STRATEGIC AND TECHNICAL ADVISORY GROUP FOR TUBERCULOSIS (STAG-TB)

Report of the 21st meeting
21–23 June 2021
Contents

Introduction ............................................................................................................................................. 1
1. Progress made on STAG-TB 2020 meeting recommendations (Session 1) ........................................ 2
2. Impact of the COVID-19 pandemic on TB detection, disease burden and global targets (Session 2) 3
3. WHO solutions to mitigate and reverse the COVID-19 impact on TB: leadership (Session 3a) ....... 5
4. WHO solutions to mitigate and reverse the COVID-19 impact on TB: country support (Session 3b) .................................................................................................................................................................. 7
5. WHO solutions to mitigate and reverse the COVID-19 impact on TB: technical products for norms/standards, data and research (Session 3c) .............................................................................................................. 9
6. Planning for the 2022 STAG-TB meeting ........................................................................................ 10
Annex 1: Final agenda of the 21st STAG-TB meeting .......................................................................... 11
Annex 2: Core technical products and corresponding support products proposed for development in the 2022–2023 biennium ........................................................................................................................................................................... 13
Annex 3: List of participants .................................................................................................................. 23
Introduction

The World Health Organization (WHO), through its Global Tuberculosis (TB) Programme (GTB), leads and guides the global effort to end the TB epidemic through universal access to people-centred prevention and care, multisectoral action and innovation. The major functions of the Global TB Programme include:

- providing global leadership to end TB through strategy development, political and multisectoral engagement, strengthening of reviews and accountability, and advocacy and partnerships (including with civil society);
- developing policy options, norms and standards of TB prevention and care, and facilitating their implementation;
- shaping the TB research and innovation agenda, and stimulating the generation, translation and dissemination of knowledge;
- providing specialized technical support for Member States and partners, and working with WHO regional and country offices to catalyse change and build sustainable capacity; and
- monitoring, evaluating and reporting on the status of the TB epidemic and progress in the financing and implementation of the End TB Strategy.

The Strategic and Technical Advisory Group for Tuberculosis (STAG-TB) is an expert advisory body that was established in 2001. STAG-TB’s mission is to contribute to ending the TB epidemic and eventually eliminating the disease by providing state-of-the-art scientific and technical guidance to WHO. Its functions are as follows:

1. To provide to the WHO Director-General independent evaluation of the strategic, scientific and technical aspects of WHO’s TB work.
2. To review, from a scientific and technical viewpoint, progress and challenges in WHO’s TB-related core functions, including the content, scope and dimension of WHO’s:
   a. development of TB policies, strategies and standards in TB prevention, care and control;
   b. collaboration with countries, and support of countries’ efforts to control TB, including the provision of guidance and capacity-building on policies, strategies, standards and technical assistance;
   c. TB epidemiological surveillance, monitoring, evaluation and operational research activities, their relevance to countries’ efforts to end the TB epidemic and approaches to be adopted; and
   d. promotion and support of partnerships and of advocacy and communications for TB prevention, care and control worldwide.
3. To review and make recommendations on the establishment of committees, working groups, and other means through which scientific and technical matters are addressed.
4. To advise on priorities between possible areas of WHO activities related to TB prevention, care and control.

STAG-TB reports to the WHO Director-General, and members are appointed by the WHO Director-General. The full terms of reference for STAG-TB are provided on the WHO STAG-TB website.1

The 21st meeting of STAG-TB took place virtually on 21–23 June 2021. The agenda (Annex 1) included three major sessions (with the third divided into three topics), as follows:

1. Progress made on STAG-TB 2020 meeting recommendations.
2. Impact of the coronavirus disease (COVID-19) pandemic on TB detection, disease burden and global targets.
3. WHO solutions to mitigate and reverse the COVID-19 impact on TB, structured according to the following three strategic areas of work:
   a. Leadership.

---

1 See https://www.who.int/groups/strategic-and-technical-advisory-group-for-tuberculosis/about.
b. Country support.
c. Technical products.

Session 1 included a presentation from the Director of the Global TB Programme, related feedback from the STAG-TB Chair on a briefing provided to the WHO Director-General, and a perspective from the WHO Civil Society Task Force (CSTF). Each of the remaining sessions started with a presentation by WHO staff, followed by commentaries from two discussants, and then by comments from the rest of the STAG-TB members. Each session was supported by a comprehensive background document that was made available to STAG-TB members 1–2 weeks in advance of the meeting. For Session 3b, a consolidated slide set providing updates from all six WHO regions was also provided. The background documents are considered internal documents intended to inform discussions during the meeting and are not available for wider circulation.

With the assistance of WHO session presenters and rapporteurs, session discussants developed draft recommendations following each session. During Day 3 of the meeting, all draft recommendations were reviewed and finalized by the entire membership of STAG-TB.

This report summarizes the sessions of the meeting, focusing on comments and recommendations from STAG-TB members. All reports of STAG-TB meetings are submitted by the Chair of STAG-TB and the Director of the WHO Global TB Programme to the Assistant-Director General, the Deputy Director-General and the Director-General of WHO, and posted on the WHO STAG-TB website in conjunction with a widely distributed newsletter.

The full list of participants is provided in Annex 3.

1. Progress made on STAG-TB 2020 meeting recommendations (Session 1)

Dr Ariel Pablos-Méndez, Chair of the STAG-TB, provided the WHO Director-General with a summary of an April 2021 briefing of the 20th STAG-TB meeting, noting commendations of the work of the Global TB Programme and highlighting commitments made by the WHO Director-General:

- to support the development of an action plan to implement the STAG-TB recommendations that were made at the 20th meeting;
- to meet with the Executive Director of the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) to discuss the prioritization of efforts to ending TB;
- to join the United Nations (UN) high-level meeting on TB that took place in early June 2021; and
- to send letters to ministers of health to inform them about the newly released WHO guidelines for TB and to further stress the need to work together towards reaching the SDGs, End TB Strategy and UN high-level meeting targets for TB.

Dr Tereza Kasaeva, Director of the Global TB Programme, presented on progress made by WHO on implementing the recommendations from the STAG-TB 2020 meeting.

Ms Lana Syed provided an overview of key progress made by the CSTF since 2019, which included the launch of a joint statement (between the CSTF and the WHO Director-General) on accelerating action to end TB by reaching the UN high-level meeting targets. As a selected member of the CSTF, Mr Chamreun Choub Sok joined the presentation to introduce the CSTF 2021–2022 workplan.

Because Session 1 was an information session, there were no STAG-TB recommendations; however, the update on progress made was welcomed by all members.

---

1 [https://www.who.int/groups/strategic-and-technical-advisory-group-for-tuberculosis/about](https://www.who.int/groups/strategic-and-technical-advisory-group-for-tuberculosis/about).
2. Impact of the COVID-19 pandemic on TB detection, disease burden and global targets (Session 2)

*GTB focal points: Philippe Glaziou, Katherine Floyd*

*Discussants: Knut Lönnroth, Chikwe Ihekweazu*

2.1 Background

The impact of the COVID-19 pandemic on TB detection and TB disease burden was one of the main items on the agenda of the 2020 STAG-TB meeting. This included discussion of modelling results, the importance of data that are closer to real time to monitor the impact of the pandemic on TB services and inform timely action, and the need for further modelling work.

Between November 2020 and June 2021, the GTB implemented various actions to build on and strengthen assessment of the impact of the COVID-19 pandemic on TB detection and TB disease burden. Actions included the following:

- Establishment of a global system for the collection of monthly and quarterly TB notification data from high TB burden and other regional priority countries, initially for 2020 and subsequently on an ongoing basis in 2021. This was done within GTB’s existing online global TB data collection system.
- Analysis and dissemination of key results and messages in terms of the impact of the COVID-19 pandemic on TB detection, based on reported monthly and quarterly notification data. Key results and messages based on data for 84 countries were released and widely disseminated on 22 March 2021, in association with World TB Day. Subsequently, live visualizations of all reported data were made available online.
- Modelling work to estimate TB disease burden in 2020, informed by 2020 notification data. This was done through a collaboration with Imperial College London (United Kingdom of Great Britain and Northern Ireland). It initially focused on 15 countries with the largest reported falls in TB notifications between 2019 and 2020, with a statistical model developed by GTB to extend estimates to other countries.
- Modelling work to develop projections of TB disease burden for 2021–2025, for selected countries. The initial focus was also on the 15 countries with the largest reported drops in TB notifications between 2019 and 2020, with a view to also using results to produce global estimates.

2.2 Topics covered

Topics covered in this session were:

- actions taken and progress made by GTB between November 2020 and June 2021 to assess the impact of the COVID-19 pandemic on TB detection, TB disease burden and progress towards global TB targets;
- provisional results;
- proposed next steps; and
- feedback from STAG-TB members.

The next steps were defined as:

- ongoing peer-review of methods and results; for example, by members of the WHO Global Task Force on TB Impact Measurement, including those who are part of the TB Modelling and Analysis Consortium (TB MAC);
- circulation of burden estimates to all countries for review at the end of July 2021, with discussions held with countries as needed to review or refine the first round of burden estimates;
• publication of key results in the 2021 *Global TB report*;¹
• further work on projections for 2021 and beyond; and
• expansion of modelling work to include other countries in 2022.

### 2.3 Questions to STAG-TB

Two questions were posed to STAG-TB:

- What are STAG-TB’s comments and advice on the work done to date?
- Does STAG-TB have any suggestions for revisions or additions needed to the next steps?

### 2.4 STAG-TB comments

STAG-TB:

- congratulates WHO for the impressive work done to assess the impact of COVID-19-related disruptions on TB detection, TB disease burden and progress towards global TB targets; and
- commends the agility shown in expanding the global TB data collection system to collect, analyse and report on monthly and quarterly TB case notification data and the steps taken to use modelling to estimate the burden of disease in 2020 and beyond.

### 2.5 STAG-TB recommendations

STAG-TB agreed with the next steps set out by GTB, and made the following additional recommendations:

- Publish the modelling methods used to assess the impact of COVID-19-related service disruptions on the TB burden in 2020 and beyond.
- Ensure there is clear communication about the implications of results and projections for the prospects of achieving global TB targets.
- Explore the feasibility of expanding the scope of the models used to date, to include other influences on the TB epidemic, such as the impact of the current severe economic crises and associated widening inequities, and other dimensions of morbidity (e.g. TB sequelae).
- Continue to support the rapid expansion of digital real-time systems for TB data collection and reporting.

---

3. WHO solutions to mitigate and reverse the COVID-19 impact on TB: leadership (Session 3a)

GTB focal point: Monica Dias

Discussants: Ariel Pablos-Méndez, Ingrid Schoeman

3.1 Background

High-level commitments have galvanized progress towards ending TB; however, in light of the COVID-19 pandemic, there is a need for urgent and more ambitious investments and actions to achieve the commitments and meet the targets of the End TB Strategy. To ensure continuity of essential TB services during the COVID-19 pandemic, WHO and its leadership have been working intensely with countries, health workers, communities, civil society and other partners.

3.2 Topics covered

Topics covered in this session were:
- political dialogue and advocacy;
- multisectoral collaboration and engagement;
- research and innovation; and
- preparations for the 2023 UN high-level meeting on TB.

Key actions led and supported by WHO within the area of strategic leadership between November 2020 and June 2021 are highlighted below.

Political dialogue and advocacy

- High-level dialogue to urge action, accountability and investments by heads of state and government, including the promotion of the WHO Director-General Flagship initiative called FIND.TREAT.ALL#TB, together with the Stop TB Partnership and the Global Fund.
- Presidential or head of state End TB initiatives for the engagement and accountability of stakeholders, and national campaigns to drive progress such as the “Races to End TB”.
- Several high-level events (e.g. on World TB Day in March 2021 and on the sidelines of the World Health Assembly in May 2021).

Multisectoral collaboration and engagement

- Implementation of WHO’s Multisectoral Accountability Framework on TB (MAF-TB), including the rollout of baseline assessment checklists to support adaptation and use at country level.
- Close engagement with civil society across all levels to strengthen the work on MAF-TB, and engagement with young people through WHO’s 1+1 initiative and with the private sector through public–private mix (PPM) approaches.

Research and innovation

- Multifaceted support to the Secretariat for the Brazil, Russian Federation, India, China and South Africa (BRICS) TB Research Network.
- Continuous monitoring of progress in the development of new TB vaccines, diagnostics and medicines, including the implementation of a health and economic impact assessment to guide evidence-based research.
3.3 Preparations for the 2023 UN high-level meeting on TB
- Organization of a comprehensive review by heads of state and government.
- Collaboration with countries and partners for meeting modalities and preparations.

3.4 Questions to STAG-TB

Two questions were posed to STAG-TB:
- What are STAG-TB’s comments on WHO’s current work on strategic leadership?
- What is STAG-TB’s advice on how to strengthen WHO’s strategic leadership, to help countries get on track in the fight to end TB? Please highlight additional ideas and innovations that STAG-TB would advise WHO to undertake.

3.5 STAG-TB comments

STAG-TB:
- applauds WHO’s strategic leadership in accelerating efforts towards ending TB, and commends the range of actions led by WHO on political dialogue and advocacy, policy development, multisectoral collaboration and engagement, partnerships with civil society and other stakeholders, and research and innovation;
- recognizes that, despite impressive efforts, we have not been able to bridge the shortfall in resources and impact, and that this situation has been exacerbated by the COVID-19 pandemic – without prioritization we now risk losing the progress made over the past decade;
- welcomes the progress made in the implementation of WHO’s multisectoral accountability framework on TB through related checklists and on social protection, including with the engagement of civil society;
- emphasizes that we build on lessons learned from the COVID-19 pandemic response – notably on research and development of new tools and technologies, and on vaccine equity and access – to strengthen preparedness, and to bolster TB research and innovation; and
- recognizes the importance of the planned 2023 UN high-level meeting on TB, and the need for strategic advocacy and collaboration in preparation.

3.6 STAG-TB recommendations

STAG-TB made the following recommendations:
- Ask the WHO Director-General to write to heads of state to prioritize efforts to reach the 2022 UN high-level meeting TB targets, and to promote the engagement of all sectors in efforts to end TB as outlined in WHO’s MAF-TB.
- Develop a strategic advocacy and communications plan (including with monitoring indicators), to elevate the spotlight on ending TB, and lead preparations for the organization of the 2023 UN high-level meeting on TB in collaboration with the UN, countries and partners.
- WHO to work closely with other UN agencies and partners at global, regional and national levels, to accelerate efforts to reach national and subnational End TB targets, and to monitor outcomes (including on resources and investments) to promote accountability of countries, partners and other stakeholders.
- Play a strong leadership role in providing technical assistance to countries implementing gender-sensitive, equitable and rights-based approaches to health with community participation, and develop and monitor related TB indicators.
- Engage with political leaders and policy decision-makers to advocate for access to integrated TB and COVID-19 services (including community-based services led by community health workers and support groups), based on the latest WHO guidelines and aligned with WHO’s strategic priority to achieve universal health coverage.
- Facilitate dialogue with key partners (including industry) to advance the research and development of new TB vaccines, building on lessons learned from the COVID-19 response and the vaccine equity initiative.
4. WHO solutions to mitigate and reverse the COVID-19 impact on TB: country support (Session 3b)

*GTB focal points: Farai Mavhunga, Karina Halle, Charalampos Sismanidis*

*Discussants: Seiya Kato, Denise Arakaki-Sanchez*

4.1 Background

This session provided comprehensive information on the impact of the COVID-19 pandemic on all six WHO regions, and described WHO’s role in providing country support to mitigate and reverse its impact on TB.

The current operating model of WHO (announced in 2019) differentiates the roles and responsibilities for each of the three levels of the organization for the provision of country support. WHO headquarters is tasked with providing specialized and surge capacity (in collaboration with technical partners), whereas regional and country offices are mainly responsible for providing country support. Formalized in January 2021, the WHO TB Technical Expert Network (TB TEN)\(^1\) aims to strengthen three-level coherence and alignment by facilitating a common understanding of strategic priorities, roles and responsibilities, availability of resources and required efforts.

The COVID-19 pandemic led to changes in global health priorities, which meant that attention and targeted effort were needed to safeguard and further promote gains in TB response (e.g. through increased availability of funding and human resources). The dissemination, uptake, implementation and scale-up of WHO TB guidelines depends on the availability of dedicated WHO country staff for TB, particularly in high TB burden countries and regions.

WHO is using online platforms for technical support to countries, in an attempt to bridge gaps in human resources, including the use of the TB Knowledge Sharing Platform,\(^2\) the Global Youth2EndTB Interactive Platform, and the provision of remote and virtual technical assistance. This complements WHO’s engagement in existing global working groups, because several secretariats are managed by WHO (e.g. childhood and adolescent TB, and PPM).

The following key gaps and challenges regarding country support were presented and discussed during the meeting:

- Inadequate funding to WHO overall, especially funding for human resources, which is inadequate at all levels of the organization but particularly at regional and country levels, including in regions and countries with the highest burden of TB.
- The significant impact of the COVID-19 pandemic on the provision of TB services; restoring these services requires additional support, particularly to high TB burden countries that have experienced severe disruption.
- The limitations of remote platforms in providing technical support that is appropriate for the country and context, especially in the context of health systems that are changing rapidly because of the COVID-19 pandemic.

4.2 Topics covered

Topics covered in this session were:

- the COVID-19 situation in the six WHO regions;

---

\(^1\) As with all TENs, the TB TEN is a key mechanism to ensure the three-level coherence and alignment of technical expertise to maximize the public health impact of WHO’s work at country level, in alignment with the End TB Strategy and the latest WHO guidelines on TB.

\(^2\) This platform provides access to a modular series of consolidated WHO TB guidelines, with corresponding operational handbooks and implementation aids.
• the impact of COVID-19 on TB detection;
• the main actions taken to support countries in the TB response since March 2020; and
• key challenges and potential solutions.

4.3 Questions to STAG-TB

Two questions were posed to STAG-TB:
• What is STAG-TB’s advice on the minimum WHO capacity in terms of technical expertise and staffing needed at regional and country office level to optimally support the implementation of the End TB Strategy in high TB burden countries and other countries that are a regional priority?
• How can WHO best preserve and strengthen country support to maintain and improve TB care and prevention, to mitigate the impact of COVID-19?

4.4 STAG-TB comments

STAG-TB:
• congratulates GTB for establishing and maintaining a three-level technical network – involving WHO headquarters, regional offices and country offices – to understand country needs and, in response, provide comprehensive country support for supporting the implementation of the End TB Strategy and the full continuum of TB care and prevention;
• acknowledges the significant funding and prioritization challenges faced by WHO, due to competing and emerging priorities, which are affecting the depth and breadth of human resources and the availability of technical capacity at regional and country levels; these challenges make it difficult to provide optimal support to countries in line with the organizational mandate;
• recognizes the differential impact of COVID-19 on TB and the health system overall, at regional and country levels, and the need for WHO to provide differentiated support in line with country needs;
• reiterates the need for sustained action to end TB, as many countries are still a long way from eliminating TB; and
• acknowledges the importance of virtual country support provided to countries during COVID-19, but also notes the limitations of such support for optimal and sustained engagement, staff well-being and context-appropriate technical support.

4.5 STAG-TB recommendations

STAG-TB made the following recommendations:
• Continue working with countries to strengthen and maintain the political commitment for TB and the institutional capacity for TB prevention and care, including for the collection and use of accurate and timely data at all levels to guide programmatic action.
• Develop a clear description of the technical support needs in high TB burden and other priority countries compared with current WHO capacity (in terms of human resources and technical expertise at all three levels), to provide this support according to WHO’s comparative advantage to that of other partners.
• Engage high-level WHO leadership to ensure consistency in prioritizing TB in the context of new and emerging priorities, especially given the impact of COVID-19 on service provision and on the determinants of TB.
• Use the lessons learned from the provision of virtual technical assistance to countries and complement this with onsite missions as soon as restrictions are lifted and it is safe to travel again.
• Continue to provide countries with high-quality technical support, including through engagement with bilateral and multilateral partners, WHO collaborating centres, the media and civil society.
5. WHO solutions to mitigate and reverse the COVID-19 impact on TB: technical products for norms/standards, data and research (Session 3c)

GTB focal points: Matteo Zignol, Karina Halle, Michael McCullough

Discussants: Nim Arinaminpathy, Grania Brigden

5.1 Background

Planning for the WHO biennial in 2022–2023 started in May 2021 and will continue to the end of this year. The WHO process relevant to the identification, prioritization and vetting of technical products requires:

- engagement of all three levels of WHO (headquarters, regional office and country office level), via established TB TENs;
- review and validation by WHO output delivery teams (ODTs);¹ and
- vetting of final proposed products by the WHO Technical Product Leadership Committee.²

A technical product unit comprises a core product and – if applicable – corresponding supporting products (defined as either accompanying, derivative or adaptation products). To be selected, a proposed technical product must meet the first of these criteria and at least one of the remaining criteria:

- respond to a need that is not already filled by an existing technical product;
- respond to country needs;
- called for in a governing body resolution; and
- linked to evidence-based emerging global or regional public health issues and/or reflect a demonstratably need based on evidence from global or regional public health communities (e.g. research gaps, STAGs and partnership forums).

To ensure that TB technical products were identified and prioritized through a process involving all three levels of WHO, work was conducted via a core group from the existing TB TEN mechanism. This core group includes WHO staff from headquarters (senior management) and WHO staff from the six regional offices and representatives from country offices³ (up to three per WHO region).

TB technical products, as shared with STAG-TB for input, were categorized according to the following three groups: norms and standards, data, and research and innovation. Materials shared with STAG-TB included an overview of envisaged core TB technical products for the period 2022–2023, and an appendix (see Annex 2) detailing core technical products and corresponding support products.

5.2 Topics covered

The main topics covered in this session were:

- the WHO process relevant to the identification, prioritization and vetting of technical products;
- information on the decision-making landscape for TB technical products;
- WHO definitions for grouping of technical products: norms and standards, data, and research and innovations;
- TB technical products envisaged for development for the period 2022–2023; and

¹ ODTs work to coordinate delivery of integrated outputs across each major office and across the three levels of WHO in the context of the programme budget, planning, budgeting, monitoring, performance assessment and corporate reporting.

² This committee includes the Deputy Director-General (Chair), Executive Director for Health Emergencies, Directors for Programme Management, Chief Scientist, Assistant Director-General (ADG) for Data Analysis Delivery and Impact, and ADGs for other divisions.

³ As nominated by WHO regional offices.
The following next step was confirmed during the meeting:

Use of STAG-TB feedback to finetune the envisaged TB technical product portfolio for 2022–2023.

5.3 Question to STAG-TB

The following question was posed to STAG-TB:

Do you support the list of proposed technical products related to TB to be produced in the 2022–2023 biennium, or is there anything that should be added or modified?

5.4 STAG-TB comments

STAG-TB:

acknowledges work undertaken, and the process followed by the three levels of WHO to determine and prioritize the list of TB technical products for the 2022–2023 biennium, as well as WHO’s procedure leading up to the vetting of technical products by the WHO Technical Product Leadership Committee; and

fully endorses the list of core and supporting TB technical products on norms and standards, data, and research and innovation planned for development in the 2022–2023 biennium.

5.5 STAG-TB recommendations

STAG-TB made the following recommendations:

Liaise, where appropriate, with other WHO departments when developing technical products to ensure synergies, avoid duplication and facilitate integration of TB interventions at country level.

Conduct a final check of the list of proposed core technical products to ensure that all gaps and needs identified at regional and country levels are addressed.

Communicate new TB data twice a year (e.g. launch of global TB report and World TB Day).

Consider developing guidance on building resilient national TB programmes that are ready to respond to current and future pandemics and emergencies.

Consider including in the consolidated guidelines on TB recommendations on the use of chest X-ray for TB diagnosis and to address tobacco use in the context of comorbidities and lung health after TB.

Address gender and human rights throughout WHO guidance.

Work with WHO’s Immunization, Vaccines and Biologicals Department to ensure countries’ preparedness to introduce new TB vaccines once they become available.

6. Planning for the 2022 STAG-TB meeting

The WHO Secretariat announced that the 22nd annual meeting of STAG-TB is planned for 6–8 June 2022, at WHO headquarters in Geneva, Switzerland. The possibility of conducting this meeting face to face will depend on the COVID-19 situation and will be evaluated closer to the date of the meeting. Proposed agenda items for the 2022 meeting were requested from STAG-TB members, and a proposed agenda will be compiled and discussed with the STAG-TB Chair and subsequently shared with members in the coming months, well in advance of the meeting dates.
Annex 1: Final agenda of the 21st STAG-TB meeting

### Day 1: Monday, 21 June 2021

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:00–14:30</td>
<td><strong>OPENING: Welcome and review of meeting objectives and agenda</strong></td>
<td></td>
</tr>
<tr>
<td>14:00–14:10</td>
<td>Welcome and introductions</td>
<td>A. Pablos-Mendez, Chair T. Kasaeva, GTB</td>
</tr>
<tr>
<td>14:10–14:15</td>
<td>Opening remarks</td>
<td>R. Minghui, Assistant Director-General, UCN division</td>
</tr>
<tr>
<td>14:15–14:20</td>
<td>Opening video</td>
<td></td>
</tr>
<tr>
<td>14:20–14:30</td>
<td>Meeting objectives and overview of the agenda</td>
<td>C. Sismanidis/K. Halle, GTB</td>
</tr>
<tr>
<td>14:30–15:50</td>
<td><strong>SESSION 1: Progress made on STAG-TB 2020 meeting recommendations</strong></td>
<td></td>
</tr>
<tr>
<td>14:30–14:40</td>
<td>Briefing to WHO Director-General in April 2021</td>
<td>A. Pablos-Mendez, Chair T. Kasaeva, GTB</td>
</tr>
<tr>
<td>14:40–15:10</td>
<td>WHO progress update, December 2020 to June 2021</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>UN SG 2020 progress report on TB: follow-up to recommendations</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Call for an emergency response</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Updating of End TB Strategy implementation guide</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Operationalization of MAF-TB and checklist at country level, including adding content on COVID-19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• National TB patient cost surveys – synthesis of results and lessons learned, including guidance on multisectoral efforts needed to achieve zero catastrophic costs</td>
<td></td>
</tr>
<tr>
<td>15:10–15:20</td>
<td>Perspective from WHO Civil Society Task Force (CSTF)</td>
<td></td>
</tr>
<tr>
<td>15:20–15:50</td>
<td>Comments and Q&amp;A</td>
<td></td>
</tr>
<tr>
<td>15:50–16:00</td>
<td><strong>SESSION 2: The COVID-19 pandemic and TB: impact</strong></td>
<td></td>
</tr>
<tr>
<td>16:00–17:00</td>
<td>Impact of the COVID-19 pandemic on TB detection, TB disease burden and progress towards global TB targets</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>The COVID-19 pandemic and TB: impact and implications</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Guidance on “topical technical issues”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Real-time monitoring of TB notifications</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Transition to case-based digital surveillance: country support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• NSPs and “back-on-track” plans: country support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Engagement of global leaders + influential partners to reimagine TB response in context of back-on-track plans</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Update on other GTB work on COVID-19 and TB</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Scaling up TB prevention</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• TB prevention (example of recommendations included: global initiative to create demand for shorter TPT; new tests + tools; advocacy for TPT implementation)</td>
<td></td>
</tr>
<tr>
<td>16:00–17:30</td>
<td>Summary and wrap-up of Day 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>SESSION 3: The COVID-19 pandemic and TB: implications and implications</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• COVID-19 progress update</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Global TB response to COVID-19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Multisectoral response to COVID-19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Multisectoral response to TB</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>SESSION 4: The COVID-19 pandemic and TB: recommendations and implications</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• COVID-19 recommendations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Global TB recommendations</td>
<td></td>
</tr>
</tbody>
</table>
### Day 2: Tuesday, 22 June 2021

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:00–17:30</td>
<td><strong>SESSION 3: Potential solutions to mitigate and reverse the impact of COVID-19 on TB: what is WHO doing and what else should be done?</strong></td>
<td></td>
</tr>
<tr>
<td>14:00–15:00</td>
<td>A. Strategic leadership (Background document 3A)</td>
<td>M. Dias, GTB (20min)</td>
</tr>
<tr>
<td></td>
<td>• Political dialogue, advocacy and preparations for 2023 UNHLM; multisectoral collaboration and engagement</td>
<td>A. Pablos-Mendez (5min)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I. Schoeman (5min)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plenary discussion (30min)</td>
</tr>
<tr>
<td>15:00–15:30</td>
<td>B. Country support (Background document 3B and consolidated slide set from six WHO regions)</td>
<td>F. Mavhunga, GTB (20min)</td>
</tr>
<tr>
<td></td>
<td>• WHO’s role in understanding country needs and providing support: current situation and challenges</td>
<td>S. Kato (5min)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D. Arakaki-Sanchez (5min)</td>
</tr>
<tr>
<td>15:30–15:40</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>15:40–16:10</td>
<td>B. Country support (continued)</td>
<td>Plenary discussion</td>
</tr>
<tr>
<td>16:10–17:10</td>
<td>C. Technical products for norms/standards, data and research* (Background document 3C)</td>
<td>M. Zignol, GTB (20min)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N. Arinaminpathy (5min)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>G. Brigden (5min)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plenary discussion (30min)</td>
</tr>
<tr>
<td>17:10–17:30</td>
<td>Summary and wrap-up of Day 2</td>
<td>A. Pablos-Mendez, Chair</td>
</tr>
</tbody>
</table>

*This is updated terminology for the 2022–2023 biennium. In the 2020–2021 biennium, these are called “Global Public Health Goods”.*

### Day 3: Wednesday, 23 June

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:00–15:25</td>
<td><strong>SESSION 4: Review of draft recommendations</strong></td>
<td></td>
</tr>
<tr>
<td>15:25–15:35</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>15:35–16:30</td>
<td><strong>SESSION 4: Review of draft recommendations (continued)</strong></td>
<td></td>
</tr>
<tr>
<td>16:30–17:00</td>
<td>CLOSING: Next steps and closing remarks</td>
<td>STAG-TB Chair and members</td>
</tr>
<tr>
<td>16:30–16:45</td>
<td>Round of suggestions for STAG-TB 2022 meeting</td>
<td>STAG-TB Chair and members</td>
</tr>
<tr>
<td>16:45–17:00</td>
<td>Closing remarks</td>
<td>R. Minghui, UCN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T. Kasaeva, GTB</td>
</tr>
</tbody>
</table>

## Annex 2: Core technical products and corresponding support products proposed for development in the 2022–2023 biennium

### Data

<table>
<thead>
<tr>
<th>Core technical product title</th>
<th>Description</th>
<th>Rationale or purpose</th>
<th>Supporting products</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Global tuberculosis report 2022</strong></td>
<td>The report provides a comprehensive and up-to-date annual assessment of the status of the TB epidemic and progress in implementation and financing of the response, at global, regional and country levels. This is done in the context of global targets set in the SDGs, WHO End TB Strategy and UN political declarations. It is based primarily on annual rounds of data collection from all Member States, complemented by analysis of data held in other databases (e.g. the UN SDG database) and data compiled by other agencies (e.g. UNAIDS). As in 2020 and 2021, the 2022 report will include analysis of the impact of the COVID-19 pandemic on essential TB services and progress towards global TB targets, based on real-time monitoring of the monthly or quarterly number of people diagnosed and officially reported with TB in high TB burden and other regional priority countries.</td>
<td>The report helps to fulfil one of WHO’s core functions (monitoring the health situation and health trends). It includes assessment of progress towards targets set in the UN SDGs (e.g. Target 3.3), WHO’s End TB Strategy (WHA67.1), the political declaration at the UN high-level meeting on TB in 2018 (73/3) and GPW13. The data are also used as inputs to World Health Statistics, to the UHC service coverage index used in the SDGs and for monitoring progress towards the GPW13 triple billion goal related to UHC, and overall UN reports on monitoring progress towards SDG targets. The report is the main global source of data related to TB and is widely used by Member States and partner agencies.</td>
<td>• Executive commentary (available in 5 languages: English, French, Portuguese, Russian and Spanish) • Global TB database • Global TB report 2022 mobile app (available in 5 languages: English, French, Portuguese, Russian and Spanish) • Annual TB surveillance and monitoring in Europe report, developed jointly with the ECDPC • Annual Regional TB report of the Americas</td>
</tr>
<tr>
<td><strong>Global tuberculosis report 2023</strong></td>
<td>As above for Global tuberculosis report 2022.</td>
<td>As above for Global tuberculosis report 2022.</td>
<td>As above for Global tuberculosis report 2022, plus:</td>
</tr>
<tr>
<td><strong>WHO guidance on TB surveillance and associated programmatic monitoring</strong></td>
<td>This product provides guidance on TB surveillance and associated programmatic monitoring at national level. It covers the purpose of TB surveillance and associated programmatic monitoring, and the principles that should underpin it; standardized definitions (e.g. of cases and treatment outcomes) necessary for consistent and comparable monitoring across and within countries, and The current guidance (Definitions and reporting framework for tuberculosis) is out of date. The new proposed core product is needed to incorporate recommendations from several GTB documents published since 2013, lessons learned from recent reviews of national TB surveillance systems, and the outcomes of two consultations convened by the GTB in 2020 on definitions related to drug-resistant TB.</td>
<td></td>
<td>• WHO DHIS digital packages for TB surveillance (case-based and aggregated) • E-learning material for the routine analysis and use of TB surveillance data • TB surveillance app</td>
</tr>
</tbody>
</table>

---
over time; identification of the core variables for which data need to be collected for all people diagnosed with TB and their household contacts; data quality assurance; the key indicators for which data need to be reported, including the suggested frequency of reporting (e.g. annual, quarterly, monthly or weekly); and common problems and suggested solutions. Such WHO guidance has been provided since the mid-1990s and has enabled a standardized approach to TB surveillance and associated programmatic monitoring, including reporting of key indicators, in all countries for many years.

### WHO guidance on national TB patient cost surveys: 2nd edition

This is the 2nd edition of WHO guidance on the design, implementation, analysis and use of national surveys of costs faced by TB patients and their households (i.e. TB patient cost surveys). Surveys assess the direct and indirect costs incurred by TB patients and their households through a cross-sectional national survey, and assess the proportion of households facing catastrophic cost due to TB (which is one of the three high-level indicators of the WHO End TB Strategy for which targets and milestones have been set).

Following resolution WHA67.1 on the End TB Strategy, WHO developed a standardized protocol for how to conduct a national survey to assess progress towards the End TB Strategy target that no TB patients and their households face catastrophic costs due to TB; this was followed by the first edition of WHO guidance on survey design, implementation, analysis and reporting (Tuberculosis patient cost surveys: a handbook) in 2017. By April 2021, 22 countries had completed a national survey and findings have been used to improve TB service delivery and enhance social support to TB patients and their households. A publication to provide a global synthesis of the results and lessons learned from surveys implemented in 2015–2020 is a greenlighted priority GPHG for the 2020–2021 biennium (GPHG1333).

A second edition of WHO guidance on TB patient cost surveys will improve the original guidance to countries (including research institutions and relevant stakeholders), by being based on experience gained over the past 6 years and by including country case studies that show how results can be used to make progress towards the End TB Strategy target that no TB patients and their households face catastrophic costs due to TB.

### Key Points

- Specification or platform for national repositories of data for TB planning and prioritization
- Digital accelerator kit for TB level 2 (able to be read by humans)
- WHO guidance on national TB patient cost surveys, 2nd edition (versions of the guidance translated into other official WHO languages)
- National TB patient cost surveys: standardized data collection instruments and analytical programs
- National TB patient cost surveys: training package
<table>
<thead>
<tr>
<th>WHO guidance on national TB prevalence surveys: 3rd edition</th>
<th>This will provide up-to-date guidance on the design, implementation, analysis and reporting of national surveys of the prevalence of TB disease.</th>
<th>The current WHO guidance (2nd edition) for national TB prevalence surveys(^a) was produced in 2011. It has been extensively used by all of the 29 countries that have implemented a survey since 2011. New guidance is needed that reflects experience and lessons learned from these surveys, and to incorporate recommendations from the WHO Global Task Force on Impact Measurement.</th>
<th>• Country-adapted training tools on GCP and GDMP for national TB surveys</th>
</tr>
</thead>
</table>
| TB module(s) for One Health tool | TB modules (e.g. TB costing, TIME Estimates and LSHTM TIME Impact) that are part of the main global tool for health systems costing and resource needs assessment (One Health tool). This methodology and software has a strong governance mechanism through the UN Interagency Working Group on Costing (WHO, UNDP, UNFPA, UNAIDS, UNICEF and World Bank), and is recommended in LMIC settings. | The TB module of the One Health tool can be used to:  
- facilitate budgeting for TB in national strategic plans, health plans or TB plans;  
- develop the case for TB investment;  
- inform (together with other priority setting or cost–effectiveness tools) the design of essential health packages; and  
- inform the development of regional or global price tags.  
The module requires periodic maintenance, updating and translation, as well as migration to a cloud environment. For example, in 2022–2023 it will need to incorporate developments related to the UHC compendium and WHO guidelines related to TB. | • One Health tool: e-learning materials |


\(^a\) See [https://www.who.int/publications/i/item/9789241505345](https://www.who.int/publications/i/item/9789241505345).
\(^b\) See [https://www.who.int/publications/i/item/9789241513524](https://www.who.int/publications/i/item/9789241513524).
\(^c\) See [https://apps.who.int/iris/bitstream/handle/10665/44481/9789241548168_eng.pdf](https://apps.who.int/iris/bitstream/handle/10665/44481/9789241548168_eng.pdf).
<table>
<thead>
<tr>
<th>Core technical product title</th>
<th>Description</th>
<th>Rationale and purpose</th>
<th>Supporting products</th>
</tr>
</thead>
</table>
| Guidelines on novel skin tests for TB infection | Guideline developed through a GDG process to evaluate the evidence for the use of new TB specific novel skin tests for the detection of TB infection. This document will be part of the *WHO consolidated guidelines on tuberculosis. Module 3*. | The new class of skin test is an alternative to current TB TST and is more specific than TST. It is an in vivo test that does not require a laboratory, unlike the blood-based IGRA tests. | • Rapid communication on novel skin tests for TB infection  
• Guidelines on novel skin tests for TB infection (available in 3 languages: French, Russian and Spanish)  
• Operational handbook on novel skin tests for TB infection (available in 3 languages: French, Russian and Spanish)  
• Training modules on TB diagnostics |
| Guidelines on next-generation LF-LAM assays for TB detection | Guideline developed through a GDG process to evaluate the evidence for use of next-generation LF-LAM assays for the detection of TB disease. This document will be part of the *WHO consolidated guidelines on tuberculosis. Module 3*. | The new test has a higher sensitivity than the current test, with potential for use even in people living with HIV with CD4+ counts above 350 cells/mm³. This will potentially allow recommendations to be expanded to a wider population, simplifying algorithms and facilitating implementation. | • Rapid communication on next-generation LF-LAM assays for TB detection  
• Guidelines on next-generation LF-LAM assays for TB detection (available in 3 languages: French, Russian and Spanish)  
• Operational handbook on next-generation LF-LAM assays for TB detection (available in 3 languages: French, Russian and Spanish)  
• Training modules on TB diagnostics |
| Guidelines on next-generation sequencing for drug susceptibility testing | Guideline developed through a GDG process to evaluate the evidence for use of next-generation sequencing technologies for comprehensive and rapid drug susceptibility testing. This document will be part of the *WHO consolidated guidelines on tuberculosis. Module 3*. | Next-generation sequencing can detect resistance to multiple drugs simultaneously, and provides mutation-specific data to inform treatment decisions. It can also detect resistance to drugs such as BDQ and PZA, which cannot easily be done with current methods. | • Rapid communication on next-generation sequencing for drug susceptibility testing  
• Guideline on next-generation sequencing for drug susceptibility testing (available in 3 languages: French, Russian and Spanish)  
• Operational handbook on next-generation sequencing for drug susceptibility testing (available in 3 languages: French, Russian and Spanish)  
• Training modules on TB diagnostics |
| Guidelines on TB preventive treatment | Comprehensive guideline on TB preventive treatment that takes into account the latest available evidence. This document will be part of the *WHO consolidated guidelines on tuberculosis. Module 1*. | New evidence on regimens for TPT for DS-TB and DR-TB, and the use of skin-based tests for TB infection. | • Rapid communication on TPT  
• Guidelines on TPT (available in 3 languages: French, Russian and Spanish)  
• Operational handbook on TPT (available in 3 languages: French, Russian and Spanish)  
• Investment case on TB screening and prevention  
• A guide to digital technologies in TB prevention and care  
• TB knowledge sharing platform  
• Training module on TB screening |
| Guidelines on DR-TB treatment | This document will be part of the *WHO consolidated guidelines on tuberculosis. Module 4*. This document will be part of the *WHO consolidated guidelines on tuberculosis. Module 4*. | Although the latest version of the DR-TB treatment guidelines was launched in 2020, a body of new evidence has become available and may lend a strong basis for amendments of several recommendations. | • Rapid communication on DR-TB treatment  
• Guidelines on DR-TB treatment (translation in 3 languages: French, Russian and Spanish)  
• Operational handbook on DR-TB treatment (translation in 3 languages: French, Russian and Spanish)  
• DR-TB IPD platform  
• Training modules on DR-TB treatment  
• An interactive website for clinical trials and operational research on TB treatment |
|-----------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WHO consolidated guidelines on TB and comorbidities | Guidelines to support countries in addressing TB and diabetes.  
Guidelines on TB and malnutrition.  
Guidelines on TB and mental health. | Diabetes mellitus, malnutrition, HIV, alcohol use disorders, mental health disorders and other comorbidities are associated with increased risk of developing TB or of poor treatment outcomes. | • Translation of WHO consolidated guidelines on TB and comorbidities  
• Training package for framework and WHO consolidated guidelines on TB and comorbidities  
• Regional Framework on TB and Comorbidities (WHO African Region)  
• Roadmap for Scale-up of Action on TB and Comorbidities (including translation of document) |
<table>
<thead>
<tr>
<th>Task</th>
<th>Guidance and guidelines for post-TB care and rehabilitation</th>
<th>Catalogue of mutations in <em>Mycobacterium tuberculosis</em> and association with drug resistance</th>
<th>Target product profiles for TB diagnostics</th>
<th>Target product profiles on TB biomarkers</th>
<th>Target regimen profiles for TB treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support countries in defining vulnerability and identifying populations most at risk of TB or poor TB outcomes. To facilitate uptake and implementation of people-centred and context-appropriate TB prevention and care interventions for vulnerable populations.</td>
<td>WHO guidance and guidelines on monitoring and management of lung disease, including secondary infection (e.g. aspergillosis and non-TB mycobacteria) after TB treatment.</td>
<td>Catalogue of mutations in <em>Mycobacterium tuberculosis</em> and association with drug resistance following the inclusion of new data and more granular data.</td>
<td>Target product profiles for rapid biomarker-based non-sputum tests for TB, community triage tests, non-sputum-based tests for TB disease, rapid sputum-based tests for peripheral level and tests for treatment monitoring.</td>
<td>The development of minimal and desirable characteristics for future tests of TB disease.</td>
<td>Target product profiles for TB treatment regimes (target regimen profiles, TRPs) to guide the drug development process towards important regimen characteristics corresponding to the needs of endusers.</td>
</tr>
<tr>
<td>• Translation of TB guidance and guidelines for vulnerable populations</td>
<td>• N/A</td>
<td>• TB sequencing database</td>
<td>• N/A</td>
<td>• N/A</td>
<td>• N/A</td>
</tr>
<tr>
<td>• Compilation of country experiences on management of TB in older patients</td>
<td>• N/A</td>
<td>• N/A</td>
<td>• N/A</td>
<td>• N/A</td>
<td>• N/A</td>
</tr>
<tr>
<td>WHO guidance for community TB care and prevention</td>
<td>A WHO strategic approach to community TB service delivery.</td>
<td>To accelerate efforts to end TB through collaboration with and the engagement of community-based stakeholders.</td>
<td>• Translation of WHO guidance for community-based TB care and prevention • Training package on WHO guidance for community-based TB care and prevention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guidance for conducting reviews of TB programmes</td>
<td>WHO framework for conducting reviews of TB programmes.</td>
<td>To support countries to implement their national (or subnational) TB strategic plan.</td>
<td>• Translation of guidance for conducting reviews of TB programmes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WHO guidance on TB programme management</td>
<td>Consolidated guidance on programmatic management of TB, to assist managers of TB programmes at national and subnational level to coordinate TB care and prevention.</td>
<td>There is currently no consolidated guidance on the management of TB programmes that takes into account the End TB Strategy and recent developments.</td>
<td>• Translation of WHO guidance on TB programme management • Training package on TB programme management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roadmap on PPM to end TB (first roadmap was published in 2018)</td>
<td>The roadmap will support countries in scaling up the engagement of public and private health care providers in efforts to reach the millions who miss out on access to TB prevention and care each year. It builds on a landscape analysis of the private health sector on TB, and identifies clear actions needed to expand the engagement of all care providers towards universal access to care. It will feature content from new WHO guidelines and take into account the impact of the COVID-19 pandemic.</td>
<td>The roadmap is being developed to reflect content from new WHO guidelines on TB prevention, screening and care. It will also include steps to build back stronger after the COVID-19 pandemic. The document is critical to advocate for and galvanize greater public–private engagement to reach the millions who miss out on access to TB prevention and care each year.</td>
<td>• Training modules on operationalizing the PPM roadmap</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional framework for action on implementation of the End TB Strategy for the WHO Eastern Mediterranean Region</td>
<td>The regional framework is a tool for implementing the End TB Strategy in the context of the WHO Eastern Mediterranean Region, in line with the regional vision.</td>
<td>This tool will consider current progress, future landscape (demographic, socioeconomic development and epidemiological), COVID-19 experience and regional priorities to implement the End TB Strategy.</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional roadmap on implementation of the End TB Strategy 2023–2030 for the WHO European Region</td>
<td>The regional roadmap is a tool for implementing the End TB Strategy in the WHO European Region for 2023–2030; it will be developed in line with the European Programme of Work 2020–2025.</td>
<td>The new regional roadmap will describe the current progress, challenges and opportunities, and epidemiological trends; it will also set up a clear pathway towards reaching the relevant global and regional targets.</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional framework for action on implementation of the End TB Strategy in the WHO Western Pacific Region</td>
<td>The regional framework is a tool for implementing the End TB Strategy in the context of the WHO Western Pacific Region, in line with the regional vision.</td>
<td>This tool will consider current progress, future landscape (demographic, socioeconomic development and epidemiological), COVID-19 experience and regional priorities to implement the End TB Strategy.</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roadmap to facilitate implementation of the integrated HIV, TB, viral hepatitis and STI framework for the WHO African Region</td>
<td>The roadmap is a tool to facilitate implementation of the HIV, TB, hepatitis and STI framework for the WHO Africa Region.</td>
<td>This roadmap is important given current progress, the delay in adoption and implementation of innovative interventions, technologies and approaches, and persistent legal and social barriers to accessing services for key populations and vulnerable groups.</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


* See [https://www.who.int/publications/i/item/9789240029415](https://www.who.int/publications/i/item/9789240029415).
* See [https://www.who.int/publications/i/item/9789240001503](https://www.who.int/publications/i/item/9789240001503).
* See [https://www.who.int/publications/i/item/9789240007048](https://www.who.int/publications/i/item/9789240007048).
<table>
<thead>
<tr>
<th>Core technical product title</th>
<th>Description</th>
<th>Rationale and purpose</th>
<th>Supporting products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full value assessment of TB vaccines</td>
<td>Estimating the potential health and economic impact of new TB vaccines.</td>
<td>Complements other collaborative work to define the landscape for new vaccines within the broader landscape of actions in TB prevention and care.</td>
<td>N/A</td>
</tr>
<tr>
<td>A WHO publication on priorities for TB research</td>
<td>A WHO publication on priorities for TB research.</td>
<td>Guidance to research bodies and partners on the current priority gaps in TB research.</td>
<td>N/A</td>
</tr>
<tr>
<td>Report on implementation of the global strategy on TB research and innovation</td>
<td>Report on the effect of the global strategy released by the World Health Assembly in 2020 on TB research and innovation.</td>
<td>Report on the effect of the global strategy released by the World Health Assembly in 2020 on TB research and innovation.</td>
<td>N/A</td>
</tr>
</tbody>
</table>

N/A: not applicable; TB: tuberculosis; WHO: World Health Organization.
Annex 3: List of participants

STAG-TB Members

1. Denise Arakaki-Sanchez  
   Deputy Director  
   Ministry of Health  
   Brazil

2. Nimalan Arinaminpathy  
   Reader (Associate Professor) in  
   Mathematical Epidemiology  
   Imperial College London  
   United Kingdom of Great Britain and  
   Northern Ireland (United Kingdom)

3. Grania Brigden  
   Director  
   The Union  
   Switzerland

4. Glenda Gray  
   President and CEO  
   South African Medical Research  
   Council  
   South Africa

5. Chikwe Ihekweazu  
   Director General  
   Nigeria Centre for Disease Control  
   Nigeria

6. Jamila Ismoilova  
   Independent Consultant  
   Tajikistan

7. Seiya Kato  
   Director  
   Research Institute of Tuberculosis  
   Japan

8. Knut Lönnroth  
   Professor of Social Medicine  
   Karolinska Institute  
   Sweden

9. Ya Diul Mukadi  
   Senior Technical Advisor  
   Global Health Bureau  
   United States Agency for International  
   Development (USAID)  
   United States of America

10. Ariel Pablos-Méndez  
    Professor of Medicine  
    Columbia University Medical Center  
    United States of America

11. Anastasia Samoilova  
    First Deputy Director  
    Ministry of Health  
    Russian Federation

12. Ingrid Schoeman  
    TB Advocate, extensively drug-resistant  
    TB (XDR-TB) survivor  
    TB Proof  
    South Africa

13. Moorine Sekadde  
    Coordinator for Paediatric TB  
    Ministry of Health  
    Uganda

14. Syed Karam Shah  
    Adviser for Communicable Disease  
    Control  
    Ministry of National Health Services  
    Regulations and Coordination  
    Pakistan

15. Chen Wang  
    President  
    Chinese Academy of Medical Sciences  
    and the Peking Union Medical College  
    China

Observers

16. Cheri Vincent  
    Chief  
    Infectious Diseases Division  
    Global Health Bureau, USAID  
    United States of America

17. Lucica Ditiu  
    Executive Director  
    Stop TB Partnership Secretariat  
    Switzerland
18. **Draurio Barreira**  
   Senior TB Technical Manager, Strategy Unitaid  
   Switzerland

19. **Eliud Wandwalo**  
   Head of TB  
   Global Fund to Fight AIDS, Tuberculosis and Malaria  
   Switzerland

WHO Civil Society Task Force on TB members

20. **Haifying Liu**  
   Project Assistant  
   Chinese Academy of Medical Sciences and the Peking Union Medical College  
   China

21. **Jeffry P. Acaba**  
   TB Advocate  
   APCASO  
   Thailand

22. **Yuliya Chorna**  
   TB Advocate  
   Canada

23. **Chamreun Sok Choub**  
   Executive Director  
   Khmer HIV/AIDS NGO Alliance (KHANA)  
   Cambodia

24. **Dr Esty Febriani**  
   TB Advisor  
   Lembaga Kesehatan Nahdlatul Ulama (I estava)  
   Indonesia

25. **Prof Harry Hausler**  
   Medical Director  
   Project Integrate, TB Care Association  
   Waterfront  
   South Africa

26. **Bertrand Kampoer**  
   Coordinator  
   Impacts in Social Health  
   Cameroon

27. **Roger Kamugasha**  
   Editor in Chief  
   The Health Times Africa Limited  
   Uganda

28. **Fatima Karmadwala**  
   TB affected community representative  
   United Kingdom

29. **Dr Amir Khan**  
   Association for Social Development  
   Pakistan

30. **Evaline Kibuchi**  
   Kenya AIDS NGO Consortium (KANCO)  
   Kenya

31. **Blessina Kumar**  
   CEO  
   Global Coalition of TB Activists  
   India

32. **Tenzin Kunor**  
   Advocacy Coordinator  
   We Are TB  
   United States of America

33. **Aneeta Pasha**  
   Country Director  
   Interactive Research and Development  
   Pakistan

34. **Dr Nyan Win Phyo**  
   Coordinator, Health Technical, Monitoring and Evaluation  
   World Vision Foundation of Thailand  
   Thailand

35. **Dr Ezio Távora dos Santos Filho**  
   REDE-TB - Brazilian Network of Tuberculosis Research  
   Brazil

36. **Paran Sarimita Winarni**  
   TB affected community representative  
   PETA  
   Indonesia
WHO regional and country staff

WHO African Region

37. Dr Andre Ndongosieme
   a.i. WHO Regional Office for Africa Regional Technical Focal Person for TB

38. Dr Richard Mbumba
   Central Africa

39. Dr Shakiwa Fausta Mosha
   a.i. Eastern and Southern African Sub-Regions Focal Person for TB

40. Dr Michel Gasana
   Regional focal point for Drug-Resistant TB

WHO Region of the Americas

41. Dr Pedro Avedillo
   Technical Officer, TB Prevention and Control

42. Dr Oscar Bernal
   Advisor, Drug-Resistant, TB Prevention and Control

43. Dr Rafael Lopez
   Regional Advisor on TB

44. Dr Ernesto Montoro
   Advisor TB Laboratory Integration

45. Dr Wilmer Oswaldo Marquiño Quezada
   Advisor, Disease Prevention and Control

46. Dr Ana María Jiménez Solis
   Consultant
   Costa Rica, Country Office (CO)

WHO European Region

47. Dr Askar Yedilvayev
   Country Health Programme (CHP) and Joint Tuberculosis, HIV and Viral Hepatitis (JTH) programme

48. Dr Andrei Dadu
   CHP/JTH programme

49. Dr Soudeh Ehsani
   CHP/JTH programme

50. Dr Sayohat Hasanova
   CHP/JTH programme

51. Dr Giorgi Kuchukhidze
   CHP/JTH programme

52. Gayane Ghukasyan
   Armenia CO

53. Nino Mamulashvili
   Georgia CO

54. Dr Viatcheslav Grankov
   Belarus CO

55. Dr Alexandru Voloc
   Republic of Moldova CO

56. Dr Saltanat Yegeubayeva
   Russian Federation CO

57. Artan Mesi
   Albania CO

WHO Eastern Mediterranean Region

58. Dr Martin van den Boom
   Regional Adviser, RTB Programme

59. Dr Kenza Bennani
   Medical Officer, RTB Programme

60. Dr Alaa Alshaikh
   Jordan

61. Dr Carmen Patricia Macias
   Libya

62. Dr Mohamed Abukalish
   Libya

63. Dr Najib Thabet
   Yemen

WHO South-East Asia Region

64. Dr Mukta Sharma
   Regional Advisor, THS
65. Dr Partha Pratim Mandal  
Medical Officer, TB

66. Dr Vineet Bhatia  
Medical Officer, MDR-TB

67. Dr Nazis Arefin Saki  
National Professional Officer (NPO), TB  
Bangladesh

68. Dr Sabera Sultana  
NPO, TB  
Bangladesh

69. Dr Md Kamar Rezwan  
Technical Officer  
Democratic People’s Republic of Korea

70. Dr Kiran Kumar Rade  
NPO, TB (Epidemiologist)  
India

71. Dr Malik Parmar  
NPO, Drug Resistant and Latent TB  
India

72. Dr Maria Regina Christian  
NPO  
Indonesia

73. Dr Sushil Dev Pant  
Medical Officer, TB  
Myanmar

74. Dr Ye Win Thein  
National Technical Officer  
Myanmar

75. Dr Aye Thida  
NPO, TB  
Myanmar

76. Dr Kyaw Ko Ko Win  
NPO, TB  
Myanmar

77. Dr Khin Pa Pa Naing  
Technical Officer  
Nepal

78. Dr Gopinath Deyer  
Medical Officer, Malaria and Border Health  
Thailand

WHO Western Pacific Region

79. Dr Tauhid Islam  
End TB (ETB) Coordinator

80. Dr Kalpeshsinh Rahevar  
Medical Officer/ETB

81. Dr Fukushi Morishita  
Technical Officer/ETB

82. Dr Serongkea Deng  
NPO  
WHO Cambodia

83. Dr Anuzaya Purevdagva  
WHO Mongolia

84. Oyundari Batsaikhan  
Consultant  
WHO Mongolia

85. Dr Satoko Otsu  
Team Leader  
WHO Viet Nam

86. Dr Quang Hieu Vu  
NPO  
WHO Viet Nam

87. Dr Seevisay Vilath  
NPO  
WHO Lao People’s Democratic Republic
WHO headquarters staff

Division of Universal Health Coverage (UHC)/Communicable and Noncommunicable Diseases (UCN)

88. Dr Ren Minghui
   Assistant Director-General

89. Dr Tereza Kasaeva
   Director

90. Monica Dias
   Cross-cutting Specialist, WHO Flagship Initiative, Public–Private Mix (PPM) & TB Elimination

91. Karina Halle
   Cross-cutting Specialist, Enhanced TB Collaboration for Country Impact in high TB burden countries

92. Yi Wang
   Consultant

Planning, Analysis & Risk Management (PAR)

93. Michael McCullough
   Unit Head

TB Prevention, Diagnosis, Treatment, Care & Innovation (PCI)

94. Dr Matteo Zignol
   Unit Head

95. Dr Saskia Den Boon
   Technical Officer

96. Dr Dennis Falzon
   Team Lead, TB Prevention, Research & Innovations

97. Dr Nebiat Gebresellassie
   Technical Officer

98. Dr Medea Gegia
   Technical Officer

99. Lice Gonzalez-Angulo
   Technical Officer

100. Prof Nazir Ismail
    Team Lead, TB Screening and Diagnosis

101. Dr Ernesto Jaramillo
    Medical Officer

102. Dr Avinash Kanchar
    Medical Officer

103. Dr Cecily Miller
    Technical Officer

104. Dr Fuad Mirzayev
    Team Lead, TB Treatment

105. Dr Carl-Michael Nathanson
    Technical Officer

106. Dr Linh Nhat Nguyen
    Medical Officer

107. Dr Samuel Schumacher
    Scientist

108. Anna Stukalova
    Technical Officer

TB Monitoring, Evaluation & Strategic Information (TME)

109. Dr Katherine Floyd
    Unit Head

110. Dr Marie-Christine Bartens
    Technical Officer

111. Ines Garcia Baena
    Technical Officer

112. Dr Philippe Glaziou
    Team Lead, Global Monitoring Estimates & Projections

113. Dr Irwin Law
    Technical Officer

114. Dr Nobuyuki Nishikiori
    Medical Officer

115. Gita Parwati
    Technical Officer
116. Dr Charalampos Sismanidis  
   Team Lead, TB Surveillance &  
   Epidemiological Surveys

117. Hazim Timimi  
   Data Manager

TB Vulnerable Populations, Communities &  
Comorbidities (VCC)

118. Dr Farai Mavhunga  
   Unit Head

119. Annabel Baddeley  
   Technical Officer

120. Annemieke Brands  
   Technical Officer

121. Dr Christian Gunneberg  
   Technical Officer

122. Dr Tiziana Masini  
   Consultant

123. Dr Elizaveta Safronova  
   Programme Officer

124. Lana Syed  
   Technical Officer

125. Eloise Valli  
   Consultant

126. Dr Sabine Verkuijl  
   Medical Officer

127. Clarisse Veylon Hervet  
   Technical Officer

128. Dr Kerri Viney  
   Team Lead, for Comorbidities, TB/HIV  
   & Vulnerable Populations