**Meeting of the Implementation Core Group of WHO Global Task Force on Latent TB Infection and country stakeholders on implementation tools and joint TB and HIV programming to scale up TB preventive treatment**

_Crowne Plaza hotel, Geneva, 14–16 November 2018_

**Background**

In March 2018, the World Health Organization (WHO) published updated and consolidated guidelines for programmatic management of latent tuberculosis (TB) infection (LTBI). These guidelines recommend expansion of TB preventive treatment services beyond the target populations of people living with HIV (PLHIV) and child household contacts of TB patients, to all household contacts in high TB burden countries. They also recommend shorter preventive treatment regimens and testing options for LTBI. These recommendations complement the Political Declaration from the first ever United Nations (UN) High Level Meeting (HLM) on TB on 26 September 2018, where Member States committed to provide TB preventive treatment to at least 30 million individuals by 2022. However, in 2017, fewer than one million PLHIV (36%) and about 250,000 household contacts of TB patients (23%) received TB preventive treatment in reporting countries. Achievement of the UN HLM targets will require rapid adoption of the 2018 WHO guidelines, substantially increased funding and human resources, and nationwide coverage of TB preventive treatment services. To catalyse country efforts, WHO convened a _meeting of the implementation Core Group of the Global LTBI Task Force and country stakeholders_ to review implementation tools and TB and HIV programming needs to achieve the UN HLM targets. The meeting was held on 14–16 November 2018 in Geneva, as part of the _Global consultation on transition towards new and better treatments of drug resistant TB and latent TB infection_. The meeting brought together select members of the Global LTBI Task Force, and national programme managers and focal persons from 11 countries: Brazil, Cambodia, Ethiopia, Ghana, India, Kenya, Mozambique, Nigeria, South Africa, United Republic of Tanzania and Zimbabwe.

The overall objective of the meeting was to deliberate on key strategies to achieve the UN HLM target. The specific objective was to review and garner input on the draft WHO operational guidance for programmatic management of LTBI, indicators for monitoring and evaluation, and key elements for TB and HIV programming for scale-up of TB preventive treatment services in high burden countries in line with WHO recommendations in the 2018 guidelines. This report summarizes the key deliberations and specific meeting outcomes.

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Executive summary

Members of the WHO LTBI Global Task Force, country representatives, partners and civil society representatives acknowledged the opportunities offered by the first ever UN HLM on TB, held in September 2018. They also acknowledged the urgent need to use the meeting declaration to galvanize national TB responses and the scale-up of TB preventive treatment services. The 2018 consolidated and updated WHO guidelines on programmatic management of LTBI provide the policy recommendations needed to enable national planning and efforts towards achieving the UN HLM target of providing TB preventive treatment to 30 million individuals by 2022. Ministries of health should aim to achieve universal access to TB preventive treatment among populations already recommended by WHO (i.e. child household contacts of TB patients, PLHIV and clinical risk groups). Lack of provision of TB preventive treatment among these groups should be considered unethical. Prevention efforts and implementation experience should be built on, to expand TB preventive treatment among other high-risk populations. Intensified TB case finding and TB preventive treatment among PLHIV should be a standard of care, and should be included within the basic package of services for those people. Although ambitious, the UN HLM target to provide TB preventive treatment to 30 million individuals by 2022 should be considered as just the floor, not the ceiling; hence, efforts should be made to reach millions more eligible people, to end TB. Improving the reach of services requires patient-centred service delivery approaches, using all relevant service delivery portals and programmes at community level. A family approach may help in scaling up TB preventive treatment among household contacts of TB patients and PLHIV. Integrating these activities within other ongoing health and development programmes delivered at household level is key to expanding coverage. Meaningful engagement of civil society is also important, to enhance the acceptability of TB preventive treatment services, generate demand and mobilize resources. Ministries of health need to systematically empower civil society representatives so that they can contribute to national policy planning, development, implementation, and monitoring and evaluation. To support these efforts and launch extensive programmes, ministries of health should consider establishing or strengthening a TB prevention unit at national level, to steer implementation and coordinate with different stakeholders.

The meeting format encouraged in-depth discussions and sharing of experiences on key elements of programmatic management of LTBI. National TB programmes (NTPs) shared perspectives, and highlighted their challenges and planned next steps. All major technical and implementation partners and donors participated and shared commitments and strategies for working with countries towards achieving the UN HLM targets. Presentations can be found at the following link. Participants deliberated extensively and worked in groups to provide inputs on five critical aspects of TB preventive treatment services; that is, choice of interventions to scale up TB preventive treatment services, contact investigations and intensified case finding, resource needs and joint programming, monitoring and evaluation, and capacity-building and job aides. These inputs will be considered for incorporation into the WHO operational guidance on TB preventive treatment services. This report summarizes key meeting outcomes and suggestions for ministries of health, WHO, technical and implementation partners, and donors. The annexes contain specific discussions on thematic areas.
Key meeting outcomes

A. Suggestions for ministries of health and national programmes

1) Capitalize on the momentum built from the first ever UN HLM on TB, to expand TB preventive treatment services in the country by proactively engaging with leaders and high-level government officials (e.g. the National action plan for TB elimination being developed in Viet Nam following the UN HLM).

2) Include TB preventive treatment as a core intervention in the national strategic plan, with a clear budget to achieve nationwide coverage.

3) Strengthen the capacity of the NTP and national HIV programme in terms of resources and dedicated personnel and teams to coordinate TB preventive treatment service delivery at national and subnational levels.

4) Systematically evaluate reasons for low uptake of TB preventive treatment among PLHIV, child household contacts of TB patients and clinical risk groups and develop strategies to address issues such as reluctance of physicians, health care workers and beneficiaries to enhance coverage of TB preventive treatment.

5) Re-package or re-brand TB preventive treatment services in the country context, to enhance acceptability and mobilize resources.

6) Address fear of adverse drug events (e.g. hepatotoxicity), fear of development of drug resistance and fear of additional workload using clear and simple messages; also, use robust surveillance to manage adverse drug events.

7) Ensure availability of adequate stocks of drugs, tests and logistics for expansion and scale-up of TB preventive treatment services.

8) Develop a national business case for mobilizing adequate funding to support the following aspects of TB preventive treatment services:
   a. Stronger TB contact investigation, including investigations – for example, interferon gamma release assay (IGRA), tuberculin skin test (TST) and X-ray – as per national recommendations.
   b. Shorter rifamycin-based preventive treatment regimens, considering the higher cost of weekly rifapentine plus isoniazid for 3 months (3HP) or daily isoniazid plus rifapentine for 3 months (3RH).
   c. Human resource capacity, including positions and training.
   d. Education and empowerment of members of civil society.
   e. Advocacy, communication and social mobilization.
   f. Stronger recording and reporting; for example, through adoption of electronic tools (e.g. WHO LTBI mobile application [app]), updating of the existing electronic data system, and interlinking of data systems such as those for TB and HIV.
   g. Where national guidelines recommend, resource allocation to strengthen laboratory infrastructure, capacity of laboratory staff, and specimen collection and transportation.
h. National HIV programmes that fund intensified TB case finding, testing and TB preventive treatment among PLHIV.

i. Provision of TB preventive treatment for contacts of TB patients detected in the private sector (e.g. Kenya), including all public health functions (e.g. contact investigations, and monitoring and evaluation).

B. Suggestions for WHO, partners and donors

1) WHO and partners to garner higher level of commitment from ministries of health, and advocate for increased human and financial resources to scale up TB preventive treatment services.

2) Existing national data and evidence to be used to demonstrate the potential impact of scaling up TB preventive treatment services on TB epidemiology in the country.

3) Inclusion of preventive TB treatment to be supported as a core budgeted intervention in the national strategic plans to be updated or revised in 2019–2020.

4) WHO and partners to consider reviewing the language around TB preventive treatment (e.g. use of the term “latent TB”) to help foster a sense of urgency and to encourage prioritized action.

5) WHO and partners to facilitate dialogue with manufacturers, and influence availability and pricing of TST and IGRA in countries where these are recommended, since tuberculin is currently not widely available and IGRA are expensive. Similar dialogue should be promoted with producers of computer aided action (CAD) radiography, in countries where X-ray is recommended, to guide TB preventive treatment.

6) WHO and partners to support the development of an investment case for nationwide scale-up of TB preventive treatment services, such as the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) and the US President’s Emergency Plan for AIDS Relief (PEPFAR).

7) WHO and partners to support review of country specific targets developed by the Stop TB Partnership and suggest modification where required considering national data.

8) Donors and implementation partners to consider provision of additional funding support to boost initial scale-up of TB preventive treatment in the interim, while NTPs mobilize more domestic resources.

9) Donors and implementation partners to promote joint TB and HIV funding applications and joint programming, to enhance coverage of TB preventive treatment services.

10) WHO to develop or provide the following:
   a. Advocacy tool with clear and simple messages explaining the need for scale-up of TB preventive treatment and what steps are needed to translate the UN HLM declaration into concrete actions.
   b. Guidance for the development of an investment case (e.g. the Global Fund and PEPFAR).
   c. Guidance on selecting prioritized actions (e.g. adaptation of the screen TB tool developed by the WHO Western Pacific Regional Office).
   d. Mechanism to enable sharing of tools, job aids, algorithms, standard operating procedures and implementation experiences among global technical and implementation partners (e.g. via Dropbox).
   e. Documented best practice on implementation of TB preventive treatment services.
   f. Generic training package (in collaboration with partners) and support for country adaptation
g. Forum to convene modelers and articulate the impact of nationwide scale-up of TB preventive treatment on TB mortality and the emergence of future multidrug resistant TB (MDR-TB) or extremely drug resistant TB (XDR-TB), including a cost–benefit analysis.

h. Update of the monitoring and evaluation framework and development of indicator definitions for proposed global and national level indicators, for peer review and finalization.
Annex 1: Inputs and suggestions for WHO operational guidance

The meeting participants extensively deliberated and provided specific inputs on the outline of the draft World Health Organization (WHO) operational guidance document. They also provided inputs on various aspects of the programmatic management of latent tuberculosis (TB) infection (LTBI), including choice of interventions, household contact investigations, monitoring and evaluation, capacity-building, and the need for job aides and tools to assist national TB programmes (NTPs). This annex summarizes the key discussions and suggestions.

A. Content of the WHO operational guidance

a. WHO operational guidance should outline both the programmatic and clinical considerations in TB preventive treatment services. It should clearly describe key principles, choice of interventions, and strengths and weaknesses of different diagnosis and treatment options, to facilitate informed decision-making at national level.

b. Key programmatic considerations and tools in implementation:
   i. Development, updating or revision of national guidelines, and dissemination of those guidelines.
   ii. Definitions of index case, contacts and investigation.
   iii. Target population for TB preventive treatment.
   iv. Considerations for preventive TB treatment regimen (adults, children and people living with HIV [PLHIV] on antiretroviral therapy [ART]).
   v. Screening and diagnostic approaches.
   vi. Key stakeholders to engage with, including private sector and public sector (e.g. prisons).
   vii. Tools to assess country readiness for scale-up of TB preventive treatment services; for example, a checklist such as the KNCV Tuberculosis Foundation (KNCV) benchmarking tool for childhood TB or the tool from the Centers for Disease Control and Prevention (CDC).
   viii. Standard operating procedures (SOPs) and job aids (e.g. posters, registers and TB preventive treatment cards).
   ix. Human resource considerations (e.g. implementation cadre at facility and community level, salary, remuneration, capacity-building and mentoring).
   x. Procurement and supply chain management considerations (e.g. forecasting, procurement and monitoring of stocks, and coordination between TB and HIV programmes for quantification).
   xi. Monitoring and evaluation considerations (e.g. guiding principles for information management system, recommended key indicators, examples of recording and reporting forms, and ways to link TB preventive treatment data from different programmes).
   xii. Capacity-building of programme personnel (e.g. TB, HIV, and maternal and child health) on policy and procedures for delivery of TB preventive treatment (including disclosure counselling and literacy).
xiii. Demand-creation through community sensitization, advocacy and engagement of professional organizations.

xiv. Suggestions for and examples of enabling policy and legislative environment, how to link TB preventive treatment services with initiatives for finding missing TB cases and joint programming (e.g. HIV and TB programmes).

xv. Capture data on implementation through partners (e.g. US President’s Emergency Plan for AIDS Relief [PEPFAR]) for national and global reporting.

xvi. Promote relevant operational research (e.g. thresholds to consider for testing for TB infection before preventive treatment, impact measurement, adverse events rates and drug resistance).

B. Guidance on choice of interventions to scale up TB preventive treatment services

1. **Target populations:** evaluation of existing national data on TB risks according to populations and clinical condition, to prioritize target populations for TB preventive treatment beyond people living with HIV (PLHIV), child household contacts of TB patients under 5 years and clinical risk groups. Household contacts of TB patients aged more than 5 years may be considered for TB preventive treatment along with other risk populations (e.g. prisoners or people who inject drugs), considering country context to achieve the United Nations (UN) High Level Meeting (HLM) targets. Contacts of multidrug resistant TB (MDR-TB) patients may also be considered, based on capacity of the NTPs.

2. **Implementation approach:** Either a public health approach or an individualized approach may be considered in scale-up of TB preventive treatment. With a public health approach, TB preventive treatment may be started after active TB is ruled out clinically. It may also be considered when the risk of LTBI is high or when it is either not affordable or not feasible to provide testing for TB infection. This approach may be considered in the short term but testing services should gradually be expanded. The individualized approach may be considered when resources and health systems capacity in the country allow for testing for TB infection before preventive treatment – an approach that is currently practiced in high-income countries.

3. **Treatment regimen:**
   a. A shorter regimen is preferable to daily isoniazid for 6 months (6H) or for 36 months (36H).
   b. Use of a single regimen for different target populations is preferable to multiple options.
   c. Rifamycin-based shorter TB preventive treatment regimens show better treatment completion rates and lower rates of adverse events than longer regimens.
   d. The treatment regimen in children should be considered strategically, and an existing treatment option should be promoted (e.g. daily isoniazid plus rifapentine for 3 months [3RH]) until child-friendly formulations for weekly rifapentine/isoniazid for 3 months (3HP) become available, to avoid slowing down progress.

4. **Testing for TB infection before preventive treatment:**
   a. LTBI testing before treatment should be considered as standard care, although it is not required among PLHIV and child household contacts aged under 5 years.
b. A pragmatic approach is necessary, taking into account the country context, for selecting a test for TB infection. For example, the interferon gamma release assay (IGRA) is a good test, but interpretation of results can be challenging in programme settings, and there is a need for skilled staff to draw and transport blood within a specified period. The tuberculin skin test (TST) is less expensive but administering the test and reading the test results can be operationally challenging.

c. Lessons should be drawn from experience of rollout of other complex health technologies such as Xpert MTB/Rif and viral load testing, to expand access to testing for TB infection in programme settings.

5. Chest radiography (CXR) to identify individuals eligible for TB preventive treatment:
   a. NTPs should continue to advocate for enhanced access to CXR as part of government commitments to universal health coverage and the UN HLM target to find 40 million TB patients by 2022.
   b. CXR may be considered among clinical risk groups and household contacts of TB patients aged more than 5 years; however, lack of CXR should not be a barrier for preventive TB treatment in child household contacts aged under 5 years and in PLHIV.

C. Strengthening household contact investigation

Achieving the global target of providing TB preventive treatment to 30 million individuals by 2022 largely depends on reaching household contacts of all notified TB patients. In turn, this requires strengthening of household contact investigation mechanisms, including clear strategies for reaching index cases and their households, and ensuring the evaluation, investigation and treatment of all contacts. The following important issues and suggestions emerged from deliberations at the meeting, for inclusion in the WHO operational guidance.

1. Mechanism for contact investigation:
   a. Based on the country context, consider either the health facility, community service provider or household contact investigation. The investigation may either be active (e.g. through visits in the community or household) or passive (e.g. through inviting contacts to the health facility via the index case); however, research has shown that the number of household contacts doubles if home visits are conducted instead of contacts being invited to facilities.
   b. In high TB and HIV burden countries, integrate or harmonize TB and HIV contact investigation efforts. Similarly, review all other existing health services delivered at the patient’s doorstep (e.g. those delivered through family health agents, dengue fever or malaria teams, and immunization efforts) and piggyback on them for TB contact investigation and TB preventive treatment services. The models found to be the most sustainable and effective can then be adopted to scale up contact investigations and preventive TB treatment services.
   c. Promote involvement of community-based organizations and nongovernmental organizations (NGOs) for contact investigations. Health centre staff (nurses) and community health workers may work in teams to complete symptom screening, investigation and treatment.
d. Maintain a database of all cadres working in community, and ensure that TB is included on respective job profiles.
e. Promote operational research if the use of technology to complement contact investigation is planned (e.g. through telephone or video calls).

2. TB preventive treatment among contacts may be started either by a physician or a nurse at a health facility, or by a trained community health worker.

3. Special capacity-building efforts are needed for health care workers dealing with healthy populations (e.g. contacts of TB patients) and providing counselling on risks versus benefits of TB preventive treatment.

4. There is also a need to introduce training on disclosure counselling for index cases, using simple tools to educate patients and families, to facilitate contact investigation.

5. Suitable remuneration is needed for community health workers involved with contact investigation and TB preventive treatment. Locally relevant models may be adopted, including flat salaries, flexible salaries or incentives; however, voluntary services should be discouraged.

6. For contact investigations in TB patients notified through the private sector, two options may be considered: one where the public sector undertakes contact investigations of index cases and one where the private sector is paid to undertake contact investigation. Either of the two or a mixed model may be adopted, based on the local context.

D. Capacity-building and job aids

Implementing the 2018 WHO LTBI guidelines and working towards achievement of the UN HLM targets to start 30 million individuals on TB preventive treatment require large-scale expansion of the scope of TB prevention programmes and entail large capacity-building efforts. The following suggestions emerged from the meeting deliberations:

1) Training and capacity-building efforts should:
   a. target all key stakeholders, policy-makers and programme managers, health care workers, communities, X-ray technicians or readers, and laboratory technicians;
   b. address knowledge gaps, focusing more on changing attitudes of the service providers and influencing current practices;
   c. address three fears of the service providers – fear of drug toxicities, fear of creating TB drug resistance and fear of more work; and
   d. consider the audience – whereas physician training should focus on bridging knowledge gaps, training for nurses, public health staff and community health workers may cover more operational aspects and patient support elements, using clear and simple messages.

2) High staff turnover in planning capacity-building activities should be assumed. Mechanisms should be established for ongoing and sustained capacity-building.

3) Learnings from other programmes should be employed to address the challenge of treatment in healthy populations (e.g. Expanded Programme on Immunization [EPI] and ART programmes)
4) Capacity-building among civil society members should be a component of a national human resource development strategy. This is crucial for generating demand, improving acceptance and mobilizing resources.

5) Elements of effective capacity-building should include:
   a. A cafeteria approach – principle of different training for different cadres. A combination of small group trainings, e-learning and on-job training may be necessary to cater to different training needs.
   b. An implementation manual that is context specific but brief, with clear and simple messages, to facilitate rapid cascade training.
   c. A training package that is persuasive and focuses on a few clear messages, providing clear answers to questions such as “Why preventive treatment?”, “Is preventive treatment safe, and does it lead to the emergence of TB drug resistance?”, “Is testing for TB infection necessary?”, “What does screening involve?”, and “What are the options for treatment, and for patient and specimen flow?”. 
   d. Use of experts, specialists and opinion leaders to impart training to key national stakeholders and physicians.
   e. Use of existing opportunities (e.g. pre-scheduled staff meetings) to update or orient staff, using simple and clear messages.
   f. If LTBI testing is part of national policy, systematic capacity-building efforts that are required for laboratory staff (e.g. TST reading and interpretation of IGRA results). Skills training for administering TST or specimen processing and transportation for IGRA is essential.
   g. Use of existing mentoring capacity (e.g. HIV teams) along with building of additional capacity to support on-job training.

6) **Job aids**: The following are examples of job aids that should be developed, taking into account the country context: algorithms, patient flow, drug adverse events, adherence monitoring, frequently asked questions in local language or use of a call centre to address queries, laboratory SOPs, a forecasting tool for stock management such as the Global Drug Facility tool, a patient information leaflet for education, use of social media and other media to dispel myths and misinformation or rumours about TB preventive treatment, monitoring charts for self-assessment of progress, drug dosing for children and tips for managing healthy contacts.

### E. Monitoring and evaluation of TB preventive treatment services

1. Recording and reporting is a major weakness. The following examples were discussed and shared during the meeting:
   PEPFAR promotes a separate TB prevention register. However, it is challenging to keep paper records up to date; hence, in settings where recording and reporting is paper based, it is best to consider reducing the reporting workload and building on existing recording and reporting forms.
In Brazil, household contact investigation is performed by family health agents together with health centre staff, to enumerate contacts and invite them to health centres for investigations. Electronic medical records are created for contacts in Rio de Janeiro city, and the NTP aims to expand this case-based surveillance system across the country in 2019.

India is planning to pilot test the WHO mobile application for LTBI and link it with index cases on the web-based case-based data system Nikshay.

In Kenya, a pilot was implemented that provided reimbursement to the index case if that person brought in their children; a TB contact management register was found to be useful although keeping it up to date was challenging.

2. The participants deliberated on the rationale for choice of indicators for monitoring and evaluation of TB preventive treatment at global and national level. The indicators are needed to:

   - report progress on UN HLM targets to the Member States.
   - report progress on the End TB Strategy targets to the World Health Assembly; and
   - monitor implementation and scale-up at national level.

3. The participants endorsed two proposed global indicators:

   a. proportion of all PLHIV in care who started TB preventive treatment among those eligible, during the reporting period; and

   b. number of contacts of people with bacteriologically confirmed TB who were evaluated for TB, among the number eligible, expressed as a percentage.

4. Discussion and suggestion on proposed global indicators:

   Both the absolute number and the proportion of PLHIV currently in care who started TB preventive treatment need to be captured globally, to enable reporting against global targets as well as to assess coverage.

   Information on the denominator (i.e. number eligible) is challenging; WHO needs to provide clear guidance on methods to capture or estimate the denominator.

   Disaggregation by newly enrolled PLHIV and all those currently in care should also be retained to avoid disruptions and enable the continued monitoring of progress in uptake among those newly enrolled in HIV care.

   The indicator for household contacts should be disaggregated according to age, as far as possible.

   The denominator (i.e. total number of household contacts) may be retrieved from census data; alternatively, the NTP can capture actual data through contact investigation.

   Standard patient record surveys may be employed to assess number “eligible” for preventive TB treatment following contact investigation.

5. At national level:

   a. Participants agreed that more indicators should be captured at national level.

   b. A cascade of care approach may be considered where feasible or where there are electronic mechanisms for recording and reporting.

   c. It may be useful to determine the proportion of PLHIV who ever started on preventive treatment.
**Table A1. Outline of indicators at national level for consideration**

<table>
<thead>
<tr>
<th>Steps</th>
<th>Indicators to capture</th>
<th>Disaggregation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 No. intended for TB screening</td>
<td>Total population at risk that would benefit from TB preventive treatment</td>
<td>Household contacts of TB and MDR-TB aged &lt;5 years, aged &gt;5 years, PLHIV and clinical risk groups</td>
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<tr>
<td>2 No. screened for TB</td>
<td>Populations at risk that are contacted by health provider (in-clinic or community)</td>
<td></td>
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<tr>
<td></td>
<td>Clinical screen only</td>
<td>Where testing not recommended</td>
</tr>
<tr>
<td></td>
<td>Tested for LTBI(^a)</td>
<td>Test offered and accepted</td>
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<tr>
<td></td>
<td>Received LTBI test result(^a)</td>
<td>LTBI test read or results obtained</td>
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<tr>
<td></td>
<td>Referred if test positive(^a)</td>
<td>LTBI test positive (defined locally and as per test used)</td>
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<tr>
<td>3 Start treatment</td>
<td>TB preventive treatment offered and accepted</td>
<td></td>
</tr>
<tr>
<td>4 Complete treatment</td>
<td>TB preventive treatment completed</td>
<td></td>
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</tbody>
</table>

LTBI: latent TB infection; MDR-TB: multidrug resistant TB; PLHIV: people living with human immunodeficiency virus; TB: tuberculosis.

\(^a\) For settings and risk groups where LTBI testing is conducted.
### Annex 2: Current implementation status and plans for scale-up of TB preventive treatment in participating countries

<table>
<thead>
<tr>
<th>Country</th>
<th>National guidelines and implementation</th>
<th>Target populations</th>
<th>Testing for TB infections, chest radiology</th>
<th>Treatment options</th>
<th>Monitoring and evaluation</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>HIV and TB guidelines LTBI guidelines include contact investigations</td>
<td>PLHIV, clinical risk groups and all household contacts since 2011 Just follow-up of contacts of MDR-TB patients for 2–3 years or no treatment</td>
<td>TST recommended and discussions to consider IGRA underway X-ray included in the algorithm and largely available</td>
<td>Isoniazid and 4R 3HP under consideration 3RH fixed dose combinations not available</td>
<td>Starting surveillance on LTBI in 2018, and scaling up online system Surveillance guideline developed and training of HCWs underway Challenges include TB infection not being a notifiable disease and the health care system being decentralized (10 of 27 states do not want to adopt a web-based system)</td>
<td>Planning to incorporate rifapentine Work with the HIV programme</td>
</tr>
<tr>
<td>Country</td>
<td>National guidelines and implementation</td>
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<td>Kenya</td>
<td>Rapid scale-up of TPT among PLHIV Only 14% coverage among children aged under 5 years, targets being reviewed Uptake slowed down due to fears of drug resistance, stock outs and instances of hepatotoxicity during the rapid response initiative</td>
<td>PLHIV Child contacts aged under 5 years HCWs being considered for preventive treatment and guidelines under development Considering TB screening and TB treatment in schools</td>
<td>3HP being considered, but not clear on target population considering safety concerns around use with dolutegravir dose for children aged under 2 years 3RH not yet adopted</td>
<td>Monthly collection of pills rather than ART Adverse events monitoring enhanced</td>
<td>Resources</td>
<td></td>
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<tr>
<td>Country</td>
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<tr>
<td>India</td>
<td>Contact tracing guidelines exist</td>
<td>Contacts aged under 6 years of bacteriologically confirmed TB cases and PLHIV</td>
<td>Regulatory approval for programme use of rifapentine obtained; forecasting completed and procurement under process; 3RH to be considered by expert group</td>
<td>Nikshay surveillance system generates a task list as soon as a patient is registered, which helps to trigger activities for contact tracing</td>
<td>Resources</td>
<td></td>
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<td></td>
<td>Coverage in children only 11%</td>
<td>Plan to expand to adult contacts, workplace contacts and neighborhood contacts, and other clinical risk groups</td>
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<td></td>
<td>Developed a working group for LTBI; joint programming forecasting, procurement and supply chain, done jointly</td>
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<td></td>
<td>Considering expanding eligible population, testing using IGRA, and treatment options including 3HP and 3RH, and managing MDR-TB contacts</td>
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<td></td>
<td>Need to explore opportunity to link LTBI to efforts to find missing cases in private sector</td>
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<tr>
<td>South Africa</td>
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<td></td>
<td>Rifaxidine registered</td>
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<tr>
<td>United Republic of Tanzania</td>
<td>LTBI is not a priority for HCWs</td>
<td></td>
<td>All household contacts of bacteriologically confirmed TB cases</td>
<td>Promoting a TST or IGRA for household contacts</td>
<td>Currently 6H, but starting a pilot for 3HP under the IMPAACT4TB project</td>
<td>Current grants underfunded, with a focus on case finding; need additional resources</td>
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<td>As of 2018, 14% of PLHIV were put on TPT, compared with a target of 50% by 2018</td>
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<td>For children aged under 5 years – enrolled 6000 in 2017 – still under target for household contacts, and not measured routinely</td>
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<td>Cambodia</td>
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<td>Role of TST or IGRA and X-ray not clear in global guidelines; need national consultation</td>
<td>Currently 6H, but need a national consultation on choice of regimen and whether to offer once or lifelong</td>
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<td>Need more resources – mainly financial and M&amp;E (R&amp;R system)</td>
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<tr>
<td>Country</td>
<td>National guidelines and implementation</td>
<td>Target populations</td>
<td>Testing for TB infections, chest radiology</td>
<td>Treatment options</td>
<td>Monitoring and evaluation</td>
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<td>Nigeria</td>
<td>Contact screening guidance available 28% of PLHIV screened (reported that 39% put on IPT in 2017) Gaps for children</td>
<td>Contacts of PLHIV and children aged under 5 years</td>
<td>National programme has free chest X-rays for children aged under 5 years PLHIV are screened for X-ray before TB preventive treatment Inclusion of IGRA being considered</td>
<td>6H</td>
<td>M&amp;E capture data on contacts of PLHIV and children aged under 5 years – not on other contacts Need technical assistance to persuade major stakeholders for other contacts and risk groups</td>
<td>Main funders are Global Fund and USAID; domestic resources are limited Human resources are the major challenge, and task shifting to community health extension workers needs strengthening</td>
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<td>Ghana</td>
<td>TPT policy since 2009</td>
<td>PLHIV and children aged under 5 years</td>
<td>Rolling out digital X-ray in all ART sites and where available</td>
<td>6H and 3HP as a part of IMPAACT4TB project</td>
<td>Job aid on monitoring adverse events developed</td>
<td>TB prevention register implemented</td>
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<td>To strengthen contact investigation. SOPs on facility-based screening and contact investigation finalized</td>
<td>Developed implementation plan for TPT with persons responsible</td>
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<td>Mozambique</td>
<td>PLHIV and children aged under 5 years</td>
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<td>Forms have outcomes included but no one completes</td>
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</table>

3HP: weekly rifapentine plus isoniazid for 3 months; 3RH: daily isoniazid plus rifapentine for 3 months; 36H: daily isoniazid for 36 months; 4R: rifampicin for 4 months; 6H: daily isoniazid for 6 months; ART: antiretroviral therapy; Global Fund: Global Fund to Fight AIDS, Tuberculosis and Malaria; HCW: health care worker; IGRA: interferon gamma release assay; IPT: intermittent preventive treatment; LTBI: latent TB infection; M&E: monitoring and evaluation; PLHIV: people living with HIV; SOP: standard operating procedure; R&R: recording and reporting; TB: tuberculosis; TPT: TB preventive therapy; USAID: United States Agency for International Development.