



WEST AFRICAN INSTITUTE  
OF PUBLIC HEALTH

Recommendations on Interventions to  
Improve Premature Birth Outcomes in Nigeria

A Call to Action by Key Stakeholders (Legislators, Health-care Professionals and Communities)

A Call to Action by Key Stakeholders (Legislators, Health-care Professionals and Communities)

Recommendations on Interventions to  
Improve Premature Birth Outcomes in  
Nigeria

A Call to Action by Key Stakeholders  
(Legislators, Health-care Professionals and  
Communities)

A Briefing Paper by

RACHAEL CHIKODILI OKORONKWO

West African Institute of Public Health

[rokoronkwo@publichealth-edu.org](mailto:rokoronkwo@publichealth-edu.org)

© November 2020



Disclaimer:

This briefing paper is the work of the author and perspectives may not necessarily represent the position of the West African Institute of Public Health



11<sup>th</sup> November, 2020

By Okoronkwo, Rachael Chikodili

## Recommendations on Interventions to Improve Premature Birth Outcomes in Nigeria

A Call to Action by Key Stakeholders (Legislators, Health-care Professionals and Communities)

### Key Messages

- Preterm birth complications are the leading cause of death among children under 5 years of age, responsible for approximately 1 million deaths in 2015.
- Infant deaths and long-term disabilities following preterm birth can be reduced when interventions are appropriately provided to the mother at imminent risk of preterm birth and to the preterm infant after birth.
- Early initiation of antenatal care is recommended for all pregnant women. This helps to ensure the well-being of the mother and foetus through early detection of risk factors in pregnancy and labour complications and ensures the safe delivery of mother and child.

### Executive Statement

Preterm birth complications are the leading cause of death among children under 5 years of age, responsible for approximately 1 million deaths in 2015. Infant deaths and long-term disabilities following preterm birth can be reduced when interventions are appropriately provided to the mother at imminent risk of preterm birth and to the preterm infant after birth.

## Background

Prematurity is a term for the broad category of neonates born at less than 37 weeks' gestation. There are sub-categories of premature birth, based on gestational age:

- Extremely preterm (less than 28 weeks)
- Very preterm (28 to 32 weeks)
- Moderate to late preterm (32 to 37 weeks).

An estimated 15 million babies are born too early every year. That is more than 1 in 10 babies. Approximately 1 million children die each year due to complications of preterm birth.<sup>1</sup>

Preterm infants are particularly vulnerable to complications due to impaired respiration, difficulty in feeding, poor body temperature regulation and high risk of infection. Substantial global progress has been made in reducing child deaths since 1990. The total number of under-5 deaths worldwide has declined from 12.6 million in 1990 to 5.2 million in 2019. Since 1990, the global under-5 mortality rate has dropped by 59%, from 93 deaths per 1,000 live births in 1990 to 38 in 2019. This is equivalent to 1 in 11 children dying before reaching age 5 in 1990, compared to 1 in 27 in 2019.<sup>2</sup>

## Prematurity in Sub-Saharan Africa

Although the world as a whole has been accelerating progress in reducing the under-5 mortality rate, difference exist in under-5 mortality across regions and countries. Sub-Saharan Africa remains the region with the highest under-5 mortality rate in the world, with 1 child in 13 dying before his or her fifth birthday, 20 years behind the world average which achieved a 1 in 13 rate in 1999. Two regions, Sub-Saharan Africa and Central and Southern Asia, account for more than 80 per cent of the 5.2 million under-five deaths in 2019, while they only account for 52 per cent of the global under-five population. Half of all under-five deaths in 2019 occurred in just five countries: Nigeria, India, Pakistan, the Democratic Republic of the Congo and Ethiopia. Nigeria and India alone account for almost a third of all deaths.<sup>3</sup>

Disparities in preterm birth rates by geographic regions are also very stark; there are remarkable variations in the rates within each region. For example, according to one estimate in Sub-Saharan Africa, the preterm birth rate in Uganda of only 6.6% is lower than that of many high-income

---

<sup>1</sup> <https://www.who.int/news-room/fact-sheets/detail/preterm-birth>

<sup>2</sup> <https://www.who.int/news-room/fact-sheets/detail/children-reducing-mortality>

<sup>3</sup> <https://www.who.int/news-room/fact-sheets/detail/children-reducing-mortality>

countries, including the United States, while Uganda's neighboring country Tanzania has an estimated preterm birth rate of 16.6%.<sup>4</sup>

In 2016, Sub-Saharan Africa had an average under-five mortality rate of 79 deaths per 1000 live births compared to only 6 per 1000 live births in North America and Europe.<sup>5</sup>

There is a dramatic difference in survival of premature babies depending on where they are born. For example, more than 90% of extremely preterm babies (less than 28 weeks) born in low-income countries die within the first few days of life; yet less than 10% of extremely preterm babies die in high-income settings.<sup>6</sup>

Variations in survival gap is another important issue to be considered in relation to preterm birth mortality. In high-income countries, where almost all births are attended by skilled staff, 50% of the babies born as early as 24 weeks survive, whereas in a low-income country, even a baby born at 32 weeks has only a 50% chance of survival due to lack of available resources and/or low quality of specialized care needed to improve the survival of a baby born too soon.

Due to scarcity of good-quality surveillance and registry-based data, the published prevalence rates from Asian and African countries must be interpreted with caution. The reports of disparities in preterm birth rates and mortality among regions and countries consistently show that the majority of preterm births and related mortality occurs in low- and middle-income countries and the burden is particularly high in South Asia and Sub-Saharan Africa.<sup>7</sup>

### **Causes of premature birth**

Preterm birth occurs for a variety of reasons. Most preterm births happen spontaneously, but some are due to early induction of labour or caesarean birth, whether for medical or non-medical reasons.

There are many factors that may lead to a preterm birth. Women who have had a previous preterm baby are at highest risk for another preterm baby. Women carrying multiple babies (such as twins or triplets) or have uterine or cervical abnormalities (such as fibroid tumors in their uterus) are also at high risk.

---

<sup>4</sup><https://obgyn.onlinelibrary.wiley.com/doi/full/10.1002/ijgo.13195>

<sup>5</sup> <https://obgyn.onlinelibrary.wiley.com/doi/full/10.1002/ijgo.13195>

<sup>6</sup> <https://www.who.int/news-room/fact-sheets/detail/preterm-birth>

<sup>7</sup> <https://obgyn.onlinelibrary.wiley.com/doi/full/10.1002/ijgo.13195>

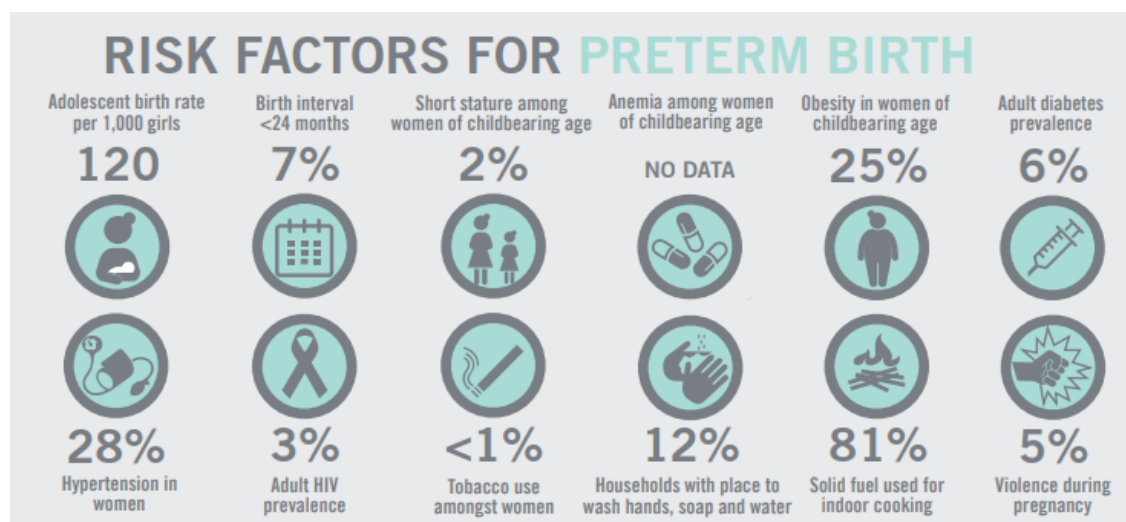


Fig 1: Risk Factors for Preterm Birth<sup>8</sup>

***“In West Africa, Nigeria has the highest burden of prematurity with 803,000 babies born too soon each year. In 2019, it was reported to have an infant mortality rate of 74 deaths (per 1,000 live births).”***

**Top 10 countries with the highest numbers of deaths (thousands) for children under-5 years, 2019<sup>9</sup>**

Country	Under-five deaths	Lower bound	Upper bound
Nigeria	858	675	1118
India	824	738	913
Pakistan	399	343	465
Democratic Republic of the Congo	291	187	440
Ethiopia	178	146	216
China	132	116	152
Indonesia	115	97	139

<sup>8</sup> [https://www.everypreemie.org/wp-content/uploads/2019/07/Nigeria\\_7.5.19.pdf](https://www.everypreemie.org/wp-content/uploads/2019/07/Nigeria_7.5.19.pdf)

<sup>9</sup> <https://www.who.int/news-room/fact-sheets/detail/children-reducing-mortality>

United Republic of Tanzania	103	78	172
Angola	93	43	172
Bangladesh	90	82	99

**Numbers of deaths for children under-5 years and infant mortality rate in West African countries, 2019<sup>10</sup>**

Country	Under-5 deaths (number of deaths)	Infant mortality rate (deaths per 1000)
Niger	81635	47
Togo	17331	46
Liberia	13365	62
Senegal	24651	33
Gambia	4504	36
Cabo Verde	157	13
Guinea-Bissau	5111	52
Sierra Leone	27580	81
Nigeria	857899	74
Guinea	44114	64
Cote d'Ivoire	70330	59

---

<sup>10</sup> <https://data.unicef.org/>

Mauritania	10699	50
Ghana	40168	34
Mali	73632	60
Burkina Faso	64744	54
Benin	37100	59

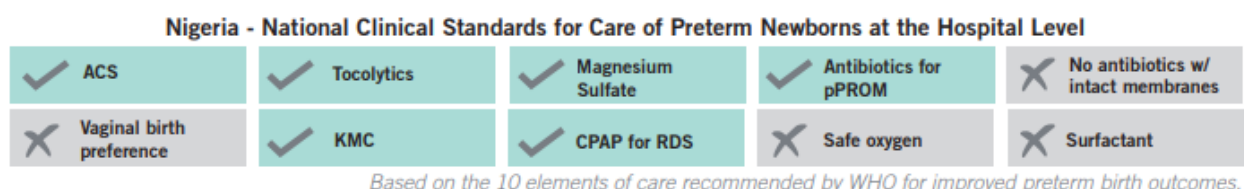
### Comparative analysis

Some known causes of infant mortality and death in children under-5 include: prematurity, pneumonia, malaria, malnutrition and HIV/AIDS. The above table shows the data from West African countries with the aim to illustrate the geographical variations in the numbers of deaths for children under-5 years and infant mortality rate in 2019. Of the fifteen countries, Nigeria significantly, had the highest under-5 deaths (857899), followed by Niger with 81635 and Mali with 73632. Cabo Verde had the least with 157, followed by Gambia with 4504 and Guinea-Bissau with 5111. Sierra Leone had the highest infant mortality rate, 81 (deaths per 1000) closely followed by Nigeria with 74 and Guinea with 64. Cabo Verde had the least rate with 13, followed by Senegal and Ghana with infant mortality rates of 33 and 34 (deaths per 1000) respectively. The IMR is alarming and should be given a lot of attention in order to achieve SDG 3. Most of these children could have survived if they had access to basic inexpensive healthcare services. This elucidates the importance of Health Financing.

### Effects of Premature birth on the child

- Breathing problems
- Feeding difficulties
- Cerebral palsy
- Developmental delay
- Vision problems
- Hearing problems





Fig; 2 Nigeria- National Clinical Standards for Care of Preterm New-borns at the Hospital Level<sup>11</sup>

## Key Issues in Tackling Premature Births in the Region

### Awareness

So much awareness has not been done on this global health crisis. A lot of women lack the basic reproductive, sexual and nutritional education. In West Africa, 48.6% of mothers delivered their infants at home (range, Benin 13.1% to Niger 70.3%) in the absence of a health practitioner.<sup>12</sup>

The major importance of maternal education are to promote self-care behaviour during the prenatal period and promote activities that will improve family and community attitudes and practices in relation to pregnancy and childbirth and these may lead to a decreased maternal and infant morbidity and mortality rate.

Campaigns should be done on the need for early initiation of antenatal care. Expectant mothers should be counseled on the benefits of good nutrition, adequate rest, good hygiene, family planning and exclusive breastfeeding, and immunization and other disease prevention methods.

### Dearth of Skill Attendants

The prevention of deaths and complications from preterm birth starts with a healthy pregnancy. Quality care before, between and during pregnancies will ensure all women have a positive pregnancy experience.

Infections are transmitted from the mother to infant during childbirth complications or shortly thereafter (days 1-9), and are largely preventable through the presence of a skilled birth attendant at

<sup>11</sup> [https://www.everypremie.org/wp-content/uploads/2019/07/Nigeria\\_7.5.19.pdf](https://www.everypremie.org/wp-content/uploads/2019/07/Nigeria_7.5.19.pdf)

<sup>12</sup> <https://www.geospatialhealth.net/index.php/gh/article/view/501/559>

delivery to ensure hygienic childbirth care, including the care of the umbilical cord and the application of the tetanus toxoid vaccine.<sup>13</sup>

The crisis of human resources for healthcare in sub-Saharan Africa is one of the most complex global issues of the modern age. This region lacks an adequate number of doctors, nurses, midwives, laboratory professionals and community healthcare workers. It persists in the present day because of factors such as a lack of medical graduates, outbreaks of diseases and infections, and the emigration of healthcare workers.<sup>14</sup>

The shortage of healthcare workers affects almost every facet of public health in sub-Saharan Africa, including child and adult mortality, the quality of maternal healthcare and the treatment of human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV/AIDS).

### **Poor Infrastructure and Limited Equipment**

The African continent has 25% of the global disease burden, but only 3% of the world's health workers and less than 1% of the world's health expenditure.<sup>15</sup> Healthcare systems in Africa suffer from neglect and underfunding. Dilapidated healthcare systems have facilitated medical tourism, for example, leading to over 5000 people leaving Nigeria every month for various forms of treatment abroad and about 1.2 billion US dollars lost from the Nigerian economy to medical tourism yearly.<sup>16</sup>

### **Policy and Programme Implications**

The ultimate goal of this brief is to improve the quality of care related to preterm birth and outcomes for preterm infants. It is recommended that we update our policy and programme materials to support implementation of these new guidelines, including the following actions:

- Review/update of the National Infant Feeding Policy to accommodate Maternal Nutrition.
- Provision of micronutrients for expectant mothers and new-borns.
- Inclusion of Family Life HIV/AIDS Education (FLHE) in the curriculum of junior and senior secondary schools
- Review of the minimum standards and designs of primary health care centres.
- Review of the Implementation framework of the National Health Act.

---

<sup>13</sup> <https://www.geospatialhealth.net/index.php/gh/article/view/501/559>

<sup>14</sup> <https://ysjournal.com/the-critical-shortage-of-healthcare-workers-in-sub-saharan-africa-a-comprehensive-review/>

<sup>15</sup> [https://gh.bmj.com/content/3/Suppl\\_3/e000662](https://gh.bmj.com/content/3/Suppl_3/e000662)

<sup>16</sup> <https://www.dovepress.com/identifying-key-challenges-facing-healthcare-systems-in-africa-and-pot-peer-reviewed-fulltext-article-IJGM>

## Opportunities

More than three quarters of premature babies can be saved with feasible, cost-effective care, such as essential care during child birth and in the postnatal period for every mother and baby, provision of antenatal steroid injections (given to pregnant women at risk of preterm labour and under set criteria to strengthen the babies' lungs), kangaroo mother care (the baby is carried by the mother with skin-to-skin contact and frequent breastfeeding) and antibiotics to treat new-born infections.<sup>17</sup>

Given increasing competition for finite donor resources, the pathway to impact also requires influencing and supporting country priorities and domestic health financing, including by working more intentionally through national, regional and global levers to accelerate the adoption, adaptation and scale-up of intervention packages.<sup>18</sup>

## Highlights of Recommendations to Improve Preterm Birth Outcomes in Nigeria

### To the Policy-Makers

- There should be full implementation of the National Plan for Reproductive, Maternal, New-born, Child and Adolescent Health.
- An inclusion of a policy for Safe Oxygen Use and Continuous Positive Airways Pressure to the RMNCAH plan.
- Increased Health Financing- Improving the Basic Health Care Provision Fund policy and the National Health Insurance Scheme.
- Revitalisation of our Primary Healthcare Centres.
- Increased pay of medical practitioners.
- Collaborations and Partnerships

### To the Health Workforce

- Clinical standards for preterm care should be improved at hospital level.
- Nursing students in tertiary institutions should receive formal education in neonatal care.
- There should be an increased number of physicians, nurses and midwives to serve the increasing population.

---

<sup>17</sup> <https://www.who.int/news-room/fact-sheets/detail/preterm-birth>

<sup>18</sup> <https://www.gatesfoundation.org/what-we-do/global-development/maternal-newborn-and-child-health>

### **To the Community**

- More advocacy campaigns should be carried out to raise awareness of this serious health crisis and its devastating effects.
- More RMNCAH programmes should be carried out in underserved and hard to reach areas to counsel women on the need for healthy diet and optimal nutrition especially during and after pregnancy.
- Early initiation of antenatal care should be encouraged.
- Access to safe contraceptives for pregnancy prevention.

## REFERENCES

- Bills and Melinda Gates Foundation. Maternal, Newborn and Child Health Strategy Overview. *E-book library* [online]. Available at: <https://www.gatesfoundation.org/what-we-do/global-development/maternal-newborn-and-child-health> (Accessed: 18 November 2020)
- Every Premie Scale. (2019) Nigeria: Profile of preterm and low birth weight prevention and care. *E-book library* [online]. Available at: [https://www.everypremie.org/wp-content/uploads/2019/07/Nigeria\\_7.5.19.pdf](https://www.everypremie.org/wp-content/uploads/2019/07/Nigeria_7.5.19.pdf) (Accessed: 09 November 2020)
- Grady, S. C., Frake, A. N., Zhang, O., Bene, M., Jordan, D. R., Vertalka, J., Dossantos, T. C., Kadhim, A., Namanya, J., Pierre, L., Fan, Y., Zhou, P., Barry, F. B., Kutch, L. 'Neonatal Mortality in East Africa and West Africa: A Geographic Analysis of District-Level Demographic and Health Survey Data'. *Geospatial Health*. DOI 10.4081/gh.2017.501 . Available at: <https://www.geospatialhealth.net/index.php/gh/article/view/501/559> (Accessed: 18 November 2020)
- Haseeb, S. (2018). The Critical Shortage of Healthcare Workers in Sub-Saharan Africa: A Comprehensive Review. *E-book library* [online]. Available at: <https://ysjournal.com/the-critical-shortage-of-healthcare-workers-in-sub-saharan-africa-a-comprehensive-review/> (Accessed: 18 November 2020)
- Mash, R., Howe, A., Olayemi, O., Makwero, M., Ray, S., Zerihun, M., Gyuse, A., Goodyear-Smith, F. 'Reflections on family medicine and primary healthcare in sub-Saharan Africa', *BMJ Global Health* 2018(3) [online]. Available at: [https://gh.bmj.com/content/3/Suppl\\_3/e000662](https://gh.bmj.com/content/3/Suppl_3/e000662) (Accessed: 18 November 2020)
- Oleribe, O.O., Momoh, J., Uzochukwu, B.S., Mbofana, F., Adebisi, A., Babera, T., Williams, R., Taylor-Robinson S.D. 'Identifying Key Challenges Facing Healthcare Systems In Africa And Potential Solutions', *International Journal of General Medicine*. 12(395-403) [online]. Available at: <https://www.dovepress.com/identifying-key-challenges-facing-healthcare-systems-in-africa-and-pot-peer-reviewed-fulltext-article-IJGM> (Accessed: 18 November 2020)
- UNICEF for every child. UNICEF Data: Monitoring the situation of children and women. *E-book library* [online]. Available at: <https://data.unicef.org/> (Accessed: 19 November 2020)
- Walani, S. R. 'Global burden of preterm birth', *International Journal of Gynaecology and Obstetrics*, 150(1) [online]. Available at: <https://obgyn.onlinelibrary.wiley.com/doi/full/10.1002/ijgo.13195> (Accessed: 18 November 2020)
- World Health Organisation. (2018) Preterm birth. *E-book library* [online]. Available at: <https://www.who.int/news-room/fact-sheets/detail/preterm-birth> (Accessed: 09 November 2020)
- World Health Organisation. (2020) Children: improving survival and well-being. *E-book library* [online]. Available at: <https://www.who.int/news-room/fact-sheets/detail/children-reducing-mortality> (Accessed: 09 November 2020)

