

5

Expressing and Assessing Program Theory

Chapter Outline

The Evaluability Assessment Perspective (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_33#ch05lev1)

Describing Program Theory (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_34#ch05lev2)

Program Impact Theory (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_34#ch05sec1)

The Service Utilization Plan (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_34#ch05sec2)

The Program's Organizational Plan (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_34#ch05sec3)

Eliciting Program Theory (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_35#ch05lev3)

Defining the Boundaries of the Program (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_35#ch05sec4)

Explicating the Program Theory (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_35#ch05sec5)

Program Goals and Objectives (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_35#ch05subsec1)

Program Functions, Components, and Activities (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_35#ch05subsec2)

The Logic or Sequence Linking Program Functions, Activities, and Components (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_35#ch05subsec3)

Corroborating the Description of the Program Theory (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_35#ch05sec6)

Assessing Program Theory (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_36#ch05lev4)

Assessment in Relation to Social Needs (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_36#ch05sec7)

Assessment of Logic and Plausibility (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_36#ch05sec8)

Assessment Through Comparison With Research and Practice (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_36#ch05sec9)

Assessment Via Preliminary Observation (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_36#ch05sec10)

Possible Outcomes of Program Theory Assessment (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_37#ch05lev5)

In Chapter 3 (ch03.html), we advocated that evaluators analyze a program's theory as an aid in identifying potentially important evaluation questions. In this chapter, we return to the topic of program theory, not as a framework for identifying evaluation questions, but as a constituent part of the program that is being evaluated.

The social problems that programs address are often so complex and difficult that bringing about even small improvements may pose formidable challenges. A program's theory is the conception of what must be done to bring about the intended social benefits. As such, it is the foundation on which every program rests.

A program's theory can be a good one, in which case it represents the "know-how" necessary for the program to attain the desired results, or it can be a poor one that would not produce the intended effects even if implemented well. One aspect of evaluating a program, therefore, is to assess how good the program theory is—in particular, how well it is formulated and whether it presents a plausible and feasible plan for improving the target social conditions. For program theory to be assessed, however, it must first be expressed clearly and completely enough to stand for review. Accordingly, this chapter describes how evaluators can describe the program theory and then assess how good it is.

Mario Cuomo, former governor of New York, once described his mother's rules for success as (1) figure out what you want to do and (2) do it. These are pretty much the same rules that social programs must follow if they are to be effective. Given an identified need, program decisionmakers must (1) conceptualize a program capable of alleviating that need and (2) implement it. In this chapter, we review the concepts and procedures an evaluator can apply to the task of assessing the quality of the program conceptualization, which we have called the program theory. In the next chapter, we describe how the evaluator can assess the quality of the program's implementation.

Whether it is expressed in a detailed program plan and rationale or only implicit in the program's structure and activities, the program theory explains why the program does what it does and provides the rationale for expecting that doing so will achieve the desired results. When examining a program's theory, evaluators often find that it is not very convincing. There are many poorly designed social programs with faults that reflect deficiencies in their underlying conception of how the desired social benefits can be attained. This happens in large part because insufficient attention is given during the planning of new programs to careful, explicit conceptualization of a program's objectives and how they are supposed to be achieved. Sometimes the political context within which programs originate does not permit extensive planning but, even when that is not the case, conventional practices for designing programs pay little attention to the underlying theory. The human service professions operate with repertoires of established services and types of intervention associated with their respective specialty areas. As a result, program design is often a matter of configuring a variation of familiar "off the shelf" services into a package that seems appropriate for a social problem without a close analysis of the match between those services and the specific nature of the problem.

For example, many social problems that involve deviant behavior, such as alcohol and drug abuse, criminal behavior, early sexual activity, or teen pregnancy, are addressed by programs that provide the target population with some mix of counseling and educational services. This approach is based on an assumption that is rarely made explicit during the planning of the program, namely, that people will change their problem behavior if given information and interpersonal support for doing so. While this assumption may seem reasonable, experience and research provide ample evidence that such behaviors are resistant to change even when participants are provided with knowledge about how to change and receive strong encouragement from loved ones to do so. Thus, the theory that education and supportive counseling will reduce deviant behavior may not be a sound basis for program design.

A program's rationale and conceptualization, therefore, are just as subject to critical scrutiny within an evaluation as any other important aspect of the program. If the program's goals and objectives do not relate in a reasonable way to the social conditions the program is intended to improve, or the assumptions and expectations embodied in a program's functioning do not represent a credible approach to bringing about that improvement, there is little prospect that the program will be effective.

The first step in assessing program theory is to articulate it, that is, to produce an explicit description of the conceptions, assumptions, and expectations that constitute the rationale for the way the program is structured and operated. Only rarely can a program immediately provide the evaluator with a full statement of its underlying theory. Although the program theory is always implicit in the program's structure and operations, a detailed account of it is seldom written down in program documents. Moreover, even when some write-up of program theory is available, it is often in material that has been prepared for funding proposals or public relations purposes and may not correspond well with actual program practice.

Assessment of program theory, therefore, almost always requires that the evaluator synthesize and articulate the theory in a form amenable to analysis. Accordingly, the discussion in this chapter is organized around two themes: (1) how the evaluator can explicate and express program theory in a form that will be representative of key stake-holders' actual understanding of the program and workable for purposes of evaluation, and (2) how the evaluator can assess the quality of the program theory that has been thus articulated. We begin with a brief description of a perspective that has provided the most fully developed approaches to evaluating program theory.

5.1 The Evaluability Assessment Perspective

One of the earliest systematic attempts to describe and assess program theory arose from the experiences of an evaluation research group at the Urban Institute in the 1970s (Wholey, 1979). They found it often difficult, sometimes impossible, to undertake evaluations of public programs and began to analyze the obstacles. This led to the view that a qualitative assessment of whether minimal preconditions for evaluation were met should precede most evaluation efforts. Wholey and his colleagues termed the process **evaluability assessment** (see **Exhibit 5-A** (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_33#exhibit5-A)).

Evaluability assessment involves three primary activities: (1) description of the *program model* with particular attention to defining the program goals and objectives,

(2) assessment of how well defined and evaluable that model is, and (3) identification of stakeholder interest in evaluation and the likely use of the findings. Evaluators conducting evaluability assessments operate much like ethnographers in that they seek to describe and understand the program through interviews and observations that will reveal its “social reality” as viewed by program personnel and other significant stakeholders. The evaluators begin with the conception of the program presented in documents and official information, but then try to see the program through the eyes of those closest to it. The intent is to end up with a description of the program as it exists and an understanding of the program issues that really matter to the parties involved. Although this process involves considerable judgment and discretion on the part of the evaluator, various practitioners have attempted to codify its procedures so that evaluability assessments will be reproducible by other evaluators (see Rutman, 1980; Smith, 1989; Wholey, 1994).

A common outcome of evaluability assessments is that program managers and sponsors recognize the need to modify their programs. The evaluability assessment may reveal that there are faults in a program’s delivery system, that the program’s target population is not well defined, or that the intervention itself needs to be reconceptualized. Or there may be few program objectives that stakeholders agree on or no feasible performance indicators for the objectives. In such cases, the evaluability assessment has uncovered problems with the program’s design that program managers must correct before any meaningful performance evaluation can be undertaken.

The aim of evaluability assessment is to create a favorable climate and an agreed-on understanding of the nature and objectives of the program that will facilitate the design of an evaluation. As such, it can be integral to the approach the evaluator employs to tailor an evaluation and formulate evaluation questions (see **Chapters 2** (ch02.html) and **3** (ch03.html)). **Exhibit 5-B** (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_33#exhibit5-B) presents an example of an evaluability assessment that illustrates the typical procedure.

EXHIBIT 5-A

A Rationale for Evaluability Assessment

If evaluators and intended users fail to agree on program goals, objectives, information priorities, and intended uses of program performance information, those designing evaluations may focus on answering questions that are not relevant to policy and management decisions. If program goals and objectives are unrealistic because insufficient resources have been applied to critical program activities, the program has been poorly implemented, or administrators lack knowledge of how to achieve program goals and objectives, the more fruitful course may be for those in charge of the program to change program resources, activities, or objectives before formal evaluation efforts are undertaken. If relevant data are unavailable and cannot be obtained at reasonable cost, subsequent evaluation work is likely to be inconclusive. If policymakers or managers are unable or unwilling to use the evaluation information to change the program, even the most conclusive evaluations are likely to produce “information in search of a user.” Unless these problems can be overcome, the evaluation will probably not contribute to improved program performance.

These four problems, which characterize many public and private programs, can be reduced and often overcome by a qualitative evaluation process, evaluability assessment, that documents the breadth of the four problems and helps programs—and subsequent program evaluation work—to meet the following criteria:

- Program goals, objectives, important side effects, and priority information needs are well defined.
- Program goals and objectives are plausible.
- Relevant performance data can be obtained.
- The intended users of the evaluation results have agreed on how they will use the information.

Evaluability assessment is a process for clarifying program designs, exploring program reality, and—if necessary—helping redesign programs to ensure that they meet these four criteria. Evaluability assessment not only shows whether a program can be meaningfully evaluated (any program can be evaluated) but also whether evaluation is likely to contribute to improved program performance.

SOURCE: Quoted from Joseph S. Wholey, “Assessing the Feasibility and Likely Usefulness of Evaluation,” in *Handbook of Practical Program Evaluation*, eds. J. S. Wholey, H. P. Hatry, and K. E. Newcomer (San Francisco: Jossey-Bass, 1994), p. 16.

EXHIBIT 5-B

Evaluability Assessment for the Appalachian Regional Commission

Evaluators from the Urban Institute worked with managers and policymakers in the Appalachian Regional Commission (ARC) on the design of their health and child development program. In this evaluability assessment, the evaluators:

- Reviewed existing data on each of the 13 state ARC-funded health and child development programs

- Made visits to five states and then selected two states to participate in evaluation design and implementation
- Reviewed documentation related to congressional, commission, state, and project objectives and activities (including the authorizing legislation, congressional hearings and committee reports, state planning documents, project grant applications, ARC contract reports, local planning documents, project materials, and research projects)
- Interviewed approximately 75 people on congressional staffs and in commission headquarters, state ARC and health and child development staffs, local planning units, and local projects
- Participated in workshops with approximately 60 additional health and child development practitioners, ARC state personnel, and outside analysts

Analysis and synthesis of the resulting data yielded a logic model that presented program activities, program objectives, and the assumed causal links between them. The measurability and plausibility of program objectives were then analyzed and new program designs more likely to lead to demonstrably effective performance were presented. These included both an overall ARC program model and a series of individual models, each concerned with an identified objective of the program.

In reviewing the report, ARC staff were asked to choose among alternative courses of action. The review process consisted of a series of intensive discussions in which ARC and Urban Institute staff focused on one objective and program model at a time. In each session, the evaluators and staff attempted to reach agreement on the validity of the models presented, the importance of the respective objectives, and the extent to which any of the information options ought to be pursued.

ARC ended up adopting revised project designs and deciding to systematically monitor the performance of all their health and child development projects and evaluate the effectiveness of the "innovative" ones. Twelve of the 13 ARC states have since adopted the performance monitoring system. Representatives of those states report that project designs are now much more clearly articulated and they believe the projects themselves have improved.

SOURCE: Adapted from Joseph S. Wholey, "Using Evaluation to Improve Program Performance," in *Evaluation Research and Practice: Comparative and International Perspectives*, eds. R. A. Levine, M. A. Solomon, G.-M. Hellstern, and H. Wollmann (Beverly Hills, CA: Sage, 1981), pp. 92-106.

Evaluability assessment requires program stakeholders to articulate the program's design and logic (the program model); however, it can also be carried out for the purposes of describing and assessing program theory (Wholey, 1987). Indeed, the evaluability assessment approach represents the most fully developed set of concepts and procedures available in the evaluation literature for describing and assessing a program's conceptualization of what it is supposed to be doing and why. We turn now to a more detailed discussion of procedures for identifying and evaluating program theory, drawing heavily on the writings associated with the practice of evaluability assessment.

5.2 Describing Program Theory

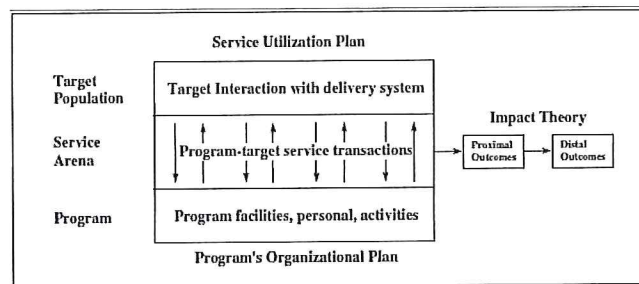
Evaluators have long recognized the importance of program theory as a basis for formulating and prioritizing evaluation questions, designing evaluation research, and interpreting evaluation findings (Bickman, 1987; Chen and Rossi, 1980; Weiss, 1972; Wholey, 1979). However, program theory has been described and used under various names, for example, logic model, program model, outcome line, cause map, and action theory. There is no general consensus about how best to describe a program's theory, so we will describe a scheme we have found useful in our own evaluation activities.

For this purpose, we depict a social program as centering on the transactions that take place between a program's operations and the population it serves (Exhibit 5-C). These transactions might involve counseling sessions for women with eating disorders in therapists' offices, recreational activities for high-risk youths at a community center, educational presentations to local citizens' groups, nutrition posters in a clinic, informational pamphlets about empowerment zones and tax law mailed to potential investors, delivery of meals to the front doors of elderly persons, or any such point-of-service contact. On one side of this program-target transaction, we have the program as an organizational entity, with its various facilities, personnel, resources, activities, and so forth. On the other side, we have the target participants in their lifespaces with their various circumstances and experiences in relation to the service delivery system of the program.

This simple scheme highlights three interrelated components of a program theory: the program impact theory, the service utilization plan, and the program's organizational plan. The program's **impact theory** consists of assumptions about the change process actuated by the program and the improved conditions that are expected to result. It is operationalized by the program-target transactions, for they constitute the means by which the program expects to bring about its intended effects. The impact theory may be as simple as presuming that exposure to information about the negative effects of drug abuse will motivate high school students to abstain or as complex as the ways in which an eighth-grade science curriculum will lead to deeper understanding of natural phenomena. It may be as informal as the commonsense presumption that providing hot meals to elderly persons improves their nutrition or as formal as classical conditioning theory adapted to treating phobias. Whatever its nature, however, an impact theory of some sort constitutes the essence of a social program. If the assumptions embodied in that theory about how desired changes are brought about by program action are faulty, or if they are valid but not well operationalized by the program, the intended social benefits will not be achieved.

EXHIBIT 5-C

Overview of Program Theory



To instigate the change process posited in the program's impact theory, the intended services must first be provided to the target population. The program's **service utilization plan** is constituted by the program's assumptions and expectations about how to reach the target population, provide and sequence service contacts, and conclude the relationship when services are no longer needed or appropriate. For a program to increase awareness of AIDS risk, for instance, the service utilization plan may be simply that appropriate persons will read informative posters if they are put up in subway cars. A multifaceted AIDS prevention program, on the other hand, may be organized on the assumption that high-risk drug abusers who are referred by outreach workers will go to nearby street-front clinics, where they will receive appropriate testing and information.

The program, of course, must be organized in such a way that it can actually provide the intended services. The third component of program theory, therefore, relates to program resources, personnel, administration, and general organization. We call this component the program's **organizational plan**. The organizational plan can generally be represented as a set of propositions: If the program has such and such resources, facilities, personnel, and so on, if it is organized and administered in such and such a manner, and if it engages in such and such activities and functions, then a viable organization will result that can operate the intended service delivery system. Elements of programs' organizational theories include, for example, assumptions that case managers should have master's degrees in social work and at least five years' experience, that at least 20 case managers should be employed, that the agency should have an advisory board that represents local business owners, that there should be an administrative coordinator assigned to each site, and that working relations should be maintained with the Department of Public Health.

Adequate resources and effective organization, in this scheme, are the factors that make it possible to develop and maintain a service delivery system that enables utilization of the services by the target population. A program's organization and the service delivery system that organization supports are the parts of the program most directly under the control of program administrators and staff. These two aspects together are often referred to as *program process*, and the assumptions and expectations on which that process is based may be called the **program process theory**.

With this overview, we turn now to a more detailed discussion of each of the components of program theory with particular attention to how the evaluator can describe them in a manner that permits analysis and assessment.

Program Impact Theory

Program impact theory is causal theory. It describes a cause-and-effect sequence in which certain program activities are the instigating causes and certain social benefits are the effects they eventually produce. Evaluators, therefore, typically represent program impact theory in the form of a causal diagram showing the cause-and-effect linkages presumed to connect a program's activities with the expected outcomes (Chen, 1990; Lipsey, 1993; Martin and Kettner, 1996). Because programs rarely exercise direct control over the social conditions they are expected to improve, they must generally work indirectly by changing some critical but manageable aspect of the situation, which, in turn, is expected to lead to more far-reaching improvements.

The simplest program impact theory is the basic “two step” in which services affect some intermediate condition that, in turn, improves the social conditions of concern (Lipsey and Pollard, 1989). For instance, a program cannot make it impossible for people to abuse alcohol, but it can attempt to change their attitudes and motivation toward alcohol in ways that help them avoid abuse. More complex program theories may have more steps along the path between program and social benefit and, perhaps, involve more than one distinct path.

The distinctive features of any representation of program impact theory are that each element is either a cause or an effect and that the causal linkages between those elements show a chain of events that begins with program actions and ends with change in the social conditions the program intends to improve (see **Exhibit 5-D**

(http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_34/books/Rossi.1553.18.1/sections/nav_34/books/Rossi.1553.18.1/sections/nav_34#exhibit5-D)). The events following directly from the instigating program activities are the most direct outcomes, often called proximal or immediate outcomes (e.g., dietary knowledge and awareness in the first example in 5-D

(http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_34/books/Rossi.1553.18.1/sections/nav_34/books/Rossi.1553.18.1/sections/nav_34#exhibit5-D)). Events further down the chain constitute the more distal or ultimate outcomes (e.g., healthier diet in the first example in 5-D

(http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_34/books/Rossi.1553.18.1/sections/nav_34/books/Rossi.1553.18.1/sections/nav_34#exhibit5-D)). Program impact theory highlights the dependence of the more distal, and generally more important, outcomes on successful attainment of the more proximal ones.

The Service Utilization Plan

An explicit service utilization plan pulls into focus the critical assumptions about how and why the intended recipients of service will actually become engaged with the program and follow through to the point of receiving sufficient services to initiate the change process represented in the program impact theory. It describes the program-target transactions from the perspective of the targets and their lifespaces as they might encounter the program.

A program's service utilization plan can be usefully depicted in a flowchart that tracks the various paths that program targets can follow from some appropriate point prior to first contact with the program through a point where there is no longer any contact. **Exhibit 5-E**

(http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_34/books/Rossi.1553.18.1/sections/nav_34/books/Rossi.1553.18.1/sections/nav_34#exhibit5-E) shows an example of a simple service utilization flowchart for a hypothetical aftercare program for released psychiatric patients. One characteristic of such charts is that they identify the possible situations in which the program targets are not engaged with the program as intended. In 5-E

(http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_34/books/Rossi.1553.18.1/sections/nav_34/books/Rossi.1553.18.1/sections/nav_34#exhibit5-E), for example, we see that formerly hospitalized psychiatric patients may not receive the planned visit from a social worker or referrals to community agencies and, as a consequence, may receive no service at all.

The Program's Organizational Plan

The program's organizational plan is articulated from the perspective of program management. The plan encompasses both the functions and activities the program is expected to perform and the human, financial, and physical resources required for that performance. Central to this scheme are the program services, those specific activities that constitute the program's role in the target-program transactions that are expected to lead to social benefits. However, the organizational plan also must include those functions that provide essential preconditions and ongoing support for the organization's ability to provide its primary services, for instance, fund-raising, personnel management, facilities acquisition and maintenance, political liaison, and the like.

EXHIBIT 5-D

Diagrams Illustrating Program Impact Theories

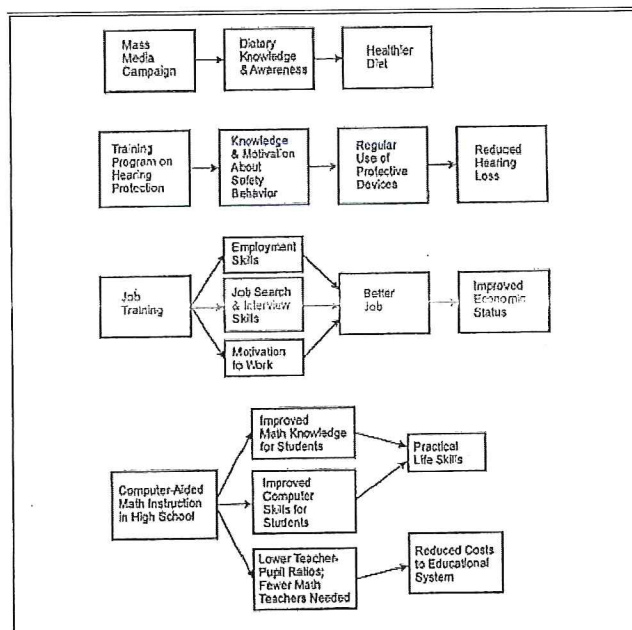
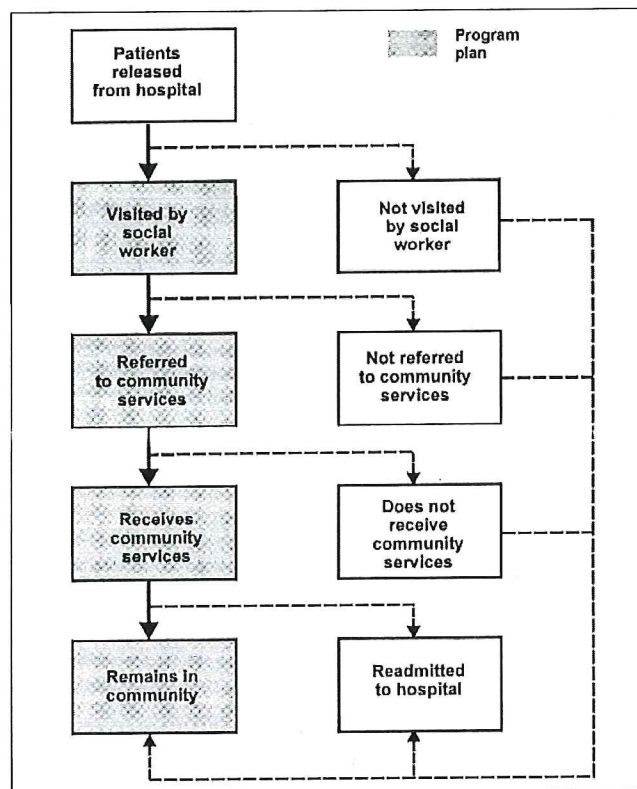


EXHIBIT 5-E

Service Utilization Flowchart for an Aftercare Program for Psychiatric Patients

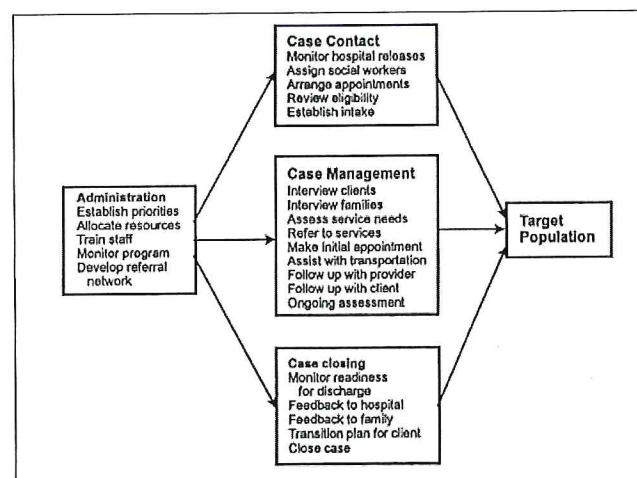


There are many ways to depict a program's organizational plan. If we center it on the target-program transactions, the first element of the organizational plan will be a description of the program's objectives for the services it will provide: what those services are, how much is to be provided, to whom, and on what schedule. The next element might then describe the resources and functions necessary to engage in those service activities. For instance, sufficient personnel with appropriate credentials and skills will be required as will logistical support, proper facilities and equipment, funding, supervision, clerical support, and so forth.

As with the other portions of program theory, it is often useful to describe a program's organizational plan with a diagram. **Exhibit 5-F** (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_34#exhibit5-F) presents an example that depicts the major organizational components of the aftercare program for psychiatric patients whose service utilization scheme is shown in 5-E (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_34/books/Rossi.1553.18.1/sections/nav_34#exhibit5-E). A common way of representing the organizational plan of a program is in terms of inputs (resources and constraints applicable to the program) and activities (the services the program is expected to provide). In a full logic model of the program, receipt of services (service utilization) is represented as program outputs, which, in turn, are related to the desired outcomes. **Exhibit 5-G** (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_35#exhibit5-G) shows a typical logic model drawn from a widely used workbook prepared by the United Way of America.

EXHIBIT 5-F

Organizational Schematic for an Aftercare Program for Psychiatric Patients



5.3 Eliciting Program Theory

When a program's theory is spelled out in program documents and well understood by staff and stakeholders, the program is said to be based on an **articulated program theory** (Weiss, 1997). This is most likely to occur when the original design of the program is drawn from social science theory. For instance, a school-based drug use prevention program that features role-playing of refusal behavior in peer groups may be derived from social learning theory and its implications for peer influences on adolescent behavior.

When the underlying assumptions about how program services and practices are presumed to accomplish their purposes have not been fully articulated and recorded, the program has an **implicit program theory** or, as Weiss (1997) put it, a tacit theory. This might be the case for a counseling program to assist couples with marital difficulties. Although it may be reasonable to assume that discussing marital problems with a trained professional would be helpful, the way in which that translates into improvements in the marital relationship is not described by an explicit theory nor would different counselors necessarily agree about the process.

When a program's theory is implicit rather than articulated, the evaluator must extract and describe it before it can be analyzed and assessed. The evaluator's objective is to depict the "program as intended," that is, the actual expectations held by decision-makers about what the program is supposed to do and what results are expected to follow. With this in mind, we now consider the concepts and procedures an evaluator can use to extract and articulate program theory as a prerequisite for assessing it.

Defining the Boundaries of the Program

A crucial early step in articulating program theory is to define the boundaries of the program at issue (Smith, 1989). A human service agency may have many programs and provide multiple services; a regional program may have many agencies and sites. There is usually no one correct definition of a program, and the boundaries the evaluator applies will depend, in large part, on the scope of the evaluation sponsor's concerns and the program domains to which they apply.

EXHIBIT 5-G

A Logic Model for a Teen Mother Parenting Education Program

Inputs	Activities	Outputs	Outcomes		
			Initial	Intermediate	Longer-Term
Agency provides MSW program manager, part-time RN instructor, nationally certified education manuals, videos, and other teaching tools.	Program provides parenting classes on prenatal-through-infant nutrition, development, safety, and caretaking delivered in high schools twice a week for one hour to teen mothers from 3 months prior to one year after delivery of a child.	Pregnant teens attend program.	Teens are knowledgeable about prenatal nutrition and health guidelines.	Teens follow proper nutrition and health guidelines. Teens deliver healthy babies.	Babies achieve appropriate 12-month milestones for physical, motor, verbal, and social development.
Agency and high school identify pregnant teens to participate in program.			Teens are knowledgeable about proper care, feeding, and social interaction with infants.	Teens provide proper care, feeding, and social interaction to their babies.	

SOURCE: Adapted from United Way of America Task Force on Impact, *Measuring Program Outcomes: A Practical Approach*. Alexandria, VA: Author, 1996, p. 42. Used by permission, United Way of America.

One way to define the boundaries of a program for the purpose of articulating the program theory is to work from the perspective of the decisionmakers who are expected to act on the findings of the evaluation. The evaluator's definition of the program should at minimum represent the relevant jurisdiction of those decisionmakers and the organizational structures and activities about which decisions are likely to be made. If, for instance, the sponsor of the evaluation is the director of a local community mental health agency, then the evaluator may define the boundaries of the program around one of the distinct service packages administered by that director, such as outpatient counseling for eating disorders. If the evaluation sponsor is the state director of mental health, however, the relevant program boundaries may be defined around effectiveness questions that relate to the outpatient counseling component of all the local mental health agencies in the state.

Because program theory deals mainly with means-ends relations, the most critical aspect of defining program boundaries is to ensure that they encompass all the important activities, events, and resources linked to one or more outcomes recognized as central to the endeavor. This can be accomplished by starting with the benefits the program intends to produce and working backward to identify all the activities and resources under relevant organizational auspices that are presumed to contribute to attaining those objectives. From this perspective, the eating disorders program at either the local or state level would be defined as the set of activities organized by the respective mental health agency that has an identifiable role in attempting to alleviate eating disorders for the eligible population.

Although these approaches are straightforward in concept, they can be problematic in practice. Not only can programs be complex, with crosscutting resources, activities, and goals, but the characteristics described above as linchpins for program definition can themselves be difficult to establish. Thus, in this matter, as with so many other aspects of evaluation, the evaluator must be prepared to negotiate a program definition agreeable to the evaluation sponsor and key stakeholders and be flexible about modifying the definition as the evaluation progresses.

Explicating the Program Theory

For a program in the early planning stage, program theory might be built by the planners from prior practice and research. At this stage, an evaluator may be able to help develop a plausible and well-articulated theory. For an existing program, however, the appropriate task is to describe the theory that is actually embodied in the program's structure and operation. To accomplish this, the evaluator must work with stakeholders to draw out the theory represented in their actions and assumptions. The general procedure for this involves successive approximation. Draft descriptions of the program theory are generated, usually by the evaluator, and discussed with knowledgeable stakeholder informants to get feedback. The draft is then refined on the basis of their input and shown again to appropriate stakeholders. The theory description developed in this fashion may involve impact theory, process theory, or any components or combination that are deemed relevant to the purposes of the evaluation. **Exhibit 5-H** (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_35#exhibit5-H) presents one evaluator's account of how a program process theory was elicited.

The primary sources of information for developing and differentiating descriptions of program theory are (1) review of program documents; (2) interviews with program stakeholders, and other selected informants; (3) site visits and observation of program functions and circumstances; and (4) the social science literature. Three types of information the evaluator may be able to extract from those sources will be especially useful.

Program Goals and Objectives

Perhaps the most important matter to be determined from program sources relates to the goals and objectives of the program, which are necessarily an integral part of the program theory, especially its impact theory. The goals and objectives that must be represented in program theory, however, are not necessarily the same as those identified in a program's mission statements or in responses to questions asked of stakeholders about the program's goals. To be meaningful for an evaluation, program goals must identify a state of affairs that could realistically be attained as a result of program actions; that is, there must be some reasonable connection between what the program does and what it intends to accomplish. Smith (1989) suggests that, to keep the discussion concrete and specific, the evaluator should use a line of questioning that does not ask about goals directly but asks instead about consequences. For instance, in a review of major program activities, the evaluator might ask about each, "Why do it? What are the expected results? How could you tell if those results actually occurred?"

The resulting set of goal statements must then be integrated into the description of program theory. Goals and objectives that describe the changes the program aims to bring about in social conditions relate to program impact theory. A program goal of reducing unemployment, for instance, identifies a distal outcome in the impact theory. Program goals and objectives related to program activities and service delivery, in turn, help reveal the program process theory. If the program aims to offer afterschool care for latchkey children to working parents, a portion of the service utilization plan is revealed. Similarly, if an objective is to offer literacy classes four times a week, an important element of the organizational plan is identified.

Program Functions, Components, and Activities

To properly describe the program process theory, the evaluator must identify each distinct program component, its functions, and the particular activities and operations associated with those functions. Program functions include such operations as "assess client need," "complete intake," "assign case manager," "recruit referral agencies," "train field workers," and the like. The evaluator can generally identify such functions by determining the activities and job descriptions of the various program personnel. When clustered into thematic groups, these functions represent the constituent elements of the program process theory.

EXHIBIT 5-H

Formulating Program Process Theory for Adapted Work Service

Adapted Work Services (AWS) was initiated at the Rochelle Center in Nashville, Tennessee, to provide low-stress, paid work and social interaction to patients in the early stages of Alzheimer's disease. It was based on the belief that the patients would benefit emotionally and cognitively from working in a sheltered environment and their family members would benefit from being occasionally relieved of the burden of caring for them. The evaluator described the procedures for formulating a program process theory for this program as follows:

The creation of the operational model of the AWS program involved using Post-it notes and butcher paper to provide a wall-size depiction of the program. The first session involved only the researcher and the program director. The first question asked was, "What happens when a prospective participant calls the center for information?" The response was recorded on a Post-it note and placed on the butcher paper. The next step was then identified, and this too was recorded and placed on the butcher paper. The process repeated itself until all (known) activities were identified and placed on the paper. Once the program director could not identify any more activities, the Post-it notes were combined into clusters. The clusters were discussed until potential component labels began to emerge. Since this exercise was the product of only two people, the work was left in an unused room for two weeks so that the executive director and all other members of the management team could react to the work. They were to identify missing, incorrect, or misplaced activities as well as comment on the proposed components. After several feedback sessions from the staff members and discussions with the executive director, the work was typed and prepared for presentation to the Advisory Board. The board members were able to reflect on the content, provide further discussion, and suggest additional changes. Several times during monthly board meetings, the executive director asked that the model be revisited for planning purposes. This helped further clarify the activities as well as sharpen the group's thinking about the program.

SOURCE: Quoted, with permission, from Doris C. Quinn, "Formative Evaluation of Adapted Work Services for Alzheimer's Disease Victims: A Framework for Practical Evaluation in Health Care" (doctoral diss., Vanderbilt University, 1996), pp. 46-47.

The Logic or Sequence Linking Program Functions, Activities, and Components

A critical aspect of program theory is how the various expected outcomes and functions relate to each other. Sometimes these relationships involve only the temporal sequencing of key program activities and their effects; for instance, in a postrelease program for felons, prison officials must notify the program that a convict has been released before the program can initiate contact to arrange services. In other cases, the relationships between outcomes and functions have to do with activities or events that must be coordinated, as when child care and transportation must be arranged in conjunction with job training sessions, or with supportive functions, such as training the instructors who will conduct in-service classes for nurses. Other relationships entail logical or conceptual linkages, especially those represented in the program impact theory. Thus, the connection between mothers' knowledge about how to care for their infants and the actual behavior of providing that care assumes a psychological process through which information influences behavior.

It is because the number and variety of such relationships are often appreciable that evaluators typically construct charts or graphical displays to describe them. These may be configured as lists, flowcharts, or hierarchies, or in any number of creative forms designed to identify the key elements and relationships in a program's theory. Such displays not only portray program theory but also provide a way to make it sufficiently concrete and specific to engage program personnel and stakeholders.

Corroborating the Description of the Program Theory

The description of program theory that results from the procedures we have described will generally represent the program as it was intended more than as it actually is. Program managers and policymakers think of the idealized program as the "real" one with various shortfalls from that ideal as glitches that do not represent what the program is really about. Those further away from the day-to-day operations, on the other hand, may be unaware of such shortfalls and will naturally describe what they presume the program to be even if in actuality it does not quite live up to that image.

Some discrepancy between program theory and reality is therefore natural. Indeed, examination of the nature and magnitude of that discrepancy is the task of process or implementation evaluation, as discussed in the next chapter. However, if the theory is so overblown that it cannot realistically be held up as a depiction of what is supposed to happen, it needs to be revised. Suppose, for instance, that a job training program's service utilization plan calls for monthly contacts between each client and a case manager. If the program resources are insufficient to support case managers, and none are employed, this part of the theory is fanciful and should be restated to more realistically depict what the program might actually be able to accomplish.

Given that the program theory depicts a realistic scenario, confirming it is a matter of demonstrating that pertinent program personnel and stakeholders endorse it as a meaningful account of how the program is intended to work. If it is not possible to generate a theory description that all relevant stakeholders accept as reasonable, this indicates that the program is poorly defined or that it embodies competing philosophies. In such cases, the most appropriate response for the evaluator may be to take on a consultant role and assist the program in clarifying its assumptions and intentions to yield a theory description that will be acceptable to all key stakeholders.

For the evaluator, the end result of the theory description exercise is a detailed and complete statement of the program as intended that can then be analyzed and assessed as a distinct aspect of the evaluation. Note that the agreement of stakeholders serves only to confirm that the theory description does, in fact, represent their understanding of how the program is supposed to work. It does not necessarily mean that the theory is a good one. To determine the soundness of a program theory, the evaluator must not only describe the theory but evaluate it. The procedures evaluators use for that purpose are described in the next section.

5.4 Assessing Program Theory

Assessment of some aspect of a program's theory is relatively common in evaluation, often in conjunction with an evaluation of program process or impact. Nonetheless, outside of the modest evaluability assessment literature, remarkably little has been written of a specific nature about how this should be done. Our interpretation of this relative neglect is not that theory assessment is unimportant or unusual, but that it is typically done in an informal manner that relies on commonsense judgments that may not seem to require much explanation. Indeed, when program services are directly related to straightforward objectives, the validity of the program theory may be accepted on the basis of limited evidence or commonsense judgment. An illustration is a meals-on-wheels service that brings hot meals to homebound elderly persons to improve their nutritional intake. In this case, the theory linking the action of the program (providing hot meals) to its intended benefits (improved nutrition) needs little critical evaluation.

Many programs, however, are not based on expectations as simple as the notion that delivering food to elderly persons improves their nutrition. For example, a family preservation program that assigns case managers to coordinate community services for parents deemed at risk of having their children placed in foster care involves many assumptions about exactly what it is supposed to accomplish and how. In such cases, the program theory might easily be faulty, and correspondingly, a rather probing evaluation of it may be warranted.

It is seldom possible or useful to individually appraise each distinct assumption and expectation represented in a program theory. But there are certain critical tests that can be conducted to provide assurance that it is sound. This section summarizes the various approaches and procedures the evaluator might use for conducting that assessment.

Assessment in Relation to Social Needs

The most important framework for assessing program theory builds on the results of needs assessment, as discussed in [Chapter 4 \(ch04.html\)](#). Or, more generally, it is based on a thorough understanding of the social problem the program is intended to address and the service needs of the target population. A program theory that does not relate in an appropriate manner to the actual nature and circumstances of the social conditions at issue will result in an ineffective program no matter how well the program is implemented and administered. It is fundamental, therefore, to assess program theory in relationship to the needs of the target population the program is intended to serve.

There is no push-button procedure an evaluator can use to assess whether program theory describes a suitable conceptualization of how social needs should be met. Inevitably, this assessment requires judgment calls. When the assessment is especially critical, its validity is strengthened if those judgments are made collaboratively with relevant experts and stakeholders to broaden the range of perspectives and expertise on which they are based. Such collaborators, for instance, might include social scientists knowledgeable about research and theory related to the intervention, administrators with long experience managing such programs, representatives of advocacy groups associated with the target population, and policymakers or policy advisers highly familiar with the program and problem area.

Whatever the nature of the group that contributes to the assessment, the crucial aspect of the process is specificity. When program theory and social needs are described in general terms, there often appears to be more correspondence than is evident when the details are examined. To illustrate, consider a curfew program prohibiting juveniles under age 18 from being outside their homes after midnight that is initiated in a metropolitan area to address the problem of skyrocketing juvenile crime. The program theory, in general terms, is that the curfew will keep the youths home at night and, if they are at home, they are unlikely to commit crimes. Because the general social problem the program addresses is juvenile crime, the program theory does seem responsive to the social need.

A more detailed problem diagnosis and service needs assessment, however, might show that the bulk of juvenile crimes are residential burglaries committed in the late afternoon when school lets out. Moreover, it might reveal that the offenders represent a relatively small proportion of the juvenile population who have a disproportionately large impact because of their high rates of offending. Furthermore, it might be found that these juveniles are predominantly latchkey youths who have no supervision during afterschool hours. When the program theory is then examined in some detail, it is apparent that it assumes that significant juvenile crime occurs late at night and that potential offenders will both know about and obey the curfew. Furthermore, it depends on enforcement by parents or the police if compliance does not occur voluntarily.

Although even more specificity than this would be desirable, this much detail illustrates how a program theory can be compared with need to discover shortcomings in the theory. In this example, examining the particulars of the program theory and the social problem it is intended to address reveals a large disconnect. The program blankets the whole city rather than targeting the small group of problem juveniles and focuses on activity late at night rather than during the early afternoon, when most of the crimes actually occur. In addition, it makes the questionable assumptions that youths already engaged in more serious lawbreaking will comply with a curfew, that parents who leave their delinquent children unsupervised during the early part of the day will be able to supervise their later behavior, and that the overburdened police force will invest sufficient effort in arresting juveniles who violate the curfew to enforce compliance. Careful review of these particulars alone would raise serious doubts about the validity of this program theory ([Exhibit 5-1 \(http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_36#exhibit5-1\)](#) presents another example).

One useful approach to comparing program theory with what is known (or assumed) about the relevant social needs is to separately assess impact theory and program process theory. Each of these relates to the social problem in a different way and, as each is elaborated, specific questions can be asked about how compatible the assumptions of the theory are with the nature of the social circumstances to which it applies. We will briefly describe the main points of comparison for each of these theory components.

Program impact theory involves the sequence of causal links between program services and outcomes that improve the targeted social conditions. The key point of comparison between program impact theory and social needs, therefore, relates to whether the effects the program is expected to have on the social conditions correspond to what is required to improve those conditions, as revealed by the needs assessment. Consider, for instance, a school-based educational program aimed at getting elementary school children to learn and practice good eating habits. The problem this program attempts to ameliorate is poor nutritional choices among school-age children, especially those in economically disadvantaged areas. The program impact theory would show a sequence of links between the planned instructional exercises and the children's awareness of the nutritional value of foods, culminating in healthier selections and therefore improved nutrition.

EXHIBIT 5-1

The Needs of the Homeless as a Basis for Assessing Program Theory

Exhibit 4-J (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_30#exhibit4-J) in **Chapter 4** (ch04.html) described the responses of a sample of homeless men and women to a needs assessment survey. The largest proportions identified a place to live and having a job or steady income as their greatest need. Fewer than half, but significant proportions, also said they needed help with medical, substance abuse, psychological, and legal problems. The evaluators reported that among the service delivery implications of the needs assessment were indications that this population needs interventions that provide ongoing support in a range of domains at varying degrees of intensity. Thus, to be responsive, programs must have the capacity to deliver or broker access to a comprehensive range of services.

These findings offer two lines of analysis for assessment of program theory. First, any program that intends to alleviate homelessness must provide services that address the major problems that homeless persons experience. That is, the expected outcomes of those services (impact theory) must represent improvements in the most problematic domains if the conditions of the homeless are to be appreciably improved. Second, the design of the service delivery system (program process theory) must be such that multiple services can be readily and flexibly provided to homeless individuals in ways that will be accessible to them despite their limited resources and difficult circumstances. Careful, detailed comparison of the program theory embodied in any program for this homeless population with the respective needs assessment data, therefore, will reveal how sound that theory is as a design for effective intervention.

SOURCE: Daniel B. Herman, Elmer L. Struening, and Susan M. Barrow, "Self-Reported Needs for Help Among Homeless Men and Women," *Evaluation and Program Planning*, 1994, 17(3):249-256.

Now, suppose a thorough needs assessment shows that the children's eating habits are, indeed, poor but that their nutritional knowledge is not especially deficient. The needs assessment further shows that the foods served at home and even those offered in the school cafeterias provide limited opportunity for healthy selections. Against this background, it is evident that the program impact theory is flawed. Even if the program successfully imparts additional information about healthy eating, the children will not be able to act on it because they have little control over the selection of foods available to them. Thus, the proximal outcomes the program impact theory describes may be achieved, but they are not what is needed to ameliorate the problem at issue.

Program process theory, on the other hand, represents assumptions about the capability of the program to provide services that are accessible to the target population and compatible with their needs. These assumptions, in turn, can be compared with information about the target population's opportunities to obtain service and the barriers that inhibit them from using the service. The process theory for an adult literacy program that offers evening classes at the local high school, for instance, may incorporate instructional and advertising functions and an appropriate selection of courses for the target population. The details of this scheme can be compared with needs assessment data that show what logistical and psychological support the target population requires to make effective use of the program. Child care and transportation may be critical for some potential participants. Also, illiterate adults may be reluctant to enroll in courses without more personal encouragement than they would receive from advertising. Cultural and personal affinity with the instructors may be important factors in attracting and maintaining participation from the target population as well. The intended program process can thus be assessed in terms of how responsive it is to these dimensions of the needs of the target population.

Assessment of Logic and Plausibility

A thorough job of articulating program theory should reveal the critical assumptions and expectations inherent in the program's design. One essential form of assessment is simply a critical review of the logic and plausibility of these aspects of the program theory. Commentators familiar with assessing program theory suggest that a panel of reviewers be organized for that purpose (Chen, 1990; Rutman, 1980; Smith, 1989; Wholey, 1994). Such an expert review panel should include representatives of the program staff and other major stakeholders as well as the evaluator. By definition, however, stakeholders have some direct stake in the program. To balance the assessment and expand the available expertise, it may be advisable to bring in informed persons with no direct relationship to the program. Such outside experts might include experienced administrators of similar programs, social researchers with relevant specialties, representatives of advocacy groups or client organizations, and the like.

A review of the logic and plausibility of program theory will necessarily be a relatively unstructured and open-ended process. Nonetheless, there are some general issues such reviews should address. These are described below in the form of questions reviewers can ask. Additional useful detail can be found in Rutman (1980), Smith (1989), and Wholey (1994). Also see **Exhibit 5-J** (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_36#exhibit5-J) for an example.

- Are the program goals and objectives well defined? The outcomes for which the program is accountable should be stated in sufficiently clear and concrete terms to permit a determination of whether they have been attained. Goals such as "introducing students to computer technology" are not well defined in this sense, whereas "increasing student knowledge of the ways computers can be used" is well defined and measurable.
- Are the program goals and objectives feasible? That is, is it realistic to assume that they can actually be attained as a result of the services the program delivers? A program theory should specify expected outcomes that are of a nature and scope that might reasonably follow from a successful program and that do not represent unrealistically high expectations. Moreover, the stated goals and objectives should involve conditions the program might actually be able to affect in some meaningful fashion, not those largely beyond its influence. "Eliminating poverty" is grandiose for any program, whereas "decreasing the unemployment rate" is not. But even the latter goal might be unrealistic for a program located in a chronically depressed labor market.
- Is the change process presumed in the program theory plausible? The presumption that a program will create benefits for the intended target population depends on the occurrence of some cause-and-effect chain that begins with the targets' interaction with the program and ends with the improved circumstances in the target population that the program expects to bring about. Every step of this causal chain should be plausible. Because the validity of this impact theory is the key to the program's ability to produce the intended effects, it is best if the theory is supported by evidence that the assumed links and relationships actually occur. For example, suppose a program is based on the presumption that exposure to literature about the health hazards of drug abuse will motivate long-term heroin addicts to renounce drug use. In this case, the program theory does not present a plausible change process, nor is it supported by any research evidence.
- Are the procedures for identifying members of the target population, delivering service to them, and sustaining that service through completion well defined and sufficient? The program theory should specify procedures and functions that are both well defined and adequate for the purpose, viewed both from the perspective of the program's ability to perform them and the target population's likelihood of being engaged by them. Consider, for example, a program to test for high blood pressure among poor and elderly populations to identify those needing medical care. It is relevant to ask

whether this service is provided in locations accessible to members of these groups and whether there is an effective means of locating those with uncertain addresses. Absent these characteristics, it is unlikely that many persons from the target groups will receive the intended service.

EXHIBIT 5-J

Assessing the Clarity and Plausibility of the Program Theory for Maryland's 4-H Program

An evaluability assessment of Maryland's 4-H youth program based on program documents and interviews with 96 stakeholder representatives included a review of key facets of the program's theory with the following results:

Question: Are the mission and goals clear?

Conclusion: There is a lack of clarity about the overall mission of 4-H and some lack of agreement among the stakeholders and between persons directly involved in implementing the program and those not. Among the statements of mission were "introduce youth to farm life," develop "sense of responsibility in agriculture and home economics," and "developing life skills."

Question: Is it clear who is to be affected, who the audience is?

Conclusion: There is some lack of agreement between 4-H faculty and the other stakeholders about the audience of 4-H. Written documents identified the audience as youth and adults; any youth between age 8 and 18 was viewed as the traditional audience for the program; recently, 6- and 7-year-olds have been targeted; some informants viewed the adult volunteers who assist with the program as one audience.

Question: Is there agreement about intended effects?

Conclusion: Social, mental, and physical development were listed as the program objectives in the state program direction document. There was agreement among all groups and in written documents that the effects of 4-H are primarily social in nature, for example, self-confidence/self-esteem, leadership, citizenship. There was less agreement about its effects on mental development and no agreement about its impact on physical development.

Question: Is it plausible that the program activities would achieve the intended effects?

Conclusion: Even if all the activities identified in the program model were implemented according to plan, the plausibility of these leading to the intended program effects is questionable. A link appears to be missing from the program logic—something like "Determine the Curriculum." Lack of such a link prevents plausible activities in the initial program events; that is, without a curriculum plan, how can county faculty know what types of leaders to recruit, what to train volunteers to do, and what they and the volunteers should implement?

SOURCE: Adapted from Midge F. Smith, *Evaluability Assessment: A Practical Approach* (Norwell, MA: Kluwer, 1989), p. 91.

- Are the constituent components, activities, and functions of the program well defined and sufficient? A program's structure and process should be specific enough to permit orderly operations, effective management control, and monitoring by means of attainable, meaningful performance measures. Most critical, the program components and activities should be sufficient and appropriate to attain the intended goals and objectives. A function such as "client advocacy" has little practical significance if no personnel are assigned to it or there is no common understanding of what it means operationally.
- Are the resources allocated to the program and its various activities adequate? Program resources include not only funding but also personnel, material, equipment, facilities, relationships, reputation, and other such assets. There should be a reasonable correspondence between the program as described in the program theory and the resources available for operating it. A program theory that calls for activities and outcomes that are unrealistic relative to available resources cannot be said to be a good theory. For example, a management training program too short-staffed to initiate more than a few brief workshops cannot expect to have a significant impact on management skills in the organization.

Assessment Through Comparison With Research and Practice

Although every program is distinctive in some ways, few are based entirely on unique assumptions about how to engender change, deliver service, and perform major program functions. Some information applicable to assessing the various components of program theory is likely to exist in the social science and human services research literature. One useful approach to assessing program theory, therefore, is to find out whether it is congruent with research evidence and practical experience elsewhere (Exhibit 5-K (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_36#exhibit5-K) summarizes one example of this approach).

There are several ways in which evaluators might compare a program theory with findings from research and practice. The most straightforward is to examine evaluations of programs based on similar concepts. The results will give some indication of the likelihood that a program will be successful and perhaps identify critical problem areas. Evaluations of very similar programs, of course, will be the most informative in this regard. However, evaluation results for programs that are similar only in terms of general theory, even if different in other regards, might also be instructive.

EXHIBIT 5-K

GREAT Program Theory Is Consistent With Criminological Research

In 1991 the Phoenix, Arizona, Police Department initiated a program with local educators to provide youths in the elementary grades with the tools necessary to resist becoming gang members. Known as GREAT (Gang Resistance Education and Training), the program has attracted federal funding and is now distributed nationally. The program is taught to seventh graders in schools over nine consecutive weeks by uniformed police officers. It is structured around detailed lesson plans that emphasize teaching youths how to set goals for themselves, how to resist peer pressure, how to resolve conflicts, and how gangs can affect the quality of their lives.

The program has no officially stated theoretical grounding other than Glasser's (1975) reality therapy, but GREAT training officers and others associated with the program make reference to sociological and psychological concepts as they train GREAT instructors. As part of an analysis of the program's impact theory, a team of criminal justice researchers identified two well-researched criminological theories relevant to gang participation: Gottfredson and Hirschi's self-control theory (SCT) and Akers's social learning theory (SLT). They then reviewed the GREAT lesson plans to assess their consistency with the

most pertinent aspects of these theories. To illustrate their findings, a summary of Lesson 4 is provided below with the researchers' analysis in italics after the lesson description:

Lesson 4. Conflict Resolution: Students learn how to create an atmosphere of understanding that would enable all parties to better address problems and work on solutions together. *This lesson includes concepts related to SCT's anger and aggressive coping strategies. SLT ideas are also present: Instructors present peaceful, nonconfrontational means of resolving conflicts. Part of this lesson deals with giving the student a means of dealing with peer pressure to join gangs and a means of avoiding negative peers with a focus on the positive results (reinforcements) of resolving disagreements by means other than violence. Many of these ideas directly reflect constructs used in previous research on social learning and gangs.*

Similar comparisons showed good consistency between the concepts of the criminological theories and the lesson plans for all but one of the eight lessons. The reviewers concluded that the GREAT curriculum contained implicit and explicit linkages both to self-control theory and social learning theory.

SOURCE: Adapted from L. Thomas Winfree, Jr., Finn-Aage Esbensen, and D. Wayne Osgood, "Evaluating a School-Based Gang-Prevention Program: A Theoretical Perspective," *Evaluation Review*, 1996, 20(2):181-203.

Consider a mass media campaign in a metropolitan area to encourage women to have mammogram screening for early detection of breast cancer. The impact theory for this program presumes that exposure to TV, radio, and newspaper messages will stimulate a reaction that will eventuate in increased rates of mammogram screening. The credibility of the impact theory assumed to link exposure and increases in testing is enhanced by evidence that similar media campaigns in other cities have resulted in increased mammogram testing. Moreover, the program's process theory also gains some support if the evaluations for other campaigns shows that the program functions and scheme for delivering messages to the target population were similar to that intended for the program at issue. Suppose, however, that no evaluation results are available about media campaigns promoting mammogram screening in other cities. It might still be informative to examine information about analogous media campaigns. For instance, reports may be available about media campaigns to promote immunizations, dental checkups, or other such actions that are health related and require a visit to a provider. So long as these campaigns involve similar principles, their success might well be relevant to assessing the program theory on which the mammogram campaign is based.

In some instances, basic research on the social and psychological processes central to the program may be available as a framework for assessing the program theory, particularly impact theory. Unfortunately for the evaluation field, relatively little basic research has been done on the social dynamics that are common and important to intervention programs. Where such research exists, however, it can be very useful. For instance, a mass media campaign to encourage mammogram screening involves messages intended to change attitudes and behavior. The large body of basic research in social psychology on attitude change and its relationship to behavior provides some basis for assessing the impact theory for such a media campaign. One established finding is that messages designed to raise fears are generally less effective than those providing positive reasons for a behavior. Thus, an impact theory based on the presumption that increasing awareness of the dangers of breast cancer will prompt increased mammogram screening may not be a good one.

There is also a large applied research literature on media campaigns and related approaches in the field of advertising and marketing. Although this literature largely has to do with selling products and services, it too may provide some basis for assessing the program theory for the breast cancer media campaign. Market segmentation studies, for instance, may show what media and what times of the day are best for reaching women with various demographic profiles. The evaluator can then use this information to examine whether the program's service utilization plan is optimal for communicating with women whose age and circumstances put them at risk for breast cancer.

Use of the research literature to help with assessment of program theory is not limited to situations of good overall correspondence between the programs or processes the evaluator is investigating and those represented in the research. An alternate approach is to break the theory down into its component parts and linkages and search for research evidence relevant to each component. Much of program theory can be stated as "if-then" propositions: If case managers are assigned, then more services will be provided; if school performance improves, then delinquent behavior will decrease; if teacher-to-student ratios are higher, then students will receive more individual attention. Research may be available that indicates the plausibility of individual propositions of this sort. The results, in turn, can provide a basis for a broader assessment of the theory with the added advantage of identifying any especially weak links. This approach was pioneered by the Program Evaluation and Methodology Division of the U.S. General Accounting Office as a way to provide rapid review of program proposals arising in the Congress (Cordray, 1993; U.S. General Accounting Office, 1990).

Assessment Via Preliminary Observation

Program theory, of course, is inherently conceptual and cannot be observed directly. Nonetheless, it involves many assumptions about how things are supposed to work that an evaluator can assess by observing the program in operation, talking to staff and service recipients, and making other such inquiries focused specifically on the program theory. Indeed, a thorough assessment of program theory should incorporate some firsthand observation and not rely entirely on logical analysis and armchair reviews. Direct observation provides a reality check on the concordance between program theory and the program it is supposed to describe.

Consider a program for which it is assumed that distributing brochures about good nutrition to senior citizens centers will influence the eating behavior of persons over age 65. Observations revealing that the brochures are rarely read by anyone attending the centers would certainly raise a question about the assumption that the target population will be exposed to the information in the brochures, a precondition for any attitude or behavior change.

To assess a program's impact theory, the evaluator might conduct observations and interviews focusing on the target-program interactions that are expected to produce the intended outcomes. This inquiry would look into whether those outcomes are appropriate for the program circumstances and whether they are realistically attainable. For example, consider the presumption that a welfare-to-work program can enable a large proportion of welfare clients to find and maintain employment. To gauge how realistic the intended program outcomes are, the evaluator might examine the local job market, the work readiness of the welfare population (number physically and mentally fit, skill levels, work histories, motivation), and the economic benefits of working relative to staying on welfare. At the service end of the change process, the evaluator might observe job training activities and conduct interviews with participants to assess the likelihood that the intended changes would occur.

To test the service utilization component of a program's process theory, the evaluator could examine the circumstances of the target population to better understand how and why they might become engaged with the program. This information would permit an assessment of the quality of the program's service delivery plan for locating, recruiting, and serving the intended clientele. To assess the service utilization plan of a midnight basketball program to reduce delinquency among high-risk youths, for instance, the evaluator might observe the program activities and interview participants, program staff, and neighborhood youths about who participates and how regularly. The program's service utilization assumptions would be supported by indications that the most delinquent-prone youths participate regularly in the program.

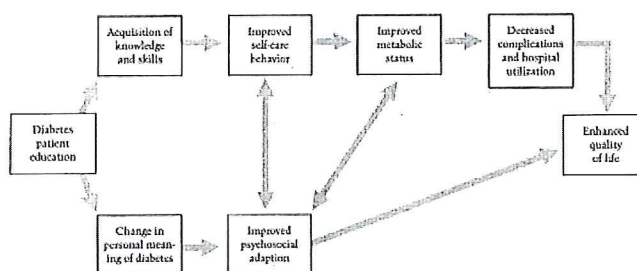
Finally, the evaluator might assess the plausibility of the organizational component of the program's process theory through observations and interviews relating to program activities and the supporting resources. Critical here is evidence that the program can actually perform the intended functions. Consider, for instance, a program plan that calls for the sixth-grade science teachers throughout a school district to take their classes on two science-related field trips per year. The evaluator could probe the presumption that this would actually be done by interviewing a number of teachers and principals to find out the feasibility of scheduling, the availability of buses and funding, and the like.

Note that any assessment of program theory that involves collection of new data could easily turn into a full-scale investigation of whether what was presumed in the theory actually happened. Indeed, an empirical "theory testing" study is one obvious approach to assessing program theory (see, e.g., Bickman, 1990; **Exhibit 5-L** (http://content.thuzelearning.com/books/Rossi.1553.18.1/sections/nav_36#exhibit5-L) gives an example). Here, however, our focus is on the task of assessing the soundness of the program theory description as a plan, that is, as a statement of the program as intended rather than as a statement of what is actually happening (that assessment comes later). In recognizing the role of observation and interview in the process, we are not suggesting that theory assessment necessarily requires a full evaluation of the program. Instead, we are suggesting that some appropriately configured contact with the program activities, target population, and related situations and informants can provide the evaluator with valuable information about how plausible and realistic the program theory is.

EXHIBIT 5-L

Testing a Model of Patient Education for Diabetes

The daily management of diabetes involves a complex interaction of metabolic variables, self-care behaviors, and psychological and social adjustments to having the disease. An important component of treatment for diabetes, therefore, is the instruction of patients so that they have the skills and knowledge required to do their part. A team of university medical researchers with a particular interest in the personal meaning to patients of having diabetes formulated an impact component theory for the effects of patient education, which they diagrammed as follows:



The researchers investigated this model by examining the correlations representing some of the key hypothesized relationships on survey data collected from a sample of 220 people with diabetes recruited from clinics in several states. The data were analyzed using a structural equation analysis which showed only an approximate fit to the model. The relationships between the "personal meaning of diabetes" variables and "psychosocial adaptation" were strong, as were those between knowledge and self-care behavior. However, other relationships in the model were equivocal. The researchers' conclusion was, "While the results showed that the data did not fit the proposed model well enough to allow for definitive conclusions, the results are generally supportive of the original hypothesis that the personal meaning of diabetes is an important element in the daily management of diabetes and the psychosocial adjustment to the disease."

SOURCE: Adapted from George A. Nowacek, Patrick M. O'Malley, Robert A. Anderson, and Fredrick E. Richards, "Testing a Model of Diabetes Self-Care Management: A Causal Model Analysis With LISREL," *Evaluation & the Health Professions*, 1990, 13(3):298-314.

5.5 Possible Outcomes of Program Theory Assessment

A program whose conceptualization is weak or faulty has little prospect for success even if it adequately operationalizes that conceptualization. Thus, if the program theory is not sound, there is little reason to assess other evaluation issues, such as the program's implementation, impact, or efficiency. Within the framework of evaluability assessment, finding that the program theory is poorly defined or seriously flawed indicates that the program simply is not evaluable.

When assessment of program theory reveals deficiencies in the program theory, one appropriate response is for the responsible parties to redesign the program. Such program reconceptualization may include (1) clarifying goals and objectives;

(2) restructuring program components for which the intended activities are not happening, needed, or reasonable; and (3) working with stakeholders to obtain consensus about the logic that connects program activities with the desired outcomes. The evaluator may help in this process as a consultant.

If an evaluation of program process or impact goes forward without articulation of a credible program theory, then a certain amount of ambiguity will be inherent in the results. This ambiguity is potentially twofold. First, if program process theory is not well defined, there is ambiguity about what the program is expected to be doing operationally. This complicates the identification of criteria for judging how well the program is implemented. Such criteria must then be established individually for the various key program functions through some piecemeal process. For instance, administrative criteria may be stipulated regarding the number of clients to serve, the amount of service to provide, and the like, but they will not be integrated into an overall plan for the program.

Second, if there is no adequate specification of the program impact theory, an impact evaluation may be able to determine whether certain outcomes were produced (see [Chapters 7 \(ch07.html\) -10 \(ch10.html\)](#)), but it will be difficult to explain why or—often more important— why not. Poorly specified impact theory limits the ability to identify or measure the intervening variables on which the outcomes may depend and correspondingly, the ability to explain what went right or wrong in producing the expected outcomes. If program process theory is also poorly specified, it will not even be possible to adequately describe the nature of the program that produced, or failed to produce, the outcomes of interest. Evaluation under these circumstances is often referred to as **black box evaluation** to indicate that assessment of outcomes is made without much insight into what is causing those outcomes.

Only a well-defined and well-justified program theory permits ready identification of critical program functions and what is supposed to happen as a result. This structure provides meaningful benchmarks against which both managers and evaluators can compare actual program performance. The framework of program theory, therefore, gives the program a blueprint for effective management and gives the evaluator guidance for designing the process, impact, and efficiency evaluations described in subsequent chapters.