



# COVID-19 Vaccination can Aid in the Eradication of Tuberculosis

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## Editorial

Despite the ongoing efforts of the End Tb strategy by the United Nations Sustainable Development Goals (UNSDG) by 2025, Tuberculosis (TB) was regarded as one of the most problematic infectious disease of international concern prior to the advent of Coronavirus Disease 2019 (COVID-19). The global TB report for 2021 emphasizes that we stand at a road. Despite the fact that we have attained the historic 2022 TB targets set by heads of state and government at the first UN high-level summit on TB in 2018, the COVID-19 epidemic has reversed gains and pushed the battle against TB back many years. We must

move forward with optimism, redoubling our efforts and investments to close the gap in access to much-needed prevention and care for the millions of people who are affected by this ancient disease. In the face of the COVID-19 pandemic, TB mortality has increased for the first time in over a decade, owing to limited access to TB diagnosis and treatment. In 2020, about half of those diagnosed with TB did not receive treatment and were not reported; additionally, the number of people receiving drug-resistant TB treatment and TB preventative treatment decreased dramatically [1].



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The recent global immunization campaign against COVID-19, on the other hand, has increased public awareness of the importance of vaccines in general, including TB vaccine. Despite the fact that COVID-19 and TB have similar physiological signs, both diseases have immunization as a preventive intervention in common. With 490 million illnesses and 6.1 million deaths (as of April 2, 2022), the COVID-19 pandemic is still wreaking devastation [2]. Although the introduction of new SARS-CoV-2 variations, such as the delta and omicron variants, has posed a challenge to control methods, WHO-approved vaccinations have helped alleviate the dire situation in terms of mortality and morbidity. As of April 2, 2022, 59% of the world's population had been fully vaccinated, 66% had at least one dosage, and 21% received extra doses. However, the epidemic has weakened and overburdened healthcare systems in low and middle-income nations, particularly in TB-endemic areas [3].

TB has astonishingly, the only licensed vaccine - BCG (Bacillus Calmette–Guérin), made from a weakened strain of the *Mycobacterium tuberculosis* (Mtb) - has been used for nearly a century. Although BCG effectively protects infants from systemic infection, it is less effective in protecting adolescents and adults from the lung disease caused by Mtb. New anti-TB drugs have been developed, and more drugs and vaccines are currently being tested in clinical trials. Despite this, the two most powerful drugs currently in use are ineffective against Multi-Drug Resistant (MDR) strains of the Mtb. A new study in nonhuman primates [4] could breathe new life into the BCG vaccine. However, newer players, particularly non-profit research organizations, are altering drug development. M72/AS01E, a leading vaccine candidate developed in collaboration between a non-profit and a pharmaceutical company, protected adults with latent TB infection for at least three years from developing active TB [5]. Last summer, the US Food and Drug Administration (FDA) approved a drug developed through non-profit research as part of a treatment combination for an advanced form of MDR-TB [6]. Between 2000 and 2018, existing TB treatments saved between 53 and 64 million lives. However, the fact that so many people continue to contract the disease is unacceptable. TB deaths must be reduced by 90% by 2030, according to the UN-SDG, and BCG vaccination will be a critical part of that effort. In more than 150 countries, including many in Africa and South-east Asia, which have been particularly hard hit by the disease, universal vaccination for infants has been recommended. Thus, the world's attention is drawn to a potential method of increasing a vaccine's potency [7].

Worldwide, scientists rushed for the COVID-19 vaccine development, which could help the development of a new vaccine for TB as well. However, key obstacles have hindered the path of TB vaccination in the past: vaccine hesitancy and funding for developing a new TB vaccine. Though, the COVID-19 pandemic has altered vaccination reluctance possibilities. Vaccine hesitancy, for example, has been a significant problem in the eradication of infectious diseases in the past. Although widespread coverage and administration of COVID-19 vaccinations worldwide has raised public awareness regarding vaccines' lifesaving effects, this has impacted public awareness in TB-endemic countries. COVID-19 vaccination facilities, on the other hand, remain an ideal location for raising TB vaccine knowledge, protecting children's lives, and eventually moving toward eradication.

**Conflict of Interest:** The authors declare no conflict of interest.

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