



POLICY BRIEF

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Multifaceted Response Development from Research on COVID-19 in Africa (Murder COVID-19 in Africa): Future Pandemic Preparedness and Emergency Responses

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Background

COVID-19 remains a multisystemic disease with its devastating and colossal effects across the world including Africa. As the WHO, regional health organizations and different countries of the world are planning a multi-pronged strategy against possible future outbreaks and pandemics, Africa and her Low and Middle-Income Countries (LMICs) remain the epicentre for Lassa, monkeypox virus with its current epidemics, Ebola, malaria, and any unexpected disease X. Africa and Africans largely continue to suffer from Crimean-Congo haemorrhagic fever in Namibia and Mauritania, Dengue fever in Senegal, Ebola virus disease in DRC, Lassa fever in Nigeria, Marburg fever in Uganda, Rift Valley fever in Kenya and Niger, and Yellow fever in Uganda and Nigeria, amongst others. The African Union (AU) and leaders of member states must therefore put in place as a matter of urgency and sustain where they are already in existence, workable SMART (Specific, Measurable, Achievable, Realistic, and Timely) policies on epidemics and pandemics preparedness and emergency responses including: Regional Knowledge Hub/Pandemic Institute, Sentinel Epidemiological Surveillance at One-health, Biobanking and Genomic Database, Community Hygiene and Biosecurity, and Regional Pharmaceutical and Non-pharmaceutical Interventions.

To institutionalize policies at preventing or reducing the burden of future disease outbreaks and pandemics, sound mechanistic approach and emergency preparedness must be tailored to achieve multifaceted responses:

Regional Knowledge Hub/ Pandemic Institute

There is need to establish hands-on national and regional but globally competitive institute for special and standard knowledge acquisition and technical know-how on infectious diseases that are endemic or peculiar to Africans and the region owing to inherent genetic factors, cultural practices, natural, climatic, and environmental factors that are directly or indirectly inimical to population health, thereby enhancing

spread of infectious diseases with resultant sporadic epidemics and pandemics.



Sentinel Epidemiological Surveillance at One-health

Africa must continue to foster relationship among member states in a bid to improve her sentinel surveillance, and sequencing capacity for effective strain monitoring of aetiologies of the current pandemic and all other endemic diseases from time to time, thereby enhancing her preparedness for seasonal transmission. The epidemiological



surveillance at One-health is important to understand the sources of incursion and modes of transmission of all causative agents in humans, animals and in the environment, especially to be able to promptly establish and control reverse zoonotic transmission that often give room for pathogen amplification, gene transfer, genetic reshuffling and recombination.

Biobanking and Genomic Database

Biobanking is an emerging area in biomedical science, involved in biospecimen collection, storage, and distribution, coupled with the policies and procedures involved, including repositories, leading to cutting-edge translational research for precision medicine. There is dire need for biobanking facilities and a database within the continent. This will strongly assist



in the area of sample and isolate preservation that is crucial for laboratory diagnostics, therapeutics and vaccine seed strain selection and development. Africa should harness the energies of some of the countries in the region by replicating the different biobanking facilities e.g., the Lagos biobank, the H3Africa biobanks, and the ongoing East Africa biobank project.

Community Hygiene and Biosecurity

Animals including bats and pangolins have been reported as the natural reservoirs of SARS-CoV-2 causing COVID-19; monkeys were first reported with monkeypox virus, and rodents serve as carriers for rotaviruses and several other pathogens. A multitalmate *Mastomys natalensis* remains the carrier of Lassa fever virus, while several other pathogens including arboviruses are transmitted by arthropods comprising of mosquitoes, and cockroaches amongst others. Therefore, policies on classical intervention strategies including community

hygiene are sacrosanct to discourage and eliminate arthropods, rodents and other known reservoirs in living apartments. More should be done deliberately to ensure cleaner environment in different African



communities. There must be policies to control or prevent encroachment of the forests, animal trading, and mixed transportation of animals and humans. There is need to strengthen transborder biosecurity and institute more stringent measures in order to strictly adhere to common public health practices and to intensify appropriate education at the farm level especially in animal backyard farming in order to prevent reverse zoonotic transmission of SARS-CoV-2/ COVID-19 and other human diseases to animals and vice versa.

Regional Pharmaceutical and Non-pharmaceutical Interventions

To actualize SMART future pandemic preparedness and emergency responses, Africa must be willing to invest heavily in the establishment of molecular research laboratories in major institutions and hospitals in every country. Every government should make it a policy for companies in Africa to donate a certain percentage of their profit for research particularly to support infectious diseases research for prompt detection and confirmation of suspected cases at ensuring immediate containment, in order to avert the stage of pandemics. Mobile molecular laboratories in ambulances with adequate Personal Protective Equipment (PPE) across all the states of the federation for prompt community and rural surveillance for detection, signal warning and for immediate isolation of positive cases are crucial. There is need for regional laboratory equipment manufacturing, local vaccine contents and sustainable production. All hands must be on deck for serious research on point-of-care diagnostic kits and antiviral research on SARS-CoV-2 and other viruses including Lassa and monkeypox virus that are endemic in Africa. Going forward, there's an urgent need to engage in technology and intellectual property transfer for the purpose of local vaccine production from different parts of the world to Africa. African leaders particularly must harness her resources to advance local vaccine manufacturing on the continent as recently agreed at the AU, African CDC, and WHO Africa region multi-stakeholders vaccine manufacturing workshop. This will enable her teaming population of about 1.5 billion repose confidence in the leaders and downs the tension of the different fake news on the planned sterility of the African populace, deliberate experimental "guinea pig" testing ground hypothesis, neocolonialism theory, and deliberate refusal not to be vaccinated due to lack of trust.