

## Lessons from COVID-19 Vaccine Development for Accelerating TB Vaccine Research

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**Background:** The rapid development of COVID-19 vaccines contrasts starkly with the sluggish progress for TB vaccines. This study examines whether lessons from COVID-19 could be applied to expedite TB vaccines, focusing on clinical trial design and regulatory approvals.

**Methods:** Interviews were conducted with experts in COVID-19 vaccine research, including directors of the research programmes, principal investigators, and members of regulatory bodies. We analysed the findings with Braun and Clark's Thematic Analysis. The interviews were contextualized within a review of the current state of TB vaccines, and literature related to COVID-19 clinical trials and regulatory approvals.

**Findings:** From 13 interviews, 3 key themes were generated.

First, differences in clinical scenarios between COVID-19 and TB include differences in pathogen biology, disease epidemiology, and the global health response. COVID-19 as an entirely novel phenomenon and TB's persistence throughout human history may necessitate distinct approaches to clinical trials and regulatory pathways.

Second, the cost of accelerated development. The accelerated pace of COVID-19 vaccine development involved substantial financial investments, de-risking with public funds, and prioritization above other health issues. This often resulted in high human and logistical costs, including stress, burnout, and coordination challenges that at times resulted in non-comparable data.

Third, planning for success. TB vaccine development would benefit from harmonized clinical endpoints. Early collection of data relevant for policy decisions is essential. Establishing collaboration frameworks, linked databases, and post-rollout monitoring systems is crucial.

**Conclusion:** While the clinical scenarios of COVID-19 and TB differ, valuable lessons can be learnt. Mitigating the costs and advocating for necessary resources is needed. Strategic planning and collaboration can enhance TB vaccine development.

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### Conflicts of Interest

None

