

Advancing evidence-informed in-country decision-making for new TB vaccine introduction: A responsive and integrated vaccine modelling approach from India

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Background: As new TB vaccines move into late-stage development, it is imperative for high-burden countries like India to ensure timely and effective evidence-generation to inform decision-making and accelerate vaccine development and introduction. To enable this, an in-country vaccine mathematical modelling effort has been initiated in India.

Method: Through iterative multistakeholder engagement, an integrated modelling framework was developed to include critical factors across a range of scenarios for disease burden, target populations, program integration opportunities, health system feasibility, delivery strategies, cost considerations, and end-user acceptability, to ensure its outcomes are relevant for anticipated vaccine introduction decisions in the near-term. Led by in-country modelling capacity, the model is designed to respond rapidly to emerging data, such as from India's ongoing implementation of BCG revaccination, as well as new TB vaccine candidates.

Results: The model framework incorporates uncertainty in a range of key inputs, such as vaccine efficacy in different modes of protection (e.g. prevention of disease). Systematic uncertainty analysis reveals the data that would be most critical in refining model projections, thus informing the most pressing priorities for evidence generation during vaccine development and rollout. We also share lessons learned from the process of engaging a range of stakeholders in establishing this readiness, from academia to key decision-makers in national immunization.

Discussion and Conclusion: The development of this comprehensive, integrated modelling framework offers an example of how high burden countries can generate their own nationally-relevant evidence through a multi-stakeholder, integrated approach, to optimize planning for vaccine rollout. Performed in advance of deployment of a future vaccine, such preparations will help accelerate policy decisions and adoption for maximal impact with available resources

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Conflicts of Interest

None

