Journal: Texila Advanced Journal of Multidisciplinary Health Research
Publisher: Texila International Journal
ISSN: 3105-3564
Volume 5 Issue 2, 2025
DOI: 10.21522/TAJMHR.2016.05.02.Art010

A Qualitative Study of One Health Implementation at the State Level in Nigeria

Kemi Ladeinde[1*], Oladipo Ogunbode[1], Sarah Abraham[2], Bright Orji[3], Oladipupo Oni[4]
[1]*Nigeria Centre for Disease Control & Prevention, Abuja, Nigeria*
[2]*Department of Community Medicine, University College Hospital, Nigeria*
[3]*Texila American University, Nigeria*
[4]*Regional Disease Surveillance Systems Enhancement (REDISSE) Project, West and Central Africa*

Abstract

The One Health approach recognizes that the health of humans, animals, and the ecosystem are related, and vital in conducting event-based surveillance for public health events. Nigeria arguably tops the charts for one of the countries in sub-Saharan Africa with the most endemic diseases. This is due to increased poverty and the slow development of its health system. The practice of One Health was good. However, some factors that affect the implementation of One Health at the state level include low political will, weak functional status of the governance structure, limited funding, inadequate skilled human resources and capacity-building initiatives, and lack of cooperation. Although Nigeria is one of the first countries to adopt the One-Health approach, there has not been any review to document the extent of its implementation. This paper sought to assess the implementation of the One Health approach at the state level in Nigeria. A multi-stage sampling technique was applied for an institutional-based qualitative study, involving interviews with key actors at the state level. Six states were selected, one from each geopolitical zone. A key informant interview guide was used to obtain responses focusing on governance structure readiness, practice, and factors influencing One Health implementation in Nigeria. The inductive analysis technique was used to analyse generated data, and the findings were reported in themes. Key findings from this study indicated that the key actors had a good understanding of One Health, its benefits, and objectives, but insufficient knowledge of its policies and laws.

Keywords: *Implementation, Nigeria, One Health Approach, Public Health, State.*

Introduction

One Health (OH) is a health systems approach that integrates human, animal, and ecosystem health for improved outcomes and sustainability. It recognizes that the health of humans, animals (both domestic and wild), plants, and the environment are closely connected and interdependent. This cross-sector collaboration helps protect health, address challenges such as emerging infectious diseases, antimicrobial resistance, and food safety, and supports ecosystem integrity [1]. Connecting humans, animals, and the environment enables comprehensive disease control from prevention to management, contributing to global health security (WHO). OH is a validated, integrated, and holistic approach advocated by WHO, FAO, and OIE for combating health threats through the human-animal-plant-environment interface [2-4]. Since 2010, these organizations have maintained a tripartite agreement to apply the One Health approach [5].

Received: 09.07.2025 ***Accepted: 21.07.2025*** ***Published on: 28.11.2025***
****Corresponding Author: kladeinde@gmail.com***

The OH approach is used at all levels—community to global—and relies on effective governance, communication, collaboration, and coordination, making it easier to understand co-benefits, threats, concessions, and opportunities for holistic solutions [1]. Nigeria is possibly one of the largest countries with the most endemic diseases in sub-Saharan Africa [6], due to underdeveloped health systems and increased poverty [7]. To address these challenges and foster collaboration, Nigeria was the first African country to launch a 'One Health plan' signed by the Ministers of Health, Agriculture, and Environment [8]. A strategic plan now aims to establish an NCDC-led One Health Programme to strengthen multi-sectoral collaboration for health security [8]. There is increasing awareness and collaboration among professionals due to the “One Health" strategic plan led by the NCDC, learning from earlier strategies such as the Nigeria Field Epidemiology and Laboratory Training Programme (NFELTP), initiated in 2008 [9].

Evidence confirms the rise in animal-human relationships, which has become an ethical challenge for veterinarians, especially in pet practice [6]. Due to poor monitoring, executing the 2019-2023 Nigeria One Health strategic plan altered over time. Additionally, competition among health professionals in Nigeria’s educational system leads to poor multidisciplinary collaboration, thereby limiting OH implementation [10]. One Health professionals also lack enabling environments to practice their ideas. Capacity building is uneven across sectors; while strengthening and enhancing qualified individuals is important, it remains insufficient [11]. In Nigeria and many developing countries, human health capacity is more developed than veterinary capacity due to competing priorities [12].

Limited resources are a major barrier to employing One Health interventions in developing countries. Many low- and middle-income countries struggle to provide essential human health services and address animal and environmental health due to funding constraints [9]. This makes it difficult to prioritize One Health interventions, which often seem less urgent than immediate public health issues.

Study Objectives

This qualitative study aims to describe the implementation of the OH approach at the state level in Nigeria since 2017. Information received from key actors could be used in policy reform and targeted interventions.

Specific Objectives

1. To understand government readiness for the implementation of OH in the public health space at the state level in Nigeria.
2. To explore what the public health key actors at the state level in Nigeria understand about the OH approach.
3. To describe the practice of the OH approach among public health key actors at the state level in Nigeria.
4. To explore factors influencing the practice of the OH approach among key actors at the state level in Nigeria.

Materials and Methods

The study was an institutional-based qualitative study that assessed the readiness of the OH governance structure, knowledge, practice, and factors impacting OH implementation at the state level in Nigeria. The study deployed qualitative approaches using Key Informant Interviews (KII) and In-depth Interviews (IDI) as structured guides to gather information from the study participants. Nigeria’s readiness and practice of OH were assessed using the International Health Regulations strategy, comparing it to global standards.

A multi-stage sampling technique was used. One state was selected by balloting from each geo-political zone: Benue (North-central), Edo (South-south), Gombe (North-east), Imo (South-east), Oyo (South-west), and Sokoto

(North-west). From each state, a non-probability sampling technique was used to select the state ministries of Health, Agriculture, Rural Development, and Environment, which are the 3 core ministries with the mandate for the OH approach. The study population were key actors in these ministries.

The inclusion criteria were key actors working in the selected state ministries for at least 24 months or more in their current position before the study. The concept of saturation was used in determining the study size. Saturation is defined as that point beyond which receiving more data does not necessarily add more to the information. 6 KIIs and 3 IDIs were conducted among key actors in each state.

The lists of all key actors that met the predefined inclusion criteria were obtained from the OH focal points in selected ministries. This list served as a sampling frame from which participants were selected. From the list in each ministry, two key actors were selected by simple random sampling. Written informed consent and verbal permission were obtained to record the interview using a digital voice recorder and backup notes.

The study received ethical approval and necessary permissions from the National Health Research Ethics Committee and relevant ministry heads. The participants were not exposed to any form of distress, including emotional distress, and participation will not affect the dignity or career of the stakeholders. Codes were used to identify participants.

Transcripts from IDIs and KIIs were analysed using NVivo version 11. Two experienced analysts independently developed codebooks, which were reviewed and refined through consensus-building discussions with the supervisor and study PI. Thematic analysis was conducted using Braun and Clarke's six-phase approach, involving recursive coding, theme identification, and examination. Results were grouped into themes, with descriptive accounts and illustrative quotes.

Results

The results present key findings from interviews and discussions with 54 employees from the state ministries of Health, Agriculture, and Environment in Nigeria. The survey included nine respondents from each of the states of Benue, Edo, Gombe, Imo, Oyo, and Sokoto. This distribution aimed to generate a nationally representative sample. The study explores:

Government Readiness for Implementing the One Health (OH) Approach

1. **Organizational Structure:** Participants generally understood the OH structure, involving multiple ministries and stakeholders. As one respondent noted, "*The institutions are the State Ministry of Health, the State Ministry of Agriculture, the State Ministry of Environment*" (KII Gombe).
2. **Categories of Officers Involved:** Respondents were knowledgeable about the officers involved in OH platforms, including directors from health, veterinary, and environmental services. For example, *"In the event of an outbreak, all three components, health, veterinary services, and environmental services, come together to determine the necessary actions*" (KII Gombe).
3. **Laws and Policies:** Awareness of laws and policies guiding OH varied among participants, with some familiar with national and sub-national frameworks, while others were unaware. One respondent stated, "*The implementation and policies governing the One Health approach are established at both the national and sub-national levels, with active involvement from the relevant ministries."(IDI Imo)*, while not all respondents were knowledgeable about laws, policies, and guidelines for the OH approach as demonstrated by this

respondent *"I do not know what governance structure means in the context of One Health and I have not even heard of anything of such within my department and even within this ministry." (KII Edo).*

Understanding and Practice of OH

1. **Regarding Understanding:** , most respondents have a good understanding of OH, emphasizing cooperation between human, animal, and environmental health sectors. As observed by one respondent, "*The One Health strategy implementation has to do with different Ministries, MDAs, coming together to approach health from one perspective*" (IDI Edo).
2. **Objectives and Benefits:** Participants highlighted OH's objectives, including holistic disease control and improved health outcomes, as well as benefits such as enhanced surveillance and response. One of the respondents stated that, "*The primary objective is to create a holistic approach to health and disease control through the consideration of different factors ranging from humans, animals, and the environment*" (KII Sokoto).
3. **Level and Duration of Cooperation:** Cooperation levels varied, with some reporting effective collaboration, while others noted gaps, particularly between federal and state levels. One respondent commented that, "*There is a lack of collaborative efforts in the pursuit of One Health objectives between the federal ministries and those at the state level*" (IDI Gombe).

Practice of the OH Approach

1. **Detection and Response:** OH, is practiced through collaborative efforts in detecting and responding to health threats. As one respondent stated, "*Presently, the One Health strategy practice is based on the cases and the challenges we have at hand. Whenever there is an outbreak, a reportable case that crosses the Ministry of Health, Environment, and Animal, these three bodies swing into action*" (KII Sokoto).
2. **Early Warning Systems:** Participants described existing early warning systems, including surveillance and reporting structures. For example, "*Surveillance plays a vital role in our practice, enabling us to detect early warnings of disease outbreaks*" (KII Oyo).
3. **Preparation for Emergencies:** States prepare for emergencies through committees and coordination with relevant ministries. One respondent described that, "*The state prepares all sectors for potential emergencies using the State Public Health Emergency Management Committee*" (KII Gombe).

Factors Influencing OH Practice

1. **Enabling Factors:** High Political will and top-level management commitment, collaboration, and interpersonal relationships facilitate OH implementation. As one respondent noted, "*The crucial role played by Governors in different states cannot be overstated. Without their steadfast support, it would be incredibly challenging to effectively implement and practice any health-related initiatives*" (KII Gombe).
2. **Limiting Factors:** Challenges include administrative issues, lack of cooperation, inadequate funding, human resource shortages, and logistics issues. For instance, "*Another significant challenge that deserves attention is the scarcity of resources and training programs*" (IDI Oyo).

Discussion

This study provides insights into the readiness and challenges of implementing the One Health approach in Nigeria, highlighting

areas for improvement and potential strategies for enhancing collaboration and effectiveness.

Governance structure readiness for the implementation of OH in the public health space at the state level in Nigeria

This study found that the key actors at the state level had good knowledge of the organizational structure of OH and the officers involved. However, other criteria that connotate readiness of the governance structure which are laws and policies guiding the OH, showed that not all were knowledgeable about laws, policies, and guidelines. This finding aligns with Fakae et al.'s [13] assertion that a governance structure should be universally understood. Nonetheless, strong governance and leadership are paramount for the easy implementation of One Health interventions; the fragmented and disconnected governance of health, animal health, and the environment hamper the implementation of OH [14]. The success of One Health approach interventions is based on the policies that allow a multisectoral approach to issues of interest for all sectors [18]. Governments must provide the necessary policy support and educate the various sectors to implement One Health interventions successfully

Public key actors at the state level in Nigeria understand the OH approach

Respondents had a good understanding of OH, its objectives, and benefits. This finding was different from a study in China where the respondents had poor knowledge [15]. This could be because the study in China was done amongst the public, whilst this was among the key actors of OH in the state. Johnson et al in Australia also noted that lack of clarity about the definition, concept and scope of the One Health approach, under-recognition of its economic benefits, the absence of an agreement between health, veterinary and environmental professionals on the way forward and inadequate training activities were some of the factors that hampered the implementation of OH [14]. Still, respondents emphasized the need to strengthen the poor collaboration between the federal and state in terms of the OH implementation, as these are critical elements for success.

Practice of the OH approach among public health key actors at the state level in Nigeria

It is worth noting that the practice of the OH approach at the state level is becoming increasingly popular as there are more disease outbreaks. The states had good warning systems via the surveillance unit and traditional system in each state. Preparation for potential threats has been the primary responsibility of the state public health emergency management committee, which encompasses various sectors of the OH. The success of OH implementation depends on the extent to which institutional collaboration is attained, joint planning, and coordinated comprehensive surveillance for the early detection and prevention of zoonoses [16].

Factors influencing the practice of the OH approach among key actors at the state level in Nigeria

Various factors have been noted to influence the practice of OH at the state level. Though there is a good governance structure in the states, there is noticeable low funding, which is consistent to what various studies have found [6]. Poor funding will negatively impact the implementation of the incident action plans [17]. The primary responsibility for disease surveillance, outbreak investigation, and immediate response activities lies with state governments, and dedicating a substantial budget line for public health emergencies at both national and subnational levels is recommended to mitigate this challenge [17].

Lack of cooperation, as seen in inter-agency and inter-professional rivalries influence the practice of OH at the state level. This is similar

to what Adeyemo found as the educational system encourages competition between health professionals and discourages multidisciplinary collaborations due to professional tussles and bureaucratic difficulties [10]. However, OH professionals do not have the necessary conditions to enable them to practice their ideas. Therefore, competing systems of practice among health professionals must be addressed to foster collaboration.

At the state level, there is a shortage of skilled human resources, mirroring the findings of Yopa et al. Their study also highlighted challenges such as the lack of specific skills, inadequate training, limited staffing, and unattractive salaries in the animal and public health fields, all of which impede the implementation of One Health interventions. Furthermore, the frequent turnover of public health workers and the migration of health professionals to high-income countries also hinder the development of a qualified and experienced workforce for One Health interventions [18].

Low political will was seen as a barrier to the implementation of OH. This was consistent with what Johnson et al had found [14]. It is considered that without political will, the operational issues that exist will not be resolved, and thus, involving the relevant ministers and policymakers in the OH discussion is essential, providing the best opportunity for implementation. To achieve this, policymakers must be persuaded of the economic benefits of a One Health approach.

Conclusion

This study set out to assess the implementation of One Health at the state level, with a focus on the governance structure and practice of OH by key actors, and the factors influencing the implementation of OH as a public health intervention in Nigeria at the state level. Based on the study's findings, One Health (OH) has a well-established and active governance structure as a public health initiative in Nigeria. The understanding and practice of OH by key actors has aided the reduction of zoonotic diseases such as avian influenza and Lassa fever, among other diseases in human and animal populations.

However, challenges such as poor coordination, inadequate funding, shortage of skilled human resources, lack of cooperation between various ministries, and low political will exist and have affected the implementation of OH. The idea of OH has not been implemented without its unique challenges, the most notable of which are budgeting and financing, as well as the lack of expertise and human resources. We suggest increasing collaboration among key stakeholders across relevant ministries, and issues of institutional relativity and dominance ought to be reviewed to reduce bureaucratic delays.

Conflict of Interest

There was no conflict of interest.

Acknowledgment

This is to sincerely appreciate my project supervisor, Dr. Bright Chukwudi Orji, for his guidance during my research work and thesis. His insights and feedback contributed immensely to the completion of this work.

I am also grateful to the co-authors, namely Dr. Bright Chukwudi Orji, Dr. Dipo Ogunbode, Dr. Sarah Abraham, and Dipo Oni, for their contributions to the completion of this paper. I thank colleagues at the Regional Disease Surveillance Systems Enhancement Project (REDISSE) and Nigeria Covid-19 Preparedness and Response Project (CoPREP) at the National and State levels for their support and collaboration.

I owe a debt of gratitude to my family for their unwavering support and encouragement throughout my PhD journey.

To my mother, who kept pushing me towards completion but passed before I could proudly present this finished paper- God rest your beautiful soul, Mum.

References

[1]. World Health Organization, 2023, One Health. In World Health Organization, https://www.who.int/newsroom/factsheets/detail/one-health

[2]. World Health Organization, 2017a, One Health. http://www.who.int/features/qa/one-health/en/

[3]. Food and Agriculture Organization of the United Nations, 2017, Thoughts of FAO on One Health. http://www.fao.org/ag/againfo/home/en/news_archive/2010_one-health.html

[4]. World Organisation for Animal Health (OIE), 2017, One Health "at a glance." http://www.oie.int/en/for-the-media/onehealth/

[5]. World Health Organization, 2017b, The Tripartite's commitment: Providing multi-sectoral, collaborative leadership in addressing health challenges. http://www.who.int/zoonoses/tripartite_oct2017.pdf?ua=1

[6]. Lucero-Prisno III, D. E., Owhor, G. A., Olayemi, A., Nzeribe, E., & Okeke, B. I., 2023, Addressing One Health in Nigeria; Challenges and Recommendations. *PAMJ One Health*, 10(3). https://doi.org/https://doi.org/10.11604/pamjoh.2023.10.3.38072

[7]. Federal Republic of Nigeria, 2019, One Health Strategic Plan 2019-2023.

[8]. Reliefweb, 2019, Nigeria launches One Health Strategic Plan. https://reliefweb.int/report/nigeria/nigeria-launches-one-healthstrategic-plan

[9]. Ayobami, O., Mark, G., Kadiri-Alabi, Z., Achi, C. R., & Jacob, J. C., 2021, COVID-19: an opportunity to re-evaluate the implementation of a One Health approach to tackling emerging infections in Nigeria and other sub-Saharan African countries. *Journal of Egyptian Public Health Association*, 96(26). https://doi.org/https://doi.org/10.1186/s42506-021-00085-y

[10]. Adeyemo, O., 2021, One Health Approach Key to Tackling Africa's Challenges | *Inter Press Service. IPS*, http://www.ipsnews.net/2021/05/one-health-approach-key-tackling-africas-challenges/

[11]. Sikakulya, F., Katembo, M., Mulisya, O., Munyambalu, D. K., & Bunduki, G. K., 2020, Ebola in the Eastern Democratic Republic of Congo: One Health approach to infectious disease control. *One Health*, 9, 100117. https://doi.org/10.1016/J.ONEHLT.2019.100117

[12]. Chatterjee, P., Kakkar, M., & Chaturvedi, S., 2016, Integrating one health in national health policies of developing countries: India's lost opportunities. *Infectious Diseases of Poverty*, 5(1). https://doi.org/10.1186/S40249-016-0181-2

[13]. Fakae, B. B., & Fakae, L. B., 2021, We are exploring new frontiers in One Health for combating emerging and re-emerging global health challenges. *Researchgate.Net*, https://www.researchgate.net/publication/352666811_LEAD_PAPER_Exploring_new_frontiers_in_One_Health_for_combating_emerging_and_re-_emerging_global_health_challenges

[14]. Johnson, I., Hansen, A., & Bi, P., 2018, The challenges of implementing an integrated One Health surveillance system in Australia. *Zoonoses and Public Health*, 65(1), e229–e236. https://doi.org/10.1111/ZPH.12433

[15]. Wu, C., Astbury, C. C., Lee, K. M., Gong, Z., Chen, S., Li, A., Tsasis, P., & Penney, T., 2023, Public awareness of One Health in China. *One Health*, 17, 100603. https://doi.org/10.1016/J.ONEHLT.2023.100603

[16]. Kelly, T. R., Karesh, W. B., Johnson, C. K., Gilardi, K. V. K., Anthony, S. J., Goldstein, T., Olson, S. H., Machalaba, C., Mazet, J. A. K., Aguirre, A., Aguirre, L., Akongo, M. J., Robles, E. A., Ambu, L., Antonjaya, U., Aguilar, G. A., Barcena, L., Barradas, R., Bogich, T., Zimmerman, D., 2017, One Health proof of concept: Bringing a transdisciplinary approach to surveillance for zoonotic viruses at the human-wild animal interface. *Preventive Veterinary Medicine*, 137(Pt B), 112–118. https://doi.org/10.1016/J.PREVETMED.2016.11.023

[17]. Nwafor, C. D., Ilori, E., Olayinka, A., Ochu, C., Olorundare, R., Edeh, E., Okwor, T., Oyebanji,

O., Namukose, E., Ukponu, W., Olugbile, M., Adekanye, U., Chandra, N., Bolt, H., Namara, G., Ipadeola, O., Furuse, Y., Woldetsadik, S., Akano, A., Ihekweazu, C., 2021, The One Health approach to incident management of the 2019 Lassa fever outbreak response in Nigeria. *One Health (Amsterdam, Netherlands)*, 13. https://doi.org/10.1016/J.ONEHLT.2021.100346

[18]. Yopa, D. S., Massom, D. M., Kiki, G. M., Sophie, R. W., Fasine, S., Thiam, Q., Zinaba, L., & Ngangue, P., 2023, Barriers and enablers to the implementation of one health strategies in developing countries: a systematic review. *Front Public Health*, 11. https://doi.org/https://doi.org/10.3389%2Ffpubh.2023.1252428