

Designing a Study

Strategy Selection to Solve the Problem

The following chapter is excerpted from *Designing HIV/AIDS Intervention Studies: An Operations Research Handbook*, Andrew Fisher and James Foreit, 2002, Washington, DC: Population Council. ([More on OR Handbook](#))

STRATEGY SELECTION TO SOLVE THE PROBLEM

Examples of Strategies to Test

After having identified, defined, and justified a research problem, the next step in the operations research process is to select a strategy that can be tested to overcome the problem. Just as countless problems affect HIV/AIDS programs, an equal number of potential solutions to these problems exist. A few examples of strategies that have been tested through OR interventions in Asia, Latin America, and Africa are listed below:

Integrating HIV/AIDS services into a family planning program by focusing on condoms as a means of providing dual protection from pregnancy and HIV and other STIs, and of achieving greater male involvement in family planning.

Implementing a 100 percent condom use policy in brothels by working with brothel owners, training sex workers in negotiation skills, and introducing the female condom in addition to the male condom.

Working with private sector companies to develop and implement nondiscriminatory and nonstigmatizing HIV/AIDS policies in the workplace.

Developing and implementing life skills education courses for school-based youth by training teachers and youth peer educators.

Reducing STIs among sex workers and miners through peer educators, condom promotion, and periodic presumptive treatment for STIs.

Guidelines for Selecting an Appropriate Strategy to Test

Reducing mother-to-child transmission of HIV through voluntary counseling and testing of pregnant women, antiretroviral treatment with AZT or nevirapine, and breast milk substitutes for those who test positive.

Building the capacity of NGOs through a process of self-diagnosis of organizational problem areas and greater involvement of PLHA in planning and service delivery.

Helping children who will soon become orphans by working with their AIDS-affected parents before they die to appoint a guardian, settle issues of property to avoid land grabbing by relatives after death, and linking the children with community support groups that can help with school fees.

Developing new policies and training programs for all levels of hospital staff to create a more friendly and nondiscriminatory environment for PLHA.

Increasing adherence by PLHA to antiretroviral drugs by instituting a directly observed treatment program and by implementing weekly home visits by a nurse.

Assisting men who have sex with men by creating support groups and developing nondiscriminatory health care services.

Reducing violence against women who test positive by involving their partners in voluntary counseling and testing programs.

Before selecting a management or service delivery strategy to test in an operations research study, first go back and review the details of the program problem that concerns you. The nature of the problem should determine the selection of a strategy to test for overcoming the problem. In other words, let the problem determine the selection of the strategy. Don't make the mistake of selecting a strategy solution first and then searching for a problem to which to apply the solution. This may sound like a rather obvious point, but it is surprising how often a single strategy such as social marketing of condoms or the use of more information, education, and communication (IEC) materials (posters, videos, brochures, and pamphlets) is viewed as a panacea and repeatedly applied to almost any program problem whether or not it is the most appropriate strategy.

In addition to carefully reviewing the program problem, there are other guidelines you can follow to help select and develop an appropriate strategy to test in an operations research study.

Review the theories and strategies other people have used to solve similar program problems.

One way to do this is to examine the operations research findings from the many HIV/AIDS studies conducted in the past. Find out which management and service delivery strategies seem to work best for particular program problems. What does behavioral or health theory indicate are possible strategies to overcoming the problem? Hold a meeting with the people who are most affected by the problem or most concerned with it. People who are affected by management and service delivery problems (such as PLHA, caregivers, and administrators) usually have opinions, often strong ones, about possible solution

strategies that can be used to overcome the problem. It is always important to obtain their ideas since they often can come up with better strategies than anyone else.

Look for strategies that can be implemented without overburdening the implementing institution. If the resource requirements for testing a solution strategy are much greater than the expected benefits, the strategy should be seriously questioned before it is implemented.

Seek strategies that are simple to implement. In deciding between alternative strategies of service delivery with potentially equal impacts, select the strategy that is the simplest in terms of facilities and equipment needed, personnel and training required, time and money spent, logistics and management required, and other considerations. On the other hand, don't sacrifice what might be effective strategies that may be more complex to implement for simple strategies that are not effective.

Develop strategies where the proposed solution is under the control of program managers and acceptable to the community and key stakeholders. A solution strategy, or in the language of research, "the independent variables," must be under the control of the HIV/AIDS program managers. The solution should also be acceptable to the community.

Avoid strategies that are not consistent with the implementing institution's goals, objectives, and development plans. A strategy that does not fall within the current goals, objectives, and plans of an implementing agency may meet with considerable resistance and not receive the resources and attention required for successful implementation.

Select strategies that can be sustained over time. Even if a particular strategy is effective in the short run, that is, during the intervention phase of an operations research study, it is not likely to have much effect on overcoming a program problem if it cannot be sustained by an organization after the OR study is completed. Always seek strategies that have a high probability of being financially sustainable.

Example of a Strategy to Solve the Problem

Approximately 40 percent of HIV/AIDS patients who go to a hospital in Brazil have difficulty taking antiretroviral medication correctly. This is a problem that has many dimensions. Previous research on patient adherence found that poor adherence usually occurs because patients are either not receiving adequate information, are not receiving counseling support to use the information they do receive, or are experiencing severe side effects that are not adequately addressed by providers.

These findings suggest several strategies for reducing adherence problems. First, information materials such as brochures, pamphlets, and a video could be developed and given to all new ARV patients to explain the need for strict adherence to ARV regimens. Second, more intensive one-on-one counseling of new patients could be instituted and followed by monthly group counseling of all ARV patients at clinic settings. Third, a program of monthly home visits by nurses to PLHA could be instituted to provide greater support and to assist patients with the side effects of medication.

Since each of these strategies tends to be complex and each increases program costs, the strategies will be tested sequentially over an 18-month period. First, new IEC materials will be developed and used in the hospital for the first six months. Second, in the next six-month period, more intensive one-on-one and group counseling of ARV patients will be initiated. This second intervention will be added to the first. Finally, in the third six-month period, nurses will make regular monthly visits to the homes of patients who are taking ARVs. This intervention will be added to the two earlier interventions.

Comments on the Example

In this example, previous research has shown that the problem of patients incorrectly taking their antiretroviral medication or failing to take the medication altogether is usually the result of one or more of three factors:

- The patients have not received adequate information.
- They have received the information but have not received adequate counseling to use the information.
- They are experiencing severe side effects without receiving the proper medical attention to overcome the side effects.

Three possible interventions are identified for overcoming the problem. Since these interventions range from the relatively simple (use of information materials for the patients) to the relatively complex and expensive (using nurses for home visits to PLHA), the decision was made to test the interventions sequentially, starting with the simple and then adding on the more complex and expensive interventions.

What To Do: Selecting a Strategy to Test

After a significant program research problem has been identified, defined, and justified, you need to select an appropriate strategy to solve the problem. First, refer to the guidelines for selecting a strategy, including the use of relevant theory, and then in your research proposal:

1. Identify potential strategies that could be used to solve the program problem.
2. Clearly indicate which of the potential strategies you have selected as the most appropriate to solve the program problem.
3. Justify your selection of one or more potential strategies by indicating:
 - Past success with applying the strategy to similar problem situations.
 - The simplicity of implementing the strategy compared to other strategies that are likely to produce the same effect.
 - The potential for sustaining the strategy once the operations research study is completed.