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CORRESPONDENCE

COVID-19 reinforces the need to improve sepsis care resources in Africa

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To the Editor,

Globally, the number of COVID-19 cases and deaths continues to rise. In Africa, over 2.2 million COVID-19 cases have been reported with over 53 000 deaths as of 5 December, 2020. At that time, with the 16th highest number of cases globally (~ 805,000 cases) resulting in over 22,000 deaths, South Africa is the most affected country on the continent, followed by Morocco, Egypt, Ethiopia, Tunisia, Kenya, and Algeria [1, 2]. Overall, at the time of writing, these figures are lower than initially predicted for Africa, and fewer per-population than in Europe, Asia and North and South America [3].

The reason for the lower recorded burden across Africa is yet to be fully elucidated. Sixty percent of Africans are under 25 years old, and might evade the risk of disease and death associated with increased age or comorbidities [4, 5]. Lower testing capacity, in some countries, may result in under-diagnosis. Whether or not these factors or others, such as genetic factors or immune priming from exposure to other infections [6] or BCG vaccination, will continue to help sustain a relatively lower pandemic impact in Africa remains uncertain. Based on a 2016 ranking index comprising a range of factors including demographics, health care, public health, domestic and international politics, and economics, 22 of the 25 countries considered most vulnerable to infectious disease outbreaks were located in Africa [7]. Thus, strengthening of health systems to prepare for the worst-case scenarios should continue to be an urgent priority.

Current estimates suggest that 80% of COVID-19 patients have mild infection, while 20% develop severe illness, among whom 5% may require critical care to support failure of vital organs [8]. Sepsis, defined as 'life-threatening organ dysfunction due to a dysregulated host response to infection', is, therefore, a significant manifestation of COVID-19 either caused by the virus or as a result of secondary infection [9]. Favorable outcomes of sepsis patients are associated with the availability of suitably skilled critical care human resources and infrastructure [10]. While data on the number of patients who

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receive advanced levels of supportive care in Africa are sparse [11], available data suggest that capacity is severely limited [12], with fewer than 2000 functioning ventilators [3] representing 1/650,000 people compared with approximately 1/1,655 in the United States [13]. Ultimately, African countries require resilient and functional health systems that are equipped to safely manage potential surges in patient numbers with staff trained to recognize and respond to severe illness outbreaks with fundamental levels of care (including oxygen) [11], augmented by expertise in critical care for the smaller percentage of patients who might require it.

In 2017, the African Sepsis Alliance published the Kampala Declaration highlighting the need for African countries to strengthen healthcare systems to respond to the needs of patients with severe illness such as sepsis [14]. The recommendations from the Kampala Declaration remain as valid during the COVID-19 pandemic. The COVID-19 pandemic offers an opportunity for countries to implement the Kampala Declaration and strengthen essential services to respond to the current pandemic and outbreaks of future emerging infections. We support the approach taken by most African countries which focuses on improving existing infrastructure rather than erecting temporary 'field hospitals'. Furthermore, recurrent Ebola virus disease outbreaks and the COVID-19 epidemic on the continent reinforce the need for effective critical care for improved survival; this resource can no longer be considered a luxury.

We suggest that attention should focus on three key recommendations:

1. Improving systems to identify, monitor and respond to patients with severe illness and reduce time to effective treatment.
2. Improving and enhancing the supply and access to oxygen in many regions, an essential intervention that has the potential to save significant numbers of lives in Africa.
3. Improving COVID-19 infection control measures including preventive measures for healthcare workers.

These objectives can be achieved through national action plans for sepsis that systematically address a country's specific needs for delivering care for severely ill patients. These plans should be developed by national Ministries of Health working with stakeholders such as the Global Sepsis Alliance, African Sepsis Alliance, CDC Africa, African Union and WHO. In so doing, African countries will align with statements in the 2017 WHO sepsis declaration [15]. We submit that this fortification of African health systems will benefit not only patients in the short term but whole populations in the long term.

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