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## **LETTER TO THE EDITOR:**

### **ADAPTING HIV SERVICE PROVISION DURING PUBLIC HEALTH EMERGENCIES: A LOOK AT ESWATINI'S RESPONSE TO THE COVID-19 PANDEMIC**

Running Title: *Eswatini HIV services in COVID-19 pandemic*

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**BACKGROUND:**

The human immunodeficiency virus (HIV) is an epidemic disease for countries in sub-Saharan Africa (SSA). This problematic situation coupled with the SARS-CoV-2 virus global pandemic has led to additional strain to developing health systems in the region.

There are 37.7 million people living with HIV (PLHIV) globally, of which SSA bears 67% of this disease burden [1]. In Eswatini, the HIV among people aged 15 years and older is 27%; more than 200,000 of them are on lifelong antiretroviral therapy (ART) [2]. A systematic review and meta-analyses of PLHIV co-infected with SARS-CoV-2 virus found that PLHIV had a greater risk of coronavirus disease 2019 (COVID-19) infections (risk ratio of 1.24) [3] and mortality (between 78% to 95%) [4]. Population-based studies conducted in South Africa and the United Kingdom also found that during the first COVID-19 waves in 2020, PLHIV were at least twice as likely to die from COVID-19 compared to the HIV-negative population [5]. A study from the University of California found that

unvaccinated PLHIV were four times more likely to experience COVID symptoms for an extended period with higher levels of inflammatory markers than HIV-negative people [6]. A larger UK study found that 5% of PLHIV experienced symptoms as long as three to four months post-acute COVID infections [7].

**PROBLEM:**

In an effort to contain the spread of SARS-CoV-2 infections, many countries instituted measures to restrict non-essential movement of people. However, the public health measure of movement restrictions had unintended consequences. For PLHIV, this limited their access to medications and services, leading to treatment interruptions [8]. When the Omicron SARS-CoV-2 strain emerged in November 2021, the importance of ensuring PLHIV take life-saving ARTs correctly and consistently was highlighted, as PLHIV with unsuppressed viral loads may be sources of "viral evolution" [9]. A mathematical model predicted that HIV treatment interruptions may lead to up to 1.63

times more HIV-related deaths annually [10]. The HIV viral load suppression is also associated with better treatment outcomes for patients with COVID-19. A systematic review conclusively demonstrated that viral suppressed PLHIV have better treatment outcomes than unsuppressed individuals, who are at high risk of developing super-infections for COVID-19 infected PLHIV [11].

#### Interventions:

Since March 2020, US President's Emergency Plan For AIDS Relief (PEPFAR), Eswatini have been supporting the National AIDS Program to rapidly develop and scale-up program adaptations to ensure uninterrupted treatment and services for PLHIV [12]. These adaptations include:

- i) Moving from the national standard of 3 Multi-Month Dispensing (MMD) for all stable clients to 6MMD. This has resulted in more than 60% of clients on Antiretroviral Therapy (ART) receiving 6MMD in March 2021 compared to less than 1% in March 2020. It should be noted that the 6MMD implementation had to be balanced with supply chain security threats due to global disruptions and extended lead times for antiretrovirals.
- ii) 3MMD was expanded to include all stable children older than two years, which is an expansion of the eligibility criteria [12].

- iii) Establishment and implementation of a national Community Commodity Distribution (CCD) system. CCD was a hybrid of differentiated service delivery models that were already implemented across 121 (out of 196) ART facilities [13]. By the end of October 2020, 962 CCD points were established and actively provides medication refills to 25% of all clients on ART. Community refills have also demonstrated consistently lower missed appointments at 1% as opposed to 7% missed appointments at facilities.

- iv) Integrating non-communicable disease (NCD) commodities, family planning, TB screening, tuberculosis-preventative therapy and HIV prevention services and commodities into the CCD system.

While there was a drop in health facility attendance, a reduction in HIV tests conducted and fewer ART initiations, these interventions helped to maintain treatment numbers and reduce preventable interruptions to life-saving treatment for over 200,000 PLHIV.

#### CONCLUSION:

PLHIV are a vulnerable group for COVID-19 infections. HIV viral load suppression from life-saving ARVs is associated with improved outcomes from COVID-19 infections and may theoretically limit the possibility of SARS-CoV-2 evolution. Thus, policy makers and healthcare workers should continuously innovate and

evolve health service provision to ensure the needs of PLHIV are met during this global pandemic.

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