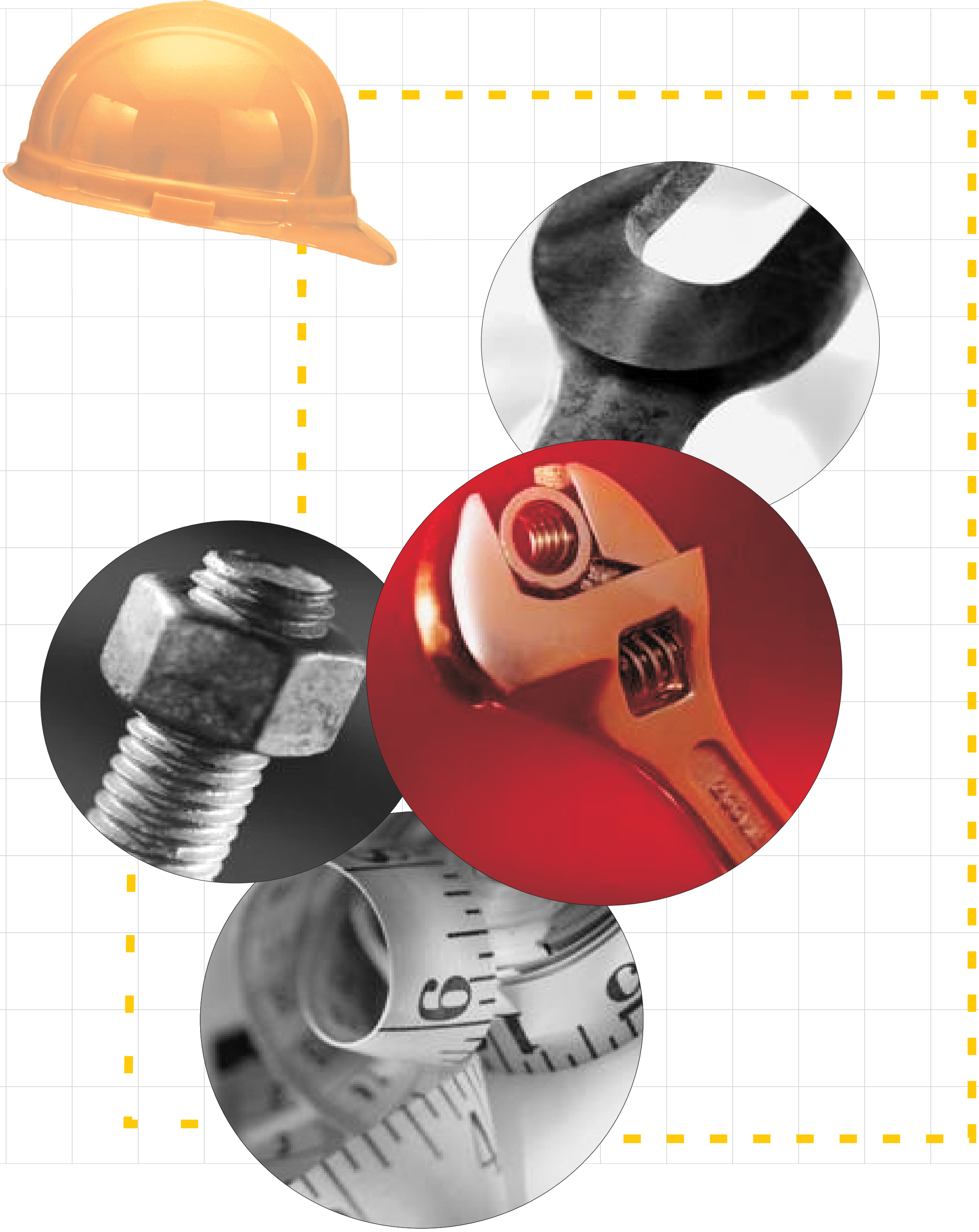
TB Program Evaluation Handbook



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TB Elimination

TB Program Evaluation Handbook: Introduction to Program Evaluation

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Centers for Disease Control and Prevention
Department of Health and Human Services,
Winter 2006

INTRODUCTION

This handbook offers an introduction to program evaluation that has been tailored for staff of state and local tuberculosis (TB) programs in the United States. It is designed to take a person with little or no knowledge or skills in evaluation through the process with TB-specific examples. It assumes that the user, "you," may be placed in a leadership role for an evaluation. This handbook is designed to complement the general CDC Introduction to Program Evaluation for Public Health Programs[1] manual (available at www.cdc.gov/eval). Users who desire to learn more about program evaluation are encouraged to refer to that manual which also includes a glossary and additional program evaluation resources.

Background

The nation's TB control programs are on the frontline of controlling one of the world's most deadly diseases. To date, TB programs have been very successful, as evidenced by a sustained downturn in TB incidence during the last decade. However, recent demographic and health system changes in the United States are challenging state and local control efforts. These include the concentration of TB in high-risk, hard-to-reach U.S.-born populations; the increasing immigration of persons from high-burden areas of the world; and changes in the organization, delivery, and financing of health care. In addition, all public health programs are being asked to increase services but without an increase in resources.[2] As a result, TB programs cannot continue to conduct business as usual and expect to achieve the overall goal of elimination.

The 2000 Institute of Medicine (IOM) report, *Ending Neglect: The Elimination of Tuberculosis in the United States,*[3] encourages all public health departments to evaluate their performance regularly. Likewise, the Division of Tuberculosis Elimination (DTBE) and the National TB Controllers Association (NTCA) also recognize the need for systematic program evaluation, as evidenced by its emerging prominence as a priority in policies and cooperative agreements.[4] Program evaluation offers public health programs a systematic, structured mechanism for improving and enhancing services and operations.[5] Recently, a collaborative TB Evaluation Work Group (EWG) was established to actively involve CDC, DTBE, state, and local partners in the promotion of program evaluations. The EWG actively works to build evaluation capacity within TB programs nationwide. To achieve this goal, EWG is developing evaluation tools and materials, such as this handbook, to guide TB programs in conducting self-evaluations. After reading this handbook and referring to the CDC manual, anyone seeking further evaluation guidance or technical assistance should contact EWG at TBEWG@cdc.gov.

TB Goals and Objectives

In the broadest sense, the goal of TB programs is self-evident: to better control, and eventually, eliminate TB. The strategies to reach that goal are diverse. At a **national level,** the Healthy People 2010 objectives are

- *[objective 13-11]* Conduct HIV testing in TB patients (aged 25–44 years).

- *[objective 14-11]* Reduce TB.
- *[objective 14-12]* Increase the proportion of all TB patients who complete curative therapy within 12 months.
- *[objective 14-13]* Increase the proportion of contacts and other high-risk persons with latent TB infection who complete a course of treatment.
- *[objective 14-14]* Reduce the average time for a laboratory to confirm and report TB cases. [6]

Also at a **national level**, the Government Performance Reporting Act (GPRA) goals are

- Increase the percentage of TB patients who complete a course of curative TB treatment within 12 months of initiation of treatment (some patients require more than 12 months).
- Increase the percentage of TB patients with initial positive cultures who also have drug-susceptibility results.
- Increase the percentage of contacts of infectious (AFB smear-positive) cases who are placed on treatment for latent TB infection and complete a treatment regimen.

At the **state and local level**, these broad goals can help in setting policy objectives, but given the wide differences in TB programs' target populations, community risk factors, and organizational structures and capacities, each program must identify more tailored intermediate goals and objectives in order to address the unique concerns of its community. Often these goals are not formally articulated, but are reflected in program practice, resource allocation, and general program operations. For example, a TB program with a stated goal of increasing completion of therapy, may implicitly reach the goal by providing extensive services for persons in a high-risk immigrant community. Specific outreach, testing, and treatment strategies are implemented to achieve this goal. Another program may reach the same goal by focusing on specific populations. Part of the evaluation cycle, as you will see, necessitates that these implicit, unstated goals (e.g., provision of extensive services for persons in high risk immigrant community) be formally recognized and documented.

Why evaluate TB prevention and control programs?

All program resources and activities work together to accomplish a goal. Program evaluation is a valuable tool to help ensure that this is occurring. It is a structured process that helps TB staff monitor progress toward program goals, learn from both successes and mistakes, make modifications as needed, and judge the success of the program in achieving its short-term, intermediate, and long-term outcomes. Through program evaluation, you and others at the TB program can track changes and, with careful evaluation designs, assess the effectiveness and impact of a particular program, intervention, or strategy. Evaluating your TB program can help you:

- Monitor progress toward national and program goals,
- Demonstrate that a particular TB program activity is effective,

- Determine whether program components are producing the desired effects,
- Permit comparisons among groups, particularly among populations with disproportionately high TB rates,
- Justify the need for further funding and support,
- Learn how to improve programs, and
- Ensure that only effective programs are maintained and resources are not wasted on ineffective programs.

It is important to assure participants that program evaluation is not a mechanism to evaluate individual staff members. The evaluation process focuses on operations and systems, not specific behaviors.

Program evaluation and data collection for surveillance and research

TB programs collect a large amount of data. For example, the Report of a Verified Case of Tuberculosis (RVCT) requires data for dozens of elements to be collected on each patient. The National Tuberculosis Surveillance System, for example, provides routine and continuous collection of individual data over time on predetermined TB factors such as incidence and prevalence. Surveillance data are largely standardized across programs and, among their many uses, can play a helpful role in program evaluation, allowing monitoring/tracking of what a program does and how it is doing in a global sense. However, apart from surveillance, program evaluation aspires to answer not only “what” and “how,” but “why” a program is doing well or poorly. Hence, when using surveillance data for evaluation purposes, other quantitative and/or qualitative data are needed as well. Surveillance and other data sources will be discussed later.

Most TB programs also collect and analyze data for quality assurance processes. For example, many programs conduct cohort reviews to assess and ensure each patient’s achievement of treatment objectives. Again, these data serve many purposes, and can be valuable sources of information that can be integrated into program evaluations.

Finally, many TB programs participate in research projects that require data collection. Research and program evaluation both answer complex questions, and the line where research stops and evaluation starts is often blurry. Typically, research strives to produce generalizable knowledge and contribute to the overall science and evidence base. By contrast, program evaluation focuses on specific questions about specific programs and their beneficiaries. While the insights from evaluation may indeed be generalizable beyond the specific program, the primary intent is to examine one TB program given its specific context, opportunities, and limitations.

Why use the CDC Evaluation Framework in TB Programs?

As we continue to move into the future, CDC is expected to focus on achieving results in health improvement through performance reports and budget requests. The effectiveness of our programs is measured by evaluation information. To help programs provide credible information on program effectiveness, CDC developed a framework for program evaluation which describes a systemic way to collect, analyze, and evaluate public health actions.

In general, most TB program managers and staff already know what works, and what does not, in their programs. Why should anyone take the time to use this framework? The answer is that all TB programs are complex - even small ones - and have many dimensions. This framework provides a systematic, disciplined way to ensure that you ask the right questions and consider the appropriate range of factors when identifying your problems – or your successes. It also ensures that your evaluation will provide you with sufficient information to enable you to use your findings to improve your program.

The Framework is based on sound research. The process described works, and works well. It is also flexible and adaptable. Small programs and large programs alike can use it effectively. It also supports a participatory process. This type of approach is proven to be most effective in ensuring that evaluation results are implemented, and that the report does not just sit on a shelf.

While some of these steps may seem time consuming, they need not be in every case. For small-scale evaluations, you may complete any given step in a few minutes or a few hours. You may go back and forth between steps throughout the process. For example, you may identify correctional health staff as stakeholders in Step 1, but only develop a plan to engage them *if* you choose to focus on that component of your program.

Applying the Standards for "Good" Evaluation

In addition to applying the CDC Evaluation Framework, program evaluators should be guided by a set of standards to ensure an effective and productive evaluation. The four standards guiding the evaluation are utility, feasibility, propriety, and accuracy. Examples of how these evaluation standards can be applied throughout a TB program evaluation will be provided at each step of the evaluation process.

Strengths of the CDC Framework for Program Evaluation

- Provides a systematic method for evaluation
- Is based on sound research
- Is flexible and adaptable
- Promotes a participatory approach
- Focuses on using evaluation findings

TB Evaluation Team

Before starting the evaluation, as with any organizational process, your program should designate one person to lead the effort. The role of the lead evaluator is to coordinate evaluation efforts, including planning, budgeting, and interfacing with partners. The lead evaluator should have an understanding of evaluation principles, but he or she does not need to be an evaluation expert. The information in this manual should be sufficient to lead anyone through the evaluation process.

Good evaluations are not conducted by only one person. Program evaluations require a multidisciplinary team to ensure different perspectives are represented. In addition to the lead evaluator, other members of the evaluation team should be able to provide:

- Knowledge of the TB program’s policies and procedures,
- Knowledge of the program’s budget process and cycle,
- Involvement in case management,
- Representation of TB clients,
- Representation of program management, and a
- Commitment to evaluation objectives.

The TB evaluation team should collectively represent most or all of the key stakeholders of the program. Team members should have dedicated time for conducting evaluation related activities if it is not their full-time assignment. After an evaluation team has been assembled, you should be ready to begin with the first step of the CDC Framework for Program Evaluation.

Characteristics of a Good Evaluation Team

- **Shared Vision**
  Members of the team should share a common goal that drives the evaluation process. It is important that all team members come to consensus about what will be the focus of the evaluation, who will be the primary users of the evaluation, and what conduit should be used to report evaluation findings.

- **Diversity**
  Your team should represent a cadre of disciplines and professionals at every level. A diverse group provides a multitude of different perspectives on how to drive the evaluation. This will result in a holistic evaluation that provides useful information to the multitude of people involved in TB control.

- **Expertise**
  Team members must bring to the evaluation a certain level of knowledge about the TB control program that is being evaluated. Experts in program management, case management, finance, policy, health communications, and information technology are needed – in short, team members should represent every aspect of the program.

- **Defined Roles and Responsibilities**
  Roles and responsibilities of each team member must be well thought out and defined. Moreover, each team member should be aware of other team member's role in the evaluation process, actions that drive the evaluation, and processes that will ultimately be used to report evaluation findings. It is important that each member's role be defined so that no confusion occurs within the group during a critical phase of the evaluation.

- **Communication**
  Communication among team members is critical! Team members are parts of a functional unit. If team members do not communicate with each other about the evaluation, they can very well diverge from their common goal of conducting a holistic evaluation of a TB control program. Team members may duplicate each other's work, may remain stagnant when a road block appears, or may lessen the level of their commitment if they do not communicate. The old adage "The left hand doesn't know what the right hand is doing," describes a team whose members fail to communicate with each other.

- **Commitment**
  Members of the evaluation team should be committed to the project from beginning to end. At the very least they should be expected to carry out their individual tasks to completion. All too often, evaluation team members come aboard with high energy and high expectations, but as time goes by attention may wane, assignments are set aside, and ultimately valued members of the team may become less involved. This scenario doesn't always occur, but special attention should be paid to the commitment level of your team. Team members should be ready to see the evaluation through completion. However, if an unforeseen event splits the team, plans should be in place on how to deal with the deficit in work power and expertise.

- **Willingness to Embrace Opportunities**
  Group members should be open to learning new things and expanding their knowledge. Members of a good evaluation team are also willing to seek out and embrace any training opportunities that arise, as all evaluation is a learning process.

STEP 1: ENGAGE STAKEHOLDERS

Why Involve Stakeholders in TB Program Evaluation?

As noted, program evaluation is a value-laden process… but *whose* values? The CDC Framework for Program Evaluation tells you that a wide variety of stakeholders have an investment in TB programs and are potentially affected by an evaluation. Hence, there may be wide differences in their judgments about the program, what it does, what constitutes success, how data should be collected, and even how results should be distributed. To ensure that evaluations are useful and ethically sound, evaluators must respect the stakeholders' values throughout the evaluation process.

Identifying Stakeholders

So how do you find the TB program's stakeholders? The lead evaluator of the TB program is usually charged with ensuring that stakeholders are involved. In this role, the evaluator must resist the temptation to limit the scope of stakeholders to those most visible, vocal, or optimistic about the program. The team of people involved in the evaluation should be as representative of all stakeholders' perspectives as possible.

Following are some examples of stakeholders who may be identified to participate in the evaluation process:

Persons involved in program operations

- TB program nurses, outreach workers, clinicians, clerks, program supervisors
- Other public health staff and managers
- Service providers (both public health staff and in the community)
- Staff and managers at partner/collaborating agencies
- Coalition/advisory groups

Persons served or affected by the program

- TB patients
- LTBI patients
- Family, friends, co-workers of TB patients
- Employers, unions, business leaders
- Managers at schools, jails/prisons, nursing homes, other congregate settings
- Hospital representatives
- Insurance company representatives
- Private physicians and health care providers
- Legal system/law enforcement representatives
- Advocacy group representatives
- Representatives of populations disproportionately affected by TB
- Program critics

Intended users of evaluation findings

- TB program managers
- Public health managers and administrators
- Health commissioners
- Funding agency representatives

- CDC representatives
- Advocacy group representatives

Most programs will have a large inventory of stakeholders. Once you have an initial listing, you may see the benefit of determining the most important stakeholders to keep engaged, especially if time or resources are scarce. The most important stakeholders will vary with the particular intervention or program. They are the stakeholders who can increase the credibility of the evaluation, implement the findings, or authorize or fund the program.

"Priority" stakeholders:
- Increase the credibility of the evaluation efforts
- Are involved in the implementation of program activities
- Will advocate for or authorize program changes
- Will fund program improvements

Stakeholder Perspectives

By definition, each of these groups has a different perspective on the TB program and how its resources should be channeled. For example, program administrators may hold a skeptical view of the use of funds for enablers and incentives while outreach staff may see such funds as insufficient. As an evaluator, you should be aware that these different perspectives will influence how the evaluation and its findings are ultimately viewed. Anticipating these differences will help you address them appropriately; however, you should be careful not to make too many assumptions about people's perspectives. Talking to persons from each of these groups will help you understand their views and concerns about the program. For example, in one TB program, a manager assumed that staff would be overburdened by adding a new initiative. The staff members, on the other hand, recognized the value of the initiative to their patients, and thus were less concerned about extra work. Further, some staff persons felt the new tasks would help them develop professionally.

It is especially important to address the concerns of the "critics." While it is hard to imagine people being skeptical of the need to control TB, it is important to recognize that TB programs are competing for resources with other important programs and services. Even within a TB program, people may have different ideas about what priorities deserve the limited resources. The evaluation needs to justify the value of TB services to those critics who would use resources elsewhere.

Engaging Stakeholders throughout the Evaluation

Not all stakeholders need to be engaged throughout the evaluation or engaged in the same way. For many stakeholders, such as health department administrators, it may only be necessary to inform them that the evaluation is occurring. Other stakeholders such as program managers, supervisors, and client representatives will want to be involved in defining evaluation questions and using results to modify services. Nurses, outreach workers, and other staff may help collect data. Others can be involved in advocating for the evaluation and for the program itself. You must strategically involve key stakeholders throughout the process to ensure that the ultimate users will be satisfied with the results of the evaluation and will use the findings to enhance their program.

How to Gain True Buy-in from Stakeholders

- **Taking Ownership –** Involvement of stakeholders in the evaluation increases the likelihood of buy-in, use of evaluation findings, and programmatic changes that result from evaluation findings.
- **Group Persuading -** Use group members who are already “on-board” with evaluation efforts to persuade dissenting members to participate in and support efforts.
- **Infusing -** Determine what is most important to the stakeholders, and if it does not conflict with other stakeholder views dramatically, infuse elements of these views into the evaluation. To do this effectively, understand their position on program and evaluation efforts: are they over-the-top optimists, realists, pessimists, or antagonists?
- **Using inherent talents -** Determine what contributions the stakeholders can make in evaluation efforts, engage the stakeholders, and then make them aware of how greatly they can influence the evaluation by participating.
- **Determining your role as an evaluator: Leader or Facilitator-** Know whether or not to assume the position of a leader or a facilitator. A leader manages and controls, while a facilitator provides services and aids the stakeholders in conducting the evaluation. You can determine what role to assume by the amount of evaluation capacity built into the program and the environment in which the program functions.

Application of Standards for “Good” Evaluation - Step 1

Utility: Who will use the results to improve or enhance the TB program?

Feasibility: How much time and effort should be devoted to stakeholder engagement?

Propriety: To be ethical, which stakeholders need to be consulted (i.e., do we need to engage patient representatives, advocates, community liaisons)?

Accuracy: How broadly do we need to engage stakeholders to paint an accurate picture of this TB program and its context?

STEP 2: DESCRIBE THE PROGRAM

Purpose and Elements of Program Description

The second step in the CDC evaluation framework is to describe the program. Everyone agrees that the mission of a TB program is to control and eventually eliminate tuberculosis. In TB, perhaps more than in other public health programs, it may appear that everyone knows what happens and why, since many TB control activities have been in place for decades. However, based on their role or position, different stakeholders have different perspectives on the program's objectives, resources, activities, and timelines. As your evaluation team goes through the process of describing your program, you may discover unfounded assumptions or gaps in your planning that could, if unexamined, impede success.

The scope of your program description should reflect the system's current standards of care and public health practice. It is tempting to only describe the program's "known" problem areas. The evaluation process specifically encourages you *not* to do this. First, because of the increasing complexity of the TB service provision environment and the increasing need to coordinate services with providers such as health maintenance organizations or other specialized service providers (e.g., HIV, methadone, or migrant health clinics), it is important to examine how the entire program is interconnected to fully understand internal and external factors. Second, describing program areas that are working may give insight into factors that need to be examined in an area that is not. For example, a program may discuss an appointment system in the description of its successful clinical scheduling system, but mention none for its under-performing field-based activities.

Having the evaluation team involved in program description ensures that you all have a shared understanding of the program's activities and intended effects and a recognition of how your program fits into the larger context within which you operate. By working through the process of describing your program, your evaluation team should uncover and resolve any discrepancies in order to reach a common understanding of your activities and their effects. A clear description of your program will also provide a common foundation for the evaluation. If a strong strategic plan already exists for a TB program, as is often the case in TB, the task of program description is made simpler, since the goals and objectives have already been articulated. At a minimum, the program description should address:

- The specific **needs** for TB program services in the community,
- The **target audience** of TB program services,
- The **context** in which the program operates,
- The **objectives** of the program,
- The program's **stage of development**,
- The program's **resources/inputs**,
- All of its **activities**, and
- The intended **results** (**outputs and outcomes**) of the program.

Note that while the description needs to address the above areas, the level of detail does not need to be extensive. Progress reports and existing documents will provide much of the needed information, supplemented by the information known by the members of the evaluation team.

The Need

Your description of the need for your program should include an analysis of the magnitude of TB-related morbidity and mortality in various segments of the population in your program area. Many of the data needed for these calculations are already routinely collected by TB control programs through the Report of a Verified Case of Tuberculosis (RVCT) and Aggregated Report for Program Evaluation (ARPE) forms. The information gathered on these data collection instruments can be stratified to identify TB-related health disparities among specific population segments or communities, and also to determine trends in local epidemiology. In addition to the data garnered from the RVCT and ARPE, other national and state health data collected by the Census Bureau, national and state surveys, regional or community surveys, case studies, cohort reviews, expert panels, and similar sources may also be included in the description of need. However, these data will only provide a partial picture. Ideally, you should use state or regional data in combination with national data to describe the need for the TB program.

Target audience

The target audience is the group(s) that your program tries to reach in addressing TB concerns. For example, for some communities where TB rates are high, your program may have chosen a subset of the population on which to focus prevention efforts. To reach these groups, you may need to work with other intermediaries or partners. For example, to reach homeless persons, you will need to work with shelter directors; to reach inmates, you will need to work with prison health staff.

Context

The context for TB programs varies widely. As part of the evaluation process, you need to understand how “environmental” factors affect your program’s operations. These environmental factors include how the program is administered, how TB services are delivered, and how the TB program “fits” with other health and social services in the community determine what a program can achieve and how it can change. Your description needs to address all of these fundamental questions.

Objectives

Objectives define what a program intends to do. They should clearly define what changes will occur after program activities have been implemented. Although they may not be formally written, all programs have underlying objectives. If objectives have not been written, you may find that different stakeholders have different assumptions about the program’s intentions. For an evaluation to be successful, it is essential to take the effort to make the objectives explicit and SMART (specific, measurable, achievable, relevant, and time-bound), so that they can be assessed. Objectives define the intended outcomes of your efforts. They will also help you in Step 4 when you are defining indicators and benchmarks of success.

SMART Objective

In order to be most effective, objectives should be clear and leave no room for interpretation. S-M-A-R-T is a helpful acronym for developing objectives that are *specific*, *measurable*, *achievable*, *relevant*, and *time-bound*.

An example of a SMART objective for TB is as follows:

In County X, increase the percentage of adult patients with TB who complete treatment in less than 12 months (as measured by cohort review) from 80% to 90% (the national goal) by 2008.

The objective is ***specific*** because it identifies a defined event: adult TB patients will complete treatment in less than 12 months. The objective is ***measurable*** because it specifies a baseline value and the quantity of change the intervention is designed to achieve: from 80% to 90%. As in the example, it is worthwhile to note whether there is an existing data source for the objective. The objective is ***achievable*** because it is realistic given the 10-year time frame. The objective is also ***relevant*** because it relates to the elimination of exposure to TB. Finally, the objective is ***time-bound*** because it provides a specified time frame by which the objective will be achieved (from 2004 to 2008).

A tool to help write SMART objectives is given below:

Objective	Increase percentage of adult patients with TB who complete therapy (within 12 months) from 80% to 90% by 2008.						
Breakdown	**VERB**	**METRIC**	**POPULATION**	**OBJECT**	**BASELINE MEASURE**	**GOAL MEASURE**	**TIMEFRAME**
	Increase	Percent	Adult patients with non-resistant TB	Completion of therapy (w/in 12 mos)	80%	90%	By 2008

Stage of Development

You will also need to assess the developmental stage of the different components of your program. Although the overall TB program may have a long history, specific services and activities are likely to be at different stages of program development. If the scope, duration, or frequency of an activity is going to change in the near future, you will want to note that in your program description, since the stage of development influences how ambitious you can be in expectations of program success. A changing or transitioning program development stage is especially important in TB, since any outcomes related to completion of treatment or prevention of relapse require sufficient time.

Resources or Inputs

The description of your TB program should also include the program inputs or resources that enable you to carry out activities. In describing the program's resources, you need to clearly articulate all human and other resources invested in TB control.

In TB, typical resources include:

- TB program staff (including supervisors),
- Training and continuing education for staff,
- Funds (from multiple sources, including CDC, Medicaid, private insurance),
- Resources associated with TB clinics (space, medicines, x-ray facilities, etc.),
- Resources associated with TB laboratories,
- Health department infrastructure resources (administrative resources, etc.),
- Data systems, and
- Program policies and procedures, and laws regarding TB control.

In addition to the direct resources used by the TB program itself, inputs should also include the resources tapped from partnerships with other health care providers, such as hospitals and private clinics. For example, HIV, alcohol, and drug treatment programs often provide resources to TB programs. School, correctional, immigrant health, and homeless assistance programs may also have resources to include as inputs. Similarly, local advocacy groups such as the American Lung Association may be existing or potential resources for your program. In this way, describing how the TB program "fits" with other health departments and public and private services in the community is essential; these interconnections often enhance or limit a program's ability to implement changes.

Program Activities

Outlining a TB program's activities is perhaps the most intensive stage of developing a program description. Some starting points for describing TB activities might include some of these core components:

- Conducting overall planning and development of policy;
- Identifying persons who have clinically active TB;
- Managing the assessment, problem identification, planning, implementation, and evaluation of the patient's psychosocial factors related to TB diagnosis;
- Identifying and managing persons infected with *M. tuberculosis;*
- Providing laboratory and diagnostic services;
- Collecting and analyzing data ; or
- Providing training and education to patients, providers, and the community

Although you may find that your evaluation focuses only on some of these activities, understanding the entirety of TB-related activities in your community is important. As noted above, these program pieces are interrelated, and changes to one activity will likely impact all.

Outputs. As the examples in Table 1 show, outputs are tangible materials, services, and capacities that are a product of your program's activities. However, they do not sufficiently provide indications of a program's success in creating changes that affect the TB burden in a community. They are means to ends.

Table 1

Activities	Outputs
Planning and policy development	• Strategic plan for TB • Policy manual
Finding TB cases: testing	• Placed and read skin tests • X-rays performed • Sputa collected and tested
Managing TB cases: assessment, treatment, and case management	• Case managers assigned to cases • Assessments completed • Treatment plan written • Case management contracts developed
Finding and managing persons with LTBI: testing, treatment, management	• Contacts/high-risk persons identified • Placed and read skin tests • Treatment plans written • Follow-up provided
Providing laboratory and diagnostic services	• Lab tests done • Reports sent
Collecting and analyzing data	• Forms completed • Reports run
Providing training and education	• Provider training materials developed • Patients (cases and LTBI) education provided

Outcomes. Outcomes are the changes in persons or the community that result from TB programs activities. For most programs, evaluators distinguish outcomes into categories: short term/intermediate outcomes, and long term outcomes. Program objectives define many of the intended outcomes.

- **Short term or intermediate outcomes** program results that show that changes have occurred because of a program, but are not the long term results intended by the program. For example, changes in patient or provider knowledge, attitudes, beliefs, or behavior can all be intermediate outcomes. Like markers along the way, these outcomes can show if the program is headed in the right direction. For example, an increase in patient adherence to treatment is an intermediate outcome that shows progress toward completion of treatment.
- **Long-term outcomes** are more distal changes in organizations, communities, or systems that occur as a result of your activities. Examples of long term

outcomes are:

- Decrease morbidity and mortality among foreign-born persons with multi-drugs resistant TB, and
- TB in the US-born African-American community in a given county will be eliminated.

Graphic Depictions of Program Description: Logic Models

A logic model takes all the information in the program description above and organizes it into a graphic depiction—a picture. A logic model links the aforementioned inputs, activities, outputs, outcomes, and impacts of your program as a series of if-then statements. ***If*** certain inputs are provided, ***then*** specific activities can be performed. ***If*** those activities are performed, ***then*** outputs will result. ***If*** outputs are produced, ***then*** short-term outcomes will be achieved. ***If*** short-term outcomes are achieved, ***then*** long-term outcomes will be realized.

Why draw a logic model?

- Provides a sense of scope – what are the program's components? How are they interconnected?
- Serves as a "map" to help ensure that systematic decisions are made about what is to be measured in the evaluation process and that gaps in information do not occur
- Organizes indicators and ensures that none are overlooked
- Visually communicates why indicators and tools matter in the overall scheme of TB programs' efforts to achieve outcomes

It may help to keep the following in mind as you develop your logic model:

- To plan a new program, start the logic model by listing the outcomes you want to achieve.
- To evaluate an existing program, start with activities you are doing.
- Use boxes or arrows as necessary to fully describe the program.
- Remember, there is no right or wrong logic model. Focus on developing one that is clear to the stakeholders.
- Be ready to do several versions and revisions in the process of developing a logic model that reflects the shared understanding of the program's intended purpose.

A key reason to use logic models is to show the interconnection among program resources, activities, and outcomes. For example, a program had incomplete data from sputa test results. Routine practice assumed the specimen collection process was problematic. However, in the process of developing a comprehensive logic model it became clear that laboratory activities also contributed to the incomplete data. Revising the contracting process with the lab provided an effective solution.

Since logic models can exist at any level of generality, you are encouraged to represent a complex TB program by using a global logic model that provides an overview of the program and more specific logic models that highlight areas of focus. This is what was done by the Evaluation Working Group (EWG) based in the Division of Tuberculosis Elimination at CDC. The EWG developed a meta-logic model for TB elimination that represented the intended relationships between five areas of concentration and the goal, TB elimination. They then developed more specific logic models that "zoomed in" on each of the five focus areas – capacity and infrastructure, evaluation capacity, timely completion of therapy, contact investigation, and prevention of TB in high-risk populations. The EWG logic models are included in Appendix A. However, logic models don't have to be complex graphics. Tables or hand-drawn sketches often serve the purpose well.

<u>How to use the examples of TB logic models</u>

Logic models developed for high-priority TB program activities are available in the appendix. Review these models to see how the "if-then" sequence from inputs to activities to outcomes works in a theoretical program. Then decide if you can adapt these models to describe your own program.

<u>Application of Standards for "Good" Evaluation - Step 2</u>

Utility: Is the level of detail with which the TB program is described appropriate for the use of this evaluation? Is the program description intelligible to those who need to use it to make evaluation planning decisions?

Feasibility: Does the program description show a feasible link between resources, staff activities, and patient- /program-level outcomes?

Propriety: Is the description complete and fair in assessing all aspects of the TB program? Does the program description include enough detail to examine both strengths and weaknesses, and unintended as well as intended outcomes?

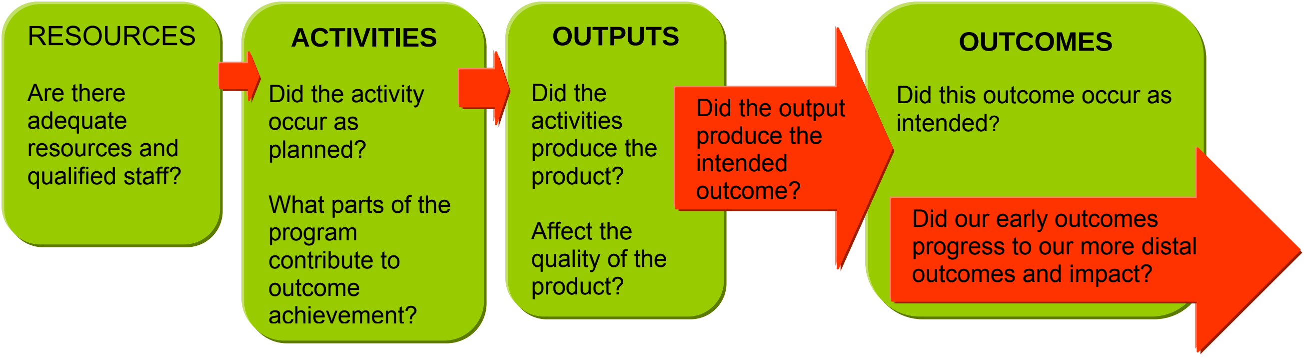
Accuracy: Is the program description comprehensive? Have you documented the context of the TB program to ensure that likely influences, both internal and external, can be identified?

STEP 3: FOCUS THE EVALUATION DESIGN

Getting Started

A major payoff for investing time in a complete description and logic model(s) of your TB program is that it makes it easier to identify what to address in the evaluation. First, the logic model will help you decide the right questions to ask about the program. Every box in the logic model can inspire questions: Was this resource available? Did this activity occur as planned? Did this outcome occur as intended? Likewise, the arrows may be a focus: Did the output produce the intended outcome? Did early outcomes progress to more long-term outcomes? The key is to apply a disciplined process for deciding which boxes and arrows should be part of a specific evaluation.

There are different ways to focus an evaluation. Asking questions about inputs, activities, and outputs is often referred to as **process evaluation,** and asking questions about changes that have occurred or effects that have taken place as the result of the TB program – the short- and long-term outcomes – is referred to as **outcome evaluation.**



RESOURCES

Are there adequate resources and qualified staff?

ACTIVITIES

Did the activity occur as planned?

What parts of the program contribute to outcome achievement?

OUTPUTS

Did the activities produce the product?

Affect the quality of the product?

Did the output produce the intended outcome?

OUTCOMES

Did this outcome occur as intended?

Did our early outcomes progress to our more distal outcomes and impact?

Types of Evaluation: Focus in TB Control

Process evaluation

For established programs, process evaluations help program stakeholders understand why the programs are achieving the results they are, and serve to complement outcome evaluations. This information specifies what needs to be done in order to enhance the program: either improve implementation or change the program. For example, a TB program operates a DOT clinic in a community center. After performing a process evaluation, the evaluators find that many TB patients are not attending the clinic. Follow up interviews with a few patients and providers show that owing to changes in the public transportation system, the center is not easily accessible to most of the TB patients. Program managers rethink the plan and decide to relocate the clinic.

For new programs, process evaluation helps staff find and correct problems before they can affect the program. For example, a TB program begins a targeted education campaign to increase the number of private providers who are aware of TB. The campaign utilized a brochure that provides a web address for more information. By evaluating the process, TB program managers found that only a few of the targeted providers were accessing the website. Interviews with a small number of providers determined that the instructions for the brochure distribution were unclear and the web address was difficult to access. A follow-up letter, clearly explaining the process and providing a simpler web address, was drafted and sent to the private providers. As a result, website usage increased.

Even when outcomes are being achieved, process evaluations can be a valuable way to assess the efficiency of a program. Many process evaluations have shown that certain activities are duplications of other work, and that other once-useful activities are no longer productive. For example, a TB program may find that both the nurse and the DOT worker are recording the same patient information in different files. A simple system to update computer records reduces the redundancy and improves access to the most current information.

Outcome evaluation

Outcome evaluations show whether or not a program achieves the desired effects. You may ask, “Did our program activities produce the changes we wanted? “

While some evaluations may have only one focus, i.e., either processes or outcomes, program evaluation that is intended to yield the most insights for program improvement must consider both. For example, a program manager may find that the rate of completion of treatment increased by more than a third after the implementation of a universal DOT program. However, this statistic provides only a limited amount of information. Could there be another explanation for the increased rate (i.e., a change in reference population)? Is an increase of at least 33% sufficient, or could the rate be even better? Could the DOT program work better? Combining process and outcome evaluation can help answer these questions.

Logic models help in this scenario also. The logic model is your best tool for “tracing back” the factors that contribute to good or poor performance on an outcome. For example, if the percentage of patients completing treatment is less than what is set in the objective, the logic model shows what parts of the program were supposed to produce that result, in this case, patient tracking and support efforts. Process evaluation of those components will help reveal whether the current level and quality of these activities are sufficient or whether something more effective will need to be implemented.

Likewise, when outcomes are being met, knowing what works facilitates the education of new staff and the sharing of successes with other programs. For example, a TB program developed a procedure for conducting contact investigations in congregate settings. The evaluation served to document how the program worked and to share the process with new staff, thus ensuring that the successes were sustained. The evaluation provided a “best practice” that could be shared with other TB programs.

Choosing an evaluation focus and defining evaluation questions

Seldom are entire TB programs evaluated. For every program, there are thousands of possible evaluation questions that can be asked. However, no evaluation team has the resources to answer all of them. Recognizing that you have limited resources for evaluation, you must prioritize your questions and decide which parts of the program to address. As the evaluator, your role should be to guide the narrowing process to ensure the information produced will be usable. Stakeholders can help prioritize areas of concern, and the logic model can serve as a map to help you understand how the program elements fit together. The logic model can also help you determine the time span (short-term, mid-term, and long-term) over which outcomes should be measured. For example, while we in TB may want all of our programs to aspire to the goal of elimination, we cannot expect any single program to achieve this alone. Hence, it is better to judge a single program on more short-term and localized outcomes.

There is no single “right” evaluation focus. The purpose of the evaluation and the intended use of the findings should drive what is asked. For this reason, evaluations looking at the same general program area will focus on different questions. For example, two different programs may choose to evaluate their case management processes. One county program planned to hire and train new staff, so they needed to know what case managers do effectively. They chose a process focus that examined activities and outputs achieved. Another program needed to justify the funding for case managers to county administrators. Their evaluation focused on how case management activities lead to positive patient and cost outcomes such as reduction of lengths of hospital stays and timely completion of therapy.

Evaluation Designs

Although program evaluation questions are geared to answering specific questions for specific programs, the designs for answering them can vary. Some designs resemble research designs, while others are less formal. However, it is **important to remember that the purpose of evaluation is to improve programs,** not to publish generalizable findings, and therefore, you need only collect data sufficient to answer your evaluation questions. For example, if you wanted to know if an educational message or brochure influenced patient treatment adherence, you could easily measure this with a traditional research design, randomly selecting exposure and control groups, then tracking outcomes. Where random selection of participants is not possible, quasi-experimental designs, such as implementing an intervention in one clinic but not in another, can be used. However, since an evaluation is not performed to extrapolate findings to other programs, **you should collect only the data that you need to answer the questions** at hand.

The evaluation standards are helpful in selecting your design. You will want to select a design that provides accurate information, but is at a level of detail that is most useful for the intended users of the evaluation. The design must also be feasible given the program’s operations and the resources available for the evaluation.

Traditional research designs are often hard to implement in field settings. Fortunately, other types of designs may be equally appropriate and more easily employed. The time series design is a popular strategy. For example, if you want to test the effectiveness of new contact investigation interview techniques, you can assess indicators such as number of contacts identified before and after the program's implementation. Alternatively, you may only be able to measure what happens after a program change has occurred. In such a situation, you can use the logic model to track short and intermediate outcomes and compare the actual results of the program to those expected when the intervention was planned. Although this evidence may not be irrefutable, such information is generally sufficient to know how well your program is working.

Design considerations

The audience. Utility of the evaluation finding is what drives the evaluation. How and by whom will the information will be used should be the primary concerns when selecting an evaluation design. It is essential that the intended users believe that the information generated by the evaluation is credible. When selecting a design, be sure to explain the types of results that can be expected.

The resources. Feasibility is another key concern for selecting an evaluation design, and often impacts choices. A design that would severely disrupt normal clinic operations should not be selected. Further, it is often not feasible to implement a program that serves only a subset of eligible persons, and it may be unethical to randomly assign patients into control groups.

Time. Time is a precious resource that must be considered when focusing an evaluation. Brilliant evaluation findings that come after the decisions have been made will be of little use.

Application of Standards for "Good" Evaluation – Step 3

Utility: Does the focus match the intended use of the evaluation? What do the key stakeholders need from the evaluation to improve or enhance the TB program?

Feasibility: What is the stage of development of the program? How intensive is it? What are the relevant resources and logistical considerations?

Propriety: Are staff and patients' rights protected by this design?

Accuracy: Does the evaluation design provide a sufficient level of evidence that the users will expect and feel is credible?

STEP 4: GATHER CREDIBLE EVIDENCE

Now that you have the evaluation questions and focus defined, you need to determine how best to collect the data. There are two related steps: expressing the general concepts in the evaluation questions as more tangible indicators, and then defining data sources for the indicators.

What are indicators?

Indicators are visible signs of whether or not a program is achieving the expected outcomes or progressing in the intended direction. They are usually measurable factors (e.g., numbers or percentages) that can be tracked to determine if there is an increase or decrease.[7] A good indicator is relevant, understandable, and useable. Indicators are commonly used to describe, monitor, set goals, advocate, and evaluate, and to provide information to agencies and organizations accountable for processes and outcomes.

As noted earlier in Step 2, if the program staff has already developed objectives in the SMART format, then they have a jump start on indicator development. SMART objectives are by definition measurable, and generally the indicator is self-evident. Remember the SMART example cited in Step 2:

> *Increase the percentage of adult patients with TB who complete treatment in less than 12 months (as measured by cohort review) from 80% to 90% (the national goal) by 2008.*

Since the objective was written to be measurable, the easily recognizable indicator is the *percentage of adult patients with TB who complete treatment within 12 months*. In this as in many cases, there may also be an existing data source (RVCT, ARPE, etc.) from which to collect this data. More will be covered about this in a later section.
A tool to create indicators from SMART objectives follows.

Objective	Increase percentage of adult patients with TB who completed therapy (within 12 months) from 80% to 90% by 2008.						
Breakdown	**VERB**	**METRIC**	**POPULATION**	**OBJECT**	**BASELINE MEASURE**	**GOAL MEASURE**	**TIMEFRAME**
	Increase	Percent	Adult patients with TB	Completion of therapy (w/in 12 mos)	80%	90%	By 2008

Breakdown	**VERB**	**METRIC**	**POPULATION**	**OBJECT**	**BASELINE MEASURE**	**GOAL MEASURE**	**TIMEFRAME**
	Increase	Percent	Adult patients with TB	Completion of therapy (w/in 12 mos)	80%	90%	By 2008
Indicator	Percent of adult patients with TB who completed therapy (within 12 months) in 2008						

Even when your evaluation questions do not draw on existing program objectives, you may use a similar process for developing objectives and indicators. The key is to determine an observable manifestation of the concept, or, if there is no directly observable indicator for a specific question, some **proxy**, or alternate, measure. For example, assessing the number of skin tests placed is easy and observable because you can count them. On the other hand, “patient trust in his/her health care provider” is important, but vague. You cannot “see” trust, but you can observe or measure its evidences, such as “patient reports personal information to the provider” or “patient states feeling of trust and confidence in the provider” and use it as a proxy measure.

Below are examples of some indicators that have been used for evaluating key components of TB programs. It is unlikely that any single evaluation will require all of them at the same time, but over the life of your program all the indicators on this list might prove useful:

Components	Indicators
Timely reporting	• Proportion of verified TB cases reported to the local health jurisdiction within 1 working day from treatment start date.
Program capacity	• Demonstrated ability (i.e., organization, staffing, resources, and facilities) to carry out the core components of a TB control program.
TB case rate	• Number of TB cases identified per 100,000 people.
Complete reporting	• Proportion of cases with complete data on key variables (i.e., homelessness, injecting drug use, non-injecting drug use, excess alcohol use)
Culture identification	• Proportion of pulmonary or laryngeal TB patients > 12 years of age with sputum culture obtained.
Recommended initial therapy	• Proportion of TB patients started on the recommended 4-drug regimen.
Timely treatment	• Proportion of sputum smear-positive pulmonary or laryngeal TB patients initiating treatment in < 7 days of specimen collection.
Culture conversion	• Proportion of sputum culture-positive TB patients with documented conversion to sputum culture-negative within 90 days of initiation of treatment.
Appropriate directly observed therapy (DOT)	• Proportion of TB patients for whom DOT is recommended who receive DOT throughout the course of treatment.
Inappropriate self-administered therapy (SAT)	• Proportion of TB patients for whom DOT is recommended who receive inappropriate SAT throughout the course of treatment.
Timely completion of therapy	• Proportion of TB patients who complete treatment in < 12 months.
Default from treatment	• Proportion of TB patients who default prior to completing treatment.
Contact identification	• Proportion of sputum smear-positive cases with at least one contact identified.
Contact evaluation	• Proportion of identified contacts to smear-positive cases who complete evaluation for TB infection or disease.
Contact treatment initiation	• Proportion of infected contacts to pulmonary cases who started treatment for LTBI.
Contact treatment completion	• Proportion of infected contacts to pulmonary cases who have started on treatment for LTBI complete treatment.
Pediatric TB cases	• Number of TB cases in children 0-4 years old.
TB deaths	• Number of persons who die of TB.

Data Collection

As noted earlier, while the list of indicators may appear daunting, TB programs routinely collect huge amounts of data, and many of these can provide information for key evaluation indicators. Data collected for the RVCT comprise a rich source of readily available information. Aggregated, these data can answer a wide variety of evaluation questions, especially regarding patient treatment outcomes. Similarly, the information collected for the ARPE is a great source for data related to contacts or targeted testing efforts.

While existing data sources like the RVCT and ARPE provide answers to some questions, you may need to gather other sources of information to supplement them. First consider sources you already have such as charts, records, and policies. You also have people who can provide information. The typical way to gain information from documents is review and abstraction. Some typical data collection methods for obtaining information from people include surveys, interviews, focus groups, document abstraction, and observation.

Data Sources

- Medical/clinical charts
- Clinic policies/procedure documents
- Clinic records (sign in/out sheets, supply inventories, personnel documents)
- Contact investigation forms
- DOT logs
- Training records (attendance, agendas) and materials (curricula, pretests and posttests, evaluation forms)
- Patient education materials
- Staff members
- Patients
- Other health care providers interacting with program

The following table provides an overview of the major methods used for collecting data during evaluations. [8]

Method	Overall Purpose	Advantages	Challenges
Questionnaires, Surveys, Checklists	Quickly and/or easily get lots of information from people in a non threatening way	• Can complete anonymously Inexpensive to administer • Easy to compare and analyze • Administer to many people • Can get lots of data • Many sample questionnaires already exist	• Might not get careful feedback • Wording can bias client's responses • Are impersonal • In surveys, may need sampling expert • Doesn't get full story

Interviews	Fully understand someone's impressions or experiences, or learn more about their answers to questionnaires	• Get full range and depth of information • Develops relationship with client • Can be flexible with client	• Can take much time • Can be hard to analyze and compare • Can be costly • Interviewer can bias client's responses
Documentation review	Get an impression of how program operates without interrupting the program; is from review of applications, finances, memos, minutes, etc.	• Get comprehensive and historical information • Doesn't interrupt program or client's routine in program • Information already exists • Few biases about information	• Often takes much time • Info may be incomplete • Need to be quite clear about what looking for • Not flexible means to get data • Data restricted to what already exists
Observation	Gather accurate information about how a program actually operates, particularly about processes	• View operations of a program as they are actually occurring • Can adapt to events as they occur	• Can be difficult to interpret seen behaviors • Can be complex to categorize observations • Can influence behaviors of program participants • Can be expensive
Focus Groups	Explore a topic in depth through group discussion, e.g., about reactions to an experience or suggestion, understanding common complaints, etc.; useful in evaluation and marketing	• Quickly and reliably get common impressions • Can be efficient way to get much range and depth of information in short time • Can convey key information about programs	• Can be hard to analyze responses • Need good facilitator for safety and closure • Difficult to schedule 6-8 people together
Case Studies	Fully understand or depict client's experiences in a program, and conduct comprehensive examination through cross comparison of cases	• Fully depicts client's experience in program input, process and results • Powerful means to portray program to outsiders	• Usually quite time consuming to collect, organize and describe • Represents depth of information, rather than breadth

Choosing the “right” data source, as noted in the main text, is situation-specific. Like everything else in the utilization-focused evaluation approach, the choice of data collection method reflects the time, resources, intended users, and use of the data. Typically, the **validity** and **reliability** of the data source are important, attention to these factors is always time well spent. When the evaluation question is about an abstract concept or reliable and valid data sources do not exist, a useful technique you can apply is **“triangulation”** of data sources (i.e., using multiple data sources to assess the same concept). For example, to obtain data on HIV status data it is useful to collect information from both RVCT and from the patient’s medical record. Both sources of data are important to review because sometimes the results of recent tests are in the chart but not recorded on the RVCT. Any data source can be biased for any number of reasons. Using multiple sources reduces the influence of these biases on information. Combining data gathered through different methods - interviews, observations, and patient records - will provide a much more accurate information. To obtain more information on data collection methods and how to use them, please refer to http://www.cdc.gov/eval/resources.htm#tools.

Application of Standards for “Good” Evaluation – Step 4

Utility: Will the data collection methods you have selected provide sufficient information to enable the TB program to be changed in a meaningful way?

Feasibility: Are the methods selected practical, and can they be implemented without upsetting program routine in a major way?

Propriety: Are the methods selected ethically sound, and are safeguards built in to protect confidentiality?

Accuracy: Are the methods sufficient to provide accurate, unbiased information?

STEP 5: JUSTIFY CONCLUSIONS

At this point you have a wealth of raw data. In this step, you will analyze it, draw conclusions, and justify those conclusions. Many of your earlier efforts in engaging stakeholders and choosing the right evaluation questions will provide us with good returns in this step.

Analyzing data

Assess the data using methods appropriate for the type of data collected. For RVCT and ARPE data, there are formulas you can use to calculate information that can be compared with national statistics. For other quantitative data, there are statistics, frequencies, and simple counts you can use. For qualitative data, techniques like content analysis can be employed. Both quantitative and qualitative data are useful in program evaluation. Any basic text or web search on research and analysis can provide sufficient instruction on how to conduct data analysis. Several of these can be found at http://www.cdc.gov/eval/resources.htm#tools.

Drawing Conclusions

Analyzing the data involves looking at what the data mean in addition to what they say. To draw conclusions, you need benchmarks or standards to which to compare the results in order to know whether the program was successful, unsuccessful, or both. The benchmarks are informed by the values and preferences brought by the stakeholders. For example, an objective of City X's TB program was to reduce the TB case rate by 9% over a 3-year period. At the end of 3 years, the program found that the TB case rate had exceeded expectations and declined by 10%. However, further investigation showed that during that same period, the TB case rate in the African-American community rose 15%. Was the program successful in meeting its objective? That depends on the standard for success being brought to bear. At this point the evaluation team needs to decide on the benchmark to which it will compare these findings in order to determine if their efforts were successful. Each of the stakeholders should help determine the benchmarks in order to be sure their needs for the evaluation are met. In the example above, the TB program management may want to declare the efforts successful, especially in front of an audience of funders. Alternatively, another stakeholder representing the African-American community may declare that the objective was not met because a 9% reduction was not achieved in all demographics.

Justifying Conclusions

This example demonstrates the need for stakeholders to reach consensus on the values by which they will judge the evaluation findings. From Step 1, you have already determined the different values and preferences stakeholders will be bringing to their judgments of the program, instead of waiting until it is time to interpret the findings. Once consensus on the benchmarks has been reached, the evaluation team will not only be able to draw conclusions, but will also be able to justify them to others.

In justifying the conclusions of the evaluation, you must ensure that the results are both accurate and useful for them to be of maximum value. The evaluation team should be able to justify the conclusions and the processes used to reach the conclusions in order to demonstrate accuracy. Similarly, the evaluation rationale, methods, and conclusions should be communicated in a way that is accessible and useful to the intended audience.

Application of Standards for "Good" Evaluation – Step 5

Utility: Do the stakeholders judge the conclusions useful and sufficient for them to take action regarding the TB program?

Feasibility: Are the recommendations realistic for the program to implement?

Propriety: Are the conclusions and recommendations reflective of and respectful of the options of all stakeholders, including those served by the program?

Accuracy: Can you explicitly explain your conclusions? Are the conclusions supported by the evidence?

STEP 6: ENSURE USE AND SHARE LESSONS LEARNED

All participants and stakeholders in the evaluation should receive information summarizing the evaluation's conclusions and recommendations. Even though you may choose to make different recommendations for different users of the evaluation, all recommendations should outline actions steps that can be taken to improve the program.

As in Step 5, the utility of the evaluation results and conclusions must be considered. The optimal method of dissemination will likely differ by audience, and by what you anticipate that the audience members will do with the information (which is where you began in Step 1). For example:

- TB program managers may prefer a written report detailing every aspect of the evaluation. They can use the report as a reference as they plan new initiatives and assess resource allocations.
- Other managers may want an informal briefing to help them brainstorm ways to enhance their program.
- Program staff may gain the most from an in-service training addressing how and why program modifications are to be made.
- Community members may benefit most from a town hall meeting or newsletter article in plain language.

Also, it is important to think about who is the best person to deliver the message. This may also vary by audience. For example, a community advocate may be much more effective and credible at communicating messages to a community group than a health department official would be.

Lessons about TB program activities or evaluation techniques should be documented, distributed within your TB program, and shared with other TB programs. Presenting results via presentations, posters, or articles in publications such as TB Notes are all ways to share your knowledge.

Application of Standards for “Good” Evaluation – Step 6

Utility: Do reports/presentations clearly describe the program, including its context, and the evaluation's purposes, procedures, and findings? Have you shared significant mid-course findings and reports with users so that the findings can be used in a timely fashion? Have you planned, conducted, and reported the evaluation in ways that facilitate improvement to the TB Program?

Feasibility: Is format appropriate to your resources and to the time and resources of busy administrators, managers, nurses, advocates, and other stakeholders?

Propriety: Have you ensured that the evaluation findings (including the limitations) are made accessible to everyone who will be involved with or affected by program changes?

Accuracy: Do evaluation reports and products impartially and fairly reflect evaluation findings?

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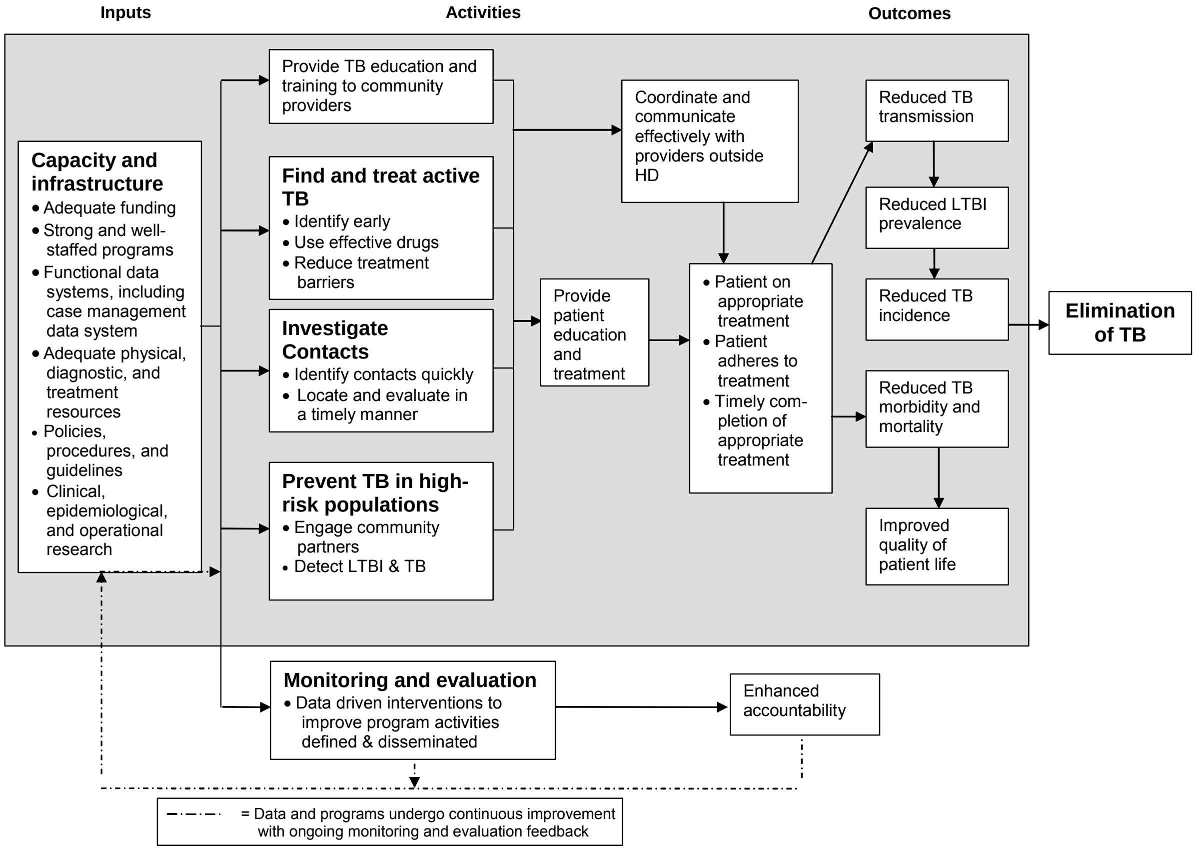
Appendix A

Meta-model for TB Elimination

Goal: Eliminate TB in the United States.



Draft February 4, 2004