to depleted commodity supplies and fewer Skilled Birth Attendants.

Also studies by Olusesan *et al.*, 2018 on distribution of health facilities in Nigeria shows that Secondary analysis of data from the Federal Ministry of Health's facility register was performed to assess the geographic and sectoral distribution of health facilities in Nigeria. Results shows Primary health facilities make up 88% of health facilities in Nigeria while secondary and tertiary health facilities make up 12% and 0.25%, respectively. There are more government-owned health facilities than privately owned health facilities (67% vs 33%). The ratio of public to private health facilities is much higher in the northern part of the country than in the southern part. Such distribution would play a big role in achieving SDG 3.

### **The way forward for the Nigerian health care system/recommendations towards attaining Sustainable Development Goal III**

Several flaws in the health care system could have been averted through adequate MIS, which is supposed to be the first line of approach to developing the Nigerian health care system. Of course, there is a long list of barriers which lie on the pattern of leadership, infrastructures, man power challenges, clinical training, standardized diagnostic instruments, etc (Asangansi and Shaguy 2009; UNFPA 2010; Banjoko *et al.*, 2010).

The reforms and changes made to retain health security seem not to have made positive effect on the health care system (HERFON 2010; Nigeria National Health Conference 2009 Communique). Considering the threats of health insecurity, there is therefore immense need to revitalize the Nigerian health care system and provide specific project design to enhance cooperation and efficiency. To account for the modern day needs of Nigerians (Health Insurance report 2005), the health care delivery system must adequately meet the following functions:

1. Effectively assess patients' dilapidating state of health
2. Refer patients to specialists for appropriate treatments and supportive services
3. Recognize, treat, or refer comorbid medical and psychiatric conditions for specialists' treatment
4. Provide brief interventions to patients with dilapidating state of health

6. Chronic diseases management and prevention
7. Family planning to be cooperated effectively into the healthcare delivery system
8. Systematically and routinely measure the quality of services provided by the health system
9. Mortality data of specific project enrollees to measure the effectiveness of health care provided
10. Carry out health campaigns and awareness
11. Develop effective counseling methods
12. Comparative analysis with other countries' experiences in addressing health changes

### **Conclusion**

The distribution of health facilities across Nigeria is non-uniform. Since rates of maternal mortality is high, as such, achieving SDG 3 must be responsive to the variation in health facility distribution across the country. Additional investments are needed in some parts of the country to improve access to tertiary health facilities and leverage private sector capacity. It is therefore important to focus on overall health reform program that will involve maternal education, access to healthcare service and women empowerment which will enable them to make informed decision on issues relating to their reproductive life.

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