TB M&E GLOSSARY

Using a Performance-based M&E Framework to Strengthen TB Programming

TB M&E Terms:

Case notification: Reporting of all tuberculosis cases to an authority such as a health department or national surveillance system, as required by national laws or regulations.

Case notification rate: New and recurrent tuberculosis cases notified for a given year and setting, expressed per 100,000 population. This excludes recurrent cases due to treatment failure or after being lost to follow up.

Conceptual Framework: A diagram of a set of relationships between factors that are believed to impact or lead to a target condition. It is the foundation of project design, management, and monitoring.

Data sources: The resources used to obtain the data needed for M&E activities. These sources may include, among many others, official government documents, clinic administrative records, staff or provider information, client visit registers, interview data, sentinel surveillance systems, and satellite imagery.

Denominator: The number below the line in a fraction showing how many equal parts the item is divided into, for example, the 3 in 2/3. In terms of TB indicators that show a percentage, the denominator is the total number of possible people or units. For example, when calculating the "Percent Bacteriologically Confirmed" indicator, you divide the number of people with bacteriologically confirmed TB (the numerator) out of denominator which is the total number of people with notified TB (both bacteriologically confirmed and clinically diagnosed).

Framework:
An open set of tools for project planning, design, management, and performance assessment. Frameworks help to identify project elements (goals, objectives, outputs, outcomes), their causal relationships, and the external factors that may influence success or failure of the project. A framework matrix provides an easy overview of key project information that allows assessment of project logic as well as performance monitoring and evaluation.

Indicator: An indicator is a variable that measures one aspect of a program, project, or a specific population, health, or environmental outcome. Indicators should describe a specific behavior, concept, or phenomenon. To effectively monitor and evaluate a program or project, implementers should have enough indicators to measure every important aspect of that program or project. Source: Measure Evaluation

Logical Framework: A dynamic planning and management tool that logically relates the main elements in program and project design and helps ensure that an intervention is likely to achieve measurable results. It helps to identify strategic elements (inputs, outputs, purposes, goal) of a program, their causal relationships, and the external factors that may influence success or failure. It can provide the basis for monitoring progress achieved and evaluating program results.

Logic Model: A program design, management, and evaluation tool that describes the main elements of a program and how these elements work together to reach a particular goal. The basic elements in describing the implementation of a program and its effects are: inputs, activities or processes, outputs, outcomes, and impacts. A logic model graphically presents the logical progression and relationship of these elements.

Monitoring & Evaluation Plan:
A comprehensive planning document for all monitoring and evaluation activities within a program. This plan documents the key M&E questions to be addressed: what indicators will be collected, how, how often, from where, and why; baseline values, targets, and assumptions; how data are going to be analyzed/interpreted; and how/how often reports will be developed and distributed.

Metric: The precise calculation or formula that provides the value of an indicator. (numerators and denominators)

Monitoring: The routine process of data collection and measurement of progress toward program objectives. It involves tracking what is being done and routinely looking at the types and levels of resources used; the activities conducted; the products and services generated by these activities, including the quality of services; and the outcomes of these services and products.

Monitoring and evaluation (M&E) plan: A comprehensive planning document for all monitoring and evaluation activities within a program. This plan documents the key M&E questions to be addressed: what indicators will be collected, how, how often, from where, and why; baseline values, targets, and assumptions; how data are going to be analyzed/interpreted; and how/how often report will be developed and distributed.

Non-routine data sources: Resources that provide data collected on a periodic basis, usually annually or less frequently. In addition to large-scale household surveys, these sources may be small-scale, ad-hoc household surveys; special studies; and national censuses.

Numerator: The number above the line in a fraction showing the number of parts of a whole, for example, the 2 in 2/3. In terms of TB indicators that show a percentage, the numerator is the subgroup of the denominator. For example, the numerator for "Percent Bacteriologically Confirmed" indicator is the total number of people with bacteriologically confirmed TB. The denominator is the total number of people with TB (both bacteriologically confirmed and clinically diagnosed).

Objectives: Significant development results that contribute to the achievement of goals and provide a general framework for more detailed planning for specific programs. Several objectives can contribute to each goal. Examples: "to reduce the total fertility rate to 4.0 births by Year X" or "to increase contraceptive prevalence over the life of the program."

Operations research: Research into strategies, interventions, tools, or knowledge that can enhance the quality, coverage, effectiveness or performance of the health system or program in which the research is being conducted.

Outcomes: The changes measured at the population level in the program's target population, some or all of which may be the result of a given program or intervention. Outcomes refer to specific knowledge, behaviors, or practices on the part of the intended audience that are clearly related to the program, can reasonably be expected to change over the short-to-intermediate term, and that contribute to a program's desired long-term goals.

Outputs: The results of activities achieved at the program level, in two forms: the number of activities performed (e.g., number of service providers trained) and measures of service utilization (e.g., number of contraceptives distributed).

Performance indicator: A type of indicator that monitors program progress, usually monthly or quarterly, providing objective evidence that an intended change is occurring.

Performance Indicator Reference Sheet (PIRS): Provide the rationale for and precise definitions of each indicator found in USAID's Performance-based M&E Framework (PBMEF) as well as guidance on indicator type, unit of measure (number of percentage), method of calculation, disaggregation, data sources, frequency of data collection, and information on data use.

Process indicator: A type of indicator that indicates whether the program is being implemented as planned.

Processes: The multiple activities, both planning and implementation, carried out to achieve the program's objectives.

Qualitative indicator: A type of indicator that reveals non-numeric conformance to a standard and can include interpretation of personal feelings or experiences.

Quantitative indicator: A type of indicator that has a specific objective numeric value measured against a standard and presented as numbers or percentages.

Reliable: Results that are accurate and consistent through repeated measurement.

Results framework: Frameworks that explain how a project's strategic objective (SO) is to be achieved, including those results that are necessary and sufficient, as well as their causal relationships and underlying assumptions. It is usually depicted with the main program goal at the top, each of the main objectives in its own box under the goal, and the results feeding into each objective from the bottom to the top.

Routine data sources: Resources that provide data collected on a continuous basis, such as information that clinics collect on the patients using their services.

Serological Survey:

SMART objectives: Stands for "specific, measurable, accurate, realistic and time-bound"

SOP: Standard Operating Procedures. In the context of TBCI, SOPs describe the step-by-step TBCI process, outlining how each step of the TBCI activity is carried out, who is responsible for each activity, and what recording and reporting is required to monitor the activity.

Strategic objective (SO): In a results framework, the most ambitious result that an intervention can materially affect and for which it is willing to be held accountable.

Surveillance: Tuberculosis (TB) surveillance is the continuous and systematic collection, analysis and reporting of data related to TB infection and TB disease in the population. The WHO provides guidance with standardized definitions, forms, registers and reports. In 2022, WHO expanded the scope to cover the full pathway of screening, diagnosis, treatment and care for people with TB infection and TB disease. It also aims to facilitate implementation of digital, case-based, real-time surveillance systems for TB, including the strengthening of systems that already exist and the transition to such systems elsewhere, especially in countries that are using a mixture of paper-based and digital systems or that rely primarily on paper-based systems.

TB Cascade Analysis: A TB cascade is a series of interconnected steps that represent the progression of individuals through the TB detection, treatment and prevention continuum, and is analyzed by evaluating the proportion of individuals who successfully complete each step.

TB Prevalence: Proportion of individuals with tuberculosis in a population at a given point in time, expressed per 100 000 population. In the context of prevalence surveys, it refers to the proportion of bacteriologically-positive pulmonary tuberculosis among general population aged 15 years and older at a particular time.

TB prevalence surveys: Studies to periodically measure tuberculosis burden in a particular country or setting. They usually measure bacteriologically confirmed TB in those ≥15 years of age.

TB Incidence rate: Number of estimated new and relapse (due to reinfection) cases of a disease in a defined population during a specified period of time. Tuberculosis incidence is usually reported as cases per 100 000 population per year. The size of the population is usually the estimated mid-year population .

TB Related Terms

Active TB disease – happens when the immune system cannot keep TB germs from multiplying and growing in the body. People with active TB disease feel sick and can spread TB germs to others. Active TB disease can almost always be treated and cured with medicine. Without treatment, active TB disease can be fatal.

Assay: An investigative analytic procedure or test.

Bacterial confirmation: Directly detecting the physical presence of TB bacteria in a sample.

Bacillary load: The amount of bacteria found in an given area. In terms of TB, it is the amount of *M. tuberculosis* found in a person's lungs.

CHW: Community Health Worker.

Contact person: Any person who was exposed to a person with TB.

Close contact: A person who does not live in the same household as a person with TB but who has shared an enclosed space, such as a social gathering place, workplace or facility, with the index patient for extended periods during the day during the 3 months before the current disease episode commenced.

Contact investigation (CI): A systematic process for identifying previously undiagnosed people with TB among the contacts of an index case. Contact investigation consists of identification, prioritization and clinical evaluation. It may also include testing for TB infection to identify candidates for TB preventive treatment.

CSO: Civil Society Organization

DOT: Directly-Observed Treatment: A strategy devised to help patients adhere to treatment wherein a designated person watches the patient swallow each dose of the prescribed drugs to ensure adherence to and tolerability of the regimen.

DR-TB: Drug-resistant tuberculosis. An umbrella term used for TB disease caused by all strains of *M. tuberculosis* that are resistant to first- and second-line anti-TB medications.

DST: Drug susceptibility testing. In this context, testing for a strain of bacteria's sensitivity to anti-TB medicines.

DS-TB: Drug-sensitive tuberculosis. TB caused by strains of *M. tuberculosis* that respond to first-line anti-TB drugs.

Epidemiology:
Epidemiology is the study of diseases and other health problems in groups of people. Epidemiologists determine the frequency and pattern (the distribution) of health problems in different communities. They find out who has a specific health problem, how often the problem occurs, and where the problem occurs. Using this information about who, when, and where, epidemiologists try to determine why the health problem is occurring.

First-line drugs: The core of a standard treatment regimen, because together they constitute the most powerful, least expensive, and most tolerable treatment regimen. First-line drugs for TB are isoniazid, rifampicin, ethambutol, and pyrazinamide.

Fluoroquinolones: A class of synthetic broad-spectrum antibacterial drugs. Examples of fluoroquinolones used to treat TB are levofloxacin and moxifloxacin.

GeneXpert: Molecular WHO-recommended rapid diagnostic test in which sputum or stool samples are examined for TB disease. Uses PCR amplification to detect the presence of TB bacteria and drug resistance, depending on the specific test that is used.

Group A drug: The WHO categorizes drugs for treating MDR-TB into three groups. Group A drugs include fluoroquinolones, bedaquiline, and linezolid. Group A drugs should be used to treat MDR-TB, unless contraindicated.

HIV: Human immunodeficiency virus. The virus that causes AIDS, a chronic potentially life-threatening condition.

HMIS: Health Management Information System.

Household contact: A person who has shared the same enclosed living space as the index case for one or more nights or for frequent or extended daytime periods in the 3 months before TB disease was identified in the index case.

IGRA: Interferon-gamma release assay. A type of blood test used to detect TB infection. Examples are the QuantiFERON®-TB Gold Plus (QFT-Plus) and the T-SPOT®.*TB* test (TSpot).

Isoniazid: Drug used for treating TBI and TB disease.

Index person (index case) of TB: The initially identified person with TB disease in a specific household or other comparable setting in which others may have been exposed. An index patient is the person on whom a contact investigation is centred but who is not necessarily the original source of an outbreak of TB.

Lateral flow assay: A simple, paper-based test that detects the presence of a target substance in a liquid sample without the need for specialized or costly equipment.

LF-LAM: Lateral Flow Urine Lipoarabinomannan Assay. LF-LAM tests are currently the only true point-of-care test for TB. While not a molecular rapid diagnostic test, LF-LAM are rapid tests. Current LF-LAM assays are not highly sensitive and specific and are therefore not suitable as diagnostic tests for TB in all populations.

Linezolid: One of the most potent second-line drugs used to treat TB.

LTBI: Latent tuberculosis infection (now called TB infection, or TBI).

LTFU: Lost to follow-up. In this context, a person who is identified during TBCI, but who stops participating in the process.

Mantoux Tuberculin Skin Test (TST): A skin test used to detect TB infection in which a solution is injected into the forearm and any reaction is measured 48-72 hours later.

MDR-TB: Multidrug-resistant TB. TB that is resistant to at least the drugs isoniazid and rifampicin and therefore can be difficult to treat.

NTP: National TB Program. Countrywide, permanent program responsible for activities directed at controlling tuberculosis through integrated efforts with the general national health services.

Patient-initiated care: A patient-initiated pathway to TB diagnosis involves: (1) a person with TB disease experiencing symptoms that he or she recognizes as serious; (2) the person having access to and seeking care, and presenting spontaneously at an appropriate health facility; (3) a health worker correctly assessing that the person fulfils the criteria for presumptive TB; and (4) the successful use of a diagnostic algorithm with sufficient sensitivity and specificity to diagnose TB. The term is synonymous with "passive case finding".

Person with presumptive TB: A person with symptoms or signs suggestive of TB.

Provider-initiated care: Provider-initiated care involves screening and testing in health facilities or communities by mobile teams, often using mobile X-ray and rapid molecular tests. The term is sometimes used interchangeably with "systematic screening", "active case finding" or "intensified case finding".

Pre-XDR-TB: Pre-extensively drug resistant TB. TB caused by strains of *M. tuberculosis* that fulfil the definition of MDR-TB or RR-TB and which are also resistant to any fluoroquinolone.

Pulmonary TB: TB in the lungs.

Rapid molecular tests: Diagnostic tests that can rapidly detect the genetic material of TB bacteria and TB genetic mutations associated with resistance to certain drugs.

Risk groups: Any group of people in which the prevalence or incidence of TB is significantly higher than in the general population.

Reverse contact investigation: A contact investigation undertaken among household members of children diagnosed with TB. The goal of "reverse contact investigation" is to identify and treat the source case and any others who may have been infected.

Rifampicin: An antibiotic commonly used to treat TB infection and TB disease.

RR-TB: Rifampicin-resistant TB. A specific type of MDR-TB that is resistant to rifampicin, a common first-line anti-TB medicine.

Screening: The systematic identification of people at risk for TB disease in a predetermined target group by assessing symptoms and using tests, examinations or other procedures that can be applied rapidly. For those who screen positive, the diagnosis needs to be established by one or more diagnostic tests and additional clinical assessments. This term is sometimes used interchangeably with "active tuberculosis case-finding". It should be distinguished from testing for TB infection (using a TB skin test or interferon-gamma release assay).

Smear (smear microscopy): a laboratory test to see if you have TB germs in your sputum (phlegm). To do this test, laboratory staff smear the sputum on a glass slide and stain the slide with a special stain. The

laboratory staff look for any TB germs on the slide. This test usually takes one day to get the results. (Also known as acid fast bacilli (AFB) examination.)

Sputum a substance (also called phlegm) coughed up from deep inside the lungs. Your health care provider may examine sputum for TB germs using a smear test. They can also use a part of the sputum for a culture test to see if TB germs grow.

TBCI: Tuberculosis contact investigation. A systematic process for identifying previously undiagnosed persons with active TB disease or with TB infection who need preventive treatment among the contacts of an index case.

TBI: TB infection, sometimes known as latent TB infection, or LTBI. A condition in which a person is infected with *M. tuberculosis* but does not have TB disease. They usually have positive results to the TST or IGRA tests but do not have symptoms and cannot spread TB to others.

Sputum: A mixture of saliva and mucus (phlegm) that is produced in the respiratory tract and coughed up from the lungs.

TPT: TB preventive treatment. Used to treat a person with TBI to prevent the infection from progressing to active TB disease.

Truenat: A chip-based, point-of-care rapid molecular test for diagnosis of TB.

TB infection: A state of persistent immune response to stimulation by M. tuberculosis antigens with no evidence of the clinical manifestations of TB disease. This is also at times referred to as "latent TB infection". There is no gold standard test for direct identification of M. tuberculosis infection in humans. Most infected people have no signs or symptoms of TB but are at risk for active TB disease.

TB preventive treatment (TPT): Treatment offered to individuals who are considered at risk of TB disease to reduce that risk. Also referred to as treatment of TB infection, treatment for latent TB infection or TB preventive therapy.

XDR-TB: **Extensively drug-resistant TB**. TB caused by *M. tuberculosis* strains that fulfill the definition of MDR-TB or RR-TB and which are also resistant to any fluoroquinolone and at least one additional Group A drug.

XDR-TB: Extensively drug resistant TB. TB that fulfils the definition of MDR/RR-TB and is also resistant to any fluoroquinolone and at least one additional Group A drug (levofloxacin, moxifloxacin, bedaquiline, and linezolid).

Xpert MTB/RIF assay: A test that simultaneously identifies the presence of TB and rifampicin resistance in a sputum sample. Recommended as the first test to be used in TB diagnosis.

Sources Used: M&E Fundamentals; Global TB Dictionary