

Impact of COVID-19 on tuberculosis control in China

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Running head: COVID-19 and TB in China

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Dear Editor,

On 31 December 2020, China first reported a cluster COVID-19 disease cases caused by SARS-CoV-2.^{1,2} As of 20 March 2020, a total of 234,073 confirmed COVID-19 cases have been reported globally, with 81,300 cases from China.² In order to lower the risk of transmission in China, all provincial governments initiated an urgent public health response and introduced a series of measures to reduce potential infectious hazards, including: closure of schools, libraries and other public spaces; enhanced disinfection in public spaces; and recommended a 14 day home quarantine for individuals from epidemic areas. Numerous villages and communities were under closed management, and residents were requested to stay at home unless there was an emergency (Figure 1). As a consequence, these control strategies rapidly reversed the epidemic of COVID-19 and provided hope that we can defeat this highly communicable disease.

In addition, health facilities nationwide became the battleground for COVID-19. Hospitals minimized the number of daily outpatient visits to decrease the potential for

nosocomial transmission. The majority of TB hospitals at prefecture and provincial level in China have become designated COVID-19 hospitals because of their roles in communicable disease. However, it is important to recognise that these actions and strategies may also result in adverse effects on the control of infectious diseases in China, especially for tuberculosis (TB). As the second highest TB burden country globally, approximately 75,000 TB cases occur each month.³ The changes introduced to combat COVID-19 (i.e. restricted movement and change in role of TB hospitals) are a major barrier to patients with TB symptoms seeking health care, with an inevitable delay in diagnostics. The prolonged time spent indoors further accelerates its transmission among household contacts. Another major concern is the interruption in treatment for multidrug-resistant TB (MDR-TB). The second-line drugs for MDR-TB are not universally accessible, and patients infected with MDR-TB are requested to return for examination and treatment over the subsequent month to TB-specialized hospitals. The outbreak of COVID-19 has decreased enthusiasm for these visits due to fear of infection during travelling or while staying in hospital, which limits the ability of hospitals to provide effective TB services. Observations on clinical outcomes of patients who have experienced interrupted treatment could help inform health authorities about what is needed to overcome this.

In recent years, the Chinese government has made great progress in introducing digital medicine.⁴ Using digital platforms, patients have opportunities to access better medical care regardless of distance, which provides a promising way of addressing the poor distribution of health care facilities in China. This approach may also be helpful for the response to the COVID-19 outbreak because remote digital healthcare removes any concerns about potential infection. More timely diagnosis of TB cases would lead to faster initiation of treatment, thereby reducing the transmission of TB in household contacts. In addition, remote monitoring of TB patients under treatment holds promise to assess the treatment outcomes and allow early identification of adverse events to drugs.

It is noteworthy that a major barrier to the successful implementation of digital medicine is that the costs of digital health services are not approved by health insurance programs because of the poor economic status of TB patients. These challenges underscore the need for all sectors in society to collaborate to achieve the WHO's End TB Strategy by 2035.⁵

References

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Figure Timeline of strategies against COVID-19 outbreak in China.

