Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Perspective

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

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ABSTRACT

Coronavirus disease 2019 (COVID-19) has challenged health systems worldwide. In Zimbabwe, the COVID-19 response has seen the diversion of human capital, equipment, and other resources that were meant for the HIV and tuberculosis (TB) programmes. 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.

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, causing coronavirus disease 2019 (COVID-19), has been declared a global pandemic by the World Health Organization (WHO). In response, multiple countries have adopted various containment and mitigation measures aimed at curbing the spread of the virus. Containment measures have included widespread testing, prompt contact-tracing, and quarantine. Mitigation measures have included hand hygiene, travel restrictions, school closures, social distancing, and total lockdowns. While containment and mitigation measures are essential for the control of the pandemic, these will have an unintended impact on existing programmes of other important public health problems (El-Sadr, 2020). The Global Fund estimates that across the more than 100 countries affected, 85% of HIV and 78% of tuberculosis (TB) programmes are being disrupted (Global Fund, 2020). As of August 23, 2020, a total of 6070 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 two 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 infections being multidrug-resistant or rifampicin-resistant (MDR-TB/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 to June 2020, there was a 59% reduction in the number of clients tested for HIV and receiving their results, a 15% reduction in the distribution of HIV self-test kits, a 99% reduction in voluntary medical male circumcisions (VMMCs) performed, a 49% reduction in sexually transmitted infection (STI) clients tested for syphilis, a 51% reduction in patients newly diagnosed with HIV initiated on antiretroviral therapy (ART), and a 29% decline in viral load (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, Ziehl–Neelsen staining for acid-fast bacilli (AFB), GeneXpert MTB/RIF, and HIV dried blood spot (DBS) tests (SADCAS). These laboratories provide services covering many

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different tests, among them HIV VL, early infant diagnosis (EID), and TB, using various platforms. However, as a result of the WHO emergency use listing (EUL) and US Food and Drug Administration (FDA) emergency use authorization (EUA), which authorized the use of HIV 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 HIV (VL/EID) and TB laboratory diagnostic equipment in Zimbabwe, such as GeneXpert (Cepheid) and 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 in testing for HIV VL, HIV EID, and *Mycobacterium tuberculosis* (MTB)/rifampicin (RIF) resistance. The ripple effects include reduced testing for drug-resistant TB and an 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 to resist the ongoing verticalization of COVID-19 services at some of the better-resourced key national health institutions, which hitherto provided services for 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 burnout is also playing a role in testing, as staff are overwhelmed with COVID-19 testing. The other challenge being faced is limited funds for HIV and TB programmes due to poor funding by government. In Zimbabwe, around two-thirds of HIV expenditure comes from international donor sources. For TB, funding sources in 2018 were <1% domestic, 31% international, and 69% was unfunded (WHO, 2020b). With the number of COVID-19 cases increasing rapidly, the diversion of HIV and TB funds should be taken with much caution.

The HIV and TB response in Zimbabwe relies heavily on imported consumables, test kits, and medications. In the COVID-19 era, supply chain activities have been disrupted due to the closure of borders and grounding of cargo ships and flights. This calls for the government to do more to ensure that the country's stockpile is maintained 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 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 a 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 a 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. UNAIDS launched a call centre to increase testing for COVID-19 and HIV (UNAIDS, 2020). This innovative call centre has the potential to mitigate the challenges of public transportation by providing home testing or sample collection and 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 that can track the throughput of VL and TB tests per province in order to identify locations where these numbers are reducing and to better understand why. This may also include providing mechanisms for HIV and TB clients who are receiving diagnosis, care, and treatment services to provide rapid feedback on the turnaround times and quality of service delivery. Finally, the 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 to restore the scale-up trajectory that existed in the pre-COVID-19 era.

Conflict of interest

None to declare.

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References

El-Sadr WM. What one pandemic can teach us in facing another. Aids 2020;34(12):1757–9.

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

GoZ. Zimbabwe COVID-19 Operational Plan May - July 2020 Retrieved from Harare, Zimbabwe. 2020.

Hogan AB, Jewell BL, Sherrard-Smith E, Vesga JF, Watson OJ, Whittaker C, Hamlet A, Smith JA, Winskill P, Verity R, Baguelin M, Lees JA, Whittles LK, Ainslie KEC, Bhatt S, Boonyasiri A, Brazeau NF, Cattarino L, Cooper LV, Coupland H, Cuomo-Dannenburg G, Dighe A, Djaafara BA, Donnelly CA, Eaton JW, van Elsland SL, FitzJohn RG, Fu H, Gaythorpe KAM, Green W, Haw DJ, Hayes S, Hinsley W, Imai N, Laydon DJ, Mangal TD, Mellan TA, Mishra S, Nedjati-Gilani G, Parag KV, Thompson HA, Unwin HJT, Vollmer MAC, Walters CE, Wang H, Wang Y, Xi X, Ferguson NM, Okell LC, Churcher TS, Arinaminpathy N, Ghani AC, Walker PGT, Hallett TB. Potential impact of the COVID-19 pandemic on HIV, tuberculosis, and malaria in low-income and middle-income countries: a modelling study. Lancet Glob Health 2020;8(9)e1132–41, doi:http://dx.doi.org/10.1016/S2214-109X(20)30288-6 Epub 2020 Jul 13. PMID: 32673577; PMCID: PMC7357988.

MoHCC. COVID-19: Situation Report. Retrieved from. 2020. http://www.mohcc.gov.zw/index.php?option=com_phocadownload&view=category&id=15&Itemid=741.

MoHCC. 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). 2020.

SADCAS. Accredited organizations: Zimbabwe. Retrieved from https://www.sadcas.org/accredited-organizations?field_%20organization_type%20_tid=11%20&title=&field%20_country_value=ZW&field_accreditation_number_value.

UNAIDS. Factsheet: global AIDS update. 2019. UNAIDS Geneva; 2019.

UNAIDS. UNAIDS launches a call centre for people living with HIV in Zimbabwe. Retrieved from. 2020. https://www.unaids.org/en/20200720_zim_call_centre.

WHO. Novel coronavirus (COVID-19). Retrieved from. World Health Organization; 2020. https://www.who.int/emergencies/diseases/novel-coronavirus-2019.

WHO. Tuberculosis country profiles: Zimbabwe. Retrieved from. 2020. https://www.who.int/tb/country/data/profiles/en/.