

## Challenges in the Management of Malaria in Nigeria: A Healthcare System Preview

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### Abstract

Malaria continues to be one of the most important topics in public health as a disease which put 3.2 billion people around the world at risk of infection. Malaria is considered one of the major preventable diseases that cause death. It is a huge challenge to bring malaria from control to elimination phase, especially in a country with an impeded economy such as Nigeria. One of the main bottlenecks is the healthcare system as a whole and allocated expenditure. The political will and the international support from different stakeholders have given rise to the new National Strategic Malaria Plan [NMSP 2014-2020] aiming toward, Nigeria free of malaria by 2020.

**Keywords:** Malaria; Nigeria; Healthcare system; Africa

### Introduction

Malaria remains a huge global health burden with more than 90% of fatalities occurs in Africa and about half a million infant mortality each year. Malarial infection is of particular concern as it is a disease that can be both treated and prevented. Nigeria, biggest country by population in Africa, is responsible for about 25% of global health burden. While all local and international efforts aim to implement Nigeria's current National Strategic Malaria Plan [NMSP 2014-2020] to have Nigeria free of Malaria by 2020, the current healthcare system in Nigeria remains a major system bottleneck to achieving such challenging objective but yet still achievable.

### Aim

This report on Nigeria's current malaria situation aims to highlight healthcare system challenges that face Nigeria as a country, and possible plans that integrate both local and international initiatives to reach 2020 with a malaria-free country.

### Method

The studies used in this review were retrieved from CINAHL Plus, MEDLINE, ProQuest and PUBMED databases focusing on Malaria and healthcare challenges in Nigeria. Google scholar was used on one occasion to obtain one full-text article

### Global Malaria Facts and Overview

Malaria is a life-threatening disease that can be both prevented and treated which can dramatically reduce the burden of disease in the globe. There are about 3.2 billion people around the world at risk of infection, approximately half of the total world population, and about half a million people died in 2015 worldwide due to malaria infection [1].

A comparison of incomes in a malarial versus non-malarial countries shows that income is five times higher in non-malarial countries. Where malaria infection flourishes, poverty and poor health outcome exist. Malaria-endemic countries have an impeding economic growth and development by both direct and indirect way such as productivity, healthcare cost, and infant mortality [2].

### Global Health Management Status

There have been many international initiatives and efforts to reduce malaria mortality substantially in the last decade with a huge focus on the poorest countries.

Nowadays, in 2015, Global Malaria Action Plan (GMAP), Millennium Development Goals (MDG) and Roll Back Malaria (RBM), that are supported by both UNICEF and WHO, have managed to reduce morbidity and mortality by 75%.

### Malaria situation in Nigeria

More than one-third of global malaria deaths are occurring only in Nigeria and the Democratic Republic of Congo and second leading cause of children mortality under the age of 5 years is malaria after HIV/AIDS (WHO, 2015). Nigeria's national expenditure on health is very low with about only 5% allocated to health sector which highly affecting the impact of socio-economic level on people according to the poorly expected health outcome [3].

Another example of the direct economic impact on people of Nigeria has shown that economic growth penalty, between 1980 and 1995, regarding adjusted purchasing power parity (PPP), to be 156 US dollars loss per person [2].

### Malaria health management status in Nigeria

Nigeria is composed of 6 geopolitical zones, 36 states, and 774 local government authorities (LGAs), where LGA are responsible for providing primary care and considered the main system bottleneck of the national healthcare system [4]. In addition to the public healthcare

system, there is an active private healthcare system that accounts for about one-third of all primary care facilities and more than two third of the secondary care facilities, and more than 60% of fever cases seek medical attention at the private health sector [4].

Nigeria's current malaria control situation has improved, with the aid of both international and local initiatives, and focusing mainly on transmission and diagnosis via an integrated vector control program, rapid diagnosis, and proper treatment; which were the main goals of Nigeria's National Malaria Strategic Plan NMSP from 2009 to 2013 [5].

Nigeria faces numerous challenges, nowadays, to combat malaria [1,3,4] such as:

- Brain drain of qualified healthcare personnel and workforce.
- Poor and unintegrated healthcare system with no necessary referral links between healthcare facilities.
- Poor access to health care centres due to rurality and road conditions that affect rapid diagnosis and reliable treatment.
- Unequipped healthcare facilities with inadequate healthcare technology and quality.
- Drug-resistant malaria.
- Insufficient budget and efforts for research in the field of malaria treatment and prevention.
- Lack of ongoing training and education for medical and healthcare personnel.

While there were huge achievements occurred to reduce Malaria overall morbidity and mortality by 75% in 2015, with the aid of WHO, UNICEF, and USAID, who have funded several projects and initiatives such as, Roll Back Malaria and President's Malaria Initiative [6]. There

is more work to be done for a disease that can be easily treated and prevented.

Nigeria initiated its latest National Malaria Strategic Plan 2014-2020 with a promising goal to bring malaria in Nigeria to pre-elimination phase and a promising vision to have a malaria free Nigeria [5].

### Areas of opportunity and need in Nigeria

Guided by Nigeria's current situation, Ottawa charter for health promotion activities [7] and multinational initiatives there are few recommendations and plans to focus on in the short, medium and long-term in Tables 1,2 and 3.

Short term plan
<b>Prevention:</b>
Ensure majority of the population at risk of infection are using Long Lasting Insecticidal Nets (LLINs) and Indoor Residual Sprays (IRS).
<b>Diagnostic:</b>
All suspected cases and care-seeking patients should have prompt diagnosis using RDT and microscopy tests at all levels including public and private facilities.
<b>Treatment:</b>
Ensure all positive and confirmed patients are treated with their appropriate anti-malaria drug that is affordable at all levels including public and private facilities.

**Table 1:** Short term plan.

Medium term plan:
<b>Strategy and policy formation:</b>
More than 5% of the national expenditure is needed for health in a major oil country that is fighting against a huge, challenging endemic disease adversely affecting both economy and social life. Also, legislations are needed to assure fair, and health equity is in place for all people of Nigeria regardless their remoteness or financial background. In addition to the enhancement of allocated Malaria case management personnel at all levels of care including primary, secondary and tertiary care.
<b>Inter-agency and collaboration:</b>
The current situation in Nigeria's healthcare system needs revision and reformation, with the help and support of other international organizations and local political will to encourage inter-sectorial cooperation and data transfer to facilitate system bottlenecks and loopholes that may arise. Also, consulting with other countries that have succeeded to eradicate malaria would be very beneficial.
<b>Health education and promotion:</b>
Public health officers in LGAs to develop and initiate massive innovative health promotion campaigns through media and face to face field work in mass gathering about proper prevention and common signs to notice utilizing social mobilization and advocacy. Also, Continuous healthcare workers education is needed for ongoing day to day practice and a new breakthrough in this field.
<b>Healthcare providers migration 'Brain Drain':</b>
Falling short of the appropriate international standard ratio by WHO in doctors to people ratio and having about 21000 doctors only in the USA are affecting the health status of Nigeria as a country and having a direct impact on the socio-economical background which is an important measure of a healthy health care system [8]. Strategies should be developed to retain current healthcare workforce by overcoming 'Brain waste' of overqualified providers in addition to both financially and non-financially incentives for overseas trained doctors to come back [9].
<b>Ecology:</b>
Environmental control and larval stage attacking are very crucial in Malaria control by Improving infrastructure and drainage system, for instance, in Ethiopia, they have been demonstrated to reduce larval breeding effectively by 40% in Dar-As-Salam [10]. Also, researchers have found that house modification can reduce indoor malaria vector resting and exposure to a human in a study done in Kenya using modified ceilings screen [11].

**Table 2:** Medium term plan.

<b>Long term plan:</b>
<b>Research:</b>
Funding and encouraging researchers are very important for the future of a disease endemic country, like Nigeria, to find new advancements in prevention, diagnosis, and treatment. Also cooperation with established countries, for instance, Australia, in Malaria research field might have a positive impact in further developing niche products to prevent and treat malaria [12].
<b>Epidemiology:</b>
A strong surveillance system is needed in place to provide data analysis of malaria infection on a national level to provide prompt response and accurate figures for a problem solving and crisis management. Few initiatives have been introduced using several IT platforms and with the aid of established initiatives by pharmaceutical companies such as SMS for life and introducing new platforms and technologies would benefit the national vision to have malaria free Nigeria [5,13,14].

**Table 3:** Long term plan.

## References

1. WHO (2015) World Malaria Report 2015 (978924156515 8).
2. Sachs J, Malaney P (2002) The economic and social burden of malaria. *Nature* 415: 680-685.
3. Carrington A (2001) Malaria: Its human impact, challenges, and control strategies in Nigeria. *Harvard Health Public Rev* 2: 54-60.
4. US Government (2015) President's Malaria Initiative Nigeria Malaria Operational Plan FY 2015.
5. The Federal Republic of Nigeria (2014) National Malaria Strategic Plan 2014-2020. Nigeria.
6. UNICEF (2015) Health, Malaria.
7. Ottawa charter for health promotion (1986).
8. Adefusika JA (2010) Understanding the brain-drain in the African diaspora: Focusing on Nigeria.
9. Stilwell B, Diallo K, Zurn P, Vujicic M, Adams O, et al. (2004) Migration of health-care workers from developing countries: strategic approaches to its management. *Bull World Health Organ* 82: 595-600.
10. Fillinger U, Lindsay SW (2011) Larval source management for malaria control in Africa: myths and reality. *Malar J* 10: 353.
11. Atieli H, Menya D, Githeko A, Scott T (2009) House design modifications reduce indoor resting malaria vector densities in rice irrigation scheme area in western Kenya. *Malar J* 8:108.
12. Good MF, Doolan DL (2010) Malaria vaccine design: immunological considerations. *Immunity* 33: 555-566.
13. Zurovac D, Talisuna AO, Snow RW (2012) Mobile phone text messaging: tool for malaria control in Africa. *PLoS Med* 9: e1001176.
14. Huxley J (2015) Griffith University closes in on African trials for world-first anti-malaria vaccine, Educational. *Gold Coast Bulletin*.