

## Commentary



# Addressing one health in Nigeria; challenges and recommendations

Don Eliseo Lucero-Prisno III,  Greatman Adiela Owzor, Amusile Olayemi, Emmanuella Nzeribe, Bethel Ikenna Okeke

**Corresponding author:** Greatman Adiela Owzor, Faculty of Pharmacy, University of Port Harcourt, Port Harcourt, Nigeria. greatmanadiela@gmail.com

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## Addressing One Health in Nigeria; challenges and recommendations

Don Eliseo Lucero-Prisno III<sup>1</sup>, Greatman Adiela Owzor<sup>2,&</sup>, Amusile Olayemi<sup>3</sup>, Emmanuella Nzeribe<sup>4</sup>, Bethel Ikenna Okeke<sup>5</sup>

<sup>1</sup>Department of Global Health and Development, London School of Hygiene and Tropical Medicine, London, United Kingdom, <sup>2</sup>Faculty of Pharmacy, University of Port Harcourt, Port Harcourt, Nigeria, <sup>3</sup>Faculty of Pharmacy, Delta State University, Abraka, Nigeria, <sup>4</sup>Faculty of Pharmacy and Pharmaceutical Sciences, Kwame Nkrumah University of Science and Technology, Kumasi,

Ghana, <sup>5</sup>Faculty of Pharmaceutical Sciences, University of Nigeria Nsukka, Nsukka, Nigeria

### &Corresponding author

Greatman Adiela Owzor, Faculty of Pharmacy, University of Port Harcourt, Port Harcourt, Nigeria

## Abstract

*Nigeria has much popularity for several undesirable statistics, like the degree of endemicity of several illnesses and the prevalence of disease predisposing factors such as poverty. The increased incidence and prevalence of zoonotic diseases, coupled with the ongoing issue of Antimicrobial Resistance (AMR), has demanded a new approach to addressing disease conditions. One Health speculates that disease needs to be managed with a balanced view of how it connects humans, animals and the environment. It will mean application of skills from different professionals in managing, treating and preventing diseases. Nigeria has already begun implementing One Health; this process needs to be addressed as it faces a number of challenges. These can be surmounted by creating and implementing effective policies, national One Health Awareness Campaigns and increasing the unity and development in its health care delivery system.*

## Commentary

There is an ongoing menace of Antimicrobial Resistance (AMR) and many other underlying issues which affect human health [1]. There exist significant relationships between humans, animals and their immediate environment. The initiative of "One Health" took its root in 2018 from a suggestion made by the Food and Agricultural Organization of the United Nations and the World Organization for Animal Health (OIE) to show that human, animal and environmental health are interrelated [1]. The concept of One Health is of great social importance; it emerged from the integrated study of Zoonosis. It is the totality of the interconnections between Humans, animals, and environmental health. One Health is an approach that is both multi-disciplinary and multi-sectoral. It addresses the issues concerning potential health threats at the human-animal-environment interface [2]. Thus, this implies that experts from different fields have significant roles in One Health across all levels locally, nationally

and internationally. In 2018, the One Health approach was incorporated into Africa's CDC's work. This Africa CDC's One Health Programme consists of a cross-divisional One Health Technical Working Group (OH-TWG). This group consists of different technical divisions including; Surveillance and Disease Intelligence, Division of Emergency Preparedness and Response, Division of Laboratory Systems, Division of Public Health Institute, and Research and Division of Disease Control and Prevention. These different divisions of the OH-TWG collaborate with the Africa CDC, the Regional Collaborating Centers, the African Union, and the Member States to implement key program activities [3].

Nigeria is 1 of 4 countries that account for 44% of the world's poorest livestock caretakers and a considerable number of endemic diseases. Among the most hazardous infections include anthrax, zoonotic tuberculosis, and rabies. These neglected public health infections are widespread among livestock keepers. Other disease conditions that have affected the country include Ebola Virus Disease, Avian Influenza, and Lassa fever [4]. Despite the enormous burden of endemic zoonosis and the increased possibility of novel zoonotic illnesses emerging, there is little awareness, even among Nigerian health professionals. While there is no one-size-fits-all solution to address these issues, it's becoming increasingly clear that the most effective method to address this is to use inter-sectoral collaboration structures for current and novel diseases. However, the existing coordinating systems are ineffective, more administrative to promote, and are not always successful in fostering the spread of cross-sector expertise [4]. The Nigeria Centre for Disease Control (NCDC) was founded in 2011 to address the difficulties of public health emergencies to improve Nigeria's preparedness and response to epidemics through communicable disease prevention, detection, and control. Its primary mission is to detect, research, prevent, and control diseases that affect national and worldwide public health. To protect the health

of Nigerians via evidence-based prevention, integrated disease surveillance and response operations, using a One Health strategy, informed by research and led by a professional workforce. This paper focuses on the current level of implementation of One Health in Nigeria, the challenges that accompany it, and recommendations to improve the situation.

### **The implementation of One Health in Nigeria:**

Nigeria arguably tops the charts for the country with the most endemic disease. It is due to increased poverty and lack of development of its health system [4]. To successfully meet its health challenges, manage epidemic outbreaks and create synergy across related ministries, Nigeria became the first country in Africa to launch a “One Health plan” signed by the ministers of Health, Agriculture and Environment [5]. A strategic plan to establish an NCDC lead full-fledged One Health Programme [5]. The aim was to strengthen multi-sectoral collaboration for health security [5]. Currently, there is a rising consciousness and collaboration among professionals in the recent “One Health” strategic plan vested by NCDC, a step further from the Nigeria Federal Ministry of Agriculture and Federal Ministry of Health developed strategy - Nigeria Field Epidemiology and Laboratory Training Programme (NFELTP) which was initiated in 2008 [6]. The framework combined efforts from medics, veterinarians and laboratory scientists in emergency response and handling of infectious diseases, neglecting the involvement of the environmental sector [6]. The current “One Health strategic” plan shows that it is not restricted to human and veterinary clinical expertise but a collective effort of professionals in ecology, anthropology, health economics and policy, and artificial intelligence [6,7]. Nigeria has addressed the National Action Plan on AMR, but more work is required in actualizing the One Health interventions for AMR, particularly the rational use of antimicrobials and antimicrobial stewardship [7]. So far, the environmental health sector reports its implementation of awareness programs on AMR mostly linked to the roles of

hygiene, sanitation, and proper waste disposal has in preventing the spread of pathogens and antimicrobial-resistant bugs. The Federal Ministry of Agriculture and Rural Development (FMARD) developed policies that covered AMR in terrestrial and aquatic animals. The NCDC has assisted with the help of international bodies to establish eleven laboratories in the human sector and seven laboratories in the animal sector to upscale surveillance of antimicrobial-resistant pathogens within the country [7]. Despite these steps, there are numerous challenges that the system still faces. These challenges need must be overcome to foster progress.

### **Challenges of practicing One Health in Nigeria:**

several challenges prevent One Health application in Nigeria. It includes the political sector, health professionals and the community. There is a lack of awareness among farmers and livestock owners on the appropriate use of medicines to treat their crops and animals. Animals are kept for the purpose of companionship, food, and work. They are known potential sources of Multi-Drug Resistant (MDR) pathogens. The regulation of antibiotic use in animals and enforcement of good hygiene are possible ways to reduce the incidence and spread of MDR bacteria and zoonosis [8]. There is also inadequate health security practice in slaughterhouses; the excessive quest for quick financial gains among stakeholders in the agro-veterinary industry negates the enforcement of ethical standards in veterinary practice in Nigeria [8]. Recent evidence confirms the increase in animal-human relationships/bonding that has emerged as an ethical challenge to veterinarians, especially those in pet practice. The existing Nigerian One Health Strategic Plan (2019-2023) has experienced changes in implementation due to inadequate monitoring. The educational system encourages competition between health professionals and discourages multidisciplinary collaborations due to professional tussles and bureaucratic difficulties [9]. Moreover, One Health professionals do not have the necessary conditions to enable them to practice their ideas.

**The way forward:** these challenges are surmountable when established strategic plans are enforced seriously. Steps will include the introduction of novel therapies [10], improved provision and access to disease-related information, and emphasizing novel ways to prevent infectious and chronic diseases. Recording further improvements would largely depend on multi-sectoral awareness and collaboration. Policies promoting One Health implementation should be enacted. These policies should oversee human and animal practices and the use of medicines in both species. The concept of One Health should be understood by everyone. It can be done with the aid of mass media and health education by healthcare professionals. Competing systems of practice among health professionals must be addressed to foster collaboration, as demanded by this philosophy. If a section of the healthcare team continues to believe that it can function independently of others, it would be a stumbling block to achieving One Health in Nigeria. The healthcare system of Nigeria is weak and should be re-structured from its basic structure. Health surveillance systems can be improved to ensure that healthcare and veterinary professionals can work effectively. Maintaining consistent efforts will increase the chances of actualizing this philosophy in Nigeria.

## Competing interests

The authors declare no competing interests.

## Authors' contributions

All the authors have read and agreed to the final manuscript.

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