

I. DEFINING MONITORING AND EVALUATION

What Is Monitoring and Evaluation?

M&E is the collective use of social science and epidemiological research methods to assess, and eventually improve, the implementation of programs, or components of programs.⁵ The overall purpose of M&E is to measure program effectiveness, identify problem areas, gather lessons learned, and improve overall performance. M&E activities are used to assess progress towards specific objectives and address weaknesses in program design. A number of different methods or approaches are available for tracking changes and measuring program performance: monitoring, evaluation (i.e., process, outcome, and impact), and surveillance.

Monitoring is the routine tracking of programs using input, process, and outcome data that are collected on a regular, ongoing basis. Monitoring is used to assess whether or not planned activities are carried out according to schedule. Monitoring activities reveal the extent to which the program is progressing towards identified targets and services are being utilized. An abrupt or unexpected change in monitoring data may trigger the need for a more formal evaluation of the activities.

Process evaluation is used to measure the quality and integrity of program implementation and to assess coverage. It may also measure the extent to which the intended target population uses services. The results of process evaluations are intended to inform midcourse corrections in the program to improve program effectiveness.

Outcome and impact evaluations measure program results and the effect on the target population. Outcome evaluations measure the extent to which stated objectives are achieved with respect to the program's goals. They are used to assess the influence of program activities by measuring changes in knowledge, attitudes, behaviors, skills, community norms, utilization of health services, and health status at the population level. An impact evaluation is a very specific type of evaluation design that determines how much of the observed change in outcomes can be attributed to specific program efforts. Impact evaluations are carried out following specific scientific designs and involve complex data collection and analysis procedures. They are not undertaken routinely and are usually reserved for specific situations, such as determining the success of a project for scale-up or replication.

⁵ Rossi P, Freeman H. *Evaluation: a systematic approach*. Newbury Park, CA, Sage Publications, 1993.

Surveillance is the routine collection of epidemiological data (i.e., disease outcomes) to track trends in disease incidence or prevalence over time. Data may be collected through seroprevalence surveys or through the routine reporting of cases seen by health facilities. Some surveillance activities also collect basic demographic and related data along with disease status. Surveillance data are usually collected at the health facility or community level and aggregated through the administrative units to arrive at national or subnational estimates. Although surveillance data are an important source for M&E, this should not be confused with, or substituted for, actual program monitoring. Surveillance data provide outcome-level information on disease status, but little or no information on program activities. Surveillance data must be linked with other sources of programmatic data in a monitoring system.

Why Is Monitoring and Evaluation Important?

M&E plays an important role in the day-to-day management of health programs and provides program managers with the information and insight needed for strategic planning, program design and implementation, and informed decision-making about human and financial resources, especially in resource-limited settings. The evaluation component of M&E allows more extensive analysis of program data. Evaluations can determine whether a program is on track to meet stated objectives and, if not, what midcourse corrections might be necessary.⁶ A well-designed evaluation can also assess the extent to which the program achieved the desired impact on the target population. Program monitoring and impact evaluation are complementary activities that allow program managers to measure coverage of their target populations to identify gaps and underserved populations.

What Are the Characteristics of a Good Monitoring and Evaluation System?

A good M&E system serves several functions. Within the program or project, the M&E system is structured to ensure the most efficient use of resources to generate the data needed for decision-making. It guides data collection and analysis to increase consistency and to enable managers to track trends over time. It should serve many constituencies, including program managers, donors, and government planners, but at the same time bring all of the various interests together into one system to avoid duplication of efforts. A good M&E system should serve as a catalyst to coordination.

⁶ See note 5 above.

An M&E system includes a number of components.⁷ First, the M&E unit itself is a functional unit or group within the program that is in charge of M&E activities. Next, the system should be based on a strategy that includes clear goals and targets, guidelines for the implementation of activities, and specific indicators by which to measure program progress. Finally, the M&E system should also include plans for data collection, analysis, and dissemination of results. Appendix A provides a checklist of features of a good M&E system.

How Do You Select a Good Indicator?

An indicator is a specific measure of program performance that is tracked over time by the monitoring system. Indicators should reflect the stated goals of the program, allowing managers to track distinct progress towards benchmarks. Indicators should measure the overall scope of the program objectives, including the dimensions of quantity, quality, and cost. Indicators covering quantity are usually fairly easy to develop and include elements of program performance, such as logistics and supplies, number of staff and activities, and program coverage. Likewise, cost elements are relatively easy to incorporate into an M&E system through existing budget and allocation processes (although M&E planners frequently overlook this element). The qualitative aspects of programs are harder to measure but should be incorporated nonetheless. Indicators of quality cover program elements, such as competency of providers, adherence to standards, and quality of care issues. A thorough M&E plan will incorporate all of these elements into its selection of indicators.

The selection of indicators usually takes place during the process of program planning and/or replanning, preferably with the participation of the implementing agency and key stakeholders. It requires careful foresight and practical consideration. If the objectives are clear, then selecting appropriate indicators to measure program performance can be relatively straightforward. Table 1 lists standard selection criteria for judging the relevance of specific indicators.

⁷ *National AIDS programme: A guide to monitoring and evaluation*. Geneva, Joint United Nations Programme on HIV/AIDS (UNAIDS), 2000 (UNAIDS/00.17E).

Table 1. Criteria for Indicator Selection

The following criteria are useful in helping to select indicators for program monitoring:	
Valid	Indicators should measure the condition or event they are intended to measure.
Reliable	Indicators should produce the same results when used more than once to measure the same condition or event, all things being equal (e.g., using the same methods, tools, or instruments).
Specific	Indicators should measure only the condition or event they are intended to measure.
Sensitive	Indicators should reflect changes in the state of the condition or event under observation.
Operational	Indicators should be measured with definitions that are developed and tested at the program level and with reference standards.
Affordable	The costs of measuring the indicators should be reasonable.
Feasible	It should be possible to carry out the proposed data collection.
Comparable	Indicators should be comparable (e.g., over time, across geographical lines).

Data Quality

An M&E system is only as good as the data that are collected. The data should be appropriate, complete, consistent, and timely. Many current efforts at data collection, particularly those conducted routinely, result in poor-quality data because of a lack of proper training and supervision. If the individuals recording the data are not using the data and do not fully appreciate data needs for program management beyond the facility level, the quality will most likely be poor. This in turn leads to declining use. One of the key functions of an M&E system is to oversee all data collection and ensure that data are appropriately used and the results are disseminated throughout the system, but especially to the collection level. Changes in health programs that are directly based on evidence from the field reinforce the efforts at the peripheral level to complete routine reporting. When health workers understand the importance of the data they are collecting, quality is likely to improve, building more confidence in and use of monitoring data.

II. MONITORING AND EVALUATION FOR TUBERCULOSIS PROGRAMS

Like other health programs, TB programs have a unique set of challenges for M&E. First, the steps required to diagnose infectious TB are difficult to monitor. Simply ensuring that each TB case has submitted sputum smears for analysis and has received results often requires tedious review of laboratory registers. The lengthy treatment period, which involves several medications, is another aspect of the clinical management of TB that complicates M&E. Even though treatment adherence and other direct observation of therapy (D.O.T.) activities are difficult to verify and monitor, they are absolutely critical to curing the patient, preventing further transmission of TB, and preventing the emergence of drug-resistant bacteria.

M&E for TB programs is paramount to ongoing program planning and implementation. To further develop M&E standards for TB control, one must move beyond the widely used case detection and treatment outcome indicators and develop an M&E framework with a standardized set of input, process, output, and outcome indicators to measure DOTS implementation. Such indicators should be related to the key components and activities of the DOTS strategy.

There are substantial efforts under way in sector programming and health surveillance system development to improve cross-fertilization of the lessons learned in M&E processes and indicator prioritization and to integrate and/or coordinate tools and results across programs wherever possible. Given the need for focused attention and tracking of TB control efforts, with the worsening TB and HIV epidemics, there is strong support for TB-specific M&E indicators and TB control program M&E frameworks. Nonetheless, it is important to consider the efficient and effective use of TB indicators and data collection methods within the broader health framework and to build on cross-program synergies and expertise.

The process of developing a framework helps generate a clear picture of goals and pragmatic objectives, as well as of the elements both within and external to project operations that will affect its success in the particular context.

Monitoring and Evaluation Framework for Tuberculosis Programs

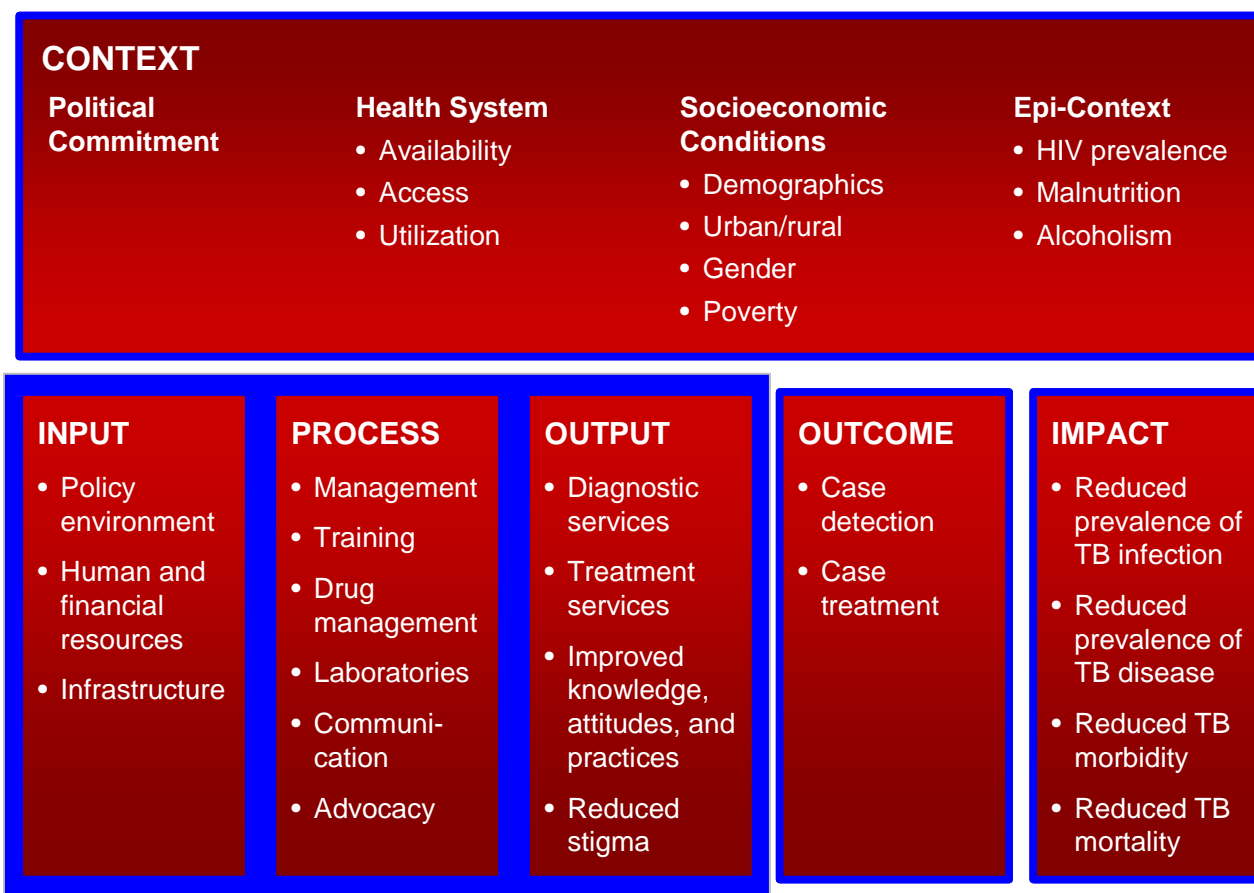
An M&E framework is a visual conceptualization of how the elements of a program fit together, that is, which inputs are necessary for the program's activities (process), what outputs are expected from the activities, and what short- and long-term outcomes will

ultimately result from the program.⁸ A framework can be used as a tool to understand and analyze a program, which is crucial for developing and implementing sound M&E plans. Developing M&E frameworks also helps clearly define the relationships among key factors in project implementation and success. These factors include internal program components and external and contextual influences on the program. Designing a framework also deepens the understanding of managers, implementers, and other partners in many practical ways as well as provides a foundation for selecting appropriate and useful indicators.

Fig. 1 describes a basic M&E framework that could be adapted for many TB programs. Its components consist of boxes labeled from “input” to “impact.” Each box represents a different level and section of a whole program. For example, at the input level, one might be concerned with measuring the human resources available to implement a particular diagnostic procedure or to maintain a set of patient records. At the outcome level, one is concerned with measuring some of the classic indicators of TB programs, such as the case detection or treatment rates. The ultimate desired outcome is lowered TB infection, which translates into lowered mortality and morbidity in a specific population. The challenge for any TB program is to demonstrate that inputs produce the desired impact (decreased mortality and morbidity related to TB), given the contextual factors and the process-level variables. However, linking inputs to impact is exceedingly complex, given the large variation in process- and output-level operations. The utility of an M&E framework is that it allows the evaluator to place program objectives in the context of a systematic framework for evaluation. Once a framework has been developed, the process of selecting indicators for a TB control program becomes more obvious.

⁸ Bertrand J, Magnani R, Rutenberg N. *Evaluating family planning programs with adaptations for reproductive health*. Chapel Hill, NC, Carolina Population Center, 1996.

Figure 1. M&E Framework for TB Control Programs



The shaded area around the input, process, and output boxes illustrates how the elements within these components of the framework are flexible or interchangeable. For example, depending on what stage of implementation the TB program is functioning, a national TB policy may be an output at the early stages but may be an input once a program is fully functional.

Table 2 lays out basic M&E terminology as it has been applied in the framework and, more generally, in the social sciences and health care sectors.

Table 2. Program Components: Input, Process, Output, Outcome, and Impact

Program Components	Definitions
Input	Human and financial resources, physical facilities, equipment, clinical guidelines, and operational policies that are the core ingredients of a program and enable delivery of health services.
Process	Refers to the multiple activities that are carried out to achieve the objectives of the program. It includes both what is done and how well it is done. For example, if the goal of the program is to train 100 service providers (output) in sputum smear microscopy, process-level indicators could include the development of a curriculum, the implementation of the training courses, and the quality of slides.
Output	The results of program-level efforts, such as the number of activities conducted in areas such as service delivery, including commodities and logistics, management and supervision, or training. Service delivery outputs may measure the volume of services provided to the target population, as well as the adequacy of the service delivery system in terms of access, quality of care, and program image/client satisfaction. In many cases, M&E is limited to outputs because these data are collected on a routine basis.
Outcome	Changes measured at the population level, some or all of which may be the result of a given program or intervention. Outcomes may refer to specific results—such as improvements in case detection and treatment success rates—that are clearly related to the program.
Impact	Program results achieved among the target population and to what extent these achievements can be attributed to the intervention (e.g., reducing morbidity and mortality as a direct result of introducing effective public-private partnerships).

Indicators for Tuberculosis Programs

One of the critical steps in designing and carrying out an evaluation of a TB program is the selection of appropriate indicators.⁹ If the objectives of the program have been clearly stated and presented in terms that define quantity, quality, and time, selecting appropriate indicators to measure program success can be a relatively easy task. However, even when objectives are well articulated, the choice of indicators for the evaluation still requires careful thought and consideration of conceptual and pragmatic matters. The M&E framework will help to guide this process by defining activities at each level for which corresponding indicators are needed. A balance of input, process, output, and outcome indicators is necessary to explain success and gaps in program implementation. For example, if a TB control program has only one indicator, treatment success, it would be difficult to explain why that may be low. A program

⁹ See note 8 above.

with a range of indicators from input to outcome could look further to see the quality of diagnostic services, determine whether staff had been trained in DOTS, or see whether D.O.T. was being implemented. These process and output indicators help to explain why treatment success may be low and therefore help to identify areas that need to be strengthened in order to improve treatment success.

Data Sources

Once a TB program has designed and adopted an M&E framework and selected the appropriate indicators, data collection strategies need to be selected. There is a variety of methods typically used to gather TB information. No single data source can provide all of the information required for M&E—a combination is necessary:

Routinely Collected Health Information

Routine data collection at TB treatment facilities and microscopy units is the most common way of collecting TB data for patient and treatment facility management, for monitoring resources used and services provided, and for disease surveillance. Data are recorded by the health staff at the facility or microscopy units while they perform their daily health care activities. These data are recorded on standard reporting forms, which are sent to basic management units (BMUs), where they are aggregated and sent to the national level. For example, routine data collected include service statistics, such as the number of cases registered by category and type of TB, the number of deaths, and the number cured. Some countries have a computerized routine health information system that facilitates analysis and reporting.

The district, regional, and national TB offices are responsible for their respective geographic areas. Monitoring is often required on a monthly or quarterly basis using several different data collection tools. Since the implementation of the DOTS strategy, WHO and partners have developed standardized reporting forms for evaluating treatment results and increasing treatment effectiveness and efficiency. The forms have been classified into five categories:

- Record forms at the health facility
- Record and report forms at the district level
- Record and report laboratory forms
- Report forms at the regional level
- Report forms at the national level.

Appendix B provides a brief description and example of key record and report forms at the health facility, district level, and laboratory.

Box 1: Definitions for TB Diagnosis, Treatment, and Management Units

The following terms are used throughout this document to refer to points of TB diagnosis, treatment, and/or management. TB treatment facilities and TB microscopy units exist within general integrated health service facilities and health management structures in the case of BMUs. These are not stand-alone or vertical TB facilities or units but have been given a specific name to help describe their nature and function in terms of TB control programs.

Basic Management Unit

A BMU is defined in terms of management, supervision, and monitoring responsibility. A unit for TB control may have several treatment facilities, one or more laboratories, and one or more hospitals. The defining aspect is the presence of a manager or coordinator who oversees TB control activities for the unit and who maintains a master register of all TB patients being treated, which is used to monitor the program and report on indicators to higher levels. Typically, the units correspond to the government's second subnational administrative division, which might be called, for example, a "district," "county," or "rayon." The TB control program may choose to lump or split these divisions to form operational units that are manageable (in terms of the population served, the geographic area covered, and the laboratory services available). It is internationally recommended that a BMU cover a population between 50,000 and 150,000 or up to 300,000 for large cities.

A BMU is implementing the DOTS strategy when all components of the internationally recommended approach to TB control are in place. These include political commitment; uninterrupted drug supply; use of smear microscopy in diagnosing TB cases; standardized short-course treatment regimens; direct observation of treatment, at least during the initial phase of treatment and during any phase that includes rifampicin in the treatment regimen; and monitoring of treatment outcomes for 100% of patients with TB.

TB Treatment Facility

A TB treatment facility is defined as a facility that provides standardized short-course treatment regimens for TB patients. A DOTS treatment facility includes all components of the internationally recommended approach to TB control, including standardized short-course treatment regimens; direct observation of treatment, at least during the initial phase of treatment and during any phase that includes rifampicin in the treatment regimen; and monitoring of treatment outcomes for 100% of patients with TB.

TB Microscopy Unit

A TB microscopy unit (TMU) is defined as a unit where sputum smear microscopy is performed. This unit should have adequate supplies and trained staff to perform the proper functions for diagnosis. It is internationally recommended that a TMU cover a population between 50,000 and 150,000. In most settings, this results in workloads within the recommended range of 2 to 20 smears per day.

Global TB Reporting

Data are collected from national program managers and are analyzed by WHO's Global TB Monitoring and Surveillance Project, in close collaboration with the DOTS Expansion Working Group of the Stop TB Partnership, to chart progress in TB control and implementation of the DOTS strategy for each country. The WHO global report is produced each year and includes data on estimated incidence, case notifications, and treatment outcomes from all national control programs that have reported to WHO, together with an analysis of plans, finances, and constraints on DOTS expansion for 22 high-burden countries. WHO's request for results on these indicators enables global TB surveillance and intercountry comparisons. However, indicators used at this global level are first and foremost seen as critical to understanding the progress made towards

TB control at the national and local levels and should be used for monitoring, evaluation, and problem-solving at all levels.

Special Surveys or Studies

Special surveys or studies may be needed to determine many of the epidemiological and behavioral indicators that are not collected through monitoring or evaluation. Such studies are often more comprehensive than standard collection, but at the same time, they are more costly and require a specific technical capacity for implementation. These factors limit the number of special studies that are conducted. Examples of special surveys include the following:

- *TB prevalence surveys* provide information about the size of the TB problem in the general population; even more important, if the surveys are conducted periodically, they provide information on the problem's trend over time. This is important for evaluating whether TB control efforts reduce the TB problem. A TB prevalence survey is similar in methodology to any population-based survey. A representative sample of the general population is selected and then screened to identify suspects: complaints of cough for at least 2 or 3 weeks and/or, if appropriate, X-ray. A positive sputum smear and/or a positive culture provide proof of TB disease. Information on this type of survey is available in work by Shima¹⁰ and Tupasi and others.¹¹
- *Serological surveys* determine the level and trend of HIV infection in TB using representative samples of new cases. WHO has developed a method for conducting these surveys. Information on this type of survey is available in the Zambia Demographic and Health Survey¹² and in guidelines published by WHO.¹³
- *Population-based surveys* provide valuable information on knowledge of TB signs and treatment, attitudes towards TB patients, and health-seeking behaviors from representative samples of the community. Demographic and Health Survey (DHS) and the Living Standard Measurements Survey are two widely used population-

¹⁰ Shima¹⁰ T. Tuberculosis prevalence surveys. *Bulletin of the International Union Against Tuberculosis*, 1982, 57:126–132.

¹¹ Tupasi T et al. The 1997 Nationwide Tuberculosis Prevalence Survey in the Philippines. *International Journal of Tuberculosis and Lung Disease*, 1999, 3(6):471–477.

¹² *Zambia demographic and health survey 2001–2002*. Calverton, MD, Central Statistical Office [Zambia], Central Board of Health [Zambia], ORC Macro.

¹³ World Health Organization, Centers for Disease Control and Prevention, Joint United Nations Programme on HIV/AIDS. *Guidelines for conducting HIV sentinel serosurveys among pregnant women and other groups*. Geneva, UNAIDS/WHO Working Group on Global HIV/AIDS and STI Surveillance, 2003.

based surveys. DHS surveys are now beginning to test the use of TB-specific questions both in the standard questionnaires and in a specific TB module.

- ***Vital registration surveys*** are used to measure annual TB mortality rate. This method is only possible when the death registry is of a known geographic coverage and quality. Special studies can then be undertaken with samples of deaths attributed to TB to determine the medical bases for the diagnosis and the reliability of the death registry regarding the reported cause of death. The mortality rates should be analyzed according to category of disease (e.g., pulmonary, meningitis, other extrapulmonary), associated conditions (e.g., AIDS, diabetes, alcoholism), age, sex, and geographical region.
- ***Tuberculin surveys*** provide a measure in children of the prevalence of infection, from which the risk of infection can be estimated. The sample should be representative of the child population. WHO, the Tuberculosis Surveillance and Research Unit in the Netherlands, and the UNION have developed the methodology for conducting tuberculin surveys and interpreting results.¹⁴
- ***Drug resistance surveillance (DRS)*** provides information on the prevalence of anti-TB drug resistance among new and previously treated TB cases. WHO and the UNION have developed the methodology for these DRS surveys.¹⁵
- ***Health facility surveys*** have the prime objective of describing the availability, functioning, and quality of TB activities and services at all levels of the health system and laboratories. Data are also collected to measure the availability of anti-TB drugs, as well as supplies and equipment. This information can be obtained by interviewing informed respondents at the facility and observing its operations.

Developing a Monitoring and Evaluation Plan for Tuberculosis

Planning for M&E is crucial. M&E activities themselves require allocation of program resources, such as time, money, and personnel, so these items must be intrinsically built into a program's budget. Only well-planned M&E will generate strong empirical evidence showing that the activities of the project have indeed had demonstrable effects on the desired goals. Planning is required to develop valid indicators that will be

¹⁴ Arnadottir T et al. Guidelines for conducting tuberculin skin test surveys in high prevalence countries. *Tubercle and Lung Disease*, 1996, 77(Suppl. 1):1–19.

¹⁵ Aziz MA et al., eds. *Guidelines for surveillance of drug resistance in tuberculosis*. Geneva, World Health Organization, 2003 (WHO/CDS/TB/2003.320).

backed up by reliable data. M&E planning must also ensure that the information gathered is fed back into subsequent decisions concerning program implementation.

Countries that have already developed a medium-term development plan (MDP) or 5-year implementation strategy can use this plan as a basis for their M&E plan. Most MDPs have already defined the goals and objectives of the TB program and strategies for program implementation. M&E plans can be organized in many ways. There are a number of important elements that need to be included for a plan to be considered complete:

1. An explicit statement of the assumptions being made about the context of the program and a clear expression of the overarching goals and objectives being sought.
2. An implementation strategy describing how planned activities will take place, including person(s) responsible, budget allocations, tools to be used for data collection, a plan to ensure the quality of data collection, and capacity building plans.
3. An explicit description of the important relationships or interactions that are expected to occur among program activities, targets, and outcomes, including a plan to foster these links for appropriate use of data.
4. Well-defined indicators along with the exact ways they will be measured and calculated (both the numerator and denominator). The set of indicators should be discussed in detail, including baseline values, data collection, schedules, data sources, and estimated resources needed for associated M&E activities.
5. An outline of the partnerships and other organizations that will be involved in each activity, and how they will be involved in M&E as data providers and users.
6. Discussion for using M&E results, including methods of dissemination, target audiences, dissemination calendars, and appropriate medium for presenting results.

A complete M&E plan covers the full range of the intervention, from the most basic assumptions through the logic of implementing activities, the technical details of data collection, indicator calculation, and analysis and use of data in order to create a coherent and useful system that ultimately will improve program performance.

Using Monitoring and Evaluation Results

The ultimate purpose of collecting TB data is for their use in policy formulation, program planning, and M&E. M&E results should be analyzed and disseminated to others in a format that is both understandable and usable. There are three critical questions that should be answered when considering data analysis, use, and dissemination:

1. Who are the potential audiences or users of the results?
2. Which particular finding will be of most interest to each potential audience or user?
3. What are the best media channels to reach each potential audience or user?

Data Analysis

The analysis of indicators should be based on previously discussed factors, such as the target population (e.g., homeless, prisoners, general population), geographical area, or age. Data analysis involves quantitative manipulation of the information collected. This manipulation, or analysis, of information may be possible by hand or by a computerized database, depending on the resources available and the amount of information being processed.

The analysis of indicators may involve stratifying results to identify outliers in performance among operational units, looking at the results in the context of other indicators, asking questions about the possible factors contributing to the result, and perhaps seeking additional data.¹⁶ For example, a generally high treatment success rate nationally may obscure the fact that some units are not performing well. Furthermore, a generally high treatment success rate may seem at odds with the finding of a high proportion of retreatment cases among the total cases registered; this may lead to suspicion about the appropriateness of case classification, but the paradox may also be resolved if most of these retreatment cases had previous treatment outside the program (in private practice). Ultimately, the exploration may involve a review of TB registers and/or a retrospective interview with retreatment cases to collect information that is not recorded in the register.

¹⁶ See note 8 above.

Data Use

Indicators and monitoring systems are worthwhile only if they are used. Too often, data are collected but never analyzed, or data are analyzed but never used to improve or modify existing practices or policy. The indicators derived from this compendium can be used to monitor the progress in implementing the various elements of the NTP. Are the basic structures in place, and are they functioning adequately? Which components are performing well, and which ones are not? If the indicators are collected regularly over time, then it becomes possible to determine whether particular components have improved or declined in performance.

The indicators can be used to assess the priorities of the implementation of the DOTS strategy and also to assess the effectiveness of overall DOTS strategy. If one component of the DOTS strategy is performing poorly in comparison with other components, then it may be desirable to allocate more resources (both human and financial) and thereby revise the relative priorities of different components in an effort to improve implementation.

The indicators can also be used by both national and international agencies to compare TB control performance across different countries. A comparison of input and process indicators would assist in identifying relative strengths and weaknesses in institutional capacity to implement DOTS, and output and outcome indicators help to show the relative progress in achieving DOTS targets. Cross-national comparisons can also assist national policy-makers in learning about innovative approaches that may be applicable in their own countries.

Finally, the indicators can be used in negotiations on TB policy among various interested parties within a country and also in policy discussions with external donors and international agencies concerning health sector reform. The indicators can provide data to enable health policy-makers to argue more persuasively and coherently, helping, for instance, to ensure that the health sector and the health status of vulnerable groups are not forgotten during times of economic reform.

To help ensure that M&E results will be used by decision-makers, program planners, and other users, a program can take a number of steps to greatly increase its capacity

Reasons for Sharing M&E Results

- Improve performance and programming
- Increase public awareness about TB
- Encourage communities to support TB patients
- Improve coordination among agencies working in TB
- Advocate for policy changes
- Encourage allocation of resources to TB control
- Provide lessons learned for both in-country and international programs

Source: Adapted from Adamchak S et al. *A guide to monitoring and evaluating adolescent reproductive health programs*. Washington, DC, FOCUS on Young Adults, 2000 (Tool Series 5).

for using data to identify problems and propose solutions. Some of these include the following:^{17,18}

- Develop a plan for involving the potential users of the M&E results in all aspects of process. The more actively involved the users (decision-makers or health care staff) are in the planning, implementation, and analysis, the more likely they will develop a commitment to using the M&E results.
- In M&E reports, indicate clearly and succinctly major action implications arising from the M&E results.
- During supervisory visits or other appropriate venues, provide sufficient time to discuss M&E results and to develop an action plan for using the results.

Data Dissemination

Disseminating M&E results is complex because different audiences will have different information needs. Dissemination of results will be more effective if a strategy is developed in advance. A dissemination strategy should answer the three critical questions mentioned above.¹⁹

Audiences can include community organizations, health providers, government officials, and social service agencies. At the regional or national level, professional colleagues, TB advocacy groups, other Ministries, policy-makers, and funding agencies may require results. Internationally, TB advocates and funding agencies will benefit from the results.

Many possible channels exist for disseminating M&E results. For some audiences, one approach may be sufficient (e.g., an all-day retreat with program staff). In other cases, multiple channels may be necessary, such as the newspaper, radio, or television, particularly for larger mass audiences. Dissemination may be carried out by staff members or may be done in collaboration with outside experts.

The most common dissemination formats are written reports, oral presentations, press releases, fact sheets, and slide or computer presentations. Visual aids such as maps, tables, charts, graphs, and photographs can be used effectively to summarize information and add a visual aspect to a written report or oral presentation.

¹⁷ Fisher A et al. *Handbook for family planning operations research design*. New York, The Population Council, 1991.

¹⁸ See note 8 above.

¹⁹ See note 17 above.

A successful dissemination strategy will identify the most effective media channel(s) to reach different audiences or users with results most relevant to their needs. Typically, a good strategy will involve multiple media channels used repeatedly over a period of time to reach the largest audience possible.

