

# **Tuberculosis Care Cascade Analysis**

## Standard Terms of Reference

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### **Purpose of the Document**

This standard Terms of Reference (ToR) provides guidance to plan and conduct a comprehensive tuberculosis care cascade (TB CCA) analysis at country-level. It supports Global Fund Country Teams, Principal Recipients, sub-recipients, National TB Programs or any other partners (hereafter referred to as “the user”) planning a TB care cascade analysis to draft Consultant ToRs for the assignment.

The standard ToR is a template and should be adjusted to individual country contexts. Levels of effort (LoE) and timelines, in particular, should be tailored to the specific country circumstances and/or the scope of the analysis. Please contact the Global Fund Monitoring Evaluation and Country Analysis team (MECA) through your Country Team for additional guidance or support, as needed.

### **Terms of Reference**

#### **Introduction**

The TB cascade of care is a model for evaluating patient retention across sequential stages of care required to achieve a successful treatment outcome (cured and treatment completed) by a national TB program. The TB care cascade systematically assesses the adequacy of TB care and patient retention through various stages along the patient journey to analyze care dropout. The Global Fund approach to the TB CCA is based on the World Health Organization’s (WHO) onion model, which uses a series of concentric circles to

visualize patient losses at different stages of the cascade. A TB CCA is needed to provide further analysis of (i) key gaps along the cascade, (ii) the root causes leading to these gaps to better understand at what stages and why people with TB are lost along the TB continuum of care, and iii) to provide actionable solutions/recommendations to address the identified gaps. There are two types of TB CCA:

- A comprehensive and detailed TB CCA conducted periodically, at least once every three years, which can be implemented either as a standalone activity or integrated as part of the TB epidemiological review process during a national program review. The present standard ToR has been designed for this type CCA.

Recommendations from the comprehensive TB CCA can help inform country processes such as the development or revision of national strategic plans (NSP) and annual operational planning, improve program implementation, and draft funding requests to the Global Fund and other donors.

- A simple TB CCA which can be done using routine health and management information systems (HMIS) data or generated directly from HMIS data visualizations (e.g. bar charts or graphs showing the estimated cases - diagnosed - notified - enrolled - treatment outcomes). The simple TB CCA outputs can be used during weekly/monthly/quarterly performance review meetings at the facility, district, regional or national level to quantify leakage along the TB care cascade and design corrective measures to close the gaps.

## **Objectives**

The objectives of the TB CCA are to:

- Assess the level of, and trends in, TB disease burden (incidence, prevalence, mortality) using available surveillance, survey, programmatic and other data sources.
- Assess the level and trends of the TB care cascade at the national and subnational levels, looking at TB care from the first engagement with health services for both public and private health facilities. The TB CCA can identify: i) missed opportunities to diagnose TB among presumptive TB patients; ii) bottlenecks along the diagnostic pathway and the referral system of both presumptive TB patients and sputum samples; iii) missed opportunities in notifying people diagnosed with TB and those not started on TB treatment; and iv) missed opportunities in the treatment component of the cascade, specifically TB patients not cured or completing treatment.
- Assess the level and trends of the tuberculosis preventive therapy (TPT) care cascade and TB contact investigation cascade at the national and subnational levels and identify leakage along cascade.
- Assess the key bottlenecks in the TB care cascade and TPT cascade.
- Define recommendations to address the challenges of TB care, contacts and TPT care cascade.

- Define the monitoring and evaluation (M&E) investment plan to capture data elements in the TB care cascade for all stakeholders and partners supporting TB care and prevention in a country.

## **Key tasks**

Users can refer to this list of suggested tasks to be completed during the TB CCA:

- Analysis of the TB cascade at national and subnational levels following a desk review of available documents. This includes screening (considering the estimated burden of TB), presumptive TB patients identified and tested, TB patients diagnosed, notified and started on TB treatment, TB patients who are successfully treated and those with other treatment outcomes (died, lost to follow-up, failure, and others.). The TB CCA needs to be done for various cohorts such as drug-sensitive (DS-TB), drug-resistant TB (DR-TB) and TB/HIV. Data disaggregation by age and gender should be conducted where applicable.
- Conduct field visits to public and private health facilities that provide TB diagnostic services and those that do not provide such services to understand the diagnostic pathway of both presumptive TB patients and sputum samples. Identify areas of possible leakage along the pathway.
- Interview national TB program staff, implementing partners, health facilities staff and other relevant stakeholders to document: (i) key gaps along the cascade; (ii) the root causes leading to these gaps to better understand at what stages and why people with TB cases are lost along the TB continuum of care; and (iii) the impact of human rights barriers along the TB cascade to understand how these impact/contribute to overall gaps in the number of undetected people with TB. Interviews can also be used to validate some of the findings from the desk review phase.
- Determine: (i) if TB key and vulnerable population subgroups, as outlined either in the national strategic plans or global guidelines, have not been effectively served; (ii) which subgroups require special attention; and/or (iii) include other vulnerable groups that are not adequately covered. Analyze the TB care cascade from screening to treatment completion and identify gaps and needs.
- Assess the TB surveillance system focusing on essential data that should be captured along the TB care cascade. Identify areas for improvement to ensure key data elements across all the components of the cascade are captured in the routine TB reporting system.

## **Data sources**

The national TB program is responsible for providing the routine surveillance data to be used in the conduct of a comprehensive TB CCA. For countries where data is published online, data can be collated from the TB program website and other relevant line ministries, departments and agencies. The TB-related global data sources are available from WHO

and other organizations including the Global Fund. Users can refer to Table 1 below for a summary of the data needed for this type of analysis. Note that this list is not exhaustive.

Table 1. Data sources to conduct a comprehensive TB care cascade in a country.

S. No	Data Description
<b>Global level data</b>	
1.	WHO Global TB Reports provides comprehensive data sources on TB burden, notification, treatment outcome. These are available on WHO website and are updated annually.
2.	UNAIDS Global AIDS provides data related to HIV and TB co-infections.
3.	World Bank Report provides data on out-of-pocket expenditure, population and other health indicators.
4.	The Global Fund and various donor agencies provide data related to funding, prioritized programmatic interventions they support and results.
<b>National level data</b>	
5.	National and regional-level routine TB surveillance data on DS-TB and DR-TB case notification, prevention, enrollment and treatment outcome over the last five years (at the minimum).
6.	TB case finding strategies data capturing the cascade from: population reached -> screened -> presumptive TB patients identified -> presumptive referred for TB testing (sample collected for testing) -> tested for TB -> TB patients diagnosed -> started on TB -> treatment outcome. Collect and analyze data from TB case finding strategies for at-risk groups including health care workers, people living with HIV, people with diabetes mellitus, refugees, people in prisons, people living in informal settlements, miners, children, people suffering from malnutrition.
7.	Laboratory TB diagnostic data including the number of functional WHO-recommended rapid diagnostics (e.g. GeneXpert machines and cartridges), number of samples received and tested. Data can help estimate GeneXpert utilization at national and subnational levels.
8.	Census data and population projections: use this data disaggregated by age and sex over the most recent years to calculate rates at national and subnational level.
9.	Other data sources: these are supplementary information that may include published literature, national and subnational surveys on health care access, private sector care, pretreatment or initial loss to follow-up, and information on TB catastrophic cost.

## Deliverables

The following deliverables are expected in the TB CCA:

- 1. Inception report** detailing the information stated in the terms of reference, proposed methods, analysis plan and proposed work plan.
- 2. TB care cascade analysis report:** analytical report describing the TB care cascade at the national and subnational levels, identified gaps, root causes and recommendations This report should be developed based on the desk review, data analysis, findings from field visits and interviews. The suggested page limit is 25 to 40 pages.

- 3. Debrief PowerPoint presentation** of the TB CCA providing high-level summary of the findings. The debrief slide deck will typically be presented to the national TB program, Global Fund and other stakeholders at the end of the country visit. This deck should be accompanied by a facilitated discussion on any follow-up plans. The suggested length is 20 to 30 slides.

## Timeline

The proposed number of days to conduct a comprehensive TB CCA is thirty (30) days. However, as explained in the Purpose of the Document above, the LoE and timeline should be tailored to the specific country circumstances and/or the scope of analysis. In addition, users are encouraged to consider the following durations when planning the overall timeline:

- The development of the inception report follows the contract signing and should be completed in a week. The inception report is to be presented to the national TB program and partners to agree on the methodological approach.
- The desk review is the first main activity and should be done at least two (2) weeks prior to conducting the in-country mission. The consultant should work with the national TB program to collect routine data that are not available in the public domain (see Table 1 for details on national and global databases).
- The in-country mission is expected to last two weeks. The consultant should work with the TB program to confirm dates, interviews and the list of health facilities that will be visited during the field visit.

The four weeks after the completion of the in-country mission should be used for finalization of the data analysis, report writing, review by the national TB program, country and global partners, and report finalization.

Table 2. The description of the key activities and estimated LOE in conducting a TB care cascade.

<b>S. No</b>	<b>Description of the activity</b>	<b>LoE (days)</b>
1.	Develop an inception report detailing the methodological approach and proposed work plan based on the country context and scope of analysis.	3
2.	Conduct a desk review and initial data analysis of the data and documents collected from the country and global resources (see Table 1).	7
3.	Conduct field visits to finalize data collection, do key informant interviews and field visits to the health facilities. Note: a briefing and debriefing should be done at the start and the end of the field visit phase, respectively. The debrief should contain the outputs of the analysis of the key informant interviews (KII) and quantitative data analyses.	10
4.	Report writing and submission to the national TB program and partners for review and comments.	7

<b>S. No</b>	<b>Description of the activity</b>	<b>LoE (days)</b>
5.	Integrate comments received from the TB program and partners, finalize the report and update the debrief slide deck where applicable.	3
	<b>Total</b>	<b>30</b>

### **Profile Required**

The consultant/individual should have the following educational background, experience and skills:

- Post-graduate training in public health, biostatistics, epidemiology, global health, medicine, health economics, demography or a related field.
- Excellent understanding of TB epidemiology, M&E and surveillance systems, TB policies and interventions, and health systems.
- Strong quantitative and qualitative analytical skills with proven track record in producing analytical results.
- TB M&E background (preferably) with prior experience working with national programs and/or offering technical assistance/support.
- Strong communication and writing skills with ability to communicate complex information and analysis succinctly.
- Demonstrated ability to carry out interviews and focus group discussions with a wide range of participants from government officials to key population members.
- Willingness to undertake field visits.
- Fluency in English and at least one of the primary languages used for conversation and reporting in the country.