

# Infodemics management in the digital world: The implications for Public Health in Sub-Saharan Africa

JOHNSON CHIJINDU DIARA<sup>1,2</sup>, IFEOMA VIVIAN UGWUEKE V<sup>1</sup>, PATRICIA IHEAKU OTUH<sup>1</sup>

<sup>1</sup>Department of Public Health, David Umahi Federal University of Health Sciences, Uburu, Ebonyi State, Nigeria;

<sup>2</sup>International Institute for Infectious Diseases, Biosafety and Biosecurity Research,  
David Umahi Federal University of Health Sciences, Uburu, Ebonyi State, Nigeria

## Keywords

Infodemic • Misinformation and disinformation • Risk communication • Public health preparedness • Digital health communication • Health systems strengthening • Sub-Saharan Africa

Dear Editor,

Digital technology has profoundly transformed modern society, effectively turning the world into a global village. Advances in information and communication technologies have removed many traditional barriers to communication, education, commerce, and healthcare delivery, including those associated with telemedicine. Individuals can now communicate instantly across continents, exchange information freely, participate in virtual learning and professional networks, access mentorship, and engage in economic activities regardless of physical distance. Aside from challenges such as poor network connectivity, information flow in the digital era faces few limitations. This letter aims to highlight the Public Health implications of infodemics in Sub-Saharan Africa and to contribute to ongoing policy discussions by advocating for the integration of infodemic management into epidemic preparedness and health system strengthening strategies

The rise of the internet and social media has fundamentally reshaped human interaction by increasing the speed, reach, and influence of information. McLuhan's concept of the "global village" captures this reality, describing a world where societies are increasingly interconnected through technologies that accelerate knowledge transfer within social and economic systems [1]. Digital platforms enable geographically distant individuals to access similar information simultaneously, share experiences, and express opinions that can influence others positively or negatively on a global scale.

This era is also defined by real-time communication and rapidly expanding social networks that transcend geographic boundaries. Information spreads faster than ever, shaping perceptions, attitudes, and behaviours. These dynamics were especially evident during the COVID-19 pandemic, when lockdowns and movement restrictions limited physical interaction. During this period, digital platforms became central to information sharing, commerce, entertainment, and social connection, accelerating the growth of new media platforms and expanding the influence of existing ones.

Sub-Saharan African countries experienced these transformations acutely. During the COVID-19

pandemic, their fragile health system faced a dual challenge: responding to the outbreak while managing an overwhelming influx of unfiltered health information. The World Health Organisation (WHO) describes this phenomenon as an infodemic—an overabundance of information, accurate or not, that accompanies an epidemic or outbreak [2].

An infodemic extends beyond misinformation and disinformation to include all forms of circulating information within the information ecosystem [3]. While misinformation refers to false information shared without intent to harm, disinformation involves deliberate deception; both contribute to the broader phenomenon of infodemics, which encompasses the entire information ecosystem during health emergencies. This ecosystem spans digital and physical spaces and interacts closely with social dynamics, health behaviours, and information-seeking practices. It is also shaped by people's experiences and interactions with the health system [3]. During the pandemic, the biological threat of COVID-19 was compounded by the rapid spread of infodemics, intensifying the burden on health systems and complicating the design of effective interventions.

During outbreaks, fear and uncertainty drive individuals to seek information aggressively from multiple sources, including peers, community leaders, and opinion shapers [4]. As information production accelerates, accurate messages coexist with misinformation, disinformation, and outdated content across diverse channels. In such contexts, identifying trustworthy sources becomes difficult, conflicting messages are hard to process, and altered risk perception can significantly influence health-seeking behaviour and adherence to Public Health guidance [5-8].

Evidence from previous outbreaks illustrates the Public Health consequences of unmanaged infodemics. During the Ebola outbreak, widely circulated claims that consuming salt water could prevent infection resulted in avoidable morbidity and mortality. Similarly, vaccination programmes in Nigeria have been affected by persistent misinformation, including narratives questioning vaccine safety or intent [9]. Such narratives have fuelled vaccine hesitancy, including resistance

to COVID-19 vaccination, even among educated and influential groups who cited exaggerated or fabricated side effects circulating on social media. Comparable impacts of infodemics have been documented during outbreaks of Zika, Ebola, polio, and measles [10].

Infodemics erode trust, weaken social cohesion, and undermine Public Health interventions by distorting knowledge, beliefs, and behaviours. In Africa, mistrust is compounded by perceptions of political elites' behaviour and widening socioeconomic inequalities, contributing to declining confidence in government and health institutions. During the COVID-19 pandemic, health workers promoting vaccination were sometimes met with hostility and violence, driven by conspiracy theories about government intentions.

Infodemics have also reshaped health-seeking behaviour, with some individuals favouring unproven traditional or spiritual remedies over evidence-based care for conditions such as mental illness and snakebite. Beyond direct health effects, infodemics have caused unreported deaths from unapproved treatments and contributed to stigma, discrimination, and artificial scarcity of essential commodities, as observed during the COVID-19 pandemic [11-13].

These patterns highlight a critical gap in epidemic preparedness: the limited integration of infodemic management into routine Public Health systems. Infodemiology, introduced by Eysenbach, provides a framework for analysing the distribution and determinants of health information to improve access to reliable knowledge [14]. Building on this, infodemic management encompasses coordinated strategies to monitor information flows, identify and address misinformation and disinformation, and promote timely, accurate communication. The WHO recommends approaches including community engagement, social listening, strengthening risk communication, and empowering individuals to make informed decisions [15]. Early intervention—particularly during the initial stages of an outbreak—is essential to prevent information gaps that can be filled by misleading narratives.

From a policy and systems perspective, integrating infodemic management into Public Health practice is increasingly necessary. This includes embedding infodemic surveillance within national health information systems, strengthening digital and health literacy, and incorporating risk communication into preparedness and response plans. Collaboration with media organisations, community leaders, and digital platform providers is also important to ensure consistent dissemination of credible information. In addition, building and maintaining public trust through transparent and culturally appropriate communication should be prioritised as a core function of health systems.

Infodemics pose a growing Public Health challenge in Sub-Saharan Africa, influencing trust, behaviour, and intervention effectiveness. Addressing this requires shifting from reactive communication to the systematic integration of infodemic management into preparedness and health system strengthening. With increasing public

health emergencies and expanding digital information ecosystems, coordinated policy action is needed to equip health systems to manage both disease outbreaks and the complex information environments that accompany them.

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## Conflict of interest statement

The authors have no conflict of interest to declare.

## Authors' contributions

JC: conceptualised the letter and drafted the manuscript. IFY: contributed to the development of the manuscript, and Pat supported critical revision of the content and manuscript editing. All authors reviewed and approved the final version of the manuscript.

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Correspondence: Johnson Chijindu Diara, Department of Public Health, David Umahi Federal University of Health Sciences, Uburu, Ebonyi State, Nigeria. E-mail: [jcdiara@gmail.com](mailto:jcdiara@gmail.com); [diarajc@dufuhs.edu.ng](mailto:diarajc@dufuhs.edu.ng).

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