

ONE HEALTH IMPLEMENTATION IN LAGOS STATE: FROM CONCEPT TO PRACTICE.

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Introduction

Increase in human population, urbanization and industrialization are accelerating changes in the biosphere, causing significant damage to biodiversity, deterioration of ecosystems, and considerable migratory movement of both human and animals. These rapid environmental changes are linked to increase in the occurrence of infectious diseases in recent decades. With the spread and increasing emergence of zoonotic diseases and epidemics, the risk of pandemics is becoming more and more important. Human and animal health has also been threatened by antimicrobial resistance, environmental pollution, and increasing incidence of chronic diseases.

A better understanding of causes and consequences of certain human activities, lifestyles, and behaviours in ecosystems is important for a rigorous interpretation of disease dynamics and to drive public health policies. In recent years, certain zoonotic diseases, such as Ebola and Zika viral epidemics have demonstrated the interdependence of human health, animal health, and ecosystem health.

The last Ebola outbreak in West Africa clearly demonstrated that: (1) a deadly disease pathogen could emerge from a wildlife source at any time and in any place and without warning, threaten the health, well-being and economies of societies; and (2) there was a clear need for states and countries to have the capability to maintain an effective alert and response system to detect and quickly react to outbreaks of international concern, and to share information about such outbreaks rapidly and transparently.

It is clear that no single individual, discipline, sector or ministry can pre-empt and solve complex emerging health challenges. There is therefore an urgent need to shift to an integrative and holistic approach such as the One Health concept to solve emerging health challenges.

Understanding the One Health concept

One Health is a collaborative, transdisciplinary, and multisectoral approach that can address urgent, ongoing, or potential health threats at the human-animal-environment interface. The One Health concept is a worldwide strategy for expanding transdisciplinary collaborations and communications in all aspects of health care for humans, animals and the environment. It involves designing and implementing programmes, policies, legislation and research in which multiple sectors communicate and work together to achieve better public health outcomes. Human or livestock or wildlife health can't be discussed in isolation anymore. There is just one health and the solutions entail everyone working collectively on all the different levels.

The One Health approach is particularly relevant to zoonoses control, food safety, and combating antibiotic resistance. One Health is not a new concept, but it has become more

relevant in recent years. This is because many factors have changed interactions between humans, animals, and our shared environment. These changes have led to the emergence and re-emergence of many infectious diseases. Successful public health interventions require the cooperation of human, animal, and environmental health communities.

Implementing One Health in Lagos Megacity

Lagos is the commercial and financial nerve centre of Nigeria. The GDP of Lagos State estimated at about 91bn Naira places Lagos State as Africa's 5th largest economy and the 7th fastest growing city in the world. Lagos host about 65% of Nigeria's business, having over 2000 manufacturing companies, 200 financial institutions and the largest collection of SMEs in Africa. The population of Lagos is estimated at about 23 million, and a population density of round 6,871 residents per square kilometre, making Lagos the most densely populated city in Africa. These interesting statistics are accompanied with increasing health challenges. Most of the health hazards in the city are not dissociable from increasing level of pollution and poor sanitation system which usually harbours increasing incidents of diseases like cholera and tuberculosis. There is also an increase in occurrence of infectious diseases of animal origin such as Lassa fever, Monkey Pox and Ebola diseases in recent years.

The impact of infectious diseases in a megacity like Lagos is beyond direct morbidity and mortality. The 2014–2016 Ebola outbreak was a potent reminder that infectious diseases impact economic, socio-cultural, educational, and other development objectives. Considering the impact of the human-animal-ecosystem interface on health, especially in a densely populated city like Lagos, there is an urgent need for a coordinated multi-sectoral approach to address the attendant health risks. It is therefore imperative that Lagos state embrace the One Health approach to confront the increasing disease burden affecting the state.

Challenges in Implementing One Health

While there has been wide-ranging commitment to the One Health approach, its operationalisation and implementation can be challenging. In a world where professions have moved to specialization and expertise within their own realm rather than in collaboration and cross discipline, understanding interdisciplinary and transdisciplinary approach adopted in One Health might be challenging. One Health demands that human, animal and environmental health sectors cross professional, disciplinary and institutional boundaries, and work in a more integrated fashion. Challenges to implementing One Health include:

Leadership - Leadership is a crucial issue in the development of One Health approach. It is essential for building relationships and trust.

Building Strong Relationship – There is need to build a strong transdisciplinary relationship for One Health approach to be successful

Lack of Funding – Adequate multisectoral funding is needed for a successful One Health approach implementation

Existing Institutional Environment – Ministries, sectors and professionals need to break existing institutional and sectoral boundaries to implement One Health approach.

Limited understanding of One Health concept – Stakeholders should have a clear understanding of transdisciplinary approach to effectively function and implement a One Health concept

Infrastructure- Adequate infrastructure for transdisciplinary surveillance, laboratory systems and effective communication and information channels are need for implementing a successful One Health approach.

Policy Recommendations

- Lagos state should promote and strengthen transdisciplinary collaboration and partnerships in One Health approach. This can be done through:
 - a. Establishing a framework for transdisciplinary collaboration among relevant ministries and stakeholders in One Health
 - b. Ensure clear information sharing strategy among One Health stakeholders
 - c. Create awareness for target groups on One Health approach

- Lagos state should strengthen capacity and promote applied research at the human-animal-ecosystem interface. This can be done through:
 - a. Promoting One Health approach in formal and informal training of staffs in relevant ministries
 - b. One Health competencies should be well integrated into relevant academic disciplines and training programs
 - c. Promoting applied research at the human-animal-ecosystem

- Lagos state should develop integrated zoonotic disease surveillance system. This can be done through:
 - a. Promoting joint preparedness, surveillance and response to zoonotic diseases outbreaks
 - b. Strengthening laboratories capacities to detect zoonotic diseases

- Lagos state should invest in inter ministerial and multisectoral funding of One Health projects and programmes.

