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Battling a pandemic: an African perspective

African countries are facing massive challenges in their response to the COVID-19 pandemic as compared to their counterparts over the world, hence new strategies that consider the context of the region and its unique problems are needed.

These are the findings contained in a recently published paper by researchers from the University of Cape Town's (UCT) faculties of Health Sciences and Science. The paper describes an African perspective on global approaches to the fight against the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which causes COVID-19. "[Prospects for SARS-CoV-2 diagnostics, therapeutics and vaccines in Africa](#)" was published in *Nature Reviews Microbiology*.

Emmanuel Margolin, a postdoctoral scientist who works in both the Institute of Infectious Disease and Molecular Medicine (IDM) in the Faculty of Health Sciences and the Biopharming Research Unit in the Department of Molecular and Cell Biology in the Faculty of Science, was the lead author on the paper. His main research interest is the development of inexpensive vaccines and vaccine technology for emerging pathogens that impact Africa. His work, which has included the investigation of the sparse infrastructure for the manufacturing of pharmaceuticals on the continent, shone a spotlight on the fact that approaches to dealing with SARS-CoV-2 currently being implemented in developed countries are not always suitable to Africa.

The continent experiences a high burden of both communicable and non-communicable disease, impacting scores of its diverse populations. The emergence of SARS-CoV-2 has prompted a worldwide wave of work geared towards combating and containing the virus, including the implementation of broad testing efforts and the expeditious mobilisation of research programmes aimed at developing vaccines and therapeutics.

The strategies that are applied in developed countries, however, may not always be suitable for developing countries, which have limited infrastructure. According to Margolin, the review "highlights the challenges facing African countries in their response to the SARS-CoV-2 pandemic, while proposing the implementation of strategies that consider the context of the region and so are accordingly suited to it".

His work is in affiliation with the [Wellcome Centre for Infectious Diseases Research in Africa \(CIDRI-Africa\)](#), which fosters investigator-led approaches via the overarching scientific objective of combating infection, especially HIV-1 and tuberculosis (TB), through clinical and laboratory research.

Although medical innovations and pioneering research are in progress on the continent, there are still multiple and complex hindrances that slow down these processes. These can include often poorly developed infrastructure for testing and limited manufacturing as a result of minimal capacity to produce pharmaceuticals.

The region faces a dearth of healthcare infrastructure, and the potential impact of co-infections such as HIV-1 and TB. [Avert](#), a charity providing up-to-date HIV information, puts new infections in adults in 2018 at roughly 1.7 million with this ranging between 41 and 51% in Africa. According to the World Health Organization (WHO), a [global estimate](#) of 10 million people were diagnosed with TB in 2018. Of these newly recorded TB cases, 24% were in Africa. In addition, in 2018 there were an estimated 862 000 new cases of TB among people who were HIV-positive, 72% of whom were living in Africa.

The advent of the new SARS-CoV-2 pandemic has had a notable impact on work combating these infections and has concerningly resulted in the redirecting of resources and funding away from this work. This impacts the health status in Africa and may similarly impact people's susceptibility to severe COVID-19.

According to the paper, establishing appropriate manufacturing partnerships to produce vaccines that can be tested and licensed on the continent, to limit reliance on global initiatives which may be overwhelmed by the global demand for a vaccine, is an important next step. Similarly, the development of therapeutics should focus on repurposing existing drugs or using convalescent plasma that can be rapidly implemented to treat infection.

These challenges faced on the continent are not insurmountable. A lot of work is being done in vaccine and therapeutics development as well as testing capacity – even under the strain of limited resources. The need for support and significant capital investment in the region, for capacity and resource development, is integral to progress on the continent.

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