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Maintaining robust HIV and TB services in the COVID-19 era: A public health dilemma in Zimbabwe

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Highlights

- Since the start of the COVID19 lockdown the Zimbabwe TB & HIV response has seen substantial reduction in the number of clients receiving services
- In a country with one of the worst HIV and TB burdens globally, the authors argue that
 - the diversion of resources, including financial, to the COVID19 response at the expense of HIV & TB response should be avoided
- There is an urgent need to protect essential HIV and TB health prevention and treatment
 - services and resist the on-going verticalization of COVID-19 services

Abstract

The coronavirus disease 2019 (COVID-19) has challenged health systems worldwide. In Zimbabwe, the COVID-19 response has seen diversion of human capital, equipment and other

resources that were meant for the HIV and tuberculosis (TB) programs. In a country with one of the worst HIV and TB burdens globally, the authors discuss this public health dilemma of sustained HIV and TB services in the context of a new threat; COVID-19.

Keywords: COVID-19; Zimbabwe; HIV; Tuberculosis; Pandemic

Viewpoint

In January 2020, a novel coronavirus, Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), was identified as the causative agent of an outbreak of viral pneumonia that broke out in Wuhan, Hubei, China (WHO, 2020a). The contagious SARS-CoV-2 virus has been declared a global pandemic by the World Health Organization (WHO). In response, multiple countries have adopted various containment and mitigatory measures aimed at curbing the spread of the virus. Containment measures have included widespread testing, prompt contact tracing and quarantine. Mitigatory measures have included hand hygiene, travel restrictions, school closures, social distancing and total lockdowns. While containment and mitigatory measures are essential for the control of the pandemic, these have unintended impact on existing programs of other important public health problems (El-Sadr, 2020). The Global Fund estimates that across the more than 100 countries, 85% of HIV and 78% of tuberculosis (TB) programs are being disrupted (Fund, 2020). As of August 23 2020, 6, 070 Zimbabweans had contracted the SARS-CoV-2 virus with 155 reported deaths (MoHCC, 2020a).

In Zimbabwe, HIV and TB are important causes of morbidity and mortality and have ravaged the country over the last 2 decades. According to the United Nations Programme on HIV/AIDS

(UNAIDS) 2019 report, 1,3 million Zimbabweans are living with HIV with approximately 38,000 new infections reported annually (UNAIDS, 2019). According to the WHO, there were 25, 204 total new and relapse TB cases in Zimbabwe with 4% and 14% of the new and relapse infection being multidrug-resistant or rifampicin-resistant (TB MDR/RR-TB) respectively (WHO, 2020b). The TB mortality rate (excluding HIV+TB) is 33/100,000, increasing four-fold among patients with both TB and HIV (132/100,000) (WHO, 2020b). According to a recent Zimbabwe Rapid Assessment for COVID-19 Impact on HIV service provision conducted by the Ministry of Health and Child Care, for the period April – June 2020 there has been a 59% reduction in the number of clients tested for HIV and received their results; 15% reduction in the distribution of HIV self-test kits; 99% reduction in voluntary medical male circumcisions (VMMCs) performed; 49% reduction in sexually transmitted infections (STIs) clients tested for syphilis.; 51% reduction in newly HIV diagnosed patients initiated on ART and 29% decline in VL sample collection (MoHCC, 2020b). These disruptions were, for the most part, attributed to the COVID-19 lockdown restrictions as some services, such as VMMC, nearly came to a halt in most health facilities during this period.

Zimbabwe has 170 public health laboratories and seven of them are ISO 15189 accredited in at least one of the following tests; HIV Viral Load, AFB Ziehl –Neelsen, GeneXpert MTB/RIF and HIV DBS tests (SADCAS). These laboratories provide testing of many different tests among them HIV viral load, early infant diagnosis (EID) and TB using various platforms. However, as a result of the WHO emergency use listing (EUL) and FDA emergency use authorization (EUA) which authorized the use of HIV viral load (VL), EID, and TB-related instruments for SARS-CoV-2 testing , these diagnostic platforms are now being used to test for the novel coronavirus which appears more urgent. This has subsequently resulted in increased demand on the limited number of HIV (VL/EID) and TB laboratory diagnostic equipment in Zimbabwe such as Gene Xpert

(Cepheid), Abbott (Abbott Molecular) for COVID-19 related testing. At the time of writing, five Abbott and 14 GeneXpert platforms in public health laboratories across Zimbabwe have been set aside to prioritize COVID-19 testing (GoZ, 2020); these platforms were previously solely dedicated to HIV and TB testing. The impact of reassignment of this equipment is a decrease testing in HIV viral load, HIV EID and MTB/RIF. The ripple effects include reduced testing for drug-resistant tuberculosis and increased likelihood of poor ART outcomes as monitoring is compromised (Hogan et al., 2020). There is an urgent need to protect essential HIV and TB health prevention and treatment services patronized by a large segment of Zimbabweans and resist the on-going verticalization of COVID-19 services at some of the better resourced key national health institutions, which hitherto serviced many clients with other ailments.

Health workers have been reassigned to meet the COVID-19 testing demand leading to very few people conducting HIV and TB testing. Medical staff anxiety and burn out is also playing a role on testing as staff are overwhelmed with COVID-19 testing. The other challenge being faced is limited funds for HIV and TB programs due to poor funding by government. In Zimbabwe, around two-thirds of HIV expenditure comes from international donor sources. For TB, in 2018, funding sources were <1% domestic, 31% international and 69% was unfunded (WHO, 2020b). With the number of COVID-19 cases rapidly increasing, diversion of HIV and TB funds should be taken with much caution.

Zimbabwe HIV and TB response heavily relies on imported consumables, test kits and medication. Supply chain activities in the COVID-19 era is have been disrupted with closure of borders and grounding of cargo ships and flights. This calls for the government to do more on ensuring the country's stockpile is well stocked for these unprecedented disruptions.

The aggressive national COVID-19 mass media campaign has seen HIV, TB and other chronic disease clients less likely to attend facilities due to fear of contracting the COVID-19. This is coupled with the lack of movement of public transportation, fear of encounters with law enforcement officers and curfews. These barriers to care may result in increased HIV and TB – related morbidity and mortality in the short-term. There is need to provide adequate health information to encourage HIV positive individuals and TB clients to continue visiting health facilities as necessary even in the midst of the COVID-19 pandemic.

There is also need to rapidly procure more molecular diagnostic instruments so as to ease pressure on the reduced number of platforms currently available for TB, HIV EID and VL testing. The UNAIDS launched a call center to increase testing of COVID-19 and HIV (UNAIDS, 2020). This innovative call center has potential to mitigate the challenges of public transport by providing home testing or sample collection; to boost HIV and TB testing. Additionally, innovative differentiated service delivery models for HIV and TB clients have a role in streamlining the delivery of health services and reducing the time clients spend at health facilities.

In conclusion, we recommend that the government, in collaboration with its local and international partners work together to maintain the HIV and TB testing and services during the COVID-19 pandemic, with particular emphasis on diagnosis and treatment services for the more than one million individuals in need. There is an urgent need to put in place real time monitoring systems which can track throughput of VL & TB tests per province to identify locations where these numbers are reducing and to better understand why. This may also include providing mechanisms for HIV & TB clients receiving diagnosis, care and treatment services to provide rapid feedback on the turnaround times and quality of service delivery. Finally, diversion of resources, including financial, to the COVID-19 response at the expense of HIV and TB responses should be avoided.

HIV prevention programmes should find creative ways restore the scale-up trajectory that existed pre-COVID-19 era.

Disclaimer

This information presented in this article are the views of the authors and do not reflect the position of their institutions.

Conflict of interest statement

None to declare

References

El-Sadr, W. M. (2020). What one pandemic can teach us in facing another. *Aids*, 34(12), 1757-1759.

Fund, T. G. (2020). Global Fund Survey: Majority of HIV, TB and Malaria programs face disruptions as a result of COVID-19. Retrieved from <https://www.theglobalfund.org/en/covid-19/news/2020-06-17-globalfund-survey-majority-of-hiv-tb-and-malaria-programs-face-disruptions-as-a-result-of-covid-19>

GoZ. (2020). *Zimbabwe COVID-19 Operational Plan May - July 2020*. Retrieved from Harare, Zimbabwe:

Hogan, A. B., Jewell, B. L., Sherrard-Smith, E., Vesga, J. F., Watson, O. J., Whittaker, C., . . . Verity, R. (2020). Potential impact of the COVID-19 pandemic on HIV, tuberculosis, and malaria in low-income and middle-income countries: a modelling study. *The Lancet Global Health*.

- MoHCC. (2020a). COVID-19: Situation Report. Retrieved from http://www.mohcc.gov.zw/index.php?option=com_phocadownload&view=category&id=15&Itemid=741
- MoHCC. (2020b). *Zimbabwe MOHCC Rapid Assessment for COVID-19 Impact on HIV Service Provision* [PowerPoint presentation]. Retrieved from Harare, Zimbabwe: <https://apps.mohcc.gov.zw/> (Accessed: 12 September 2020)
- SADCAS. Accredited organizations: Zimbabwe. Retrieved from https://www.sadcas.org/accredited-organizations?field_organization_type%20tid=11%20&title=&field_country_value=ZW&field_accreditation_number_value=
- UNAIDS. (2019). Factsheet: global AIDS update. 2019. In: UNAIDS Geneva.
- UNAIDS. (2020). UNAIDS launches a call centre for people living with HIV in Zimbabwe Retrieved from https://www.unaids.org/en/20200720_zim_call_centre
- WHO. (2020a). Novel coronavirus (COVID-19). *World Health Organization* Retrieved from <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- WHO. (2020b). Tuberculosis country profiles: Zimbabwe. Retrieved from <https://www.who.int/tb/country/data/profiles/en/>