

Addressing Problems in Evaluating Health-Relevant Programs Through Systematic Planning and Evaluation*

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Introduction

Evaluation is commonly used but not commonly understood and applied. Lack of common understanding and inconsistent application of evaluation stems largely from four basic problems: 1) inconsistent use of terminology in the literature, 2) absence of details concerning needed steps to carry out evaluations from start to finish, 3) lack of common perspective about how evaluation relates to program planning and 4) absence of a systematic approach to carry out evaluations. We address those problems by proposing a systematic planning and evaluation model (SPEM).

Problems

Inconsistent use of evaluation terminology is illustrated by sundry descriptions of the different types of evaluations used in assessing the implementations effectiveness and efficiency of program activities. For example, a National Cancer Institute publication asserts that impact evaluation focuses on long-range results of a program and on changes in morbidity and mortality.¹ In contrast, Green² states that impact

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evaluation assesses the immediate effect of the program on knowledge, attitudes, beliefs and behaviors (KABBs). The National Research Council³ uses impact evaluation synonymously with outcome and summative evaluation. Table i further illustrates the disparity among the terms used to describe program evaluation.

Many program evaluation articles generalize, omitting intermediate steps necessary to evaluate projects from start to finish.⁵ Evaluators unaware of those steps can overlook or underemphasize ones essential to comprehensive program assessment.

Many authors, when evaluating health-relevant programs tend to treat evaluation separately from program planning. Although program evaluation is not integral to program planning, it is impossible to do comprehensive evaluation without considering planning, ⁶i.e, thoughtful evaluation and program planning should be closely linked.

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1 National Cancer Institute, Making Health Communication Programs Work: A Planner's Guide (1989).

2 Lawrence W. Green, How to Evaluate Health Promotion, 53 Hospitals 106 (1979).

3 National Research Council, Evaluating AIDS Prevention Programs (1991).

4 The citations to National Cancer Institute & National Research Council references in Table 3 appear supra notes 1 & 3; the remainder are Lawrence W. Green & Frances M. Lewis, Measurement and Evaluation in Health Education and Health Promotion (1986); Peter H. Rossi & Howard E. Freeman, Evaluation: A Systematic Approach (1993); Michael Scriven, Evaluation Thesaurus (1991); and

Richard A. Windsor et al., Evaluation of Health Promotion and Education Programs (1984).

~U.S. Conference of Mayors, supra. 6 Allen D. Spiegel & Herbert H. Hyman, Strategic Health Planning: Methods & Techniques Applied to Marketing & Management (1992); and Gaken E. Cole, David

R. Holtgrave & Nilka M. Rios, Systematic Development of Theory-Based Behavioral Risk Management Programs, 4 Risk 67 (1993)

| References | Types of Evaluation | | | | |
|---|---|--|---|---|---|
| | <i>Formative</i> | <i>Process</i> | <i>Impact</i> | <i>Outcome</i> | <i>Summative</i> |
| Green & Lewis, 1986 | Appraises of activities or materials before implementation | Evaluates during program implementation | Assesses short- and medium-term effects | Examines effects of program on morbidity and mortality | Measures and judges impact, outcome or benefits |
| Nat'l Cancer Institute 1989 | Evaluates to test strategies before implementation | Examines procedures and tasks in program implementation | Focuses on long-range effects of a program and changes in health status | Obtains descriptive data and documents short-term results | |
| Nat'l Research Council, 1991 | Assesses to determine the need for intervention and how to improve it | Verifies how well program delivery goals are being met | | Assesses to determine if effects can be attributed to project | |
| Rossi & Freeman, 1993 | Performs studies to guide design process | Identifies targets and assesses project's conformity to design | Appraises extent to which project causes desired change | | |
| Scriven, 1991 | Evaluates to improve things evaluated | | | | Evaluates to judge merits or worth of program |
| Windson, Baranowski, Clark & Cutter, 1984 | Evaluates in development to improve program | Part of formative evaluation, documents what is going on | Assesses program's overall effectiveness in changing KABBs | Evaluates differences in mortality and morbidity | Summarizes assessments of program effectiveness over time |

Table 1

After terminology has been mastered and evaluation steps as well as linkages between program planning and program evaluation understood, a systematic approach to evaluation must be implemented. Without a systematic approach, evaluation attempts are often haphazard or incomplete at best and can result in erroneous and/or incomplete feedback to program managers.

This article seeks to remedy these fundamental problems by 1) making the point that it is “ok” to assign different meanings to evaluation terminology so long as these terms are operationally defined prior to developing and executing evaluation activities, 2) describing the program planning and evaluation steps required to carry out a comprehensive evaluation, 3) illustrating and describing the linkages between program planning and evaluation steps and 4) introducing a comprehensive systematic approach for evaluating health/safety-relevant programs before, during and after program implementation.

Terminology and Definitions

Potential variations in terminology should be dealt with at the outset. This helps to ensure common understanding among planners and evaluators, prevent communication problems and facilitate a common approach to evaluation.

Many terms can be used to describe an evaluation if planners initially understand their meaning. To illustrate, we provide and define terms we use when describing the dimensions of a comprehensive program evaluation that examines either the operation and quality of program activities, their effects and/or the ratio of expended resources to benefits attributable to the program. We also provide terms and definitions for evaluations conducted before an activity and/or its component parts (i.e., brochures, questionnaires, data management software, recruitment and enrollment procedures) have been implemented. These terms and definitions follow:

Process evaluation collects information required to answer questions about the implementation/operation of program activities and compares it to previously identified operational criteria/objectives to determine the extent of congruence between program planning and

delivery. Parameters can include the number of encounters, timelines met, personnel hired, program components implemented, number of presentations given, program implementation conformity (i.e., the extent to which it was faithfully delivered), program coverage (i.e., the extent to which community residents participated), site response (i.e., community perceptions of, and reactions to, the activities), participant response (i.e., how they felt about the program), costs and personnel competencies (additional parameters in Form 2, item 12c, *infra*).

Effectiveness evaluation collects information required to answer questions about the effects of program activities and compares it with previously identified criteria/objectives related to the short-, medium- and long-term effects of program activities on the target population (e.g., biological, behavioral, psychological), or on aspects of the target population's environment (e.g., social norms, the economy) in an effort to determine the extent of congruence (see Form 2, item 12d).

- *Efficiency evaluation* collects information about the resources needed for comparable activities relative to their attributable benefits and compares it with previously identified criteria/objectives to determine the extent of congruence. These evaluations usually involve calculating a ratio of resources consumed to benefits (monitorized and non-monitorized) accrued. For instance, one might compare the cost of a Back Safety program with treatment costs averted with partial success of the program by calculating a benefit:cost ratio. Efficiency evaluation includes cost-benefit, cost-effectiveness, cost-utility and risk-benefit analysis as special cases.⁷ Such evaluation is distinguished from cost analysis which involves assessing costs, but not necessarily benefits, of a program (see Form 2, item 12e).

- *Formative evaluations* include any process, effectiveness, or efficiency evaluation approach applied to program activities and/or component parts before they are widely implemented.

- *Developmental evaluations* are process, effectiveness or efficiency evaluations carried out to determine how to improve a program after its implementation.

⁷ Michael F. Drummond, Greg L. Stoddart & George W. Torrance, *Methods for the Economic Evaluation of Health Care Programmes* (1987).

- *Summative evaluations* are process effectiveness and efficiency evaluations carried out after a program has been implemented to determine whether it should be continued.

Evaluation Steps: The Particulars

Planning and evaluation steps can vary according to evaluation purposes. They can also vary depending on whether evaluation begins before or after implementation. Yet, all the steps below must usually be carried out to plan for and execute an assessment of needs and fully evaluate the development, implementation/operation, effects and efficiency of health programs.

Although presented serially, the steps are often parallel and require ongoing interaction between evaluators and program staff. This is diagramed in Figure 1 and described in the next section of the paper.

- *ES 1.* Provide technical assistance to program staff in identifying, defining, assessing and prioritizing problems and needs (steps PS 1—5).

- *PS 1.* Identify and describe program-relevant health problems of the population served. This requires understanding of what constitutes health problems and how they are identified, described and stated in operational terms. Form 1 should assist with this process.

A health problem is a discrepancy or “gap” between what is expected and what is observed on an operationally defined health-relevant variable such as HIV incidence, cardiovascular disease mortality, low birth weight, attitudes towards persons with AIDS, intentions regarding exercise or drinking behavior. The vast number of health problems makes it important to limit the search to problems most relevant to the vision, mission and objectives of the agency/organization that is planning to address them. For example, if a program’s mission is to educate the general public about HIV/AIDS prevention, program-relevant problems should consist of conditions, cognitive states, or behaviors that relate to the acquisition or transmission of HIV.

A recommended approach to identifying health problems is to compute discrepancies between what is expected (e.g., morbidity or mortality, knowledge of HIV transmission, perception of

susceptibility), based on the opinions of health experts or past performance, and what is observed, based on measurements pertaining to the problems and determinants of interest. For example, nationally, we might “expect” that at least 80% of those who report one or more risk behaviors for HIV would have received an HIV antibody test within the past year. However, as a result of responses to a national survey, it might be observed” that only 45% of the population was tested during this time. This constitutes a discrepancy of 35%. The greater the discrepancy between expected and observed behaviors or conditions, the greater the problem and, one would assume, the higher the priority for addressing the problem.⁸

Once identified, problems should be thoroughly described to provide insight into their nature and magnitude. Describing a health problem entails collecting information about the person(s), place (environment) and time attributes of the problem. This requires asking questions such as: (a) Who is affected by the problem (e.g., the unemployed, females, adolescents)? (b) How susceptible are they? (c) How severe is the problem? (d) How prevalent is the problem? (e) Where do those affected by the problem reside, work, attend school or receive health care? (1) When and where did the problem originate? and

(g) Are there secular trends, cyclical changes or short-term variations in the problem? The information derived from this process indicates who is affected and may require assistance in overcoming a problematic behavior or condition (the potential target audience), how common the problem is (i.e., how many people are affected), how pressing it is, where those affected live and/or work (suggesting how they can be reached) and how long the problem has persisted.

Problem identification and description typically rely on various sources of information to determine the extent of congruence between desired states and current health conditions or behaviors. For example, information useful in characterizing a target population (e.g., persons residing in a neighborhood, attending a school, working at a particular worksite, or served by a clinic) in a specific area should address such

⁸ John McKillip, *Need Analysis: Tools for the Human Services and Education* (1987).

things as migration patterns, current stage of behavior change, attitudes, beliefs, values, behaviors, geographic dispersion, education, gender, race and ethnicity, and socioeconomic status. Some sources of information on target populations and other aspects of a problem include: key informants, focus group participants, community surveys, morbidity, mortality or disability statistics, behavioral risk factor surveillance reports, empirical findings in scientific literature, statistics on diseases for which notification is required, disease registry statistics, hospital admission and discharge reports, life-expectancy tables, data on years of life lost, police accident reports, and information about health services, including eligibility restrictions and service capacity.⁹

A problem or its determinant(s) cannot be efficiently solved unless described with precise *problem statements* (Column 3, Form 1). Such statements aid in determining whether a particular problem warrants the use of resources and should address: (a) What is occurring? (b)

‘What should be occurring? (c) Is there a discrepancy? and (d) Is the nature and extent of the discrepancy important enough to justify using limited resources to reduce it?

PS 2. Prioritize the health problems to be addressed. Health

administrators must carefully weigh their options and decide where limited resources can be most efficiently applied. Prioritizing requires objective criteria for systematically determining which problems take precedences. For example, one could consider, e.g., 1) whether the planning agency has authority to act; 2) the magnitude of the problem, i.e., the number of people affected or the amount of discrepancy between expected and observed behaviors or conditions; 3) the seriousness of consequences, i.e., diseases that kill or disable generally takes precedence over ones that do not; 4) the state of knowledge on how to address the problem, including effectiveness of interventions used to solve similar problems; 5) the availability of human and technical resources required; 6) desires of community leaders and public outcry in support of or against efforts to resolve the problem; and 7) the costs associated with attempts to solve it.

⁹ Green & Lewis, supra note 4; McKilhip, supra.

- *PS 3.* Identify the determinants of a problem chosen for intervention. Determinants can be identified several ways, e.g., with:

literature reviews to learn what is known about causes, by convening experts for consensus – based on experience with the problem – on what they believe the problem determinants to be and/or by conducting studies to find causal relationships. This can be facilitated by using the Strategy Planning Guide (SPG) in Figure 2.

A SPG can be completed for each problem selected. The steps required to complete it are: 1) record the *health problem* in Sector A, 2) list factors directly contributing to the problem (direct causes) in Sector B and 3) list factors indirectly contributing to the problem (indirect causes) in Sector C. The result is a genealogy of antecedents considered to be determinants of the problem of interest.

- *PS 4.* Decide which problem determinants will be addressed. When designing a program strategy, direct and indirect determinants (Sectors B and C on the SPG) should be considered the most appropriate points of intervention. Also, intervention should focus on determinants factors most subject to human intervention. Figuratively speaking, focusing on the underlying causes of the problem considered for intervention helps ensure that the “hammer (i.e., the program intervention) is crafted to hit the “nail” (i.e., the cause of the problem) on the “head.”

- *PS 5.* Assess needs to address problem determinants so as to solve or mitigate the problem. A *need* is a discrepancy or “gap” between what is required and available to alleviate a health problem. For example, if the problem is a high incidence of STDs among adolescents, ages 13–18, and the primary determinant is a lack of skills required to resist pressure to engage in sexual intercourse, one can assume that skills training is *needed* to solve the problem.

A *needs assessment* is similar to problem identification in that both involve attempt to detect gaps between the current state of affairs and desired goals. The distinction is that the gaps detected in *problem identification* are between what is expected and observed on an operationally defined variable, whereas with a *needs assessment*, gaps

are between what is required (e.g., prevention services to reduced individual vulnerability or change environmental factors) and what is available (see Form 1). The specific steps involved in conducting a needs assessment include those entailed in problem identification,¹⁰ plus: 1) deciding what is required to address each problem determinant, 2) conducting a formal assessment to identify gaps between what is required and what is available, 3) articulating the gaps as needs and 4) recommending that program activities match needs as required to address problem determinants and mitigate or solve the problem. Once again, Form 1 can be used to guide this process.

The *first step* in determining the health-relevant needs of an entire community is to ascertain what its members *require* to address problem determinants to solve the problem. This can be accomplished by convening a cross section of individuals – comprised of an appropriate mix of decision makers, providers and clients – who determine what services and/or resources can reduce the problem and promote the health and well-being of the target population. For example, the director of a local public health department may bring together key assistants (e.g., directors of planning, epidemiology, environmental health, community health and disease control), state health officials, representatives of local private health services like hospital administrators, primary care physicians, members of the board of health, other community leaders, politicians and members of the target population to ask them what residents of a particular community *require* to ensure good health or to address a particular problem.

Historically such groups have determined that, to remain healthy, people require such things as clean water and air; immunizations; good nutrition; lifestyle education to promote health, prevent disease and injury, and foster positive attitudes or self-efficacy; transportation to and from health care facilities; safe roads; primary care services for simple problems, hospitals that provide complex treatment and emergency and mental health services.

¹⁰ Problems are gaps between what is expected and observed in terms of an operationally defined variable, e.g., HIV incidence, CVD mortality, low birth rate, attitudes toward persons with AIDS, intentions regarding exercise or drinking behavior.

Having determined what community residents require to alleviate a health problem, the second step is a formal assessment to identify discrepancies between prescribed requirements (e.g., education or screening services) and what is available. This can be done by collecting information on each requirement to learn whether they are available. Again, discrepancies between what is required and exists constitute needs. Thus, the *third step* is to ensure that activities match identified needs and address problem determinants. For example, if community members need information about the modes of transmission of HIV to prevent becoming infected and it is determined from a survey that many do not have correct information (i.e., the need), a communication strategy (i.e., the intervention) directed at providing correct information should be developed, pretested and implemented.

As with problem identification, a comprehensive needs assessment may require information from several sources to determine the extent of discrepancy between what is required and what exists by way of resources and services.

PS 6 Determine the internal and external fiscal, material and human resources available to address identified needs and to evaluate interventions. Resources can be identified by surveying the community and those who control resources within the organization contemplating intervention. For example, if the director of epidemiology at a local health department learned that a key determinant of low birth weights in a particular county was women's smoking during pregnancy (*the problem*), and what was required to address the determinant was education about the negative effects of smoking on developing children (*the need*), one could conduct a survey to identify the private and public organizations (including schools, churches, health care providers and businesses) willing to dedicate resources to providing information. Internal resources might depend on the resources and employees that the board or director of public health is willing to allocate.

PS 7. Formulate an objective or set of objectives that specify expected results of efforts to address each problem determinant (see Sector D on the SPG). Objectives should be measurable, have a referent

or benchmark, be set for completion within a specific time period and be realistic (given existing resources, etc.). For example, if the problem is intolerance of persons with AIDS (PWAs) at a worksite, based on formal grievances and a survey indicating 35% of the workforce is unwilling to work with persons who have AIDS (PWA), and a primary determinant of the problem is identified to be the belief that AIDS can be transmitted casually, an appropriate objective that expresses the expected results of addressing this determinant might be: to decrease those employees at worksite A indicating unwillingness to work with those who have AIDS from 35 (referent) to 10% (desired level) within 10 months.

PS 8. Devise a strategy to achieve each objective or set of objectives. Strategies are detailed statements of *what* should be done to secure one's objectives (Sector E on the SPG). Two possible strategies for decreasing intolerance of PWAs at a worksite are: 1) provide employees and supervisors with information about modes of HIV transmission and 2) establish a policy that forbids discrimination.

- *PS 9.* Develop rationale to justify each strategy. Rationale should address why a particular strategy is expected to be effective in meeting the need or solving the problem. Justification can be based on explicit or implicit theory, past experience, primary or secondary research, academic literature and/or needs assessment/situation analysis.

- *PS 10.* Identify and/or develop tactics (materials, activities, channels) required to implement designated strategies (see Sector F on the SPG). Tactics are the specific actions taken to implement strategies. Some plausible tactics for providing correct information about modes of HIV transmission are: 1) sponsor mandatory training to convey the fact that HIV cannot be transmitted casually, 2) send a memorandum **to** all employees encouraging anyone with questions about HIV/AIDS to call the CDC National AIDS Hotline and 3) attach a fact sheet to every employee's paycheck.

- *PS 11.* Select strategies/tactics to be evaluated and communicate with the evaluation staff. Pretest unproven tactics. For example, if you plan to produce a video, test it in story board or animatic form before full production.

- *ES 2.* Conduct a pre-evaluation appraisal to determine evaluation parameters. Pre-evaluation appraisal poses several questions to be considered prior to evaluating an intervention. Form 2, the PreEvaluation Appraisal Guide, should be used.

- *ES 3.* Formulate an evaluation plan. It should stipulate how the evaluation is to be carried out from start to finish and describe the proposed evaluation studies and/or monitoring projects to gather information requested by stakeholders. The studies/projects may measure progress towards objectives, test theoretical assumptions, document lessons learned from implementing a program and/or answer empirical questions. Specifically, for each study/project, the evaluation plan should provide:

- necessary background information on each strategy/tactic to be evaluated;
- empirical questions to be answered by the study/project;
- theoretical assumptions to be tested;
- program objectives for findings to be compared with;
- information about the sources of data on each evaluation question, assumption, objective, etc.;
- the qualitative and quantitative data-gathering methods used to collect information;
- the forms or instruments to gather data, as well as guidance on how to pretest forms and instruments;
- the data-gathering study design(s) that diagrammatically portrays how research procedures will be applied to gather information;
- instructions on how to code, enter and manage the collected data;
- an explanation of how qualitative and quantitative data will be analyzed;
- a description of how data will be summarized and presented in a report – including mock tables;
- a timeline specifying when all the tasks will be carried out (implementation issues);
- a list of personnel assigned to each task; and
- a budget that itemizes required resources.

- *PS 12.* Prepare a program operations manual. It should, at a minimum, provide:
 - a description of the program;
 - a rationale that describes the problem and problem determinants that the program strategies will attempt to alleviate or mitigate;
 - the objectives of the program;
 - the strategies that will be implemented to achieve the objectives;
 - the tactics that will be executed to implement the strategies;
 - the personnel responsible for each tactic;
 - a timeline for each tactic;
 - and, a budget that details the cost of each tactic and the cost of the overall program.
- *PS 13.* Implement the program strategies according to the timelines specified in the program operations manual. Begin with a pilot program, i.e., first implement the new program on a limited scale.
 - *ES 4* Carry out the evaluation as outlined in the evaluation plan.
 - *ES 5.* Report results in writing or orally. In general, evaluation reports written at any stage should be brief, understandable and well organized. They should include 1) a brief description of the strategies and tactics assessed in the evaluation, 2) the information sought in the evaluation, 3) the methods used to gather the information, 4) answers to questions addressed by the evaluation, 5) the degree of discrepancy or congruence between program objectives and data collected during evaluation and 6) suggestions on how identified discrepancies can be reconciled. Reports should also describe the context of the program. That is, who provided what to whom, when, where and how often. Reports subsequent to an effectiveness evaluation should also chronicle evidence that documented effects were brought about by the intervention, what the effects mean and whether any were unexpected.
- *PS 14.* Continually refine program strategies/tactics on the basis of the feedback derived from ongoing evaluations. If tactics are evaluated prior to strategy implementation, elicit evaluation feedback as a basis for discontinuing, refining, or adding to the tactics to be

employed in implementing program strategies

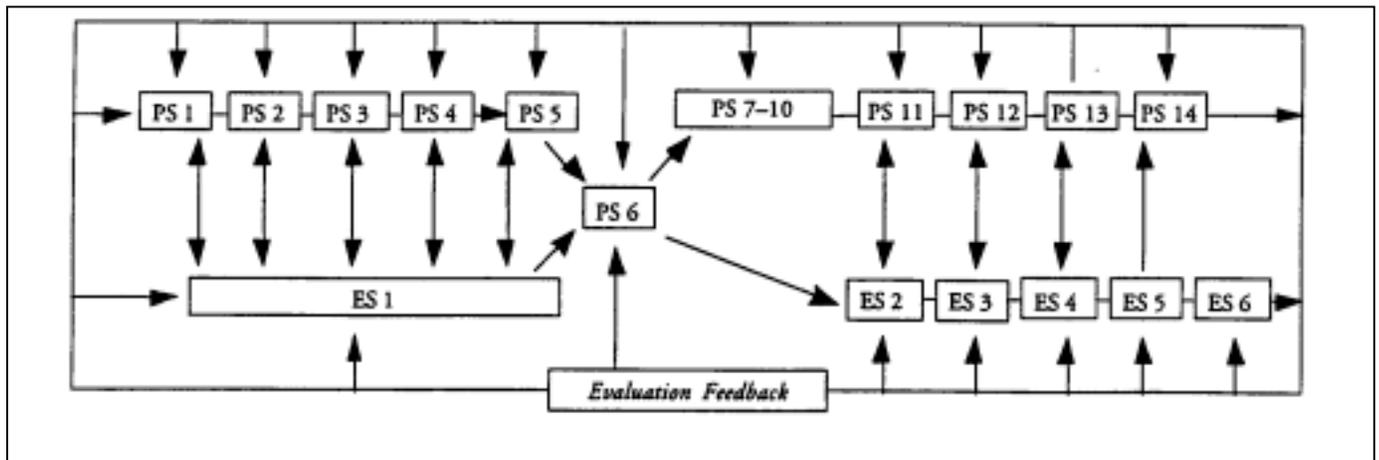
- *ES 6* Provide suggestions for improving steps *ES 1—5*. That is, “evaluate the evaluation” by considering, based on your most recent experience with the steps just described, how they can be improved.

Systematic Planning and Evaluation Model (SPEM)

The conceptual linkages between the program planning and evaluation steps just described are illustrated in Figure 1. One-way horizontal arrows shown in Figure 1 direct the evaluator or program manager to the next planning or evaluation step. Some vertical lines connecting planning and evaluation steps signify that necessary interaction between planning and evaluation staff is usually reciprocal; others indicate related parallel program development or evaluation processes that can be carried out independently.

The evaluation feedback in Figure 1 systematically feeds information derived from planning and evaluation steps forward to the horizontal lines across the top and bottom of the diagram which, in turn, feed the information back to subsequent evaluation and planning activities (steps) as indicated by the single-arrow vertical lines flowing into the planning and evaluation boxes. Naturally, feedback passes through and, no doubt, influences and is influenced by the environment surrounding the program.

Figure 1



Conclusions and Summary

We have proposed several solutions to problems that increase the likelihood that a program evaluation will be well conceived and carried out efficiently. In so doing, we have put forward four basic problems that we believe contribute to a general lack of understanding or agreement of program evaluation. To solve them, we have proposed four solutions to alleviate practical difficulties and concerns about evaluation that confront evaluators, public health service providers and program managers. For instance, “agreeing to agree” on evaluation terminology from the outset of planning and evaluation should facilitate communication and make evaluation less foreboding. This may increase willingness on the part of managers and service providers to participate. Better communication resulting from operationally defined terms agreed upon before beginning an evaluation should also serve to decrease misunderstandings, saving time and resources.

Linking program planning and evaluation more closely will also increase the efficiency of programs and prevent unintended, even harmful, effects which can be attributed to the program. Program managers who do not view planning and evaluation as tandem processes may develop and implement programs with flaws that often go undetected until the program is well underway. That is unfortunate because many problems resulting from such efforts could be cost effectively averted by more fully evaluating the program in its developmental stages.

If program managers and evaluators come to more fully appreciate the benefits of program evaluation, and to conceive of it as a straightforward and integral to planning, the tendency to evaluate programs after they have been in operation for some time should diminish. If so, this will prevent unnecessary expenditures of resources and difficulties involved in trying to evaluate a program only after it has been implemented.

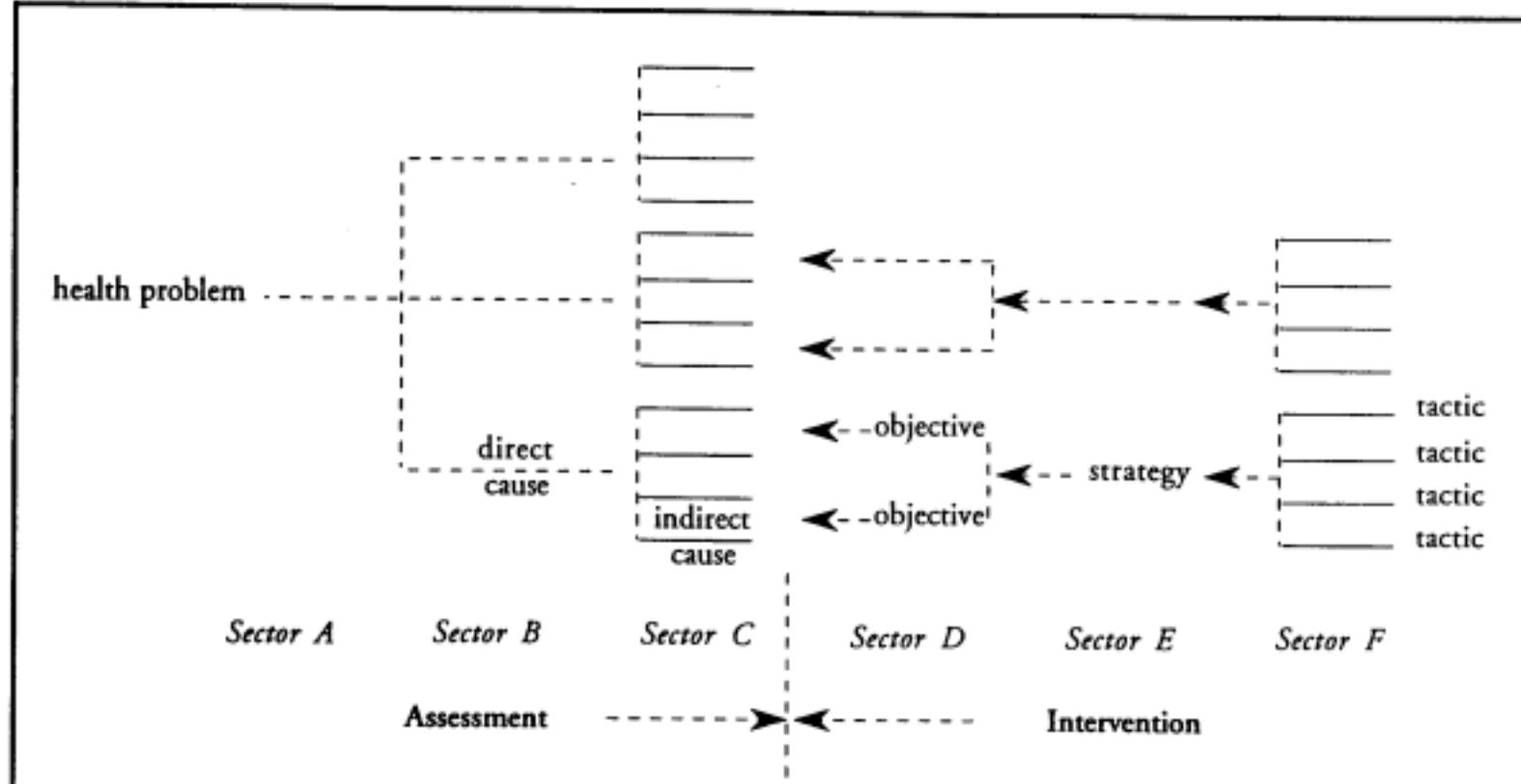


Figure 2
Strategy Planning Guide (SPG)

The steps required to complete the Assessment side of the SPG are: 1) record the health-relevant problem in Sector A, 2) list factors directly contributing to the problem (direct causes) in Sector B, 3) specify factors directly contributing to the determinants (indirect causes) in Sector C. The steps on the Intervention side of the SPG are: 1) write objectives aimed at determinants in Sector D, 2) record strategies to achieve objectives in Sector E, and 3) in Sector F, list tactics that will be used to implement strategies.

Form 2
Pre-Evaluation Appraisal Guide

1. Which strategies/tactics do you want evaluated?
2. Have you implemented the strategies/tactics you want evaluated?

If yes:

- When, where and how often?
- What problems/issues/concerns do you have about the program strategy/tactic?
- What are the implications of not resolving each problem/issue/concern?
- What needs to be done to resolve each of these problems/issues/concerns?

If no, when, where and how often do you hope to implement them?

3. Who are you trying to reach with each strategy/tactic that you want evaluated?
4. Why are you trying to reach this group versus other groups?
5. Are there other groups that you need to involve to reach the target group?
6. Who needs the evaluation results (stakeholders)?
7. What do you want to know about each strategy/tactic you want evaluated? (If necessary — and it usually is — conduct an exercise to determine priority questions.)
 8. a. Do you want to measure progress towards specific goals or objectives?
If yes, what are the primary goals/objectives of each activity you want to measure?
 - b. Do you want to test assumptions about the strategy/tactic? If yes, what are these assumptions? [This may require guiding stakeholders through the process of formulating a theory of action, i.e., a logical sequence of steps leading up to the ultimate intended outcome.]
 - c. Do you want to monitor the operation of the program (process evaluation dimension)? If yes, what questions do you have about how the program operates?
 - d. Do you want to know:
 - How many activities are held, kits distributed, presentations given, public service announcements aired, people screened, counseling sessions and/or children immunized (program output)?
 - When will each of these activities be implemented (timeliness)?
 - Which strategies/tactics will be ongoing and which ones will be implemented only one time or on a periodic basis (timeliness)?
 - Who do you want to reach with each tactic (audiences/targets)?
 - What material, fiscal and human resources are required to operate these strategies/tactics

(program input)?

- How do participants and nonparticipants feel about and respond to the presence of program activities in the target area (site response)?

- To what extent do the program activities meet real and perceived needs of the targets (program relevance)?

- Is the program implemented in a timely fashion (program timeliness)?

- How competent are program personnel in performing their duties (personnel competence)?

- What are program strengths and weaknesses (i.e., what is working well and what is not working well), with specific emphasis on the problems program staff are currently experiencing in their efforts to implement the program, the perceived implications of not resolving these problems and the recommended solutions (internal operations issues)?

e. Do you want to measure the effects of the program (effectiveness evaluation dimension)?

If *yes*, what questions do you have about the effects of the program?

f. Do you want to know: what the short-, medium- and/or long-term effects of the program activity/component? [To measure effects it is useful to establish criteria by writing objectives (means/ends statements) that link programmatic tactics like variable X1 (viewing a video) with intended effects/changes variable Y1 (attitude).]

Form 3 can be used to facilitate this process. To do so:

1. List independent variables (i.e., program activities) in column 1.

Program tactics need to be defined at the lowest level that allow meaningful and unambiguous differentiation from other activities.

2. List key impact (1st and 2d level effects) and outcome (3d level effects) variables in columns 2, 3 and 4, respectively. That is, list those variables that you assume will be influenced the corresponding program activity (independent variable).

3. Write measurable objectives that link the program activities/tactics (independent variables) to intended short-, medium-, and long-range effects (dependent variables designated in columns 2, 3, or 4). For purposes of clarity it is useful to write a rationale for each objective.

g. Do you want to measure the costs of the program?

If *yes*, what questions do you have about the costs of each tactic?

h. Do you want to know:

- What is the cost (dedicated resources) of the program activity (X1) relative to the measured effects on the Y1?
- What is the relationship between program costs (fiscal, material, human) and outcomes (efficiency evaluation dimension)?

9. How do you (stakeholders) plan to use the information collected on each evaluation question (implications)?

10. What kind of support/resources (i.e., fiscal, material, human) can you and other stakeholders lend to carrying out the evaluation?

11. When do you need the information on each evaluation question?

12. Who, among the different stakeholders, should evaluators communicate with on evaluation issues?

13. How often and in what forms (informal or formal presentation, brief or lengthy reports) do you want the evaluation information/feedback?

14. What barriers could we incur in conducting this evaluation?

15. a. What other similar programs have been implemented in the target community?

b. What successes/difficulties did these programs incur?

16. Are you aware of any sources of information on the questions you want answered by the evaluation? (If *yes*, do you know who we can contact to get further information?)

Conceptual Framework of Key Program Variables and Objectives
Form 3

| Key Independent Variables or Program Activity or Tactic | Key Dependent Variables (Intended Impacts or Outcomes) | | | Objectives |
|--|---|---|---|------------|
| | <i>1st Level Effects</i> E.g., changes in knowledge, attitudes or skill levels | <i>2d Level Effects</i> E.g., changes in behavior | <i>3d Level Effects</i> E.g., changes in social, economic or health status | |
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