

SYNOPSIS

HIV/AIDS PREVENTION AND CONTROL SERIES

Behavioral Research



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Family Health International (FHI) is a non-governmental organization that works to improve reproductive health around the world, with an emphasis on developing nations. Since 1991, FHI has implemented the AIDS Control and Prevention (AIDSCAP) Project, which is funded by the United States Agency for International Development (USAID). FHI/AIDSCAP has conducted HIV/AIDS prevention programs in 40 countries, and the Latin America and Caribbean Regional Office (LACRO) has implemented interventions in 14 countries within the region.

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The HIV/AIDS Prevention and Control SYNOPSIS Series

BEHAVIORAL RESEARCH



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ACRONYMS

AIDS	acquired immune deficiency syndrome
AIDSCAP	AIDS Control and Prevention Project
ARRM	AIDS Risk Reduction Model
BCC	behavior change communication
CBO	community-based organization
CSW	commercial sex worker
FGD	focus group discussions
FHI	Family Health International
HBM	Health Belief Model
HIV	human immunodeficiency virus
KABP	knowledge, attitude, behavior, and practice
KII	key informant interviews
LAC	Latin America and the Caribbean
LACRO	Latin America and Caribbean Regional Office
MOH	Ministry of Health
MWM	men who have sex with men
NACP	National AIDS Control Program
NGO	non-governmental organization
PAHO	Pan American Health Organization
PVO	private voluntary organization
STD	sexually transmitted disease
STI	sexually transmitted infection
TRA	Theory of Reasoned Action
USAID	United States Agency for International Development
WHO	World Health Organization

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PROLOGUE

The HIV/AIDS Prevention and Control SYNOPSIS Series is a summary of the lessons learned by the Latin America and Caribbean Regional Office (LACRO) of the AIDS Control and Prevention (AIDSCAP) Project. AIDSCAP is implemented by Family Health International (FHI) and funded by the United States Agency for International Development (USAID). The series is a program activity of the LACRO Information Dissemination Initiative and was created with several goals in mind:

- to highlight the lessons learned regarding program design, implementation, management and evaluation based on five years of HIV/AIDS prevention and control experience in LAC countries
- to serve as a brief theoretical and practical reference regarding prevention interventions for HIV/AIDS and other sexually transmitted infections (STIs) for program managers, government officials and community leaders, non-governmental organizations (NGOs), private voluntary organizations (PVOs), policy and decision makers, opinion leaders, and members of the donor community
- to provide expert information and guidance regarding current technical strategies and best practices, including a discussion of other critical issues surrounding HIV/AIDS/STI programming
- to share lessons learned within the region for adaptation or replication in other countries or regions
- to advance new technical strategies that must be taken into consideration in order to design and implement more effective prevention and control interventions
- to advocate a holistic and multidimensional approach to HIV/AIDS prevention and control as the only way to effectively stem the tide and impact of the pandemic

AIDSCAP (1991-1997) was originally designed to apply the lessons learned from previous successful small-scale prevention projects (1987-1991) to develop comprehensive programs to reduce the sexual transmission of HIV, the primary mode of transmission of the virus. AIDSCAP applied three primary strategies — Behavior Change Communication (BCC), STD Prevention and Control, and Condom Programming — along with supporting strategies of Behavioral Research, Policy Development and Evaluation.

The success of this approach, based on the combination of strategies and targeted interventions, has been widely documented. The AIDSCAP Project, in fact, has been recognized as among the best and most powerful international HIV/AIDS prevention programs to date.¹ AIDSCAP has worked with over 500 NGOs, government agencies, community groups and universities in more than 40 countries; trained more than 180,000 people; produced and disseminated some 5.8 million printed materials, videos, dramas, television and radio programs, and advertisements; reached almost 19 million people; and distributed more than 254 million condoms.²

However, the pandemic continues to escalate at a rate that outpaces our successes. Thus, we need to build upon these successes, learn from our experiences, and determine what has worked and what is missing in order to respond with added effect in the future. The magnitude and severity of the HIV/AIDS pandemic calls for boldness, flexibility, wisdom and openness. The world cannot afford to continue to fight HIV/AIDS only with current thinking and tools. We must look toward new thinking and strategies that complement and carry the current state-of-the-art approaches forward in the fight against HIV infection.

Therefore, LACRO endorses, promotes and elevates *Gender Sensitive Initiatives* (GSIs), *Civil-Military Collaboration* (CMC), *Religious-Based Initiatives* (RBIs), and *Care & Management* (C&M) as the new prototype of technical strategies that must be incorporated on par with the strategies that have been implemented to date. Walls, barriers and biases have to come down in

order to unlock the strengths, benefits, potential, synergy and/or resources of GSIs, CMC, RBIs and C&M.

More importantly, approaches that compartmentalize strategies can no longer be justified. Despite the efforts to integrate and coordinate amongst and between technical strategies and different sectors of society, prevention programming is barely scratching the surface of what a real comprehensive effort should be. One of the most important lessons learned about HIV/AIDS is that it is not only a medical problem, nor is it exclusively a public health problem. Rather, the pandemic is in addition a socio economic problem and, as such, threatens both the sustainable development of developing countries and challenges the ethical foundations of the developed world. HIV/AIDS has become a challenge to health, development and humanity.

For lasting success, a genuine multidimensional approach is urgently needed. One that demands new forms of wealth distribution, educational opportunities and development; attempts to resolve the inequalities in gender and power; acknowledges the individual, environmental, structural and superstructural causes of and solutions for the pandemic; and aims to balance the disparity between the “haves” and the “have-nots,” resulting in more sustainable, equitable, effective and compassionate efforts.

Therefore, the SYNOPSIS Series reaffirms that current HIV/AIDS prevention and control strategies work, and contends that new technical strategies are needed and can be effective and complementary. The Series also strongly advocates for, and will discuss in a separate issue, the Multidimensional Model (MM) for the prevention and control of the pandemic. This model must guide national, regional and international planning and programming in order to achieve measurable and significant gains that can truly affect changes at the individual, societal, environmental and structural levels.

We trust the reader will be open to our futuristic thinking and will contribute to the further development of the strategies presented here as well as others. We hope the Synopsis Series

will stimulate discussion and reflection, propel continued dialogue, and encourage the pioneering of new combinations of innovative approaches.

A handwritten signature in black ink, reading "R Calderón". The signature is written in a cursive style with a long horizontal line underneath the name.

M. Ricardo Calderón, MD, MPH, FPMER.
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HOLOGRAPHIC OVERVIEW:

This SYNOPSIS booklet discusses the importance of Behavioral Research (BR) through a holographic approach. Holography is a special photographic technique that produces images of three dimensional objects. This photographic record is called a hologram, and one of its main applications is that any fragment of the hologram can regenerate the entire image, even if the fragment is extremely small. In other words, if a negative from an ordinary picture is cut into two, the print from each half would only show half of the picture. Conversely, if a holographic negative is cut in two, the print from each half would show the entire picture. If these halves are cut again, the print from any one of the pieces will reconstruct the whole picture.^{3,4,5}

Utilizing the holographic model, this booklet was written such that any one of the sections (holograms) will provide the reader with an understanding of the whole subject matter. First, we describe the entire strategy or topic of discussion in one sentence, the widespread definition and/or our own definition of the subject (Hologram 1). Next, we present a one-paragraph abstract of the topic (Hologram 2), expanding upon the original definition. Then, we present the topic by providing a summary or recapitulation of the main points of each of the sections of the booklet (Hologram 3). Finally, the entire strategy is again presented by virtue of the complete text of the booklet (Hologram 4).

We anticipate that the Holographic Overview of Behavioral Research will benefit both the seasoned professional and the novice. It provides a quick, general overview of BR as well as context and background. It also directs the reader to specific sections that may be of greatest interest or that the reader would like to review first or at a later date. Thus, we hope this approach will enable the reader to make fuller use of the booklet as a reference guide, as it provides a simple and concise definition of BR, a brief description of the topic, a summary of the discussion, and finally, the complete text — all in one document.

The reader should note that while we have tried to include the key issues surrounding BR in this synopsis, the booklet is not meant as an exhaustive discussion of all of the issues regarding the critical role of behavioral research in the fight against HIV/AIDS.

The Whole Strategy

Hologram 1: The Definition

Behavioral Research in HIV/AIDS prevention and control is the part of social science research that helps to reveal the determinants of sexual risk behaviors and identify the factors that motivate or influence behavior change related to the prevention and/or transmission of HIV/AIDS and other sexually transmitted infections (STIs).

The Whole Strategy

Hologram 2: The Abstract

Sexual transmission of HIV accounts for 80 percent of the estimated 1.6 million HIV infections in Latin America and the Caribbean. Modifying sexual risk-taking behavior is, therefore, an essential component of HIV/AIDS prevention efforts. The behavioral sciences offer those interested in developing effective interventions a clearer understanding of the types of information people need to change or maintain a given behavior. As part of social science research, behavioral research: 1) contributes to the basic knowledge of sexual risk behaviors; 2) identifies the determinants of sexual risk behaviors; 3) identifies the factors that motivate or influence behavior change; and 4) examines the acceptability, effectiveness and sustainability of interventions.

The Whole Strategy

Hologram 3: *The Summary*

Role of Social and Behavioral Sciences

Since the onset of the HIV/AIDS pandemic, the social and behavioral sciences have provided a framework for examining how behavior change occurs, what the patterns and determinants of risky sexual behavior are, and how programs can most effectively encourage and sustain behavior change in a given population. While behavior change interventions initially focused on increasing awareness and knowledge of HIV/AIDS, it became evident with time that increased knowledge was not enough to change behaviors. Since prevention efforts cannot rely on simply providing information on HIV/AIDS to change behaviors, the need to understand the factors that strongly influence a person's decision to perform (or not perform) a given behavior is of utmost importance. As HIV/AIDS prevention became more complex and extended beyond increasing awareness and knowledge of HIV/AIDS, more theory-driven approaches were needed. To date, most HIV/AIDS behavioral research has been dominated by the following four psychological models: 1) the Health Belief Model, 2) the Theory of Reasoned Action, 3) the AIDS Risk Reduction Model, and 4) the Stages of Change Model. While these theories have been useful in identifying determinants of behavior change and in formulating successful interventions in certain settings, applying behavior theory and knowledge to broad-based HIV/AIDS prevention is a complex and difficult process. Today, formal research and community experience have demonstrated that interventions can reduce risk behaviors, yet there is still much to be learned about which behavioral interventions are the most effective.

Operationalizing Behavioral Research in LAC

AIDSCAP's commitment to building the research capacity in the LAC region included training of over 50 researchers to conduct behavioral research for designing and evaluating behavioral interventions related to HIV/AIDS. AIDSCAP also strengthened the networks between research organizations and implementing

agencies in numerous countries. In organizations without the staff or resources for a research component, AIDSCAP developed the capacity of program managers in the interpretation of research results and the application of results to program design. AIDSCAP particularly emphasized: 1) formative research to expand the basic knowledge of sexual risk behaviors, 2) formative research to identify the determinants of sexual risk behaviors, and 3) evaluative research to examine the acceptability, effectiveness and sustainability of interventions. These objectives provide a minimum of information needed to start programs with defined target populations and to evaluate their effectiveness. They can be measured through relatively rapid research techniques, including knowledge, attitude, behavior and practice (KABP) surveys, focus groups discussions (FGD), and key informant interviews (KII). Target populations researched included: commercial sex workers and their clients, men who have sex with men, youth, people in workplaces, STD patients, women, and the general population.

Examples of Behavioral Research in LAC

Specific examples of research conducted in the LAC region include:

- 1) Research to increase basic knowledge of risk behaviors, such as “Protecting Paradise, Tourism and AIDS in the Dominican Republic,” and “Knowledge, Attitude, Behavior and Practices among Jamaican STD Clinic Attendees.”
- 2) Research to identify determinants of risk behaviors, such as “AIDS Risk-Taking Behavior during Carnival in São Paulo, Brazil,” and “Measuring Sexual Risk Behaviors of Jamaican Homosexual and Bisexual Men.”
- 3) Research to identify means of modifying risk behaviors, such as “An AIDS Risk Reduction Program for Young Adults in Night Schools in São Paulo, Brazil.”
- 4) Research to examine acceptability, effectiveness and sustainability of interventions, such as “100 Percent Condom Use: A Structural/Environmental Intervention,” and “The Female Condom as a Woman-Controlled Protective Measure.”

Lessons Learned

While many lessons have been learned, the most important is the need to directly link research to program interventions. A disjunction often exists between behavioral research on HIV/AIDS prevention and prevention programs themselves. Behavioral research should not be conducted in the abstract; therefore, directly linking research to program interventions is a critical component of effective interventions.

Recommendations

HIV/AIDS programs should place more emphasis on rapid research that provides the information needed to improve interventions or to adapt successful interventions for application in different geographical areas or with new populations. In addition, research to develop and test interventions at levels beyond the individual is also needed, as well as research to design and test the effectiveness of interventions.

The Whole Strategy

Hologram 4: *The Detailed Description*

ROLE OF SOCIAL AND BEHAVIORAL SCIENCES

Sexual transmission of HIV accounts for 80 percent of the estimated 1.6 million HIV infections in the Latin America and Caribbean (LAC) region.⁶ Modifying sexual risk-taking behaviors is, therefore, an essential component of HIV/AIDS prevention efforts. But how does behavior change occur? What are the patterns and determinants of risky sexual behavior? How can programs most effectively encourage and sustain behavior change in a given population?

Since the onset of HIV/AIDS, the social and behavioral sciences have provided a framework for examining these questions. While the sexual transmission of HIV infection usually involves interaction among two individuals, several levels of social relationships influence that interaction and potential HIV-related behaviors.

Social science research has examined the factors that influence sexual relationships and the aspects of social networks, community and societal norms which shape those relationships. Social science research has also demonstrated that the relationship between some high-risk behaviors and HIV infection varies by race, ethnicity, geographic location and culture. Within the social sciences, sociological and anthropological research can contribute to a better understanding of the role of sociohistorical and sociocultural factors, and basic research on ethnic, cultural, structural, and geographic differences can

Behavioral research:

- contributes to the basic knowledge of sexual risk behaviors
- identifies the determinants of sexual risk behaviors
- identifies the factors that motivate or influence behavior change
- examines the acceptability, effectiveness, and sustainability of interventions

influence the design of targeted interventions.⁷ As a part of social science research, behavioral research:

- contributes to the basic knowledge of sexual risk behaviors
- identifies the determinants of sexual risk behaviors
- identifies the factors that motivate or influence behavior change
- examines the acceptability, effectiveness, and sustainability of interventions

Behavior change interventions initially focused on increasing awareness and knowledge of HIV/AIDS. With time, however, it became apparent that increased knowledge was not enough to change behaviors.

While wide-scale public education campaigns have increased general levels of HIV/AIDS knowledge, this has not always been quickly translated into behavior change.^{8,9}

In this booklet, we outline the role of behavioral research in HIV/AIDS prevention, present varied behavioral change theories, discuss the operationalization of behavioral research, and provide examples of behavioral research conducted by AIDSCAP in LAC that correspond to the objectives of behavioral research cited above. Finally, we conclude with several lessons learned and recommendations drawn from our experiences.

Background

Behavior change interventions are key components of HIV/AIDS prevention programs — seeking, for example, increased condom use or appropriate STI treatment seeking behavior. The development of these interventions begins with an understanding of the determinants of behavior in particular populations. Strategies are then designed based on theories of behavior and behavior change.

In the initial global response to HIV/AIDS, behavioral research was used

If prevention efforts cannot rely on simply providing information on HIV/AIDS to effect behavior change, then interventions must be developed to influence the other factors which can produce change. In order to design such interventions, we need to understand the factors that strongly influence a person's decision to perform (or not perform) a given behavior.

to describe patterns of risky sexual behavior and levels of understanding of HIV/AIDS/STIs among diverse populations. Behavior change interventions initially focused on increasing awareness and knowledge of HIV/AIDS. With time, however, it became apparent that increased knowledge was not enough to change behaviors. While wide-scale public education campaigns have increased general levels of HIV/AIDS knowledge, this has not always been quickly translated into behavior change.^{8,9}

If prevention efforts cannot rely on simply providing information on HIV/AIDS to effect behavior change, then interventions must be developed to influence the other factors which can produce change. In order to design such interventions, we need to understand the factors that strongly influence a person's decision to perform (or not perform) a given behavior.

The behavioral sciences offer those interested in developing effective interventions a clearer understanding of the types of information people need to

change or maintain a given behavior. Rather than basing a behavior change intervention on invalid or incorrect assumptions about behavior change, prevention program planners should take advantage of the information currently available regarding behavior and its determinants. More specifically, behavior science theory and research can provide important insights into why people behave the way they do. Clearly, the more one understands the factors influencing (or underlying) a person's decision to perform (or not perform) a given behavior, the more likely one is to develop interventions that can effectively change the behavior.¹⁰

Behavioral science theory and research suggest the most effective interventions are those directed at a specific behavior.

Each behavior has its own unique determinants, and very different interventions are required to change different behaviors.

Behavioral science theory and research also suggest the most effective interventions are those directed at a specific behavior. Each behavior has its own unique determinants, and very different interventions are required to change different behaviors. Often, interventions are directed at increasing the probability that one will reach a goal, such as practicing safer sex, rather than increasing the probability that one will engage in the specific behavior needed to reach that goal, in this case always using a condom for sex with one's partners. Only the latter specific type of intervention is likely to be successful in changing behavior.

Use of Theory

As HIV/AIDS prevention became more complex and extended beyond increasing awareness and knowledge of HIV/AIDS, more theory-driven approaches were needed.¹¹ Theoretical models of HIV/AIDS preventive behavior can be used not only to develop interventions but also to provide a conceptual framework for identifying elements responsible for an intervention's effects.

To date, most HIV/AIDS behavioral research has been dominated by four psychological models which are described below: the Health Belief Model,¹² the Theory of Reasoned Action,¹³ the AIDS Risk Reduction Model,¹⁴ and the Stages of Change Model.¹⁵

The Health Belief Model (HBM):

According to this theory, perceptions determine the likelihood of individuals adopting or maintaining safer sexual practices. If people perceive they are threatened by HIV/AIDS and expect they can take action to prevent becoming HIV-positive, then they are likely to have safer sex.¹² Research with this model suggests that people's perceived ability to successfully carry out a "health" strat-

egy, such as consistent condom use, greatly influences the decision and ability to enact and sustain a changed behavior.¹⁶

Research using the HBM has been used to explore a variety of health behaviors in diverse populations. With the advent of HIV/AIDS, the model has been used to gain a better understanding of sexual risk behaviors in the United States among homosexual men, adolescents, pregnant women, and the general population.

The AIDS Risk Reduction Model (ARRM):

This theory proposes that individuals must go through several stages before they change risky sexual practices. The model is based on the premise that to avoid disease, individuals must perceive their sexual behavior places them at risk for HIV infection (labeling), make a commitment to behavioral change (commitment), and take action to change (enactment). A number of personal, interpersonal, and social factors influence individuals' progression through these stages.¹⁴ In general, the ARRM emphasizes the goal of understanding why people fail to progress over the change process.

The ARRM has enabled researchers to explain and predict the sexual behavior of many different populations. Studies based on the ARRM have included populations in the United States, such as homosexual and bisexual men; unmarried white, black and Hispanic heterosexuals; adolescent females attending family planning centers; and people using HIV testing clinics. In Zaire, the ARRM revealed how difficult it was for urban and rural women to label their behavior as problematic; only one-third of the study participants felt personally at risk for contracting HIV even when they knew they were engaging in risky sexual behavior.¹⁷ In the United States, psychological factors associated with multiple partners were examined with the ARRM, and results revealed that perceived risk was the only ARRM first stage variable related to multiple partners.¹⁸

The Stages of Change Model:

Similar to the ARRM, this theory suggests stages a person must progress through in order to change risky behavior. While these stages may not accurately describe the behavior change process in all situations or different cultures, they do suggest a strategic framework for developing interventions.¹⁵ These stages indicate that information dissemination alone does not constitute an effective prevention program. While enhanced awareness and knowledge of health risks are important preconditions for change, knowledge in and of itself has never proven to be the chief motivator for change.

U.S. behavioral researchers have been able to identify the stages of individual behavioral change as they relate to HIV/AIDS and to tailor interventions accordingly. Study populations have included: STD clinic patients, intravenous drug users, prostitutes, couples, youth, women, and men who have sex with men but who do not identify as homosexual. Preliminary results from these studies support the Stages of Change theory as a method for characterizing individuals along a change continuum with the intent of enhancing the effectiveness of HIV/AIDS interventions. For example, the U.S. Centers for Disease Control and Prevention (CDC) is using the Stages of Change theory in an HIV/AIDS counseling and testing study at sexual transmitted disease (STD) clinics. The counseling provided is based on the client's particular stage.¹⁹ In addition, the theory offers a method for evaluating programs by measuring individual change.

Figure 1: Stages of Change

An individual....

- is unaware of the problem
- becomes aware of the problem
- is concerned that behavior places him or her at risk
- acquires knowledge about the problem
- is motivated to act through perceived risks and benefits
- is ready for action through skills required to enact change
- tries new behavior
- assesses the efficacy of changing behavior and, if successful
- sustains behavior change

Source: Prochaska, J. O., DiClemente, C. C. & Norcross, J. C. (1992). In search of how people change-applications to addictive behaviors. *American Psychologist*, 47(9), 1102-1114.

Theory of Reasoned Action (TRA):

According to this theory, the strength of people's intentions has the most influence over their choices about risky sexual behaviors. This strength of intentions results from their attitudes toward unsafe sexual practices, their perceptions of other people's opinions of such unsafe behaviors, and their evaluation of those opinions.¹³ To date, behaviors explored using the TRA include: smoking, drinking, signing up for treatment programs, using contraceptives, dieting, wearing seat belts or safety helmets, exercising regularly, and breastfeeding.

In relation to HIV/AIDS, results from a study of northern Thai males revealed that men's perceptions of peer norms were the best predictor of condom use.²⁰ Yet, in a study of college females in the United States, attitudinal beliefs exerted greater influence on the intent to use condoms by sexually inexperienced females.²¹ In order to develop appropriate interventions for a specific population and behavior, therefore, it is important to determine which variable and its corresponding cognitive structures exert the greatest influence on the study population.²²

Shortcomings of Theories

Despite their usefulness, these models have been criticized. All emphasize the psychological causes of individual behavior change without considering many of the environmental conditions, social situations, structural issues, or other factors that impact behavior.²³ The phenomena that must be addressed in HIV/AIDS prevention are too numerous and too diverse to be encompassed by any one sociological or psychological theory. Such unexamined forces can make the models invalid. For instance, Kippax and Crawford argue that people may change their behavior before their beliefs and attitudes.²⁴ The Theory of Reasoned Action, for example, could not explain the shift to more positive attitudes about seat belt use after the new U.S. law, an environmental change, forced unwilling people to wear their seat belts.

Critics also note that while these theories have had some success in changing behaviors among targeted groups of U.S. populations, little research addressing the theoretical aspects of AIDS risk reduction has been done outside of North America. This is particularly true of the Latin America and Caribbean region. It is not surprising, however, given that behavioral research for HIV/AIDS prevention has only existed for approximately ten years, and many countries in the region have few behavioral researchers. As a result, little is known about the applicability of these theories to other cultures. A study in Bolivia based on the Stages of Change theory, for example, found no correlation between reported high risk for HIV/AIDS and condom use. The model would predict the opposite — high risk perception leads to a decrease in risky behavior.²⁵

Limitations of Behavioral Research

While these theories have been useful in identifying determinants of behavior change and in formulating successful interventions in certain settings, applying behavioral theory and knowledge to broad-based HIV/AIDS prevention is a complex process.²⁶ The methodologies for determining the effectiveness of prevention activities are slowly evolving, but the field faces special problems. Problems of internal validity — establishing the causal relationship between interventions and behavior change — are well discussed, though not resolved. The problematic issues include: a) the need to study populations at risk who are often hard to reach; b) the time required to reveal the effects of an intervention; and c) the continuing reliance on self-report as the only measure of behavior change consistently available, though these self-reports can seldom be validated.

The ultimate goal of any HIV/AIDS prevention intervention is to reduce the number of new infections. However, attributing results to a specific intervention is intrinsically complex due to the temporal evolution of epidemics and our poor understanding of how different behaviors and epidemiological factors influence epidemic patterns. Several factors unrelated to intervention effects can contribute to stabilization or decreases in the prevalence or incidence of HIV in a given setting, such as mortality, saturation effects, and migration. The issue of whether observed changes are a reflection of the natural history of the epidemic or a result of interventions is critical.²⁷ For policy makers, the issue is whether the behavioral applications are effective overall, since they have to decide how and where to allocate resources and efforts for HIV/AIDS prevention. To circumvent some of these limitations, a combination of quantitative and qualitative data is particularly helpful for assessing the complex and uneven process of sexual behavior change.

Today, formal research and community experience have demonstrated that interventions can reduce risk behaviors, yet there is still much to be learned about which behavioral interventions are the most effective.²⁸ A solid understanding of the comparative effectiveness of behavior change interventions is essential

to controlling the pandemic, and this knowledge requires a commitment to behavioral research specifically related to HIV/AIDS prevention.

The next section relates the objectives of behavioral research to their application in the AIDSCAP project and presents an overview of research conducted in the LAC region.

OPERATIONALIZING BEHAVIORAL RESEARCH IN LAC

Building Capacity

As part of its commitment to building research capacity, AIDSCAP trained over 50 researchers in the LAC region to conduct behavioral research for designing and evaluating behavioral interventions related to HIV/AIDS. Scientists were trained in quantitative and qualitative research design, data management, analysis and interpretation, as well as the behavioral and psychosocial aspects of the HIV/AIDS epidemic.

AIDSCAP also sponsored the participation of a number of local scientists in the Center for AIDS Prevention Sciences (CAPS) scholars program at the University of California in San Francisco. The program's main emphasis was helping scientists design HIV/AIDS prevention research projects to be conducted in their own countries.

In addition to building the capacity of local researchers in behavioral research, AIDSCAP strengthened the networks between research organizations and implementing agencies in numerous countries. In organizations without the staff or resources for a research component, AIDSCAP developed the capacity of program managers in the interpretation of research results and the application of results to program design. These approaches gave local researchers a stake in ensuring their findings were used to improve prevention programs.

Conducting Research

Of the four behavioral research objectives outlined earlier, AIDSCAP particularly emphasized the following in its research efforts:

- expanding the basic knowledge of sexual risk behaviors
- identifying the determinants of sexual risk behaviors

- examining the acceptability, effectiveness, and sustainability of interventions

These objectives provided a minimum of information needed to start programs with defined target populations and to evaluate their effectiveness. These objectives can be measured through relatively rapid research techniques, including knowledge, attitude, behavior and practice (KABP) surveys, focus group discussions (FGD), and key informant interviews (KII) as well as through more rigorous designs.

Although few projects formally used behavioral theory for project design, an understanding of the Stages of Change model guided most interventions in many countries. Given that one of the goals of this research was to gain an understanding about something unknown, such as risky behavior and the process of behavior change, the majority of these studies were descriptive. While levels of HIV prevalence and study populations varied, prevention efforts in all settings faced misconceptions about transmission modes, lack of or limited understanding of preventive options, inability to accurately assess individual risk, and in some populations, low levels of condom use.

Overview of Behavioral Research Conducted

A wide variety of studies were conducted in the Latin America and Caribbean region. Of these, KABPs, FGD, KII and in-depth interviews were the most common and primarily involved target populations, such as commercial sex workers (CSWs), men who have sex with men (MWM), youth, STD clinic attendees, and people in the workplace. Overall, more than 100 of these studies were conducted in the region. Specific examples of additional research are presented in the next section.

EXAMPLES OF BEHAVIORAL RESEARCH IN LAC

As previously mentioned, behavioral research has four main objectives as it relates to HIV/AIDS prevention and control. Behavioral research strives to:

- contribute to the basic knowledge of sexual risk behaviors
- identify the determinants of sexual risk behaviors
- identify the factors that motivate or influence behavior change
- examine the acceptability, effectiveness, and sustainability of interventions

The following examples, grouped by objective, are representative of the behavioral research AIDSCAP conducted in the Latin America and Caribbean region. It should be noted, however, that these studies often met more than one objective.

Objective: Increase Basic Knowledge Of Risk Behaviors

Example 1: Protecting Paradise: Tourism and AIDS in the Dominican Republic²⁹

Tourism is one of the Dominican Republic's largest and fastest-growing industries. In 1995, it contributed US\$1.6 billion to the economy, and well over one million foreigners visit this island nation annually. An unknown number of these foreign visitors come as "sex tourists" to have sex with one or several members of the local population. In the age of AIDS, such casual sexual encounters can be very dangerous. An estimated 2.8 percent of the adult Dominican population were infected with HIV in 1996, and that number is expected to rise to 4.3 percent by the turn of the century.³⁰

To find out exactly how dangerous "sex tourism" is to tourists, the Dominican people, and the Dominican economy, AIDSCAP and its researchers in the Dominican Republic examined the

impact of AIDS on tourism. These researchers were concerned with several issues: How does HIV/AIDS affect tourism? How does tourism affect the spread of HIV/AIDS? How do and will tourists react to HIV/AIDS prevention campaigns in the Dominican Republic? The answers to these questions are critical for shaping the Dominican Republic's response to the HIV/AIDS crisis without hurting its important tourism industry.

First, researchers distributed questionnaires to 800 tourists of various nationalities at airport departure gates. The tourists' responses revealed that the overwhelming majority of visitors to the country do not consider the prevalence of HIV when making travel plans. Approximately 60 percent of the respondents also did not think that traveling to the Dominican Republic put them at greater risk of contracting HIV than living at home. Very few tourists felt an HIV/AIDS prevention campaign in the Dominican Republic would prevent them from visiting the country. As a matter of fact, the tourists who felt they were at highest risk for contracting HIV, usually individuals traveling by themselves, were the ones who stated they would be most receptive to prevention efforts.

Next, researchers distributed surveys to 381 female Dominican commercial sex workers (CSWs) and conducted focus group discussions with 38 female Dominican CSWs. More than half of the women surveyed reported that because their use of condoms was high, there was no possibility they were infected with HIV. Although some clients tried to have sex without a condom, 95 percent of the CSWs said they had used a condom with each of their last five clients. However, CSWs were much less likely to use condoms with their regular non-paying partners.

A survey of 239 hotel workers and 100 entertainers in the hotel industry was also conducted. Almost half of the hotel staff survey respondents believed they could already be infected with HIV, and 17 percent of these workers reported having sex with tourists. For the hotel entertainment staff (workers who conduct programs, such as sports, music and sightseeing), these numbers were even more alarming. Over half of the male entertainment

workers informed researchers that they had engaged in sexual relations with tourists. While the overwhelming majority of hotel workers said they had used a condom during these sexual encounters, less than 10 percent of the workers reported consistent condom use with regular partners. Despite these distressing statistics, hotel managers indicated they were too concerned about stigmatizing the tourism industry to offer HIV/AIDS prevention services to their employees.²⁹

After completing the study, researchers recommended more HIV/AIDS prevention campaigns be implemented to target CSWs, “sex tourists,” hotel entertainment staff, and other hotel employees. An analysis of the financial costs to the tourism industry when workers become ill with HIV/AIDS was also proposed in order to encourage hotel managers to take part in these prevention campaigns. The study also recommended a number of structural changes to reduce HIV transmission. It was proposed that the Ministry of Tourism identify and discourage tour operators who cater to “sex tourists.” Meanwhile, more all-inclusive resorts would bolster tourism and limit contact between tourists and the local population. Finally, the Ministry of Health could implement a policy similar to Thailand’s successful 100 percent condom policy among CSWs. Actions similar to these are needed to abate the spread of HIV/AIDS throughout the Dominican tourism industry and the country as a whole.

Example 2: Knowledge, Attitude, Behavior; and Practice among Jamaican STD Clinic Attendees

Studies have shown that STD infections physiologically increase a person’s chances of contracting HIV. Not surprisingly, public health officials are trying to curb the spread of all STDs, including HIV. From 1994 until 1996, Jamaican public health employees worked through governmental and non-governmental organizations on an AIDSCAP project designed to prevent current STD patients from becoming HIV-positive. To spread their STD prevention message, educators and counselors at STD clinics used audio visual materials, group talks and individual counseling. Interviews conducted with 198 male STD clinic patients in 1994 prior to the intervention and another 200 male STD clinic

patients in 1996 following the intervention, helped researchers measure the effectiveness of these efforts.

Results indicated the efforts were quite effective. Of the men interviewed in 1996, 70 percent reported having made changes in their lives in order to protect themselves from HIV/AIDS. More than three-quarters of those who had made life changes claimed to have made those changes during the two-year AIDSCAP project.

Comparisons of the 1994 and 1996 behavioral data support these claims. A change in the reported sexual partner choices of the clinic patients suggests the men had begun to limit their exposure to STDs. In 1994, only half of the men interviewed had a regular sex partner, while almost three-fourths of the men in the 1996 interviews had a regular partner. Researchers also saw a significant decline in the percentage of men who had sex with a non-regular partner, defined as a sexual partner whom they had known for less than 12 months. In 1994, 50 percent of the men had non-regular partners, while in 1996 this percentage decreased to less than a third. Over 25 percent of the men in the 1996 interviews claimed fears of HIV infection had caused them to reduce their number of sex partners.

Condom use also showed some promising trends. The percentage of men who reported using a condom with their last non-regular partner increased from 25 percent in 1994 to 59 percent in 1996. In 1994, less than a quarter of the men reported using a condom with a new partner; by 1996, that number was 65 percent. The reason for this tremendous increase? Well over half of the men in the 1996 interviews claimed they started using condoms for protection against HIV/AIDS.

Not all of the behavior changes were as encouraging, however. The percentage of men using condoms with their last regular partner showed little change from the 36 percent reported in 1994. In the 1996 interviews, men gave several reasons for not using a condom with a regular partner. Some claimed condoms were unavailable at the time; others believed they did not need to

use condoms because they knew the partners so well; and a few did not use condoms simply because they did not like them.³¹

Although there is room for improvement, in general the researchers were able to show that the efforts of the AIDSCAP program did effect the behavior of the STD patients. By building on these results, future programs can limit the spread of HIV and other STDs even more effectively.

Objective: Identify Determinants of Risk Behaviors

Example 1: AIDS Risk-Taking Behavior during Carnival in São Paulo, Brazil

It is a time without daily routines. People seek pleasures, ignore prohibitions and often act in unexpected ways. It is one of the world's biggest parties with music and dancing filling the streets. It is Carnival in Brazil.

This huge week-long celebration is famous for its costumes, songs, and throngs of people. It is also known for fostering many unsafe sexual encounters — encounters that may hasten the spread of HIV. Because of this reputation, Brazilian health workers have distributed millions of condoms and informational pamphlets on HIV/AIDS/STIs during the festivities.

Does the Brazilian Carnival warrant such efforts? To discover whether the realities of Carnival coincide with its reputation for promiscuous behavior, AIDSCAP researchers interviewed 380 male samba drummers who participated in the 1993 Carnival celebration in São Paulo, Brazil. Investigators classified any drummer who admitted to inconsistent condom use with a non-regular sexual partner as at-risk for HIV infection.

Contrary to some expectations, the drummers' sexual activities were typically no riskier during Carnival than at other time of the year. Though more than one-third of the study's subjects were at risk for HIV infection, less than ten percent of the drummers risked HIV infection only because of their Carnival activities.

Furthermore, those drummers who only had unsafe sex during Carnival did not differ from those who had unsafe sex on any of the measured variables. They had the same amount of knowledge about HIV transmission, the same risk of substance use, the same attitudes towards condom use, and the same expectations for Carnival. Both groups exhibited the same probability of using the condoms distributed during Carnival. The researchers noted that although over half of the drummers reported receiving free condoms, only about 25 percent of the at-risk drummers who received free condoms used them.³²

Of course, restricting this study to only male samba drummers prevented the researchers from generalizing the conclusions to the rest of the Brazilian population. The results do, however, suggest that HIV risk status can be better explained by factors in the drummers' lives rather than by their activities during Carnival.

Example 2: Measuring Sexual Risk Behaviors of Jamaican Homosexual and Bisexual Men

“. . . in the beat of the moment, I'll have unprotected sex, even if I have a condom . . .”

These were the alarming words of one of the men targeted by the Jamaica AIDS Support (JAS) project implemented by AIDSCAP. JAS, a non-governmental, volunteer-based support and education group, conducts educational outreach events to provide support to persons with HIV or AIDS and to support reduction of risky behavior among MWM. To measure the effectiveness of this project, AIDSCAP investigators administered a knowledge, attitude, behavior and practice (KABP) survey to 118 homosexual and 56 bisexual men. Researcher-led focus group discussions were also conducted with these men.³³

Not all of the participants in the JAS program engaged in unprotected sex like the man quoted above. As a matter of fact, 83 percent of the respondents said they had participated in HIV/AIDS educational seminars, and almost all of the seminar

participants reported changing their behavior in order to prevent HIV transmission.

Other results were less encouraging. Over two-thirds of the men had multiple sex partners and/or sex partners they had known for less than a year. Although only 13 percent of the men admitted to having exchanged sex for goods or money, focus group discussions indicated many more men had actually been involved in such “transactional sex.”

The majority of men reported using condoms with their male partners, but only 50 percent always used condoms with their female partners. During the focus group discussions, men admitted they were afraid to suggest condom use to their female partners because they thought the suggestion would lead women to suspect their sexual preferences. According to other focus group dialogue, many bisexual men believed vaginal sex without a condom was safe from HIV transmission.

In general, 11 percent of the sample who were already infected with HIV reported fewer risky behaviors. All of the HIV-positive men reported using a condom in their last sexual encounter with a man they had known for less than a year, and over 80 percent used a condom with their regular partners. Unfortunately, only half of the positive men used condoms with their female partners. Although two of the HIV-infected respondents had abstained from sex during the past year, none of the men had one main male partner. The majority had male partners whom they had known for less than a year, and almost half of these HIV-positive men were bisexual.

Further research and interventions are needed to decrease sexual risk among this population and to further promote behavior change.

Objective: Identify Means of Modifying Risk Behaviors

Example 1: An AIDS Risk Reduction Program for Young Adults in Night Schools in São Paulo, Brazil⁴

The young women sit in a classroom surrounded by dough models of human genitals. The women themselves have created these models and are using them to discuss sexual pleasure, reproduction, safer sex, condom use, and the transmission of HIV. The discussion eventually turns to sexual norms and how these norms influence knowledge and practice. Role-playing and more conversation encourage sexual negotiation and respect for people in lesbian, gay, and bisexual relationships. Down the hall, a group of young men are involved in a similar workshop.

These young adults, ages 18 to 25, participated in an AIDSCAP research project on HIV/AIDS prevention in inner-city public night schools in São Paulo. Researchers chose to conduct this series of workshops with these students because of the high HIV prevalence among young people in the low-income neighborhoods where the night schools are located. Using a wait-list control design to encourage community support for this safer sex initiative, the project also included public events and HIV/AIDS training courses for the schools' teachers. This training familiarized the entire school with the information in the workshops. The results of this project were encouraging enough that the state of São Paulo adopted this HIV/AIDS prevention program in all of its schools.

Women in the study demonstrated the most improvement in their HIV/AIDS prevention behaviors. A questionnaire based on the AIDS Risk Reduction Model found that women who attended the workshops improved communication with their partners about sex and HIV/AIDS. These women also reported less unprotected sex with their non-monogamous partners. These behavior changes were consistent with the changes in Brazilian culture brought on by the women's movement in that country. Social norms now allow women in non-monogamous relationships to refuse sex and to discuss sexual matters.

AIDS activists are hoping the state-wide implementation of this prevention program will encourage change in other risky sexual behaviors and social norms among lower-income Brazilians. Women in steady relationships are still expected to have sex if their partners request it, and they are not encouraged to initiate discussions about sexual practices with their partners. On the other hand, men — even very young men — are expected to be such sexual experts that they have no need to talk about sex or admit the limitations of their often scanty sexual knowledge.

The AIDSCAP workshop discussions provided a safe place for students to grapple with the practicalities of safer sex. Through frank discussions such as these, young adults can hopefully learn to overcome cultural, social and gender barriers in sexual relations and to reduce their risk of contracting HIV.

Objective: Examine Acceptability, Effectiveness and Sustainability of Interventions

Example 1: 100 Percent Condom Use: A Structural/Environmental Intervention

*“For me the condom is like the pillow that I rest my
head on, it brings me that relief”*
commercial sex worker

The Thai “100 percent condom policy” has been hailed as an example of the kind of structural and environmental intervention needed to reduce barriers to individual risk reduction. But would the policy work in other countries?

Results of a study conducted by AIDSCAP and the NGO COIN (Centre de Orientación e Investigación Integral) suggested the answer to that question in the Dominican Republic might be yes. Formative research, consisting of more than 200 interviews with sex workers, clients, steady partners and brothel owners, identified strong support and practical recommendations for adapting the Thai policy to the Dominican context.

The most surprising finding was the positive response from sex workers, brothel owners and clients to proposals to promote and monitor condom use in commercial sex establishments. Instead of considering medical check-ups of sex workers and legal sanctions oppressive, most respondents saw such policies as supportive.

Sex workers indicated policies requiring condom use in commercial sex would not only protect their health, but also make it easier to negotiate condom use with clients. The women reported spending a great deal of time and effort trying to convince clients to wear condoms, often unsuccessfully. Owners and managers believed having an STD-free establishment would increase prestige, number of clients, and profits. Steady partners of sex workers and — for the most part — clients were also supportive, citing fears about their own health and the health of their partners and children.³⁵

Study results were used to design a pilot 100 percent condom intervention that included training of staff from 10 brothels to promote group solidarity as well as promotion of a government policy on mandatory condom use. Such a policy would be enforced by sanctions (fines and brothel closings) against commercial sex establishments that did not enforce consistent condom use. The policy would also award certificates for those that did enforce consistent condom use. Compliance would be monitored through regular STD screening of sex workers.

Full implementation of the pilot project and eventual expansion nationwide, however, will require a formal government policy mandating condom use during all commercial sex acts and imposing legal sanctions for noncompliance. The dialogue AIDSCAP and COIN initiated with the government continues in order to encourage the policy changes needed for effective structural interventions to support the 100 percent condom use among sex workers and their clients in the Dominican Republic.

*Example 2: The Female Condom
as a Woman-Controlled Protective Measure*

“Put it in a place where he’ll see it and ask about it.”

“Emphasize its novelty.”

*“Suggest that you can experiment with it and then
decide together.”*

These statements are typical of those used by many women in a study conducted by AIDSCAP in São Paulo, Brazil, to convince their sexual partners to accept the female condom as a part of their sex life. In a society in which women are often subordinate to men, this can be a difficult task. But it’s an important one, as the female condom may be the only method these women can use to save their own lives.

The rate of female deaths from AIDS is steadily increasing in Brazil. The state of São Paulo is home to 69 percent of Brazil’s reported AIDS cases, and between 1982 and 1996, an unexpected one-fifth of those cases have been among women.³⁶ In 1985, the male:female ratio was 28:1; by 1996, this ratio had decreased to 3:1. In 1996, AIDS was the leading cause of death for women between the ages of 15 and 49.

Can a Brazilian woman convince her partner to allow her to use the female condom? Using the female condom has the potential to empower women, who would no longer need to depend on men for disease protection. However, the man may be angered by the woman’s new control, and the woman may be unwilling to deal with her partner’s anger.

To determine whether Brazilians would accept the female condom, researchers conducted a qualitative study in the city of São Paulo, Brazil, where they recruited 103 women between the ages of 18 and 40 through the media and local women’s organizations. Researchers gave the study participants information on HIV/AIDS, female condoms, and instructions for using the female condoms.

The investigators then included the women in a series of individual interviews and researcher-led focus groups, in which the women shared their reactions to the female condom as well as their partners, and voiced their concerns and questions about the device. Two additional meetings of informal peer discussion groups provided supportive environments where the women exchanged advice on incorporating the female condom into their sexual relationships. Researchers later conducted focus groups for 24 of the women's partners who had used the female condom.

The results of the study were encouraging. When the women first were interviewed before participating in focus group or peer group discussions, 45 percent of the women had tried the female condom and liked it. Following these discussions, 95 percent of the women either liked the device or liked it "very much." The women also enjoyed confiding in and sharing information and ideas with the other women in their discussion groups. Similarly, the overwhelming majority of the men in the study liked the female condom. The study participants' reasons for liking the contraceptive included the protection it provided from pregnancy and disease, its comfort, and its durability. Women liked having control over their own disease protection, while men liked the freedom from responsibility for women's protection.³⁷

Some of the study participants did, however, resist using the female condom. A few women had difficulties inserting the device or disliked the way they looked once it was inserted. A few of the men were unwilling to listen to their partners' suggestions about using the contraceptive or feared the condom would become "lost" inside their partner.

However, the vast majority of the Brazilians in the study used and liked the female condom. And the majority of the women in the study liked the closeness and empowerment that resulted from discussing the use of the female condom with their peers. These findings indicate that women's empowerment — especially through the female condom — may have a large role to play in stopping the spread of HIV/AIDS.

LESSONS LEARNED

- **HIV/AIDS prevention requires a multidisciplinary approach to research.**

Answering many of the most important research questions requires perspectives from such disparate fields as STD management and prevention, social marketing, medicine, counseling, psychology, epidemiology, communications and family planning. In Jamaica, research from all these areas was used to design and improve program activities.

- **Matching local research institutions with NGOs that implement interventions is a particularly effective way to organize research.**

Partnerships offer NGOs a sustainable source of technical assistance and help strengthen local research capacity. For example, in Jamaica, the research firm HOPE Enterprises worked with local NGOs to conduct KABP surveys among commercial sex workers, adolescents and people in the workplace; focus group discussions with adults who have multiple partners and HIV-positive individuals; and key informant interviews with HIV-positive individuals.

- **Rapid, relatively inexpensive studies are useful for projects that are: 1) linked to interventions under development; 2) of local or regional interest; 3) associated with interventions that are highly culturally specific or that vary significantly by population group; or 4) adapted from successful interventions from other regions or target populations.**

For example, results from a nine-month study of the contributing factors and motivations for risk behavior among Nicaraguan sex workers, their clients, and MWM provided information critical to the development of a national HIV/AIDS communication strategy.

- **Research that helps target audiences identify solutions to their own problems can lead to extremely effective program development.**

Such research is particularly useful for designing programs and policies to remove or overcome structural and environmental barriers to behavior change. For example, the NGO, Groupe de Lutte Anti-Sida (GLAS), in Haiti used participatory action research with factory workers to continually adapt and improve its workplace prevention programs.

- **Directly linking research to program interventions is a critical component of effective interventions.**

A disjunction often exists between behavioral research on HIV/AIDS prevention and prevention programs themselves. Researchers may assume that findings from research leading to understanding risk behavior will automatically be used to design and test new interventions. For example, in Brazil, findings from behavioral research examining the sexual risk-taking of a group of port workers were used to design and test an intervention. This intervention resulted in significant behavior change.

RECOMMENDATIONS

- HIV/AIDS programs should place more emphasis on rapid research that provides the information needed to improve interventions or to adapt successful interventions in different geographical areas or with new populations.
- HIV/AIDS programs should support research that allows target audiences to propose solutions to their own problems.
- Research is needed on the combined use of biologic and behavioral data to assess the effectiveness of HIV/AIDS interventions.
- As the number of people with HIV/AIDS increases, more research is needed to identify support services that encourage preventive behavior for those who are positive.
- Research to develop and test interventions at levels beyond the individual is needed. In circumstances where the individual can do little to protect themselves, interventions that influence social norms as well as social and political conditions should be a priority.
- Research to design and test the effectiveness of interventions is needed. As the number of HIV infections increases, developing better and more effective prevention strategies must remain a priority. Despite the many behavioral studies conducted, few have evaluated HIV preventive interventions.

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**Functional Organizational Chart
Latin America & Caribbean Regional Office,
FHI/AIDSCAP**

