

COVID-19 in Africa amidst an ongoing Ebola Virus Disease Outbreak in DRC. How prepared is the continent?

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KEYWORDS

COVID-19, EVD, outbreak response, Africa, AFENET, ACoDD

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RECEIVED

21/02/20

ACCEPTED

21/02/20

PUBLISHED

21/02/20

LINK

www.afenet-journal.net/content/article/3/4/full

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CITATION

Sheba Nakacubo Gitta et al. COVID-19 in Africa amidst an ongoing Ebola Virus Disease Outbreak in DRC. How prepared is the continent?. J Interval Epidemiol Public Health. 2020 February; 3(1):4
<https://doi.org/10.37432/JIEPH.2020.3.1.24>

Editorial

As the world grapples to contain the coronavirus disease (COVID-19) epidemic, Africa continues to battle an Ebola virus disease (EVD) outbreak in the Democratic Republic of Congo (DRC). On February 14, 2020, Egypt reported the first COVID-19 case on the African continent. This incident has caused panic on the continent given the limited capacity of our public healthcare systems to effectively respond should the outbreak establish itself in Africa.

On 30 January 2020, the World Health Organization (WHO) declared COVID-19 a Public Health Event of International Concern (PHEIC), and called upon countries to intensify their preparedness and response efforts to curb the spread of the disease [1]. Thirteen African countries (eleven are members of the African Field Epidemiology Network) are on WHO's priority list (Table 1) due to the high volume of travelers going through them, and direct linkages with China [2]. The EVD outbreak in DRC has been going on for the past 18 months, and was declared a PHEIC in July 2019 [3]. There is growing concern that the novel coronavirus may divert attention from the second largest globally recorded EVD outbreak and the deadliest in DRC, further threatening global health security. Insecurity due to protracted political instability amidst widespread community mistrust and hostility towards responders has undermined efforts to control the EVD outbreak in DRC [4]. A similar scenario is bound to happen if COVID-19 infection spreads to this region or other countries experiencing insecurity.

Following the 2014-2016 West Africa EVD outbreak, massive investments were made to support health systems strengthening across Africa. These together with other disease specific efforts and cross-cutting investments have resulted in improvements in some IHR (2005) capacities. Notably, 80% countries have developed or demonstrated capacity in event-based surveillance systems and field epidemiology training programs in the recently concluded WHO African region independent Joint External Evaluation [5]. However, challenges remain ranging from suboptimal health financing, limited diagnostic capacity, double high burden of communicable and non-communicable diseases, political conflict, to inadequate numbers of skilled health workforce. The economic impact of epidemics has proved to be significant. A \$53 billion loss was reported following the 2014-2016 West

Africa EVD outbreak [6]. Should the COVID outbreak spread within Africa, one can only imagine the impact on our weak economies and fragile health systems. In such an environment, a double burden of COVID-19 and other ongoing outbreaks such as EVD, measles and polio in DRC; polio and Lassa fever in Nigeria and Sierra Leone; yellow fever in Uganda among others, is bound to have catastrophic effects. COVID-19 has proven to have a higher epidemic potential than recent outbreaks experienced in Africa.

With this in mind, several partners have committed resources to enhance preparedness and response efforts across the continent. Most African countries have limited diagnostic capacity with WHO reporting that presently only 6 nations -Senegal, South Africa, Ghana, Madagascar, Nigeria and Sierra Leone have the requisite laboratory capacity to detect the 2019-nCoV [7]. A key component of Africa CDC's multi-pronged preparedness strategy for the 2019-nCoV is to rapidly strengthen the capacity of 35 priority African countries to rapidly detect the virus, through training and provision of test kits and reagents. WHO is also sending kits to 29 laboratories to bolster diagnostic capacity in the region [7]. The US Centers for Disease Control and Prevention (CDC) has released and started shipping out to international laboratories test kits (CDC 2019-nCoV Real Time RT-PCR) that work in existing RT-PCR testing instruments [8]. Additionally, previous investments in public health systems for pandemic influenza preparedness and response are a potential resource to be tapped into for COVID-19 epidemic.

Health workers' lack of skills in managing Ebola Virus Disease was one of the bottle necks identified in Liberia during the 2014-2016 West Africa EVD outbreak [9]. In the five years following this outbreak, the African Field Epidemiology Network (AFENET) in collaboration with African ministries of health and the CDC embarked on increasing the number of skilled epidemiologists at various levels of national health systems. During this period, over 3,000 frontline health workers have been trained through frontline field epidemiology training programs (FETP) and 140 health workers have completed the intermediate FETP. Another 2,000 health professionals have completed the Advanced FETP since AFENET's formation, 15 years ago. Based on the Global Health Security Agenda target of one trained field epidemiologist per 200,000 population, Africa with a population of 1.2 billion

needs at least 6,000 field epidemiologists (Intermediate and Advanced FELTP graduates). Therefore, more needs to be done to address this health workforce gap in order to attain effective surveillance and response.

In May 2018, the AFENET Corps of Disease Detectives (ACoDD) was launched. This multinational team of culturally competent field epidemiologists underwent preparatory drills and are prepositioned for rapid deployment within Africa to support preparedness and response to disease outbreaks and other public health emergencies. To-date, over 200 ACoDD members have been deployed in DRC and Uganda to support EVD outbreaks through secondments to ministries of health of DRC and Uganda, WHO, Global Outbreak Alert and Response Network (GOARN), Africa CDC and the International Organization for Migration (IOM). ACoDD members have participated in surveillance, contact tracing, case investigation, data management and analysis, community sensitisation, infection prevention and control and screening at points of entry. Between July and August 2019, AFENET with funding from CDC and World Bank conducted a Surveillance Training to Enhance Ebola Response and Readiness (STEER) for frontline and community health workers in DRC. A total of 2,047 frontline health workers and 5,107 community health workers in EVD affected areas were trained. ACoDD members participated in the training, supervision and mentoring of trainees.

Since the declaration of the COVID -19 outbreak as a PHEIC, Field Epidemiology and Laboratory Training programs (FE(L)TPs) in Africa have actively participated in Preparedness and Response activities within their respective Ministries of Health[10]. They have been involved in conducting preparedness assessments, point of entry screening and surveillance of suspected cases, developing protocols and guidelines for surveillance, infection prevention and control, risk communication and community engagement activities. In Zimbabwe and DRC, FELTP residents have been part of teams investigating suspected COVID-19 cases.

ACoDD and other volunteer responders such as Africa CDC's African Volunteer Health Corps (AVoHC) will continue to be instrumental in preparedness and response to ongoing, imminent

and emerging public health threats. A significant proportion has been trained and/or previously participated in outbreaks can thus be quickly deployed as needed. However, for maximum impact, such deployments and other response efforts need to be coordinated through mandated regional bodies. In DRC and Uganda, ACoDD deployments were done in liaison with the country's Ministry of Health. Initial ACoDD deployments for COVID-19 preparedness and response at regional level are being coordinated through the Africa CDC and WHO African Regional Office.

Clearly, the COVID-19 pandemic threat amid an ongoing EVD outbreak in DRC and other ongoing public health challenges has the potential to erode some of the progress made in strengthening African health systems. However, coordination and efficient use of resources at national and regional levels will be key to successful containment of such threats, alongside systematic implementation of efforts to strengthen health systems.

Competing interests

The author(s) declare that they have no competing interests.

Table

Table 1: WHO African Region 13 top priority countries in light of novel coronavirus threat

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| Table 1: WHO African Region 13 top priority countries in light of novel coronavirus threat | | | |
|---|----------------------------------|---------------------------|-----------|
| AFENET MEMBERS | | NOT AFENET MEMBERS | |
| 1 | Angola | 1 | Algeria |
| 2 | Cote d'Ivoire | 2 | Mauritius |
| 3 | Democratic Republic of the Congo | | |
| 4 | Ethiopia | | |
| 5 | Ghana | | |
| 6 | Kenya | | |
| 7 | Nigeria | | |
| 8 | South Africa | | |
| 9 | Tanzania | | |
| 10 | Uganda | | |
| 11 | Zambia | | |