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Editorial

World TB Day 2022: Revamping and Reshaping Global TB Control Programs by Advancing Lessons learnt from the COVID-19 pandemic

The World Health Organization (WHO) and STOP TB Partnership theme for World TB Day 24th March, 2022 is "*Invest to End TB. Save Lives*" (WHO, 2022a). Global political and scientific attention continues to be focussed on the Coronavirus disease (COVID-19) pandemic. There have been over 416 million cases of COVID-19 including 5.8 million deaths reported to the WHO as of 18th February, 2022 WHO, 2022b. In the wake of the COVID-19 pandemic, disruption of TB services has led to an increase in the number of TB cases and TB related deaths worldwide affecting the lives and livelihoods of millions of people worldwide. The COVID-19 pandemic has reversed a decade of progress made to control the TB pandemic. (Wu et al., 2020; Alene et al., 2020; Zimmer et al., 2022; Pai et al., 2022; Johns Hopkins Report, 2022). World TB Day presents an opportunity to highlight that TB is the second most important cause of death from an infectious disease worldwide, and it requires equal attention as COVID-19, if not more.

For the first time since 2012, TB death rates have started to increase globally (WHO, 2021a), and the world is running out of time to deliver the UN General Assembly High Level Meeting on TB commitments made in 2018 (UNGA, 2018), where all TB stakeholders had called for:

- Acceleration of the End TB Response to reach the targets set in the political declaration of the UN High-Level Meeting on TB (UNGA, 2018).
- 40 million people with TB to be diagnosed and treated by 2022 which includes 3.5 million children and 1.5 million people with drug-resistant TB. This is in line with WHO's overall drive towards Universal Health Coverage and the joint WHO, Global Funds and Stop TB Partnership flagship initiative "*Find. Treat. All. #EndTB*".
- 30 million people to be reached and initiated on TB preventive treatment by 2022, especially those people most at risk, including 24 million household contacts of TB patients (4 million of whom are children under 5, and 6 million are people living with HIV).
- Generating 15 billion USD a year to support efforts to end TB, support TB research for better science, better tools and better delivery.

These objectives for 2022 have not been achieved and there is currently an urgent need to ramp up investments in TB health services globally in the context of the COVID-19 pandemic, and ensure equitable access to diagnosing all TB cases and prevent TB deaths (UNGA, 2018; Zumla et al., 2021; Sahu et al., 2021; Chakaya et al., 2022). To advance the theme for this year's World TB Day, 'Invest to end TB - save lives", we need to keep in mind the poor global economic situation, and reflect on other innovative ways to revamp and reshape global TB control programs to achieve their maximum potential in light of the impacts COVID-19 has had on health services, especially in high TB burden countries. A recent study (Haldane et al., 2021) assessed countries with low or high COVID-19 mortality rates and derived important implications for improving public health services and current efforts to control killer infectious diseases such as tuberculosis, malaria, HIV, measles among others. The study identified four broad pillars of a high performing response: "Partner, Coordinate, Develop and Strengthen" and four pillars which define a low performing response: "Devalue, Denial, Delays and Distrust". The strengths of high performing countries with lower mortality rates were associated with effective partnerships and coordination on multiple levels of the response, with governments engaging with communities and purchasing partnerships to secure resources and focused on development, including increasing health system capacity. In contrast, low performing countries had comprehensive pandemic preparedness plans on paper, caveats and gaps existed with lack of adequate infrastructure to rapidly mobilise and sustain outbreak response measures. Low performing countries also did not take the threat of COVID-19 seriously. Pandemic response plans were devalued at the highest level of government thus denial of scientific evidence led to a failure of leadership to take responsibility or develop comprehensive strategies for infection control. Many of these countries had underfunded public health systems and were unable to take rapid action with delays in launching response mechanisms, making decisions, and changing course based on evolving scientific evidence. Lack of trust of governments seems to fuel the spread of COVID-19 and was a significant undercurrent throughout low performing national responses.

These factors have also been highlighted in a Global Burden of Disease study evaluating COVID-19 data from 177 countries (COVID-19 National Preparedness Collaborators) which found that the level of trust in governments was directly proportional to fewer infections and higher vaccination rates in middle- and high-income countries. Similar messages, and other lessons learnt and recommendations for future pandemic preparedness have also been coming through from other independent political and scientific expert

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groups and committees from their assessments of the underlying determinants of the COVID-19 pandemic (OECD, 2022; IPPR, 2021; Johns Hopkins IAE, 2022). Thus these lessons learnt from several COVID-19 innovations in the health systems delivery during lockdowns, and the rapid development and rollout of diagnostics and vaccines highlight the need to stimulate ambitious political and scientific actions for revamping global TB control efforts whilst COVID-19 is brought under control (Ntoumi et al., 2022a; 2022b; Chakaya et al., 2022; Pai et al., 2022; Ruhwald et al., 2021, 2022; Hopewell et al., 2021; Chapman et al., 2021; Sahu et al., 2021: Keene et al., 2020; Zimmer et al, 2021). This should also include use of Artificial Intelligence (AI) for improved TB screening at all points of care and rapid data communication (Codlin et al., 2021; Malik et al., 2022). Obtaining accurate data on the actual global burden of LTBI, TB, DRTB, and TB-related deaths is essential to strengthen the evidence base required to convince media, governments and donors to pay specific attention to TB and its continuing status as a global public health emergency. These data gaps should be filled through a universal approach for uniformly collecting more comprehensive, quality and accurate data (Nkengasong et al., 2020), including TB related deaths which remain undiagnosed antemortem, (Mucheleng'anga et al., 2022).

Before the advent of the COVID-19 pandemic the 2018 United Nations High Level Meeting on TB (UNGA-HLM 2018) had brought renewed hope and increased prospects of much-needed global advocacy efforts, political commitment with increased funding required to control TB and achieve the WHO and Stop TB Partnership 'End TB targets' for 2030. To get back UNGA-HLM TB control targets back on track, several activities for enhancing TB case finding utilizing latest available TB diagnostics and treatment regimens (TAG Report, 2021) should be taken forward immediately by national governments in high TB burden countries by aligning TB and COVID-19 services (Ruhwald et al., 2021; USAID, 2021; Ruhwald et al., 2022; Zimmer et al., 2022; Pai et al., 2022; Ntoumi et al., 2022b; Hopewell et al., 2021). Eradication of TB requires increased political will, commitment to providing the required resources, and mutual understanding and respect between politicians, researchers, healthcare workers and communities each recognizing that they all have different but complementary roles. It is imperative that the world now refocuses attention on revamping and reshaping global TB control efforts, and resets the global public health priority agenda to include DR-TB, AMR and COVID-19 altogether. It is also important that TB should be included in the global pandemic preparedness and response agenda, but also in ongoing international dialogue on future pandemic preparedness.

Conflicts of interest

All authors have an interest in TB and global health. All authors declare no conflicts of interests

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Transparency declaration

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