CHAPTER 1

Introduction

Chapter Objectives

By the end of this chapter, the student will be able to:

1. Define program planning and evaluation.
2. Review the literature.
3. Discuss how to conduct a needs assessment.
4. Evaluate goal statements and objectives.
5. Create a logic model.
6. Evaluate the positive and adverse influences of stakeholders.
7. Differentiate the various types of evaluations.

KEY TERMS

goals and objectives
logic model
program planning
stakeholders
types of evaluations

INTRODUCTION

This chapter begins by defining program planning and evaluation. The next topic of discussion is an overview of how to conduct a needs assessment. Program planning involves identification of the type and design of program needed to address a health issue; achieving consensus from individuals providing or participating in the program; securing essential financial, personnel, and location resources; and sustained program implementation by staying true to the original design, which is also called program fidelity. Program evaluation is used for determining the day-to-day program management, short-term results, and long-term program impact. Program evaluations involve data collection and analysis to influence changes to improve program effectiveness.[1] When planning a program or conducting an evaluation, once the goal and objectives are in place, the investigation begins to take shape.

If you are wondering why you need to know about program planning, let's explore the practical side of these skills. If you decide to attend graduate school to obtain your master's in public health (MPH) degree, you will conduct an evaluation by asking a few questions prior to making your final decision:

1. What resources do you have available for graduate education? (Needs assessment)
2. Which universities offer a master's in public health degree with your specialization of interest? (Review of available information)
3. Why do you want to obtain an MPH degree? (Goal)
4. What specific knowledge, skills, or training do you wish to gain during an MPH program? (Objectives)
5. How will you map out your strategy for making the final decision? (Logic model)
6. What type of numerical data (e.g., cost, length of program, required courses) is available on the university website? (Quantitative data)
7. During the university visit, what information do you hope to obtain by talking to currently enrolled MPH students? (Qualitative data)
8. What are the budget constraints influencing your decision? (Budget)
9. What criteria will you use to make your final decision? (Evaluation)

10. How will you interpret the data? (Data analysis)
11. What is your final decision? (Final report)

Once you realize the usefulness of program planning and evaluation skills in daily life, this text will become more practical and beneficial. You will learn skills and methods to assist with a wide range of program planning and evaluation methods in your personal and professional life.

OVERVIEW OF PROGRAM PLANNING AND EVALUATION

Let's begin with a little historical background related to program planning and evaluation. In the 1960s, health education programs were implemented with little planning and limited evaluation. For example, in 1962, Kennedy became the first president to sponsor studies on smoking and public health.[2] By 1964, the landmark report entitled "Smoking and Health: Report of the Advisory Committee to the Surgeon General of the Public Health Service" revealed the negative health effects of smoking.[3] The health messages in this report were simple and straightforward, and merely told people to stop smoking because it is not good for their health. These messages were not targeted to a particular audience or population, so the messages were generally ignored. Over the years, evaluators learned that targeted messages are most effective. For example, test this concept the next time that you watch a television commercial. Are you more likely to watch an advertisement for a new product if the individuals on the screen are similar to your age, gender, and ethnicity? On the other hand, if the individuals are older with gray hair, are you less likely to show interest in the message? The next few paragraphs show how targeted messages evolved over time.

In the 1970s, during her husband's presidency, First Lady Nancy Reagan started the "Just Say No" advertising campaign as part of the U.S. War on Drugs.[4] This health message illustrates the next step in health education messages. This message was targeted to adolescents rather than to the entire U.S. population, and the message was focused on reducing peer pressure.[5]

By the 1980s, the health messages were carefully planned and implemented by involving the target audience in planning the methods. For example, the U.S. Office on Smoking and Health, a federal government agency, led strategic efforts aimed at preventing tobacco use and promoting smoking cessation among adolescents. They designed anti-smoking public service announcements featuring popular movie stars of the time, such as Brooke Shields. In 1986, the American Lung Association (ALA) started another similar campaign focused on smoking cessation targeted at pregnant women. Joan Lunden, the popular host of the television news program *Good Morning America*, was pregnant at the time and became the National Chairman of ALA's Smoking and Pregnancy Education Campaign. The slogan of this focused campaign was "Quit smoking . . . you're breathing for two."[6]

In the 1990s, health messages added evaluation components to the targeted program planning and implementation. In California, the anti-smoking media campaign added a targeted message that helped smokers to learn how to stop smoking. This health message was targeted at smokers, provided tools to quit smoking, and was rigorously evaluated to determine the effectiveness of the media campaign.[7]

By 2000, health programs were meticulously planned, implemented, and evaluated. The planning stage used input from the targeted audience, but also used valuable data from previous health program evaluation to determine the effectiveness. For example, the U.S. Department of Health and Human Services and the Centers for Disease Control and Prevention published numerous studies related to the link between smoking and morbidity and mortality.[8–12]

Using the anti-smoking health messages in the previous examples, it can be seen that current health programs are designed by conducting a thorough review of the literature to determine the best practices and effectiveness data from previous studies. In addition to a health program being carefully planned, implemented, and evaluated, the cost effectiveness of a health program has become vitally important. Funders no longer have the money to initiate health programs without knowing the cost effectiveness or the "bang for their buck." In other words, funders want to know how many individuals will gain an improved quality of health if they provide money for a specific, high-quality health program.

Although it might seem reasonable to start any program with the planning phase and end with the evaluation, this logic is not correct. It is essential to design the program plan and its implementation parallel with the evaluation. It is not possible to implement a program that has not been fully planned, nor is it possible to create an evaluation after the implementation phase is complete. Each phase is intertwined with the other program components.

The best way to show how program planning and evaluation are merged is to review the basic steps in the process. Each step involves a series of questions that must be addressed prior to moving forward. If any of the steps are skipped, it is unlikely that the program plan or evaluation will succeed. **Table 1-1** describes a brief overview of the process. Each step is described in detail throughout the remainder of this chapter.

Now's let's explore each step in greater detail. The final phase in program evaluation is analyzing the data (information) you have gathered and reporting (sharing) the results.

TABLE 1-1 Overview of Program Planning and Evaluation

Step	Topic	Questions	Examples
One	Stakeholders	Who are the stakeholders and community partners? Were they invited to the pre-planning stage? What is their common interest for change?	Community members Staff Board of Directors
Two	Needs Assessment	How was the need for the proposed program and evaluation determined?	Baseline data Needs assessment
		Are there adequate resources available for the proposed program?	Funding Time Location Staff
Three	Review of the Literature	What are the best practices reported from similar evaluations?	Best practices
Four	Goals and Objectives	What are the goals and objectives of the program and evaluation?	Change behavior Increase awareness Seek opinions Measure effects
		How will the planners know that the goal or outcome objectives were met?	Attendance Satisfaction surveys Change in baseline data over time
		Who is expected to participate?	Stakeholders Community members Employees of the organization
		How will expected audience be invited?	Print media Social media Radio and television ads Billboards
Five	Implementation	What is the format?	1-day event 6-week seminar series Health fair Tabletop display Online education modules
		What is the budget? What is the funding source? Is the program plan complete?	Grant Donation Internal funding from organization
Six	Evaluation	What data will be gathered? What protections are in place for human subject compliance? How will data be gathered? What research methods will be used for analyses? What are the roles of the evaluators?	Demographics Sign-in sheets Satisfaction surveys Secondary data from existing records Newspaper articles Public access data
Seven	Results	Who will analyze the data? Will the stakeholders be involved in interpretation of findings? How will the results be disseminated?	Evaluator Statistical consultant Final reports posted online Paper copies distributed to stakeholders

Data from Centers for Disease Control Evaluation Working Group. Steps in Program Evaluation. Available at: http://www.cdc.gov/healthyyouth/evaluation/applied/steps.htm. Accessed April 17, 2014.

The rest of this chapter describes in detail the concepts of stakeholders, needs assessment, goals and objectives, types of evaluation, and logic models.

ROLE OF STAKEHOLDERS

At times, it is difficult to determine which comes first, the needs assessment or the stakeholders. Sometimes a community issue, such as the rising crime rate, is identified first, and then a group of stakeholders comes together to try to address the issue, perhaps by coming up with a plan of action. Other times, a group of community partners gathers together, such as a local ecological Sierra Club, with the main purpose of planning how to solve a problem that they perceive. Because stakeholders, such as staff members, community leaders, neighborhood organization members, and political leaders, shape how a program is planned, implemented, and evaluated, team members consider the level of influence and power held by stakeholders.[13] Stakeholders have specific roles. By learning these roles, each phase of the program design meets diverse needs. Traditionally in program planning and evaluation, stakeholders were viewed as policymakers, program sponsors, program management, evaluation staff, or program staff. Even though target participants were often included in the list of stakeholders, they were not necessarily viewed as equal partners. Over time, the target audience has gained status and equal partnership. Now these stakeholders are viewed as having the empowerment to sustain community development projects by embracing disenfranchised groups.[14] As shown in **Table 1-2**, stakeholders with low power and high legitimacy (or trustworthiness) represent service recipients or frontline staff. When the high-power and low-legitimacy stakeholders omit the less empowered individuals from the program design, there is less utilization and sustainability.[15]

TABLE 1-2 Stakeholders and Power

Low Power/High Legitimacy	High Power/Low Legitimacy
Recipients	Policymakers
Frontline staff	Funding agencies
Disenfranchised individuals	Evaluation staff
Target population	Program sponsors
Program staff	Program competitors

Data from Mark MM, Shotland RL. Stakeholder-based evaluation and value judgments. *Evaluation Rev*. 1985; 9:605–626.

Over the past few decades, evaluators have recognized the importance of stakeholder involvement. When stakeholders participate from the first program planning meeting through the evaluation, they are more likely to anticipate problems, provide legitimacy to community partners, share data resources, and assist with final decisions.[14] Along with the advantages they bring, stakeholder participation may pose some challenges. For example, a program funding sponsor (high power) stakeholder's opinions may differ from neighborhood homeowner (high legitimacy) stakeholders' opinions. According to Guba and Lincoln,[15] the team should not avoid such conflict, but rather welcome dissimilar opinions and encourage open dialogue for greater understanding of perspectives.

The following are some questions to consider when determining the role of the stakeholders:

- What is the common interest among all of the stakeholders?
- How will the low-power, high-legitimacy stakeholders be assured of equal power throughout the planning and evaluation process?
- How and when will stakeholders be invited to participate in the planning phase?
- Are meetings held at convenient times and locations for low-power, high-legitimacy stakeholders who have less flexible work schedules?
- Is the program methodology flexible and open to change based on stakeholder opinion?

Stakeholders with various roles and power are critical to the success and sustainability of programs whether in an organization, neighborhood, or community. However, different perspectives and vested interests cause clashing viewpoints for most programs. To overcome this potential conflict, it is essential to find some common ground among all members. Until all stakeholders agree on the goal statements, there is no purpose in moving forward. Once agreement is achieved on the goal statements, the specific objectives are modified to include diverse views on how to reach the goal. For example, a community-based ecological group may wish to ban the use of pesticide lawn fertilizers, because water running off the lawns causes increased algae blooms in the local bay water. When the discussion centers on whether lawn fertilizers should or should not be banned, no agreement is reached. However, once the stakeholders agree that incentives should be given to local homeowners that convert their lawns from green grass to xeroscape (use of natural, draught-resistant plants that do not need watering, fertilizer, and monthly maintenance), the stakeholders find common ground for agreement.

NEEDS ASSESSMENT

Now that common ground has been identified, it is important for the stakeholders and community members to form a partnership or coalition. At the introductory meeting, it is important that every member is treated equally and with respect. For example, the neighborhood housing member's opinion and contribution is given the same weight as the city council member's. The stakeholders decide on two or three broad target areas that will serve as the framework for planning the needs assessment. See **Table 1-3**.

REVIEW OF THE LITERATURE

The next step is to review the current published literature. Evaluators need to know what other information is published and discover the best practices on their topic. Best practices are methods or techniques that have consistently shown to be more effective than others and may be considered a benchmark within a field. For example, evaluators may discover a publication that describes a best practice initiative that uses specialized air filters to improve indoor air quality at an auto shop that repairs and paints vehicles. At this point, it may be

TABLE 1-3 Planning a Needs Assessment

Step One	Involve Community Partners and Stakeholders	The involvement of community partners is an ongoing activity due to changes in personnel and agencies. Stakeholders work together to identify needs, outcomes, mandates, measure strengths, choose priorities, find resources, set performance objectives, develop action plans, determine resources, and check progress for impact on outcomes.
Step Two	Identify Needs and Desired Outcomes	The anticipated needs and outcomes are identified by the community partners/stakeholders. In some cases, the needs and outcomes are mandated by legislative, financial, or community-driven requirements.
Step Three	Examine Strengths and Capacity	Using the needs and outcome goals, baseline data are obtained to understand the strengths of the relationship between existing programs and the identified needs.
Step Four	Set Priorities	After examining the baseline data, it is possible to match the current strengths of the community with the identified needs and desired outcomes. Following this matching process, the members rank the goals in order of priority needs and available funding and existing resources. Stakeholders also consider how long a program can exist given the available resources.
Step Five	Seek Resources	Depending upon the selected priorities and available funding and existing resources, the members may determine the necessity of seeking additional resources.
Step Six	Set Performance Objectives	For each of the selected priorities, the members determine a matching anticipated outcome.
Step Seven	Create an Action Plan	A plan is created that shows exactly what will be done, in an order that reflects the identified priorities based on baseline data, strengths, needs, and resources.
Step Eight	Allocate Resources	Using the priorities and action plan, a budget is developed including current and anticipated resources (e.g., funding, donations, volunteers, community support).
Step Nine	Oversee Progress of Goals and Objectives	Throughout the implementation, it is important to track the objectives and provide feedback where necessary as soon as possible to address performance levels and resources.
Step Ten	Report Back to Community Members and Stakeholders	Results of the needs assessment are shared with community members and stakeholders. Such accountability assures further buy-in as the process moves into the implementation phase.

Data from U.S. Department of Health and Human Services. Health Resources and Services Administration, Maternal and Child Health Bureau. Title V Maternal & Child Health Block Grant Program Needs Assessment. Available at: http://mchb.hrsa.gov/programs/needsassessment/. Accessed April 17, 2014.

tempting to easily enter your topic into an Internet search engine. Although this technique yields hundreds of websites related to the topic, it does not produce material suitable for a review of the literature. Keep in mind that the constant expansion of information available on the Internet does not mean that it is reliable, because anyone can post information. The posted information may serve as an infomercial to sell a product, service, or even one individual's opinion on a topic. Generally, a quick way to discern if a website offers valuable information is to glance at the ending of the web address, or uniform resource locator (URL). If the URL ends with .gov, .edu, or .org, chances are the site presents reliable information. However, if the URL ends in .com or .net, you need to proceed with caution when incorporating the information into your literature review.

Rather than entering the topic into a search engine, it is important to read reliable publications that professionals and researchers have written on the topic of interest. This process yields a peer-reviewed literature review. The term *peer-reviewed journal* can be defined as follows: Academic and scholarly colleagues write a manuscript about their research and submit the manuscript to a professional journal whose editor reviews the manuscript and sends it to several other professionals with expertise on the topic. The peer experts examine the manuscript, review the content, inspect for wrong or erroneous information, edit, and decide if the manuscript is suitable to the specific journal. They write comments back to the editor. The editor shares the reviewer comments with the manuscript's authors. If the manuscript is accepted with revisions, the suggested changes are made and the manuscript is resubmitted, reviewed again, and published. This process allows scholarly peers to review the research of their colleagues prior to publication, thus academic journals are called refereed or peer-reviewed journals. In contrast, documents posted on Internet sites are not typically reviewed through a peer-reviewed process and therefore frequently lack academic rigor, consistency, and attention to detail.

A compelling literature review involves delving into a variety of credible professional reference materials. This process is best accomplished by visiting a university campus library and gaining access to the professional sources through online databases as well as assessing printed materials at the library. If you are not familiar with using databases that house peer-reviewed journals, it is recommended that you review the available tutorial modules or ask the librarian for assistance. As previously described when conducting a peer-reviewed literature review, it is not acceptable to enter the topic into an Internet search engine and use whatever information appears on the screen. This technique yields unreliable information.

To begin a literature review, you need to become familiar with the databases used in health including, but not limited to, MedLine, CINAHL, FirstSearch, Ovid, and PsychINFO. After you access the appropriate database, you may use the "keyword" option to begin your search. This type of search may be limited further by choosing from the following search forms: "Any of the words," "at least one of the words," or "must contain all of these words." For example, suppose you are interested in knowing what has been written about the global efforts to eradicate malaria over the last 10 years. You may wish to use "must contain all of these words." If you do not know much about your selected topic, use the "any of the words" option, and cast a wide net related to the topic. Let's say that you are interested in prevention of back injuries among childcare workers. This option will be voluminous and not provide the exact information for your search, but it allows you to explore a wide variety of publications. By reading through a wide variety of publications, you gain knowledge about what research has been done on the topic previously.[16]

Besides the keyword option, databases provide the opportunity to limit your search, such as by years, language, subjects, and reviews. For example, you may limit your search to recent publications between 2002 and the present, written in English, and limited to human subject research. In addition, you have the choice of selecting review publications. The review publications are useful when starting your search, because such publications provide an overview of the literature written on a specific topic. When you find a few specific recently published peer-reviewed publications, you learn how other researchers investigated the same issue, methods used for the investigation, limitations and challenges, results, conclusions, and suggestions for further research. Although the literature review process is time-consuming initially, it saves time later by avoiding the mistakes learned by other researchers. If you find a peer-reviewed publication of particular interest, you may contact the author to discuss the publication in greater detail. Generally, authors are pleased to discuss their research findings.

To further limit the scope of your search to the most recent publications, it is useful to conduct a Boolean search. This time-saving technique allows you to limit your search efficiently by using three logical operations: OR, AND, and NOT. See **Box 1-1**. Keep in mind that some database search engines offer simpler, but not identical, forms of search statements. It is useful to try a few different search statements until you become accustomed to the database that you are using. If you get confused, refer to the help pages provided by the search engines.[17]

In addition to using the peer-reviewed journal databases, it is also helpful to use the other library resources for

BOX 1-1 Examples of Publication Searches Using Boolean Search Terms

Boolean Search:
- Example One
  - Topic: Malaria rates
  - Boolean logic: AND
  - Search: global AND international malaria rates
- Example Two
  - Topic: Air quality
  - Boolean logic: NOT
  - Search: Indoor NOT outdoor air quality
- Example Three
  - Topic: Sports medicine
  - Boolean logic: OR
  - Search: adolescent OR teen sports medicine

your review of the literature. The following discussion provides the advantages and disadvantages of printed materials.

Books

Books provide a good starting point for a review of the literature, because they offer a valuable general overview on specific subjects. Even though the information is less up to date due to publishing time, books should be included in any thorough literature review.

Government Documents

Depending on your field of study, many government documents are posted online through specific agency websites. These documents are extremely useful for a wide variety of topics. If you are not familiar with various government databases related to your topic, the reference librarian will offer valuable assistance.

Nongovernmental Organization (NGO) Documents

These organizations post valuable trend data and information related to specific topics. If you are not familiar with nongovernmental organizations, it is best to seek the advice of a reference librarian.

Newspapers

Although newspapers are written for a general audience, the information provides the public perception on current events and summaries of recent trend data, such as political polls. It is useful to contrast newspaper articles with other sources for a comparative review of the literature.

Magazines

Like newspapers, magazines are intended for a general audience, with the purpose of selling advertisements. Unless the topic involves investigating how a specific topic is portrayed in magazines, generally this information is not useful for scholarly literature reviews.

Theses and Dissertations

Because these documents are not published, they are usually only available from the library or through interlibrary loan. Keep in mind that this type of research was conducted by students, so the findings need to be viewed with caution.

Completing the Literature Review

Once you have completed your literature research, it is time to compile the information into an organized document. One common mistake is confusing the terms *annotated bibliography* and *a review of the literature*. An annotated bibliography contains a brief summary of each citation followed by a short evaluation. The document includes the strengths or weaknesses of the material presented in the citation. For an annotated bibliography, the source citations are presented in alphabetical order and each citation is presented as a new paragraph. Because citations are provided with each summary, there is no need for a reference page at the end of the document. A review of the literature is a compilation of the multiple resources presented in narrative format. The literature review presents all sides of an argument to avoid bias, and areas of dispute are emphasized for the reader. Literature reviews are usually organized around topics rather than presented in chronological order by year of publication, and the citations are presented at the end of the paper.

DEVELOPMENT OF GOALS AND OBJECTIVES

Once the needs assessment and the review of the literature are complete, the next step involves development of the goals and objectives of the program planning and evaluation. For most community organizations, this is the time in program planning and evaluation to hire a professional evaluator to assist with planning evaluation activities right from the time the goals and objectives are developed through the final report. The evaluator's expertise keeps the program on track. Keep in mind that evaluators ask questions with the purpose of

TABLE 1-4 Decision Box

	Important	Not Important
Changeable	A	B
Not Changeable	C	D

A = Strong: Important and changeable
B = Weak: Not important, but changeable
C = Weak: Important, but not changeable
D = Very Weak: Not important and not changeable

improving an existing program or initiating a new program. It is common for evaluators with limited experience to propose goals that are broad and implausible. After narrowing the topic, it is useful to stop and critically evaluate the proposed program. To assist with this process, refer to **Table 1-4**, and read the descriptions for A, B, C, and D. For your topic, place an X in the box that best defines your evaluation.

If the X is in B, C, or D, the proposed program needs reconsideration and modification. With limited resources and time, programs need to concentrate on important and changeable issues. Regardless of the location of X, it is useful to reconvene the needs assessment committee to confirm, change, or refute the goals prior to moving forward with the program planning. It is not unusual for team members to refine goals several times.

Another way to develop the goals is to use results of the needs assessment and the best practices from the literature review to answer the questions in **Table 1-5**.

Let's look at a few examples of focused goal statements:

- *Goal Statement One*: Within the next 6 months, 100% of the factory workers in the assembly-line division of the manufacturing plant will participate in three worker safety classes in the format of their choice (group class, one-on-one education, self-paced workbook, Internet education modules).

  Who: Factory workers
  What: Preferred method of health education: Group class, one-on-one education, self-paced workbook, Internet education modules
  When: In the next 6 months
  Where: Assembly-line division of the manufacturing plant

- *Goal Statement Two*: In the next 6 months, the incidence of employees with allergic reactions due to carpet mold in the lobby area of a building will decrease by 100% due to the use of the new cleaning solution and technique.

  Who: Employees
  What: Allergic reaction due to carpet mold
  When: 6 months
  Where: Lobby area

- *Goal Statement Three*: Over the next 12 months, the local grocery store chain will decrease the use of paper and plastic bags by 50% by charging $0.02 per bag starting on January 1.

  Who: Local grocery store chain
  What: Decrease use of paper and plastic bags by 50% by charging $0.02 per bag
  When: Starting January 1
  Where: Local grocery store chain

The process of writing excellent goal statements involves numerous drafts and discussion with team members. Because team members may not have time to physically meet to write the goal statements, it is advisable to send drafts via email to receive comments during the process. Once everyone agrees on the wording, it is valuable to schedule a meeting to revisit the results of the needs assessment, refine the goals, finalize goal statements, and begin to write measureable objectives. See **Box 1-2** to test your skills.

Now that the team members have identified the stakeholders, conducted the needs assessment, reviewed the literature, and finalized the goal statements and objectives, it is time to explore the process of implementation.

TABLE 1-5 Questions to Focus the Goal Statements

Who?	Identify the target population.
What?	Describe the main purpose of the program.
When?	Ascertain the time frame or length of the program.
Where?	Describe the specific location of the program.

BOX 1-2 Test Your Skills

Write two goal statements for a program related to increasing the number of people working at a local large retail store who join the community-wide weight-loss/fitness program.

IMPLEMENTATION

After the planning phase is complete, it is time to begin the implementation process. Implementation is defined as the execution of the plan or simply doing what was planned. The implementation entails a detailed step-by-step process. Think of the implementation with the same level of detail needed for a computer program. Each line of the computer code must be correctly executed before the next line of code is read by the computer. The same process is true for implementing a program plan.

To ensure that each step of the plan is considered and implemented, it is useful to develop a timeline. Timelines are developed as a team process, so everyone shares their thoughts, ideas, and concerns. It is essential that team members take responsibility for action items; otherwise, the implementation is delayed. Once the timeline is finalized, it is posted as a visual cue. However, after a timeline is finalized, it is typically expanded and modified throughout the entire implementation process. Some teams use a whiteboard to post the timelines, so it can be easily changed as needed. Depending on the implementation size, timelines are displayed by month, week, day, or even hour, if necessary. In addition, teams may develop a timeline for each phase of the implementation. **Table 1-6** illustrates an example of a timeline for staff training.

As shown in Table 1-6, the implementation timeline includes every possible detail, so team members know the expectations for each week. Once one phase has been

TABLE 1-6 Work Safety Training Timeline

Month/Week		Action Item	Details	Person Responsible
July	7/3	Team meeting	Finalize implementation timeline	Team leader: JL
	7/10	Curriculum	Order adequate number of curriculum copies	Clerk: SA
	7/17	Discussion of worker safety training	Meet with eight designated worker safety trainers to discuss training sessions	Team member: FC
	7/24	Finalization of worker safety training	Finalize 16 worker safety training sessions: 2 per month in each designated divisions	Team member: DE
	7/31	Design observation checklist	Three team members meet to design observation checklist for use while observing trainings	Team members: BR, CD, LR
August	8/7	Practice training sessions	Eight trainers schedule practice training sessions with other team members to finalize timing and quality; receive feedback	Designated team members: BR, CD
	8/14	Worker safety training	Eight team members complete 16 worker safety training sessions; ensure fidelity in training by following protocol	Designated team members: BR, CD
		Track data	Log how many workers attend each training session	Designated team members: BR, CD
		Workers not trained	Schedule additional training dates as desired by each designated division; provide additional training dates and times	Clerk: SA
	8/21	Observations	Using the checklist, assign four team members each randomly to observe two trainings	Designated team members: LR, DE
		Additional worker safety training sessions	Conduct make-up training for workers unable to attend previously scheduled trainings	Designated team members: BR, CD
	8/28	Fidelity	Team members review results of observation checklists for fidelity	Designated team members: BR, CD

completed, it would be necessary to develop a new timeline for the next phase. Even for large, multi-year programs, it is advisable to develop a timeline for the entire project, and then break each segment into workable components for managing daily and weekly activities.

Besides a timeline, the implementation phase entails a method to ensure program fidelity. This method involves the development of all written policies and procedures. For example, as mentioned in Table 1-6, checklist observation documents program implementation. Other written policies include, but are not limited to, procedures for obtaining informed consent documents and specific instructions for any procedure that requires adherence to a step-by-step implementation for program fidelity. Once the policies and procedures are in place, the implementation process continues throughout the duration of the program. In parallel to the implementation data–collection process, evaluation data are collected at each step of the program. The following discussion introduces the types of evaluation used to assess each phase of programs.

INTERNAL AND EXTERNAL EVALUATORS

Before discussing types of evaluations, it is useful to describe the two types of evaluators: internal and external. The basic difference is that internal evaluators are employees of the organization that is being evaluated. External evaluators are not directly employed by the organization being evaluated, but have expertise and experience not available within the organization. See **Table 1-7**.

TYPES OF EVALUATIONS

The main purpose of any evaluation is to address whether the goals and objectives of a program or intervention were achieved. The complexity of the program and the evaluation determines the type and quality of the decisions. Whether the evaluation is simple or complex, each one requires rigorous and detailed design for success.[18] Although there are numerous types of evaluations, this chapter focuses on the most common types of evaluations: formative, summative, process, outcome, and impact.

Formative Evaluation

Formative evaluation, also called exploratory evaluation, focuses on the elements of the program and is conducted during the planning and implementation phase. Think of a formative evaluation as ensuring that the program is "formed" correctly. The issues of concern are related to the appropriateness and feasibility of the program materials, messages, and methods used to conduct the program for the target audience. Formative evaluation includes qualitative (e.g., interviews, focus groups, print media) or quantitative (numbers, rates, percentages, ratios, etc.) data or a mix of both kinds of data. At each point throughout the planning, implementation, and evaluation phases, data are collected from the target audience (see **Box 1-3**). For example, during the needs assessment and planning phase, surveys are pilot-tested, revised, and completed by a small sample of participants. Such preliminary data determine what changes are

TABLE 1-7 Comparison of Internal and External Evaluators

Internal Evaluators	External Evaluators
Directly employed by the organization	Employed as a consultant
Easy access to the staff employed by the program under review	Staff may or may not be willing to talk to an outsider
Greater awareness of the operations and nuances of the organization	Free of internal politics and personalities
Credibility and trust among the staff; may find that staff do not wish to share personal information with a colleague	Must build trust; staff may be more willing to confide in an external evaluator
Less costly unless organization has to pay to cover for any additional duties of the evaluation; may involve hidden costs	Cost determined by assigned contract; no hidden fees
May or may not have technological experience	All skills are known at the onset of the project
May unknowingly bias other workers to sway evaluation in one direction	May bring a fresh perspective from the results and recommendations of evaluation
Other workers may not find results to be credible from an insider's viewpoint	Perceived as more objective

needed to improve the readability and understanding of the final survey. Later, during the implementation phase, interviews or focus groups are conducted to confirm the usefulness of the messages and materials. Throughout the program, formative data are collected, and portions of the program are modified as needed to address identified concerns.[19]

BOX 1-3 Formative Evaluation Questions

Questions for leaders where the program will be implemented:
- What do you know about this program?
- What are the benefits to your organization for agreeing to implement this program?
- What problems do you foresee with the implementation of this program in this organization?
- What will the organization need to implement this program?
- What are the costs associated with the implementation?

Questions for organization members:
- What do you know about this program?
- What have you heard about this program?
- What are the benefits of this program to the organization?
- What are the program barriers experienced by the organizations?
- What are the benefits of this program to the organization members?

Questions for potential participants in organizations:
- What made you decide to attend this program?
- What is most appealing about this program?
- What do you think that you will gain by participating in this program?
- Why did you decide to attend this program?

Summative Evaluation

Summative evaluation determines if the program met any combination of measurement about impact, outcome, or benefits. Think of summative evaluations as a cumulative or comprehensive evaluation. This type of evaluation is frequently conducted by external evaluators. Generally, quantitative data are used for summative evaluations, because standardized surveys are best suited for measuring specific objectives. For example, a local seafood packing factory noticed an increase in worker injuries due to wet floors and moving heavy boxes. The factory administrators plan to institute a new safety program to ensure that all employees receive education about worker safety procedures. Because the factory is open 24 hours, 7 days per week, they decided to make a safety education video. Employees are given a 90-minute break during work hours to view the 30-minute video followed by a 60-minute interactive workshop with a physical therapy technician to practice skills presented in the video. Three days after an employee completed the safety training, a satisfaction survey was mailed to their home address along with a self-addressed stamped envelope to return the completed survey. The survey is limited to specific questions about the employee's level of satisfaction related to knowledge and skills about their safety training. These data provide a summary of the impact, outcome, and benefits of the factory's new safety training program (see **Box 1-4**).

BOX 1-4 Summative Evaluation Questions

What goal and objectives were answered by the summative evaluation?

What type of statistical test was used to analyze the satisfaction survey data?

Were statistically significant results found? If so, explain.

Process Evaluation

Process evaluation examines all aspects of program implementation. In some situations, this evaluation investigates the organizational and administrative aspects of the program. During a process evaluation, the evaluation monitors the feedback of the program by investigating the issues that influence the implementation and the environment surrounding the implementation (see **Box 1-5**).[20]

BOX 1-5 Process Evaluation Questions

Is the program staying true to the original design, also called program fidelity in the implementation process?

Are the quality and quantity of the services and products maintained at the capacity level expected?

Is the level of satisfaction sustained across participating groups?

Is there any identified reason that one group of participants is no longer participating?

Outcome Evaluation

Outcome evaluation obtains program data to document short-term results. These descriptive data define output activities, such as number of individuals calling the toll-free number following a local public service tobacco-cessation advertisement campaign. Also, these data make it possible to assess the short-term program results for the target audience—for example, change in the percentage of factory worker injuries 6 months after every employee attended the worker safety training. Other information obtained from outcome evaluation includes knowledge, attitude or behavioral changes, and institutional policy changes (see **Box 1-6**). According to Stead, Hastings, and Eadie,[21] health literacy, social influence, and health policy are the types of action needed for health promotion outcomes. Health literacy relates to an individual's knowledge and understanding of a health issue or concern. Social influence explores the availability of personal support and community empowerment. Health policy relates to how strategies are incorporated into organizational practice.

BOX 1-6 Outcome Evaluation Questions

Were the short-term goals achieved by the program?

What was the stakeholder's level of satisfaction in the program implementation?

Did specific health knowledge and motivation increase participation among the target population?

Did availability of social support positively impact the participant's health outcome?

Impact Evaluation

Due to excessive costs and lengthy time commitment, impact evaluations are rarely possible. When feasible, impact evaluation is the most inclusive type of evaluation due to the focus on outcome objectives. Because of external influences, the results are not always attributable directly to the program. Impact evaluation provides results related to long-term data such as recidivism rates, changes in morbidity and mortality data, or long-term maintenance of a behavioral change (see **Box 1-7**).

BOX 1-7 Impact Evaluation Questions

What external influences impacted the results?

What percentage of participants was lost to follow-up over the longitudinal study?

Was the expected behavior change sustained over the expected period of time?

How did the expected cost compare to the actual cost of the impact evaluation?

LOGIC MODELS

Now that the team members have completed the previously discussed tasks, it is time to organize the data and information onto one spreadsheet. Even though there are numerous types and designs, all logic models are a graphic depiction of a program from the planning phase through the evaluation. Logic models link the goal statements and objectives to interventions and outcomes. Such models are an excellent way to communicate the big picture to others. This type of communication facilitates buy-in from stakeholders, personnel, and the target audience. Keep in mind that there are books written about logic models. The information in this section is merely intended to introduce the concept of logic models. While looking at three sample logic models, review the definitions provided for each term. Although each logic model is slightly different, the choice of which one to use is up to the evaluators. See **Tables 1-8** and **1-9**, and **Figure 1-1**.

Goal Statements and Objectives

The goal statements and objectives provide the program overview. Each goal statement is listed and followed by the measureable objectives.

Inputs

The inputs are defined as the resources available for the program including human resources and stakeholders, such as funders, community partners, program staff, collaborators, and volunteers. Fiscal resources are funding, donations, and special grants. Physical resources provide office space and equipment, office and storage space, computers and software, and other special tools, such as cameras and recording devices. Knowledge resources encompass teaching materials, curriculum, learning

TABLE 1-8 Logic Model Example

Program: Community Garden Goal: Within 12 months, the Terrace Community will establish one community garden for growing vegetables and fruit.					
Inputs	**Activities**		**Outcomes**		
What we invest	What we do	Who we reach	Why this project: Short-term results	Why this project: Intermediate results	Why this project: Long-term results
Master gardeners Volunteers Materials Plot of land Equipment	Conduct workshops Prepare the soil Plant garden Promote activities Work with media	Community Grocery stores Local restaurants Juice bars City council	Awareness	Planting	Healthier
			Knowledge	Growing plants	Fresh food
			Skills	Social action	Social asset
			Motivation	Excitement	Civic engagement
			Involvement	Decision making	Environmental

Data from The National Network of Libraries of Medicine, National Library of Medicine. Including Evaluation in Outreach Project Planning. Planning and Evaluating Health Information Outreach Projects. Outreach Evaluation Resource Center. Available at: http://nnlm.gov/evaluation/booklets/booklet2/booklet2_blank_worksheet1_form.pdf. Accessed September 13, 2013.

competencies, and certification requirements. By listing every resource under inputs, it is easy to determine what is missing and needs to be obtained for the program to begin.

Activities

Activities involve what needs to be accomplished to achieve the objectives. For example, if an objective requires the development of a community coalition, the activity describes a detailed plan for forming a community coalition. If the objective involves teaching a health course, the activity explains how the resources are used to advertise the course, schedule the date and time, recruit and enroll students, collect fees, invite guest speakers, and so forth for the course to be a success.

Outputs

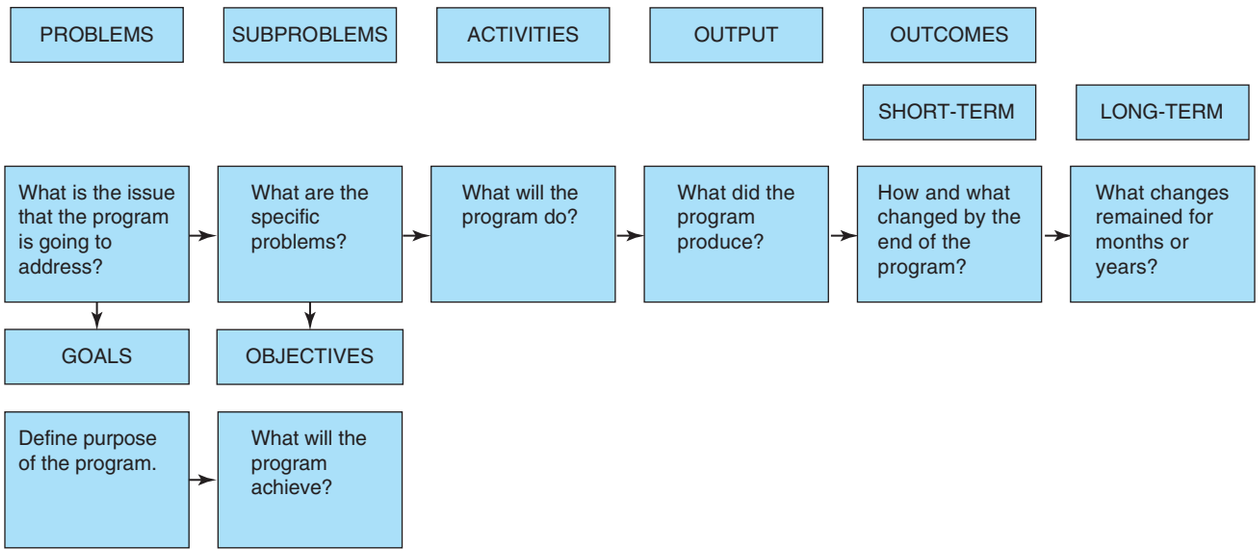
Outputs link the research questions, goal statements, and objectives to the short-term, intermediate, and long-term outcomes. Outputs may also be viewed as the process evaluation.

TABLE 1-9 Logic Model Example

Questions						
Goal Statements	Inputs and Resources	Activities	Outputs/ Process Evaluation	Outcomes/Impact and Outcome Evaluation		
				Short-term	Intermediate	Long-term
Objectives	Resources	Needs assessment	Products	Baseline data	Tracking	Documentation
	Human Fiscal Physical Educational	Baseline data Recruitment Focus groups Surveys Interviews Number of training sessions	Services provided Themes Profits Number of persons trained	Knowledge, attitudes, behaviors, and beliefs Income generated Knowledge gained	Retention and follow-up rates Implementation strategies for future events	Decreased costs due to improved conditions Policy changes due to intervention Strategies for institutional changes
External Influences: social media, environment effects, political impact						

Modified from McCawley P. University of Idaho Extension. Logic Models. Available at: http://www.uiweb.uidaho.edu/extension/LogicModel.pdf. Accessed January 12, 2012.

FIGURE 1-1 Logic model example.



While outputs include products, goods, services, and the people served by the program, process evaluation monitors the overall implementation activities. Products, goods, and services include web pages, fact sheets, publications, software, curriculum handbooks, community events, courses, and demonstrations. The people served are described by their demographics and characteristics; percentage of target population reached; change in knowledge, attitude, beliefs, and behavior achieved; and overall level of satisfaction expressed.

Outcomes

Outcomes are expressed as short-term, intermediate, or long-term. Each phase communicates the impact of the program thus far. Short-term outcomes reflect awareness of the issue, motivation to change, and the knowledge, attitudes, skills, beliefs, and behaviors needed to make the desired change. Intermediate outcomes build on short-term outcomes and track participation and practices of target audience; changes in policies within institutions, businesses, and government agencies; and implementation of strategies by individuals and groups. Long-term outcomes or program impacts follow intermediate outcomes by documenting improved economic, health, educational, social, environmental, or political conditions that relate back to the goal statement. Impact determines permanent change beyond the end of the program. It is the lasting effect of change of institutional policies. For example, over time the smoke-free indoor air quality goal statement produced a permanent nationwide ban of smoking in restaurants, bars, and domestic air flights.

External influences either support or oppose the goals. Due to the level of institutional, community, and participant opinion of the goal statement, the program planning process changes to better match the baseline opinion of the community. For example, if the community supports building a walk-in free clinic for the homeless population, the inputs, activities, outputs, and outcomes will differ from those of a community that opposes a free clinic. However, if the community has the opinion that a free homeless clinic will increase the number of homeless people, then the program starts at a completely different place. Other types of external influences include similar and competing programs or services, socioeconomic conditions, governmental policies, and so forth.

SUMMARY

This chapter provided an overview of similarities and differences between research and evaluation starting with the development of questions. The basic difference is that research generates new knowledge, while evaluation seeks to improve existing programs. Following a discussion about needs assessments and how to review existing published literature, the remainder of the chapter focused on the identification of the program type and design; consensus building among individuals participating in the program; and resources needed such as funding, personnel, and location resources. Program evaluation was defined as day-to-day program management, short-term results, and long-term program impact. Program evaluations include data collection and analysis.

CASE STUDY: HEALTHY FOOD/HEALTHY STUDENTS (HFHS)

Dr. Johnson, the school board administrator of a large urban school district, wanted to offer healthier food options in the cafeteria but was not sure what changes needed to occur in the cafeteria. She is aware of the federally subsidized school lunch programs, but at this point she is gathering information from a number of resources about the quality of subsidized food provided, amount of food that is consumed and amount that is thrown away each day, the amount of snack food and sodas purchased from school vending machines, and so forth. She decided to start the process by conducting a pilot test needs assessment in six schools (two elementary, two middle, and two high schools) evenly distributed across the county. Volunteers were recruited from the students, teachers, staff, and parents to serve on the committee overseeing the needs assessment. After writing a few broad goal statements, the committee conducted focus groups with each group represented. The focus group results showed some general themes that the committee used to develop a short survey. The survey was printed on postcards and made available in several locations (cafeteria, main office, teacher/staff lounge, and homerooms). Drop boxes were available at various locations. The survey was also made available online on the school websites.

While the survey data were collected over a 3-week period, the committee worked with the cafeteria manager. The committee requested secondary data about the most popular and least popular food choices, sodium and sugar content of popular items, and availability of fresh fruit and vegetables. They ranked the current purchased food choices by popularity, cost, and health factors. This grid was compared to the focus group and survey results. After analyzing the needs assessment data, the committee wrote a goal statement and three measureable objectives.

Goal Statement

The school cafeteria team will investigate how to improve the quality of available food and drink choices in the school cafeterias to encourage healthy eating.

Objectives

1. By the end of November, the school cafeteria team will collect 3 weeks' worth of baseline data in the pilot test schools regarding what cafeteria foods served are eaten and what foods are thrown away.
2. By the end of November, in the pilot schools, the school cafeteria team will collect baseline data about the fat, sodium, and sugar content of 100% of foods and drinks served in the cafeteria.
3. By the end of November, the school cafeteria team will investigate how to modify the school district soft drink company contract to exchange the purchase of high-sugar drinks to lower sugar or sugar-free flavored water drinks or pure water.

The committee collected data from students, teachers, staff, and parents throughout the assessment phase. The baseline pilot study data were presented in the final report to the school board administrator as the first step in modifying the cafeteria food choices. From this report, the school board could move forward in further modifying school cafeteria food offerings toward healthier foods.

Case Study Discussion Questions

1. Discuss other options that might have been used for the data collection.
2. What other types of data could be collected to address the objectives?
3. Now that the baseline data have been collected, what might be the next steps for the committee?

STUDENT ACTIVITIES

Cubing is an activity that involves exploring one issue from six different directions.[22] For this exercise, divide the class into equal groups of six students per group. Allow each group to select a health science topic of their choice. For the example, the topic is "bachelor of science in health science (BSHS) degree." Each student is assigned one of the following six questions:

1. Describe: What is the bachelor of science in health science degree?
2. Compare: How does the BSHS compare to other undergraduate degrees?

3. Associate: What does the BSHS degree make you think of?
4. Analyze: What should we look for in the ideal BSHS degree?
5. Apply: Apply what we know about undergraduate college degrees to the BSHS degree.

Argue for and against it: Identify arguments for and against the BSHS degree.

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