Evaluating AIDS Prevention Programs

Deborah Rugg, PhD

Federal AIDS prevention activities have shifted from reacting to the urgent need to “do something,” to questioning the efficacy of what is being done. In response, AIDS prevention programs are being asked to demonstrate that they are having an effect on HIV risk behaviors and HIV transmission. This situation presents a tremendous challenge to administrators and researchers who must now evaluate their programs and present accurate evidence that their interventions work. This is particularly difficult in an area like AIDS prevention where standards for success are only now being developed, and where grassroots organizations, often without sophisticated evaluation processes, dominate the field.

As U.S. agencies face the question of efficacy of their intervention programs, several issues have become clear:

- “evaluation” has very different meanings to different people;
- extensive evaluations of AIDS interventions are rare;
- “ideal” evaluation is often impossible, and it is necessary to be creative in confronting methodological barriers;
- many groups lack evaluation expertise and resources;
- objective evaluation is difficult in the politically and emotionally charged environment framing most AIDS interventions;
- interventions vary throughout the country and are evolving;
- determining efficacy is going to take time.

This article seeks to elucidate evaluation in this context. It first discusses the ideal evaluation process and then explores some of the methodological, ethical, and financial constraints that complicate evaluation.

Definitions

Evaluation refers to the process of determining the value of a program through a careful examination of its design and objectives, quality of implementation, and short- and long-term outcomes. Program evaluation methods are not designed to produce scientific data or generalizable results. Evaluation research, on the other hand, considers scientific criteria, such as adequate and representative sample sizes, subject selection criteria, and the use of appropriate control or comparison groups. Ideally, research and development of the procedures to be used to evaluate a program, including demonstration projects, should precede actual program development, implementation, and evaluation activities. The urgency for prevention programs as a public health response to the HIV epidemic, however, has often precluded this process.

Process evaluation refers to how well a program is designed and implemented. Outcome evaluation refers to how well the program has achieved its immediate or short-term objectives. Impact evaluation refers to how well the program has achieved its long-term goals. Goals reflect the general purposes of a program. Objectives are the specific, time-phased, measurable elements of the goal. Success indicators are the specific measures of program success. Both process and outcome indicators are necessary.

For example, an HIV prevention program may have as its goal to reduce HIV transmission and as its objectives to intervene with 100 high-risk men in the next month and to attain reported condom use by at least 50 percent of the men by the end of the year. Its process success indicators might include a count of the number of people reached; its outcome success indicators might include clients’ self-reports of condom use, or a more concrete measure, such as reduction in the number of sexually transmitted diseases (STD). The actual methods used to achieve the objectives should be determined on the basis of past program experiences and, ideally, applied theory and research.

The Ideal Evaluation

AIDS prevention program goals and objectives are often not conceptualized or specified clearly, and basic intervention research, applied demonstration projects, and program development and implementation occur simultaneously without translating the results of one step to the next step. In this context, it may be no surprise that “textbook” evaluations, specifically those that include all the appropriate components in the right sequence, are rare. Ideally, an evaluation plan is developed as the intervention program is conceived, and is implemented as the program begins. This facilitates both process and outcome evaluations by providing useful baseline information, which may be used later as comparison data for program outcomes. Evaluation is made easier if, after describing the goals and objectives, evaluators define discrete program elements that may be translated into obtainable outcome measures. Evaluators should next begin periodic process evaluations to assure the quality of program implementation. Evaluators perform outcome assessments when they believe the intervention has had some measurable effect. Ideally, outcome evaluation uses baseline information and proceeds to examine immediate outcomes, such as changes in knowledge and attitudes. These factors may be reassessed at specified intervals if this is deemed useful. Short-term outcomes, such as reported behavioral changes, are then measured. Finally, an overall impact evaluation is conducted to determine if the project has met its longer-term goals. In general, service programs do not need to do scientific research to produce useful evaluation data, and are often unable to perform scientific evaluations because of the methodological, ethical, and financial constraints discussed below.

Process Evaluation: The Always Feasible First Steps

The first questions to ask in a process evaluation are: What are the stated goals and objectives of the program? What exactly is the expected change? What is the target population(s)? Are there important sub-groupings of this population—for example, English speakers and non-English speakers—that require different versions of the intervention and different evaluation methodologies? What activities are involved in the intervention? How is the quality of program implementation monitored? How are program outcomes to be measured?

The answers to these basic questions can be found in three ways: by interviewing program administrators and staff; by observing the intervention; and by reviewing written material regarding

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the program protocol. Evaluators should attempt to reconcile contradictory or missing information obtained from these sources before proceeding with the evaluation.

If these basic program structure and content questions can be answered adequately, the evaluation can progress to more in-depth analysis of program quality and immediate outcomes. For example, some of the first process questions might be: What is the size and nature of the program? Who delivers the intervention? Are they implementing the intervention protocol correctly? Do intervention workers, evaluators, administrators, and clients agree in their descriptions of the intervention? Are there barriers to peak performance among intervention workers, such as lack of support, training, or sufficient staff, or stress and burn-out? What are the effects of the program on clients? How do clients feel about the program? Do "would be" clients identify barriers to obtaining service? Although this is a partial listing of questions, answers to these would move the evaluation forward in significant ways.

Outcome Evaluation

Outcome evaluation, that is, the process of determining whether or not a program "works," is considerably more complex than process evaluation. At a minimum, the evaluator endeavors to document the effects of a program. The challenge comes in proving that the effects observed were due to the intervention and not due to other influences. This is difficult with most AIDS prevention programs since these interventions operate in a sea of other influences, including: other AIDS prevention interventions, like mass media campaigns; and other factors, like peer pressure, poverty, homelessness, drug addiction, social ostracism, and trends in sexual and drug-using behavior. Proving that a program is effective may be as challenging as developing the program itself.

The classic method to determine whether an intervention works is to randomly assign subjects either to an intervention group or to a non-intervention (control) group and then to observe outcomes for all subjects. This method is useful in laboratory or specific field settings, but is not possible in many applied settings where it is unethical to randomly assign people to a control group. To deal with this ethical constraint, researchers have developed quasi-experimental and field research designs.1 Such designs often rely on pre- and post-test assessments and the selection of some comparison group, such as people on the waiting list for the program, clients receiving some other clinic service, or people in a different school or neighborhood.

Without random assignment to control groups, however, there are considerable threats to the validity of any single prevention study. Quasi-experimental designs and field research require careful examination for consistency of both program results and results of similar interventions reported in the literature. The validity of this approach increases with repeated outcome evaluations.

Methodological Issues

Several methodological issues conspire with ethical constraints to threaten the feasibility and validity of evaluation efforts. Below is a brief discussion of these issues. An in-depth discussion is available elsewhere.2,3

Sample Size. Research samples must be large enough to draw valid conclusions and to perform appropriate statistical analyses. If sufficient numbers are not available in one program, evaluators might consider combining data with other programs. This strategy requires an experienced evaluator and sufficient resources to conduct a multi-site analysis. If these are not available, the program will need to reduce its expectations of what the evaluation will "prove."

Selection Bias. Evaluators should attempt to determine differences between those who join the program and study and those who do not. Among the variables that should be researched are the sociodemographic, knowledge, attitude, belief and behavioral characteristics of these individuals. This will enable the program to know who it is serving and to whom the evaluation results can be generalized. However, since a "volunteer" or "readiness-to-change" bias will always be present, researchers must be prepared to restrict the applicability of conclusions to those who participate in such programs and studies.

Changes in Behavior in the General Population. There is a chance that the true effect of an intervention in a sample may be masked by the overall decline in risk behavior in the general population. Under such circumstances, there may be no detectable difference between the behavior of control group members, the general population, and intervention group members. This problem, of course, can only be identified over time and with the input from large behavioral and HIV seroprevalence surveys; small programs should simply be aware of this potential problem.

Changes in the Intervention. In order to remain attuned to the dynamic nature of many HIV prevention interventions, it is important that researchers incorporate well-defined, in-depth program monitoring in their protocols and fully document when interventions change. Documenting changes serves two purposes: it ensures an accurate description of the nature of the intervention, and it helps program staff and evaluators to decide when changes are significant enough to require modifying the evaluation design.

Appropriate Outcome Measures. Since HIV seroincidence rates are so small in many settings, it is generally agreed4 that reported behavior change, though not perfect, is the primary outcome measure of choice in HIV prevention programs. This may be supplemented and corroborated by measures of interval STD incidence. HIV seroincidence is best used as a success indicator in determining long-term program impact.

Conclusion

Program administrators should design programs and conduct process evaluations so that outcome evaluations could be conducted if sufficient resources were available. Experience teaches that the act of designing and preparing an objective outcome evaluation helps tremendously in improving the design, implementation, and probable effectiveness of the program.

Carefully planning evaluations also increases the quality of applications for federal and state grants, increasing the likelihood of receiving such funding. Although the evaluation of an AIDS prevention program presents challenges, this process is necessary to ensure continued public support for such programs and to assure clients that programs are offering effective interventions.

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References


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Adapting Experiential Exercises for Developing Countries

John David Dupree, PhD

The successful adaptation of Western HIV education and counseling programs for use in developing countries is dependent upon an understanding of cultural differences. As is true among subpopulations in the United States, different cultures associate different meanings with the same actions, words, and concepts. For example, in rural Tanzania, it is usually the shangazi (paternal aunt) and the mjoma (maternal uncle), and not the professionally-trained therapist, who are the counselors. Successful AIDS interventions, therefore, need to include these non-professionals in their design and implementation.

Experiential exercises, during which participants gain insights by focusing on their feelings, are training approaches that are particularly sensitive to the effects of cultural differences. For example, one experiential exercise requires participants to maintain eye contact without speaking. This may be difficult for people in cultures where staring, even in a training situation, is considered rude. Trainers in this situation may be able to make these exercises more palatable by allowing participants to do some speaking.

This article examines two experiential exercises commonly used in the United States in training programs for counselors who provide psychological support to people with HIV infection, and their families and friends. It explores how cultural differences may confound the purposes of these exercises and suggests changes that may make the exercises effective in other cultures. Experiential exercises allow participants to observe their own reactions to a subject, the potential reactions of future "clients," and the possible outcomes of counseling.

One-on-One Counseling Role Playing

Clients may react in a variety of ways to counseling in crisis situations. While there is no single correct counselor response to a client's concern, there are inappropriate responses. For instance, a counselor who responds with anger or judgment to a seropositive client's timid revelation of having participated in an unsafe sex act will most likely lose the client's trust and, therefore, any ability to influence the client's future behavior. It is important for prospective counselors to prepare for the concerns clients will pose by rehearsing various responses, observing potential outcomes stemming from these responses, and receiving feedback about their responses. Such "role-playing" situations require two trainees to act as a client and counselor, and an audience comprised of the other trainees to offer feedback about the interaction.

In some developing countries, role-playing is an effective tool, while in others it needs modification. For instance, participants in a series of workshops for prospective AIDS prevention counselors in West Africa requested that everybody in the training group participate in the role-play. They believed that counseling in their villages would be implemented by the community and not by a single counselor. In countries where one-on-one counseling is alien, it is important for trainers to work with local health care and social service professionals to develop alternative strategies for creating supportive networks within that culture.

In modifying interventions in this way, trainers must also be aware of peripheral effects of adaptations. In this instance, opening counseling up to the community in a Western context would raise issues regarding confidentiality, counselor competence and client welfare, and the support and supervision of counselors. In order to determine whether these issues are relevant in the culture of a particular country or region, educators need to discuss them with local facilitators.

Death Personalization Exercises

Death personalization exercises introduce prevention counselors to the "roller-coaster" effect HIV disease has on the emotions of infected individuals, their families, friends and service providers. Facilitators guide trainees through a visualization in which participants first suspect that they are HIV-infected and later are diagnosed with AIDS. During the exercise, trainees confront the stigma and rejection associated with HIV infection, feelings associated with saying goodbye to everybody and everything they have loved, and finally their own death. Ideally, this is done while trainees are comfortably reclining and in an emotionally safe and supportive environment. After the exercise, trainees divide into groups to discuss feelings the exercise has evoked.

In some developing countries, participants express fears about becoming "bewitched" or, in fact, dying as a result of the powerful imagery of the exercise. If such concerns arise, discussing them with local facilitators and then with participants may mitigate these concerns. It is important to emphasize from the outset that anybody may refuse to participate or may withdraw from the exercise at any time after participation has begun. Adaptations may focus on evoking feelings around loss and long-term absence, without directly confronting death. One alternative is to have participants list the 10 most important people, places, roles, events, or things in their lives, and to visualize the importance of each of these. Participants then cross out one item at a time and visualize what life would be like without each item.

Educators should discuss with local facilitators their exercises to ensure that these will work in specific communities.

Another cross-cultural issue this exercise raises involves dress, decorum, and the physical environment of the training. Ideally, participants lay comfortably on the floor for this exercise. If trainees are dressed casually and the floor is clean and carpeted, problems are likely to be limited. If participants are dressed formally, as they often are in developing countries, or if the floor is unclean or rough, then blankets, cushions or pillows must be provided. The exercise may also be performed sitting in chairs.

This exercise is successful only after participants, in any culture, have had time to bond with each other and feel the safety of small group support. Facilitators should seek culturally-appropriate ways to create trust before introducing this exercise.

Conclusion

In general, trainers adapting Western exercises must be sensitive to cultural differences when they appear insignificant. It would be a mistake to assume, for instance, that resolving a participant's concerns about the potential "magic" of death personalization would ensure the success of the exercise if formally-dressed trainees refused to lie on the ground or close their eyes. In addition, when participants become emotionally distraught, Western facilitators must be able to take cues from local facilitators about providing support in culturally-appropriate ways.

Educators should thoroughly research local beliefs to anticipate conflicts, like the ones described above, and discuss with local facilitators the exercises that will be used to ensure that these exercises will work in specific communities. If training is ongoing, trainers should confer regularly about issues that emerge in a particular culture and should modify exercises using this shared feedback. The more completely educators research exercises beforehand, the more likely it is they will be successful.

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Recent Reports

Quality of HIV Antibody Test Result Reporting. San Diego State University, California Department of Health Services, and Centers for Disease Control. (Journal of the American Medical Association, December 22/29, 1989.)

Laboratory reports for HIV antibody tests may be incomplete and even inaccurate, according to a study of reports from labs located primarily in California. Researchers recommend that labs report complete results only after samples are subjected to confirmatory testing, that they use standard counter criteria for interpreting Western blot results, and that they seek ways of producing reports that are clear, accurate, and free of extraneous information.

The researchers developed three serum specimens: specimen A was HIV antibody negative, specimen B was a false-positive result, and specimen C was confirmed HIV antibody positive. Each specimen was submitted to 14 hospitals, clinics, or physicians to the testing laboratories they normally used. Using enzyme immunoassays (ELISA), such as the enzyme-linked immunosorbent assay (ELISA), all of the labs correctly reported specimen A as nonreactive and specimen C as reactive. Two labs, however, reported that specimen B was reactive by the ELISA and, after Western blot testing, reported that the specimen had indeterminate results.

As with specimen B, confirmatory tests of specimen C produced less consistent reports. One lab that performed a Western blot test on samples of specimen C submitted by four of the providers reported positive results for two of the specimens, and indeterminate results for the other two. These results suggest that there may be day-to-day variation in performing or reading Western blot results. Another lab used interpretative criteria for the Western blot that has not been used by the Centers for Disease Control since 1985. Only one of seven reports of indeterminate results suggested the use of an alternate test, such as the immunofluorescence assay (IFA).

The study was also critical of the form of laboratory reports. They found reports in which labs obscured test results with extraneous information, failed to provide interpretations of results for physicians, and used outdated terminology, such as "HTLV-III" instead of "HIV," and obsolete interpretative guidelines.


Sixty-seven of 70 blood samples for 45 patients receiving AZT therapy tested cultures-positive for HIV, according to a retrospective study. There was no apparent statistical relationship between the isolation of HIV and the duration of AZT therapy. HIV was detectable for all 15 patients who had been in treatment fewer than 3 months, as well as all 13 patients in treatment for more than a year. No correlation with actual AZT dose or AZT blood level was attempted. These results suggest that AZT treatment rarely if ever eradicates HIV from blood.


The World Health Organization (WHO) is producing a series of publications on health promotion to prevent AIDS. One volume outlines a four-step planning process for health promotion—including pre-program assessment, planning, implementation, and monitoring.

During pre-program assessment, planners need to consider the local epidemiology of AIDS, the public image of the disease, institutional and community resources, service and product availability, communication channels, and anticipated obstacles. This assessment should rely on community-based information; theoretical, laboratory, and academic research is not directly relevant to most program planning. Community surveys, quantitative audits, individual interviews, observational studies, and product and concept testing are some of the common community-based assessment techniques. A written plan that states the program's goals, its target audience, objectives, expected benefits, time line, budget, and strategies should emerge from the planning process.

Program implementation requires defining tasks and personnel. Staff should have a variety of abilities and should receive ample training and support. Implementation includes five tasks: identify staff and suppliers, create draft materials, pre-test and review, produce the materials, and implement the program.

Routine and planned monitoring of a program's progress is important for detecting problems in concept or execution. This involves an evaluation of whether the program and its message have been received, understood, believed and acted on by the target audience, and whether the action has caused a benefit to health. Actual behavioral change may be difficult to measure and may require in-depth interviewing, which, while expensive, may be useful for monitoring as well as overall program evaluation.

New AIDS Health Project Materials. The AIDS Health Project has published two new books in the past four months. Face to Face: A Guide to AIDS Counseling, a collection of 26 articles covering topics such as: cross-cultural issues, substance abuse, and safer sex counseling. $14.95 plus tax and shipping.

AIDS Law for Mental Health Professionals explores the legal and ethical issues confronting therapists who treat people with concerns about HIV infection. $19.95 plus tax and shipping.

Next Month

In college, many adolescents get their first taste of adult freedom and responsibility. It is in such an environment that students may engage in activities that put them at risk of contracting HIV infection. Because many students lack the long range perspective that would inform these activities with a concern for their safety, prevention education programs are crucial. In the March issue of FOCUS, Richard P. Keeling, MD, Director of the Student Health Service at the University of Virginia, Charlottesville, and Chair of the HIV Task Force of the American College Health Association, discusses the barriers to translating knowledge about HIV infection to behavior change in this population, and some ways to overcome these barriers.

Also in this issue, June Machover Reinisch, PhD, Director of the Kinsey Institute, and other researchers from the institute, discuss the prevalence of high-risk sexual behaviors among heterosexual college students.

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