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COMMENTARY

Combating Covid-19 pandemic in Africa: An urgent call to scale up laboratory testing capacities



Lutte contre la pandémie de Covid-19 en Afrique: un appel urgent à l'augmentation des capacités d'analyse des laboratoires

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The novel coronavirus disease 2019 (COVID-19) whose causative pathogen is the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) first emanated in Wuhan city of Hubei Province in China. The first case was reported to the World Health Organization (WHO) on December 31, 2019 and has widely spread globally. As of June 18, 2020, over 8,317,055 people have been infected with 447,628 deaths recorded in 188 countries/regions around the globe [1]. With a drastic spike in the number of infected cases occasioned by uncontrollable local community transmission globally including Africa; it is glaring that the outbreak has taken a new turn and ushered into a novel phase [2,3]. Africa recorded its first case of the viral disease in Egypt on 14 February 2020. Since then, the virus has continued to rise swiftly and infiltrated the entire continent according to the

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WHO [4]. The realities surrounding the COVID-19 outbreak in Africa is that the disease is not a mere threat, rather it can be likened to a war, and one that must be won. Hence, Africa cannot underestimate the power of adequate preparation and planning. With the present state of preparedness and interventions among several African countries, can the continent successfully win the fight against COVID-19?

The COVID-19 pandemic has attained an unprecedented landmark in Africa, with a record of 260,233 cases and 7,019 (CFR: 4%) deaths being reported in 54 countries [5]. Six African countries namely South Africa (80,412), Egypt (49,219), Nigeria (17,735) Ghana (12,590), and Algeria (11,268) alone have accounted for about two-thirds of the overall reported cases in the region [1]. This has posed a grave concern to the health regulatory bodies and entire public. Currently, no vaccine or cure has been approved for the dreaded disease; hence, large scale testing is required and highly encouraged. This is to ensure the isolation and treatment of patients that test positive to the virus and institute measures to prevent further spread. It is therefore imperative and expedient that we aggressively expand our laboratory and diagnostic testing capacities across the continent. This is required to strengthen case management and assist in conducting in-depth epidemiological analyses, thereby leading to a better understanding of the associated risk factors of COVID-19 [4]. As it stands, the task ahead of Africa healthcare systems is gigantic, and has gone beyond mere screening and treating a few infected or suspected cases returning from abroad in specialized confinement. The principal duty is to painstakingly identify, isolate, triage and manage the ever-increasing cases; and this demands absolute participation of our healthcare workforce, government at all levels, public health sector and the society at large [6]. One critical objective needed to achieve these targets is to employ strategies and interventions that are not only sustainable but one which is also capable of being scaled expeditiously [7].

Findings reveal that as of 18 June, 2020, Nigeria had been able to test 103,799 persons, while Ghana and South Africa had tested 258,010 and 1,200,736 people respectively [8]. This statistic show that regardless of the smaller populations, Ghana and South Africa have tested at least two and three times more individuals than Nigeria since the outbreak of COVID-19 in the continent respectively. According to data available regarding the number of tests carried out per 1 million population (1 M Pop.), African countries such as Malawi (466 tests/1 M Pop.), Mozambique (649 tests/1 M Pop.), and emphatically Nigeria (504 tests/1 M Pop.) are among the worst performers in Africa [8], in spite of being the most populous black nation in the world with a population of over 200 million people according to the United Nations (UN) [9]. This has attracted outcries and warnings from global health authorities and experts in recent weeks, who have persistently clamour for urgent need to increase testing capacities in Africa, and also to expand this beyond major African cities [3,10]. Thus, this has necessitated a drift in our initial strategy for containment from a focus of national prevention to continental mitigation [3,7]. What exactly does Africa need to battle this pandemic as it ravages the entire continent? A key vulnerability and potential weakness in Africa's fight against coronavirus pandemic is its limited diagnostic testing capacities for SARS-CoV-2 in the clinical settings [7]. We are

at a critical point where screening must be enlarged from minute location-centred criteria to a mass syndrome-based inspection.

As reports of new COVID-19 cases are rising incessantly in Africa, there is a dire need for radical disruption from mainly containment strategies to deploying enormous laboratory testing capacities and infrastructures [3,7]. Therefore, swift and authentic diagnostic testing in large proportion must be readily accessible to allow prompt notification of frontline health workers in order to carry out necessary interventions to patients. One of the commendable strategies deployed by most African nations to curb the possible spread of the disease among her citizens is to impose varying degrees of restrictions on human movements [11]. Others include regular washing of hands, social distancing, prohibition of mass gathering, use of face masks, gloves, and hand sanitizers amongst others. In as much as these measures are crucial, an effectual containment strategy requires that all African countries step up their individual testing capacities so as to successfully battle and curb the further spread of COVID-19.

Regarding laboratory and diagnostic testing for COVID-19 in the African region, the WHO has recorded valuable achievements such as helping member countries to set up molecular testing laboratories, training of health workers, offering technical support, and engagement in supporting the monitoring and case management of COVID-19 [4,6,10,11]. Though remarkable, this has also called for an urgent need for additional molecular laboratories to be rapidly built and their testing capacities expanded in countries where molecular testing (via Real-Time PCR) is inadequate and currently unavailable. Furthermore, there is an immediate need to not only scale up additional testing laboratories but also expand the procurement and distribution of essential reagents and supplies to meet up with the critical needs of countries for testing for COVID-19 [3,4]. For instance, Nigeria has recently scaled up its molecular diagnostic laboratories to 38, which are evenly spread across the country [12]. Nevertheless, there had been challenges associated with a daily testing capacity which currently stands at about 7,500 per day, such as limited reagents and collection of samples from individuals to the laboratories [12].

Worthy of note is the recent upsurge of cases in specific countries such as Egypt and South Africa, which now demands critical attention. Current interventions and response measures employed in most African countries are grossly inadequate and require strong reinforcements if we must rapidly contain the spread of the outbreak [3,6,9,13]. The general situation appears critical, though a substantive drop in the incidence rate over the past few weeks has been observed. Human health and public safety is of utmost priority and non-debatable [11], therefore it is highly recommended that national health authorities across all Africa countries implement strict public health measures and safety guidelines. Furthermore, there is a need to intensify efforts such as active case finding, testing and isolation of cases, contact tracing, social distancing, and encouragement of good personal hygiene practices among the populace [3,4,13]. Conclusively, African nations must collectively join in this fight, as failure to set workable and sustainable combative strategies in motion, especially in the area of expanding laboratory testing capacities in the

coming weeks and months to fight this ravaging pandemic may plunge the entire continent into a state of catastrophe.

Human and animal rights

The authors declare that the work described has not involved experimentation on humans or animals.

Informed consent and patient details

The authors declare that the work described does not involve patients or volunteers.

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