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Editorial

Adapting lessons learned from HIV epidemic control to COVID-19 and future outbreaks in sub-Saharan Africa

Julian Natukunda,[1] **Bruno Sunguya**,[2] **Ken Ing Cherng Ong**,[1] **Masamine Jimba**[1]

[1]Department of Community and Global Health, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan
[2]School of Public Health and Social Sciences, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania

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Correspondence to
Ken Ing Cherng Ong
Department of Community and Global Health, Graduate School of Medicine, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-0033, Japan.
E-mail: kenicong@m.u-tokyo.ac.jp

ORCID iDs
Julian Natukunda
https://orcid.org/0000-0002-7541-3999
Bruno Sunguya
https://orcid.org/0000-0003-3625-0725
Ken Ing Cherng Ong
https://orcid.org/0000-0001-7196-7671
Masamine Jimba
https://orcid.org/0000-0001-5659-3237

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INTRODUCTION

Coronavirus disease 2019 (COVID-19) reached pandemic status in March 2020. Africa has not been spared and its morbidity and mortality are increasing daily.[1] By June 1, 2020, all 54 countries in Africa had reported COVID-19 cases. Early cases were predominantly imported[2]; however, with the changing disease landscape, local and community transmissions have been increasing. African countries have already imposed several measures, including strict travel restrictions and border closures, as initial steps to curb transmission of the virus.[3] Several countries also implemented local production of cloth masks, hand sanitizers, test kits, and ventilators.[4,5]

As health systems are vulnerable in sub-Saharan Africa (SSA), these countries must find ways to ensure public safety and delivery of essential health services to all.[6,7] It is therefore important to adopt effective measures to tackle ongoing public health threats.

Epidemics are not uncommon in Africa. The World Health Organization (WHO) has compiled reports on 19 previous outbreaks that were successfully contained in the African region.[8] Human immunodeficiency virus (HIV) infection is the largest of these outbreaks in SSA. In the 1980s, most SSA countries were severely impacted by the HIV epidemic and experienced various challenges. Almost four decades later, SSA countries have reduced the number of new infections using a combination of medical and non-medical prevention strategies.[9] Based on this experience, SSA countries have learned that health systems must remain at the center of the response to emerging disease outbreaks.[10]

This article discusses how SSA countries should utilize the experience of the HIV/AIDS response to combat the current COVID-19 crisis. The discussion is presented alongside the WHO framework for health systems that hinges on six building blocks.[10] These include health service delivery; leadership and governance; access to essential medical products, vaccines, and technologies; health workforce; health information systems; and health systems financing. Each building block is then linked to the four fundamental objectives of health systems; improved health and equity, responsiveness, social and financial risk protection, and efficiency.[11]

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LESSONS FROM THE HIV EPIDEMIC RESPONSES

Health service delivery

Health systems were strengthened after a vertical approach for HIV control turned into a more horizontal one. HIV testing, for example, became people-centered[12] when it was integrated into the primary health care system and offered by both public and private facilities.[13] Service delivery was organized to offer a wide range of options to people at all levels, including provider-initiated testing and counseling, mobile testing, outreach, rapid diagnostic testing, and the novel self-testing.[13]

For COVID-19, some SSA countries have designated facilities at central and regional levels to test samples referred from clusters and high-risk settings such as points of entry.[7,14] However, these services remain limited at the community level. As with HIV infection, it would be best to decentralize screening and testing services to primary care facilities. This should be done under careful infection prevention control strategies.

For HIV infection, a major concern was how to deal with stigma and discrimination, which discouraged people from seeking services.[15] Responsiveness of the system, including respect for persons and client orientation, was key to the utilization of health services.[10] Effective interventions used in HIV programs to overcome these concerns included HIV-specific anti-discrimination laws, which were adopted in about 35 countries to protect people living with HIV[16]; consensus on inclusive language and less stigmatizing terminologies[17]; and deployment of lay persons to support delivery of HIV services.[18]

SSA countries have also addressed COVID-19 stigma and discrimination through policy, rules and guidelines.[19,20] Some countries have drafted laws related to non-compliance with voluntary quarantine processes and lockdown measures,[21] but these policies have remained weak on stigma and discrimination. Guidance should be given to the media and political and community leaders on how best to discuss issues on COVID-19 in a non-stigmatizing and non-discriminatory manner. This can be done through sharing new or updated policies that emphasize respect for human rights. Also, a taskforce to develop culturally acceptable and inclusive terminologies is crucial. At every stage of the disease, governments should plan to actively involve community members (especially members of vulnerable populations) in response activities.

Leadership and governance

Responsibility for the overall performance of a country's health system lies with the government.[10] Therefore, leaders should have the capacity to assemble and manage national resources for the benefit of the population.[14] This is achievable through developing or updating policies, building partnerships, and ensuring effective oversight and accountability.[11] Such governmental leadership was demonstrated in Uganda's success in reversal of the HIV epidemic in the 1980s.[22] Although the success is attributed to multiple factors, the following were pivotal: strong leadership by the head of state (a multi-sectoral AIDS commission was created under the backing of the president); intense health education campaigns which were well funded and deeply extended into villages and communities[23]; and active support and response from civil society organizations.

Several SSA country heads have shown strong leadership and governance during the COVID-19 pandemic. This is evident through enactment of policies to maintain public order and infection control and prevention measures.[14,24] Some countries have effectively mobilized

resources by re-using previously built infrastructure.[7,14] Others have supported partnerships for local production of COVID-19 supplies such as test kits and masks.[4,5] Going forward, leaders in SSA countries need to show a strong political commitment to mitigate the effects of COVID-19 on the population.

Access to essential medical products, vaccines, and technologies

In SSA, HIV programs streamlined supply chain systems through investments in forecasting, procurement and stock redistribution systems to avoid stockouts.[15] To extend access to antiretroviral therapy, user-friendly services were introduced including multi-month prescriptions and fast track drug refills. Further, several diagnostic, biomedical, and social marketing strategies have provided a wide range of options for HIV-related supplies in the last decade.[25,26] Condoms were also distributed free or sold at affordable cost alongside commercial products.[27]

To overcome severe shortages of essential COVID-19 supplies such as masks and ventilators,[28] SSA countries have formed partnerships with the private sector to boost local production.[4,5] Others have focused on testing populations in high risk settings to minimize waste.[14,29] For example, in a pattern similar to that seen with HIV,[30] new COVID-19 cases in East African countries have been increasing among cross-border truck drivers and their assistants.[31] Thus, East African countries have prioritized testing truck drivers for COVID-19 as one of the high risk populations. While SSA countries take different approaches, the following should be considered; continuous engagement with the private sector to boost production of supplies and equipment; regular assessment and mapping of existing resources against supply capacities; establishing emergency transport and distribution systems; and delivering targeted responses to high-risk populations.

Health workforce

In SSA, human resource constraints in the HIV response were addressed through task shifting.[32] In Malawi and Uganda, for example, basic care for people living with HIV is conducted by less specialized professionals such as community health workers (CHWs) and volunteer/lay workers.[33] CHWs have made contributions in areas such as HIV treatment adherence, delivery of medicines and contact tracing.[34-36]

For COVID-19, CHWs could be an excellent resource. For example, CHWs can be used in contact tracing, as was done in West Africa for Ebola, or for primary health care services and to achieve general universal health coverage.[37] However, full scale, comprehensive CHW programs require financial resources to support their operations. In some SSA countries, CHWs are funded by donor programs.[38] For CHWs to effectively bridge the human resource gaps, SSA countries need to consider alternative sources of funding for such programs. Costs include training, transportation, and logistical needs such as backpacks and consumables. Also, central databases of CHWs and their geographical locations should be created for easy access, management and planning of human resources.

The positive deviance (PD) approach is one potential solution that may reduce pressure on the health workforce by influencing individual and community behaviors.[39] PD has demonstrated success in identifying culturally acceptable, uncommon but effective local solutions embedded within every community. One PD example during COVID-19 involved circulation of a video of a tippy tap made from everyday materials and operated by a foot pedal to promote handwashing.[40] By unearthing and replicating such PD behaviors both within and outside communities, families, or institutions, we can empower individuals to take charge of their own health, thus reducing the spread of preventable illnesses and infections.

Health information systems

Many SSA countries are using centralized health information management systems to collect information needed for the planning and management of health care services.[41] For example, HIV programs use the district health information system (DHIS) software, to collect, manage and access robust and timely epidemiological data for decision making.[42] The updated DHIS software enables offline services for users, and hence can be adapted to areas with poor internet connection. Over the years, HIV programs have invested in training users, building infrastructure, and hiring dedicated personnel for data management to improve system quality and availability.

For COVID-19, testing remains limited, and is conducted at centralized laboratories or designated facilities.[7] Real time case information including symptoms and travel history is now collected at individual, national, and provincial levels.[43] In SSA, electronic platforms, dashboards, toll-free numbers and websites have emerged to ensure timely reporting and sharing of COVID-19 related information.[44] In the future, a centralized reporting system capable of collecting and integrating data from several sources (including smart phone applications, reports, and websites) will be crucial. For this to happen, SSA countries need to address issues related to data quality and security, personnel training, and infrastructure (hard-and software).

Heath financing

Globally, development assistance for HIV programs has decreased since 2010.[45] Despite the notable challenges in domestic financing, SSA countries have devised alternative financing mechanisms such as taxes and trust funds specific for HIV. For example, Zimbabwe introduced an 'AIDS levy,' while Kenya, Uganda, and Tanzania proposed trust funds for HIV.[46] Some countries are seeking to collect funds through taxes imposed on alcoholic drinks and total revenues. Other strategies include risk pooling schemes, such as private health insurance, and domestic tendering systems and price ceiling agreements for antiretroviral therapy.[47]

Following the COVID-19 outbreak, warnings have been issued about the severe economic crises that may hit vulnerable nations.[48,49] Many countries are concurrently suffering, and the economic meltdown experienced by high-income countries will further affect the flow of financial aid during this pandemic and beyond. However, SSA countries have set up emergency funds financed by a mix of public and private sector contributions.[50-52] The funds have been used to support vulnerable households, firms, and health care facilities. SSA countries should provide social safety net programs to move closer to universal health coverage.

CONCLUSION

Emergency response strategies must be fully integrated within the current health systems for success. The integrated HIV response in SSA provides key lessons for controlling the COVID-19 pandemic and future outbreaks. Countries must decentralize services to the community level, actively involve the community in response activities, and gain support of private and civil society organizations. Governments must demonstrate robust leadership in managing resources and developing public policy and enact strong financial policies and strategies to secure funds for strengthening health systems.

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