

COVID-19 in Africa: community and digital technologies for tuberculosis management

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Dear Editor,

The first cluster of patients with atypical pneumonia of unknown aetiology was reported in the city of Wuhan, China, on 31 December 2019.¹ By 26 May 2020, more than 5.4 million confirmed cases of COVID-19 had been reported globally with 343 514 deaths.² In Africa, the first confirmed case was reported on 14 February and by 26 May 2020, COVID-19 cases had been reported in 54 African countries with 115 346 cases and 3 471 deaths.³ There is a high level of concern that COVID-19 will have a negative impact on the fight against TB in Africa due to 1) disruptions to the provision of treatment, care and laboratory services, because of work overload, interrupted supplies of consumables and medication, and inability to provide directly observed treatment (DOT) and people-centred support during TB treatment; 2) reduced demand and access for services among people with presumptive TB because of the fear of being infected with SARS-CoV-2 at health care settings, and of being misdiagnosed with COVID-19 or inability to travel to services; 3) increased exposure and infection of health care staff working in the basic management units of TB control programmes to COVID-19, because both can present with fever, night sweats and cough, leading to sickness and even death among health care workers.⁴⁻⁶

Unless steps are taken, these factors could lead to a deterioration in the programmatic indicators for TB in sub-Saharan Africa, with a decrease in TB case notification and management, leading to an accumulation of TB cases in the population. Modelling experts commissioned by the Stop TB Partnership prepared a set of scenarios to reflect the potential effects of a lockdown on different stages of the TB care cascade, describing an excess of TB cases and deaths.⁷ A recent WHO information note on COVID-19 states that,

Considerations for tuberculosis (TB) care highlighted measures to ensure the continuity of services for people who need preventive and curative treatment for TB including maintaining people-centred delivery of TB prevention, diagnosis, treatment and care services in tandem with the COVID-19 response.⁸

To mitigate the impact of COVID-19, we wish to highlight two frequently neglected elements in the management of TB: the community and digital technologies.

The community

Local non-governmental and other civil society organisations have historically been neglected in the TB response, and yet they can play a vital role to support TB programmes to ensure effective communication about TB and COVID-19. They can also sensitise communities to continue to attend health services for TB prevention, diagnosis, treatment and care. Given the importance of continuing care, the role of these groups as outlined in the WHO ENGAGE-TB guide⁹ should be further strengthened to support TB programmes during the COVID-19 pandemic and beyond. COVID-19 and TB are spread primarily by the respiratory route and both are affected by social factors and potentially generate fear, stigma and discrimination. An integrated plan to mobilise the community to fight against both diseases may be more cost-effective than separate approaches, which lack coordination. The need for the community to assist with TB management in the context of COVID-19 has recently been highlighted.¹⁰⁻¹²

Digital technologies

Digital technologies to support adherence to drug treatment for TB (as recommended by the WHO) have not been implemented in Africa.¹³ Given the need for social distancing and the recommendations to limit or stop DOT, this is an opportunity to implement digital technologies to support TB treatment adherence during and after the initial COVID-19 response. The use of digital platforms in the COVID-19 response has recently been highlighted,¹⁴ and technologies that could be implemented in Africa include:

- 1 Short message service (SMS): this inexpensive technology can provide remote support for people with TB by sending regular automatic messages as reminders to take medication, and providing a channel for information about their treatment and the COVID-19 situation.¹³ This can be rapidly implemented in Africa as devices are already widely available.
- 2 Event monitoring device for medication support (EMM): these provide more flexibility in monitoring treatment, including reminders and instructions on dosing and refills, as well as the ability to compile a history of doses taken so that differentiated advice and care can be provided.¹³ A distinction is made between EMM boxes and EMM envelopes. EMM boxes are automated electronic devices that record the regularity of container openings and transmit information to the health care provider. EMM envelopes, are blister packs with personalised envelopes on which a unique series of telephone numbers are printed that appear when the tablets are removed from the package.¹³ These may require procurement and training to implement.

- 3 Video-supported treatment for TB (VOT):¹³ remote video communication can reduce the frequency of in-person medical visits, as well as the risk of exposure to COVID-19 in health care facilities. However, this requires smart phones and internet access so it may not be feasible or widely available. However, pilot studies could be implemented to evaluate this approach.
- 4 Additionally, remote contact tracing technologies for COVID-19 have been developed, which could be expanded to include TB. This would provide the opportunity to continue active case finding and contact tracing for TB during the COVID-19 response.

The Global Fund to Fight AIDS, Tuberculosis and Malaria has mobilised \$1 billion to support eligible countries in their COVID-19 response.¹⁵ The information note developed by The Global Fund on TB and COVID-19 highlights investment in digital technologies to support adherence as well as ensuring that psychological wellbeing and rights of patients and people with symptoms of TB are protected.¹⁶ Countries should include in their funding requests: 1) community engagement (with an integrated vision to fight against both COVID-19 and TB); and 2) digital technologies to support the fight against TB in the current context of COVID-19 to avoid a deterioration in their programmatic indicators. By investing in interventions that support the programme during the COVID-19 response we can also utilise these approaches in the longer term against TB.

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