

# Establishment of a high-level council to accelerate development of and access to new TB vaccines (High-level TB vaccine accelerator council)

## Background

Tuberculosis (TB) is one of the leading causes of death from an infectious agent. The World Health Organization (WHO) End TB Strategy stipulates that to end the epidemic by 2030, major technological breakthroughs need to be introduced by 2025 to accelerate the rate of decline in disease incidence, such as a new TB vaccine that is effective both before and after infection. The only licensed TB vaccine, Bacille Calmette-Guerin (BCG), provides moderate to good protection against severe forms of TB in infants and young children (averting thousands of pediatric deaths annually), but it does not adequately protect adolescents and adults, who account for the majority of TB transmission. New vaccines that are effective in reducing disease transmission and mortality, among all age-groups are needed to end the TB epidemic. However, significant scientific challenges coupled with insufficient financing have slowed the pace of progress. A high-level coordination and commitment are needed to develop solutions to some of these pressing bottlenecks, drawing on lessons learnt from the response to the COVID-19 pandemic. **This concept note proposes the establishment of a TB Vaccine Accelerator Council, which will serve to create and catalyze high-level alignment between funders, global agencies, governments, and end users on the important challenges in TB vaccine development, and on actions to address them. Its vision is to boost the TB vaccine pipeline and to facilitate the licensing and use of effective novel TB vaccines to end the TB epidemic, as a matter of urgency.**

## Ongoing efforts to accelerate TB vaccine development

In recent years, WHO and the global TB community have taken steps to shape and accelerate the TB vaccine field by establishing critical technical alignments: WHO has generated preferred product characteristics for new TB vaccines<sup>1,2</sup> to guide the scientific community, vaccine developers and regulatory bodies in the development of impactful vaccine candidates, and a global roadmap for TB vaccine R&D<sup>3</sup> was recently published to define research gaps and partnership needs. To drive investments and policy decisions, a full value proposition on new TB vaccines was recently published<sup>4</sup>, while a WHO roadmap for the introduction of TB vaccines for adult and adolescent populations and a WHO evidence consideration for TB vaccine policy<sup>5</sup> are being finalized.

In 2022, there were at least sixteen TB vaccine candidates under clinical development. As of today, only the M72/AS01<sub>E</sub> vaccine has preliminary results that meet the WHO Preferred Product Characteristics<sup>6</sup>, and larger studies are planned to confirm the findings. Overall, very few candidate vaccine antigens have been identified in the last decade. Novel antigenic targets that can induce different and more effective immunological characteristics than currently available are needed to improve the chance of success. Furthermore, without focused support, few of these candidates will advance through late-stage product development due to the inherent risk of failure in vaccine R&D, and inadequate funding. It is therefore imperative that funders continue to invest in both early and late stage research to ensure that promising

<sup>1</sup> WHO Preferred Product Characteristics for New Tuberculosis Vaccines. 2018. World Health Organization. Available from: <https://www.who.int/publications/i/item/WHO-IVB-18.06>

<sup>2</sup> Preferred product characteristics for therapeutic vaccines to improve tuberculosis treatment outcomes. 2019. World Health Organization. Available from: <https://apps.who.int/iris/handle/10665/33044806>

<sup>3</sup> Global TB vaccine R&D roadmap. 2020. Amsterdam Institute of Global Health & Development. Available from: <http://www.edctp.org/web/app/uploads/2021/04/EDCTP-TB-vaccine-roadmap-full-version-final.pdf>

<sup>4</sup> An investment case for new tuberculosis vaccines. 2022. World Health Organization. Available from: <https://www.who.int/publications/i/item/9789240064690>

<sup>5</sup> This document summarizes evidence anticipated to facilitate initial WHO policy decision-making.

<sup>6</sup> Derek R. Tait and others, "Final analysis of a trial of M72/AS01<sub>E</sub> vaccine to prevent tuberculosis", *New England Journal of Medicine*, vol. 381, No. 25 (19 December 2019).

discoveries make it to full scale development. At the same time, countries, funders and relevant global and regional authorities should collaborate to facilitate timely manufacturing, procurement and equitable access to new TB vaccines, once available.

### *Challenges in TB vaccine development*

- The greatest scientific challenge to TB vaccine development remains the lack of biomarkers that can serve as correlates or surrogate of protection. The identification of biomarkers could accelerate TB vaccine R&D by allowing investigators to detect likelihood of efficacy at earlier stages of vaccine development.
- Inadequate funding for R&D and lack of industry engagement constrains the pace of progress. The Stop TB Partnership's Global Plan to End TB, 2018–2022 calls for approximately \$790 million per year to advance TB vaccine R&D, but the average annual investment between 2018–2020 was only \$115 million.
- A political environment that stimulates and clarifies the demand for effective TB vaccines, and initiatives that lower market uncertainty can incentivize stronger engagement from industry, biotechnology firms and manufacturers.

### **Terms of Reference of the Council**

The work of the Council builds upon political commitments and existing initiatives in vaccine development and access, including resolutions of the World Health Assembly<sup>7</sup>, and United Nations General Assembly<sup>8,9</sup>.

The Council's terms of reference are to make evidence-based and actionable recommendations to the WHO Director General and other relevant stakeholders aligned to the following terms:

1. Identify needs for, and types of innovative sustainable financial solutions, as well as partnerships between the public, private and philanthropic sectors that can expedite the translation of science into TB vaccines, and ensure their equitable access once available;
2. Identify market solutions to incentivize TB vaccine development, and to ensure that the R&D ecosystem is positioned to rapidly manufacture and distribute vaccines equitably and at scale, once they are available.
3. Advocate with decision makers in the public, private, philanthropy and other relevant sectors to strengthen commitment and concerted action to develop and expand access to novel effective TB vaccines, including through political platforms such as the African Union, ASEAN, BRICS, G20, G7, and others.

### *Proposed way of working*

In undertaking its in-depth review and formulating its findings and recommendations, the Council will be supported by the WHO Secretariat in Geneva. The Council's work will rely on the following modalities:

- *Meetings:* The Council will meet annually in Geneva or other places, as relevant. Members may also convene or participate in thematic and regional meetings and consultations. The Secretariat will also help establish and convene a steering group, comprising of representatives of Council members with technical expertise to strengthen and streamline preparation for the Council's main meetings.

<sup>7</sup> See World Health Organization, Seventy-third World Health Assembly, Geneva, 3 Aug 2020, Resolutions and Decisions, Annexes (WHA73/2020/REC/1), resolution 73.3.

<sup>8</sup> See resolution [70/1](#).

<sup>9</sup> See resolution [A/RES/73/3](#).

- *Consultations:* The Council may engage in consultations and dialogue with a broad range of stakeholders including Member States, UN entities, regional and sub-regional organizations, international and regional financial institutions, civil society, academia, and the private sector.
- *Materials:* The Council will rely on existing materials in the public domain and request/commission additional research on issues relevant to its goals.
- *Reporting:* The Council will provide annual reports to the WHO Director General.
- *Civil society engagement:* The Council will advocate for the meaningful engagement of civil society and affected communities in TB vaccine R&D efforts, as well as in decision-making on vaccine access, policy and programme implementation.

### *Composition*

The members of the Council will include ministers of health and science, leaders of research and funding institutions, international organizations, and representatives of civil society that represent a broad range of knowledge associated with development of, and access to vaccines in low- and middle-income countries. Members will initially serve for a period of two years. Due consideration will be given to gender parity and geographic balance.

