

Commentary

COVID-19: implications for NCDs and the continuity of care in Sub-Saharan Africa

Oluwatomi Owopetu¹, Luther-King Fasehun² and Uzoma Abakporo³

Abstract: There has been a rise in non-communicable diseases (NCD) in Sub-Saharan Africa (SSA), driven by westernization, urbanization and unhealthy lifestyles. The prevalence of NCDs and their risk factors vary considerably in SSA between countries and the various sub-populations. A study documented the prevalence of stroke ranging from 0.07 to 0.3%, diabetes mellitus from 0 to 16%, hypertension from 6 to 48%, obesity from 0.4 to 43%, and current smoking from 0.4 to 71%. The numbers of these NCD cases are predicted to rise over the next decade. However, in the context of a global pandemic such as COVID-19, with the rising cases, lockdowns and deaths recorded worldwide, many people living with NCDs may find accessing care more difficult. The majority of the available resources on the subcontinent have been diverted to focus on the ongoing pandemic. This has caused interruptions in care, complication management, drug pick-up alongside the almost neglected silent NCD epidemic, with major consequences for the health system post the COVID-19 era. We explore the issues surrounding the continuity of care and offer some solutions for Sub-Saharan Africa.

Keywords: COVID-19, chronic disease/non-communicable disease, Sub-Saharan Africa

There has been a disproportionate increase in the burden of non-communicable diseases (NCDs) in Sub-Saharan Africa (SSA) over the last two decades, driven by the increasing incidence of risk factors such as tobacco use, unhealthy diets, reduced physical activity, hypertension, obesity, diabetes, dyslipidaemia, and air pollution. The prevalence of NCDs and their risk factors vary considerably in SSA between countries, urban/rural location and other sub-populations. A study documented the prevalence of stroke ranging from 0.07 to 0.3%, diabetes mellitus from 0 to 16%, hypertension from 6 to 48%, obesity from 0.4 to 43%, and current smoking from 0.4 to 71% (1). As a result, NCDs are projected to surpass communicable, maternal, neonatal, and nutritional diseases combined as the

leading cause of mortality in Sub-Saharan Africa (SSA) by 2030 (2). NCDs account for over 70% of deaths globally, with a significant proportion occurring in low- and middle-income countries (3). In sub-Saharan Africa, this projected increased burden of NCDs exerts immense strain on already weakened health systems. (4). Global Burden of Disease studies show that the morbidity and age-standardized death rates from NCDs are higher in at least four SSA countries (the Democratic Republic of the Congo, Nigeria, Ethiopia, and South Africa) than in high-income countries (5).

Due to the chronic nature of the majority of these diseases, NCDs have attracted an appreciable portion of health expenditure in many countries in Sub-Saharan Africa. In rural Malawi, for example,

1. Department of Community Medicine, University College Hospital, Ibadan, Nigeria.
2. Temple University College of Public Health, Philadelphia, PA, USA.
3. University of Minnesota, Minneapolis, MN, USA.

Correspondence to: Oluwatomi Owopetu, Department of Community Medicine, University College Hospital, Queen Elizabeth Road, Ibadan, Ibadan 23402, Nigeria. Email: oluwatomifunbi@gmail.com

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out-of-pocket (OOP) expenditure for chronic non-communicable diseases constituted at least 22% of the monthly per capita household spending (6), while in Uganda, the monthly average costs for managing uncomplicated diabetes and hypertension is about US\$33, which is a third of the average monthly income in the same country (7). Patients with these diseases require long-term management, mainly through regular clinic visits, consistent availability and use of prescribed medication, and lifestyle modification (8). In a report from Tanzania, for example, chronic diseases accounted for at least 58% of out-patients visits among adults, of which a quarter were for three NCDs (hypertension, diabetes, epilepsy) alone (9). Similarly, in a study in rural South Africa, at least 41% of healthcare use was for NCDs (10). In low- and middle-income countries of Africa, where the distribution of healthcare services is suboptimal, patients and their caregivers spend a significant amount of time on hospital visits, follow-up appointments, drug pick-ups, and complication management (11). It is against this backdrop that the COVID-19 pandemic has emerged, with the disease gradually spreading across the subcontinent.

As at August 23, 2020, there were 996,026 confirmed cases of COVID-19 spread across 47 countries in the World Health Organization African Region (WHO-AFRO) (12). While these numbers are relatively low, making up only 0.3% of global cases at that time (12), it is worth noting that this reflects only confirmed cases, and the true numbers might be hidden due to the iceberg effect from inadequate reporting and testing. This iceberg effect exists on background of existing weak local health systems among most countries in Sub-Saharan Africa (13,14). For these reasons, the COVID-19 situation had the potential to worsen very rapidly in Sub-Saharan Africa, a sentiment shared by the World Health Organization (15). Over the course of this pandemic, there has been a redeployment of healthcare resources – personnel, equipment, and finance – to directly combat and stem the global tide of accelerating numbers of COVID-19 infection. This effort is aimed at ‘flattening the curve’ (16) to buy time for already constrained health systems to cope with rising cases. Supply chain disruptions in the manufacturing of healthcare equipment (ventilators and personal protective gear) and rising morbidity and mortality of healthcare workers at

the frontlines of this battle have placed even further pressure on these scarce resources. These factors contribute to increased healthcare burden for patients with NCDs as resources are repurposed for the acute problem of COVID-19 pandemic control; even worse, patients with NCDs are at greater risk of developing severe complications from a COVID-19 infection (17).

In many countries in the Sub-Saharan Africa region, patients with single or multiple NCDs have found themselves with no or unpredictable/disrupted clinic follow-up visits for the next few weeks or months (18). Drug pick-ups at some locations have become untenable or inaccessible. Routine clinic services are disrupted to focus on emergencies and the management of COVID-19 cases, and in most countries affected in the sub-region, the pandemic has led to lockdowns and movement restriction, often where a telehealth infrastructure is highly limited or non-existent (19).

These constraints, combined with an already resource-limited health system, can lead to increased morbidity and mortality for patients with NCDs in Sub-Saharan Africa. Furthermore, these constraints bring to the forefront the need to scale up health promotion efforts, specifically for the mitigation of the burden of disease of NCDs, and strengthening the continuity of care for NCDs, within the COVID-19 pandemic in Sub-Saharan Africa. It is, therefore, imperative to examine our response to the COVID-19 pandemic given this context, and to offer recommendations to mitigate the collateral problem of a ‘silent’ NCD pandemic.

We propose a patient-centered approach of healthcare delivery which we term modular healthcare that is premised on flexibility through modularity in sustaining health service delivery to vulnerable populations in the face of systemic disruptions such as the COVID-19 pandemic (20). This approach integrates appropriate technology, knowledge of existing supply chain networks, point of care testing, and deployment of community-based healthcare workers to ensure risk-proof service delivery.

The first component of this strategy is leveraging affordable and prevalent technology. Some interventions in this category include tele-consults (like phone consultations), telemonitoring through portable and wearable devices that can be used by the patient to measure and monitor vital signs, and

tele-pharmacy to support e-prescribing by qualified healthcare professionals (21,22).

The second component of this approach is to study and adapt existing supply routes for other products such as bottled water and soda which have established networks that already penetrate hard-to-reach geographical areas (23). This is invaluable in light of the limited transportation infrastructure and logistical challenges in many parts of Sub-Saharan Africa. This ensures services such as mobile clinics, essential medications, and home testing kits can be delivered to vulnerable populations where they live.

A third essential component is task shifting (24), which leverages less specialized health workers to deliver limited but essential services including risk communication, health education, and non-complex procedures. This is particularly important in Sub-Saharan Africa where highly skilled health professionals are in short supply (24). Finally, the political will to invest in the implementation of policies that support this framework and address behavioral risk factors for NCDs such as tobacco use and physical inactivity is important to buoy preventive efforts and ensure sustainability.

Sub-Saharan Africa is in dire need of a paradigm shift from a traditional approach of healthcare service delivery to a more innovative and robust strategy that has a better contextual fit to serve vulnerable populations such as patients with NCDs. The current COVID-19 pandemic has exposed the vulnerabilities of a traditional approach. Our proposal aims to contribute to the discourse and improve the continuity of quality care delivery to high-risk populations in the event of systemic disruptions such as an infectious disease pandemic. Given that the world is accumulating economic losses due to NCDs, and these losses could reach 75% of global GDP by 2030 (25), we hope that it will be worth considering the aforementioned recommendations in order to effectively mitigate the adverse outcomes of the future, through a strategic delivery of the interventions needed by the region that contributes a significant portion of the economic losses.

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ORCID iD

Oluwatomi Owopetu  <https://orcid.org/0000-0002-0921-5337>

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