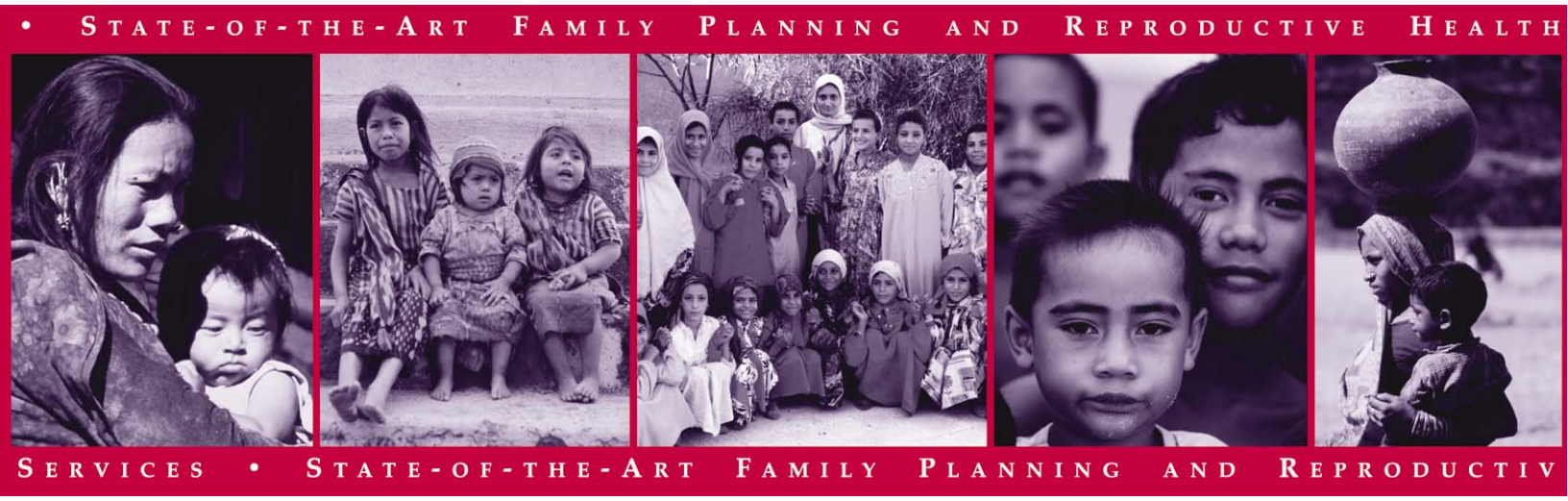

THE CATALYST BEHAVIOR CHANGE DIAGNOSTIC FRAMEWORK

Prepared by:

Academy for Educational Development

CATALYST
consortium

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March 2003

This report was made possible through support provided by the Center for Population, Health, and Nutrition, Bureau for Global Programs, U.S. Agency for International Development (USAID) under the terms of Cooperative Agreement No. HRN-A-00-00-00003-00. The opinions expressed are those of the CATALYST staff and members of the Consortium Management Committee and do not necessarily reflect the views of the staff of the U.S Agency for International Development.

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Executive Summary

The behavior change field has contributed greatly to developing interventions that have been successful in helping people adopt many types of healthy behaviors. We, the authors, believe a behavioral approach has much to offer CATALYST in addressing the challenges inherent in improving reproductive health around the world.

In this paper, we offer a look at one piece of a behavior change approach – a Behavior Change Diagnostic Framework. To aid CATALYST staff in designing behavior change strategies for their unique mandate, we present an expanded framework that is tailored to the CATALYST context. This paper is intended to serve as a starting point for dialogue among CATALYST staff from different disciplines; field staff, including behavior change specialists; and USAID Mission staff.

Section I of this paper establishes a common understanding of concepts such as behavior, behavior change, and behavior change strategies, involved in the behavior change approach. Behavior change is only one of several key models used to advance social change. It is one of the few models with a sound theoretical base and extensive community-based evaluation documenting its success in changing individual behavior on a large scale.

Using a behavioral approach to view public health is similar to donning a pair of glasses that provide a different look at both problems and solutions. Once broad public health goals (e.g., increased spacing between children in a family, decreased overall births, or decreased spread of HIV) are set, the behavioral "lens" sees everything as a series of actions or behaviors. Behavior change interventions do not directly influence health outcomes. They have an impact on outcomes by influencing the behavior underlying the outcomes. Thus, the initial phase in using a behavioral approach is to select a behavior and a priority group of individuals to be emphasized to achieve the health outcome.

Once the behaviors and priority groups have been identified, program planners apply proven methodologies to cast light on the *determinants* of each specified behavior for each priority group. Determinants, simply defined, are those factors that can be demonstrated to influence a particular behavior for a particular group of people. Determinants may be classified in a variety of ways. On the positive side – those factors that lead to adoption of positive behavior – are benefits, facilitators, and motivators. Terms for the negative factors are barriers or inhibitors. In the broadest behavioral view, the program planner considers potential factors "internal" to the individual, such as perceived norms, skills, attitudes and beliefs, and factors that are deemed "external" to the individual, including "contextual" or "environmental" factors, such as availability of services, access to products, quality of care, policy and community approval.

After program planners have identified the most powerful determinants at play for a given behavior among a given group of people, they can plan program activities or interventions to address those specific factors. The behavioral lens helps the planner to focus on those factors

that enable people to adopt healthful behaviors and to avoid wasting resources on interventions that address less relevant factors. Because both internal and external factors have been examined, the range of program interventions that might be enhanced through a behavioral look is broad – from interpersonal counseling to mass media communication, redesign of services, advocacy for policy change, provider training, social marketing of contraceptive products, gender equity, product distribution, and many others.

Section II describes the proposed Behavior Change Diagnostic Framework tailored to the CATALYST setting. Because of the complexity and breadth of its mandate, CATALYST, like other projects that engage health and nonhealth sectors and supply and demand sides, requires a behavior change framework that is an expansion of the traditional one. Readers will benefit from studying the accompanying graphic depictions of the diagnostic framework. Figures 1 through 7 are incorporated throughout the paper.

Identifying the behaviors to promote is the first step in a behavior change approach. A behavior is an overt and observable action taken by a single individual. Identifying which behavior to address is at once the most critical and the most difficult task in developing a behavior change strategy. We propose that three sets of behaviors are important to achieving CATALYST outcomes: the sexual and reproductive health behaviors of clients, the care giving behaviors of providers, and the support behaviors of families and the community. Client behaviors are those actions that men and women perform to take care of their health, in this case their sexual and reproductive health. Client behaviors may either be supported or hindered by provider behaviors and family or community behaviors.

Critical to a behavior change approach is an understanding of the complex set of factors underlying the behavior, sometimes referred to as determinants of the behavior. Through the diagnostic framework, we propose examining direct and indirect factors and understanding the potential impact of both internal and external factors.

Section III applies the diagnostic framework to one topic area – optimal birth spacing. To aid in designing programs to improve birth spacing, we list behaviors of clients, providers, and family and community that might be addressed by programs and outline potential determinants for each set of behaviors.

Following this example through, we list potential client behaviors that underlie optimal birth spacing and examine both provider behaviors and family and community behaviors that may support the client's behaviors. Using the framework, we look at direct factors that might influence the behaviors of the client – direct internal factors such as beliefs about the health outcomes; direct external factors, such as availability of affordable services; and the behaviors of providers and of partner, family, and community. Similarly, we trace direct internal and external factors that could influence provider behaviors and direct internal and external factors that might be relevant for community and family behaviors.

Finally, we look at indirect factors, or those elements that influence many behaviors and affect them indirectly through direct factors. These are "macro" factors, such as laws and legislation,

health system policies, organized pressure by religious and other groups, traditional beliefs about the family and childbearing and women's empowerment.

Section IV places this framework within the context of an overall behavior change approach by describing the specific steps program planners take. The ten steps we outline are known to any reader who is familiar with the behavior change approach. It is well beyond the scope of this paper to instruct program planners in how to apply these steps. Many books and documents describe these processes. Our point here is to describe the context in which the diagnostic framework can be applied.

The ten steps take the program planner from a broad program goal and desired outcome to program interventions, including monitoring and evaluation, that lead to the refinement of program activities. The first four steps in this document can be viewed as the domain of the proposed diagnostic framework. They include identifying the overall goal, listing key behaviors, reducing the list to a set of priority behaviors and priority groups of individuals, and conducting formative research to identify determinants.

After completing the foregoing steps, it is necessary to develop a comprehensive, multilevel behavior change strategy. Next, training, monitoring and evaluation instruments and communications materials are developed, pretested, and revised. Community involvement in program implementation and advocacy for policy change are the next actions required to achieve behavior change.

Finally, the program is implemented on all levels and monitoring and evaluation provide information to improve interventions and report on results. It is important to note that CATALYST staff are more apt to achieve desired results if they follow this well-specified process, including a detailed framework for diagnosing complex behaviors

Introduction

The CATALYST Consortium is a global reproductive health activity established by the Center for Population, Health, and Nutrition, Bureau for Global Programs of the U.S. Agency for International Development (USAID). The Consortium follows the Cairo Agenda, and through partnerships and state-of-the-art technical leadership, its overall strategic objective is to increase the use of sustainable, quality family planning and reproductive health (FP/RH) services and healthy practices through clinical and nonclinical programs.

CATALYST's major objectives are to:

- Provide technical leadership in sexual and reproductive health to improve clinical and nonclinical services.
- Complement bilateral programs through application of best practices, innovations, and lessons learned from other projects and countries.
- Assist local groups to scale-up successful program models and interventions.
- Create opportunities for South-to-South technical assistance and collaboration.
- Create operational linkages between health and nonhealth sector programs.
- Establish technical collaboration among USAID, USAID Cooperating Agencies, U.S. foundations, and other donors to help ensure the quality and sustainability of family planning and reproductive health programs.

At the global level, CATALYST is intended to assume a leadership role in documenting, disseminating, and applying state-of-the-art models, tools and approaches, and lessons learned in family planning and reproductive healthcare. Program areas include the full array of FP/RH services and information, including emergency contraception pills, birth-spacing services, adolescent programs and services, post-abortion care, services for men, integration with HIV/AIDS prevention and care, and promotion of gender equality[*]. The primary task of CATALYST is to further the application of innovative, evidence-based technologies and program models proven to be effective in increasing the use of FP/RH services and in improving health outcomes. The CATALYST approach is rights-based. That is, it is based on respect for the sexual and reproductive rights of the individual and believes that behaviors are the result of informed choices.

Behavior change is one of the crosscutting themes. For CATALYST, behavior change can occur at many levels: the individual clients, the family, the community, the providers, and the directors of the health institutions. Further, the mandate is complex and includes a broad range of approaches that address both demand and supply-side issues. Policy change, advocacy, communication, and marketing of products are all within the mandate of CATALYST. Thus, to be successful, CATALYST needs a behavior change framework that is an **expansion** of the one used in the past.

[*] In compliance with the Mexico City Policy, CATALYST does not provide nor support the provision of abortion services and abortion counseling/referral.

The main purpose of this document is to describe one piece of a behavior change approach, a Behavior Change Diagnostic Framework. We propose an expanded framework that has been tailored to the CATALYST setting. The framework has been developed with input from AED behavior change specialists as well as CATALYST staff. It is a work in progress that will evolve as a result of feedback from the field. Specifically, this document seeks to:

- Define the domain of behavior change and behavior change communication.
- Describe a diagnostic framework that can be used to design behavior change strategies that are tailored to the CATALYST context.
- Show how the framework could be applied to one topic area– optimal birth spacing.
- Outline steps for using the framework.

While the behavior change approach itself is a relatively recent addition to the field of reproductive health, many features of the approach are implicit in other approaches that have been in place for some years, as this brief history makes clear. By the early 1980s, the international family planning field had coined the term "information, education and communication" – or "IEC" – to encompass all program activities that "get the word out." IEC activities may include print materials, interpersonal counseling, mass media, "edutainment" (i.e., healthcare incorporation of health-promoting messages into entertainment media), posters, small or large group events, product packaging, social marketing of contraceptive products, theatrical or puppet shows, and many other media and channels.

While IEC is often thought of as an approach that increases knowledge or awareness, carefully crafted IEC activities may also build skills, create social norms, and change attitudes. Long before behavior change approaches were discussed, program planners worked on the assumption that their IEC activities would help people adopt particular behaviors. Many program planners, however, found a so-called "KAP Gap," or the distance between people's knowledge and attitudes and their practices. Program planners called upon anthropologists and other social scientists to identify ways to motivate people to adopt new behaviors.

By the early 1990s, and often in conjunction with HIV/AIDS prevention programs, behavioral scientists began playing a bigger role in reproductive health efforts. Behavioral science helped to articulate specific behaviors that reduce HIV transmission and enabled program planners to recognize that "to use a contraceptive with a steady partner" is a very different behavior from "to use a contraceptive with a casual partner"; and that using a contraceptive for the first time requires looking at a different set of motivators and barriers from the behavior of using a contraceptive consistently. Behavioral specialists' introduction of the notion of "determinants of behavior," or factors that influence specific behaviors, led to studies worldwide to better understand the motivators and inhibitors to contraceptive use and other reproductive health behaviors.

Through application of behavioral theories and analysis of data to compare those who "do" a given behavior with those who "do not do" the behavior ("doers" and nondoers"), specialists began to see patterns in determinants. The identification of three powerful determinants of these protective behaviors– (1) perceived consequences of the behavior; (2) skills and self-efficacy, and (3) perceived social norms– helped to pull focus away from the "determinants of choice,"

knowledge or awareness and perceived risk, of the early days of HIV/AIDS prevention. (For further discussion of the determinants, see page 17.)

Section I

Behavior Change and Behavior Change Communication

People vary in their understanding of behavior change and many of the terms pertaining to behavior change. Therefore, we begin with a description of the behavior change approach and a definition of some of the key terms. More specifically, we briefly describe the behavior change approach and outline how it differs from other models of social change. Then we define and differentiate behavior, behavior change, behavior change communication, and other principal concepts used in the behavior change approach.

What is the behavior change approach?

The behavior change approach, one of several key models used to promote social change, has been widely adopted by the health community. During the past 30 years, the behavior change approach has proven to be effective in promoting the use of contraceptives, the use of oral rehydration therapy in the home, and the expansion of immunization campaigns, and in advancing other public health interventions. It is one of the few models with a sound theoretical base and extensive community-based evaluation documenting its success in changing individual behavior on a large scale, sometimes resulting in what might be characterized as "social change."

The behavior change approach focuses on specific behaviors, with the goal of producing large-scale change or influencing the behavior of a population of people at risk. The primary question asked by the behavior change approach is "How can we get people to practice behaviors that help them reduce or avoid their risk of illness and disease?" The basic analytic model for behavior change is represented below.

The World → Perceptions of the World → Behavior of At-Risk Population → Health Outcomes

The behavior change process begins at the right end by defining a specific **health outcome** to be achieved (e.g., the eradication of polio) and proceeds to define the specific **ideal behaviors** that will lead to this outcome (e.g., health workers vaccinate and at-risk people come for vaccination). The model then explores **existing behaviors** and how they prevent the health outcome from being achieved. The model proposes that human behavior is mitigated by the **perceptions** or attitudes and beliefs that people hold about the ideal and existing behaviors. And, finally, the model proposes that these perceptions are shaped by the **external world** in the form of culture, language, community and social norms, access to services, prejudice and stigma as well as the quality, accuracy, and persuasiveness of information provided to the individual.

The strength of the behavior change approach is its single-minded focus on the behaviors that put populations at risk of disease and illness, thereby allowing the behavior change approach to focus scarce resources on top priority problems. But this single-minded focus on behavior is also a weakness of the behavior change approach. The behavioral focus often leads in practice to an

emphasis on at-risk individuals and their behavior. This focus can result in a ‘blaming the victim’ effect that ignores the structural and community forces at work to support the risk behavior.

How is the behavior change approach different from other key models?

Numerous models of social change exist. In addition to the behavior change approach, three of these have been particularly influential in international development: the enforcement model, the advocacy model, and the social mobilization model.

In the enforcement model shown below, the outcomes are also specific societal goals (e.g., reduction in cancer death rates). Here, however, the model assumes that enforcement is the main cause of the behavior of the at-risk population. Therefore, to achieve the health goal, laws against smoking need to be passed and enforced. Enforcement strategies often require societal consensus and are typically ineffective without visual and effective enforcement.

Enforcement → Behavior of At-Risk Population → Health Outcomes

The advocacy model begins with a fundamentally different question from the behavior change model. Here the questions are: "Who is to blame for the problem, and who can best make the needed changes?" The question asked by the advocacy model leads to an analysis of power relationship and structural and institutional causation, often outside the responsibility of those most affected or victimized by the problem. As illustrated below, the model suggests that advocacy is used to alter the power relationship and the structural determinants of problem, rather than the behavior of those most at risk.

Some overlap exists in the logic underlying the behavior change and advocacy models. Both models are concerned with structural determinants of change, aspects such as the polluting industry, the discriminatory immigration policy, or the lack of financial priority given to a health problem. The advocacy model, however, focuses on the factors external to the individual – the structural factors that make it easy for the individual to take health risks.

Advocacy → Behavior of Those Who Cause or Can Reduce Risk → Health Outcomes

The fourth model is the mobilization or organizing model. With this fourth model, the goal is fundamentally different. Rather than wanting to achieve specific health outcomes, the goal is to achieve broader social improvement. Consequently, more important than changing specific behavior is the creation of organizational units within a society able to understand and often fight for changes in societal structures that contribute to ill health. The focus is often on identifying and supporting local leadership and promoting the formation of change groups, communities and organizations. The fundamental question of the mobilization model is how to organize communities for changes they consider critical.

Mobilization → Community Action → Unpredictable Broad Social Change

These models are often confused because they often use similar tactics (e.g., focus groups, community organizing, policy change, and communication). Tactics indigenous to one model are often expropriated by another model. The models should be differentiated not by the tactics they use but by the question they address to achieve their goals:

- The behavior change approach asks: "How can I help the population at risk practice behaviors that either help to reduce or to avoid their risk?"
- The enforcement model asks: "What laws need to be passed to help the at-risk population avoid risk and how can we enforce these laws?"
- The advocacy model asks: "Who is responsible for the risk, and how we can change these individuals' behaviors as well as policy, regulations, and laws?"
- The social mobilization model asks: "How can we best organize a community to protect itself from multiple unpredictable risks?"

The behavior of individuals is the central focus of the behavior change approach. While behaviors change as a part of the other approaches, these other approaches do not as explicitly involve identifying the behavior of a priority group or intended audience. Other approaches to social change are less dependent on identifying and analyzing a specific behavior.
Table 1, on the following page, illustrates the principal difference between these behavioral terms that are sometimes used interchangeably and undifferentiated.

What is a behavior change strategy, and how is one developed?

A behavior change strategy is a plan or an outline of the interventions or program of interventions that, if implemented, should result in achieving the desired outcome. Many different types of interventions can be included in a behavior change strategy: community organizing to raise awareness of issues or support new behaviors; sessions to build skills; counseling to inform decision making; social marketing of new or old products; quality assurance efforts to improve services; training of service providers in interpersonal communication; structural changes to improve access; efforts to change or create policy or laws; mass media initiatives; and interventions to improve gender equity and rights.

Those who take a behavioral perspective spend a lot of time thinking about and getting input on the world from the point of view of the ultimate consumer or beneficiary. They use an analytical process that starts with the desired outcome and steps backwards along a presumed causal chain. First, one identifies the *behaviors and the priority groups* that are associated with the desired outcome. Then one discovers through formative research the factors or *behavioral determinants* that are presumed to cause these behaviors and selects or designs interventions or programs that address those factors. Therefore, an *analysis* of the behavior in question is key to this approach, and a *diagnosis* of the determinants or factors underlying the behavior is an essential contribution of the behavior change specialist.

Through this analysis or diagnosis, the behavior change specialist will help the team arrive at a *behavior change strategy* that is an explicit plan for intentionally facilitating the desired behavior. The strategy outlines a way to intervene or influence the behavioral determinants so that the behavior is changed and the health or social outcome improved. To design an effective strategy, it is necessary to identify which, from a set of potential determinants, are the most relevant in impacting a behavior, or a set of behaviors. Once these are identified, then a behavior change strategy can be designed to address the chosen determinants.

Table 1 Definitions of Key Terms	
Behavior change approach	The behavior change approach is one approach to promoting social change. It focuses on specific behaviors. Its goal is to produce large-scale change or to influence the behavior of a population of people at risk. The key question asked by the behavior change approach is "How can we get people to practice behaviors that help them reduce or avoid their risk of illness and disease?"
Behavior	A behavior is an observable action of an individual often in reaction to specific circumstances or stimuli. In designing behavior change strategies, we focus on a subset of behaviors that are voluntary actions, those actions resulting from choices and under the volitional control of the individual.
Behavioral determinants	Behavioral determinants are the underlying factors or associates of behavior that we assume operate as causes of behavior. They are the factors that shape, mold, elicit, guide, or reinforce a behavior. They are the factors that need to be addressed by an intervention or program in order for a behavior to be changed by the program.
Behavior change	Behavior change is the modification of an action by an individual in a direction that is intended to be an improvement. Again, we refer to change in actions that are under voluntary control. This change is accomplished by influencing the behavioral determinants that are assumed to cause the behavior.
Behavior change strategy	Behavior change strategy is an explicit plan or way of intentionally facilitating the desired behavior change. It is based on diagnostic and formative research and analysis that identifies the behaviors that need to be modified, the priority groups of individuals that need be emphasized, and the behavioral determinants that need to be addressed to achieve the desired outcome. It can include a wide range of interventions and programs, including but not limited to communication interventions.
Behavior change communication	Behavior change communication (BCC) is the communication part of the behavior change strategy designed to promote, elicit, support and stimulate specific behavior change.
Priority group	A priority group consists of those individuals who have been chosen as the primary segment of individuals to be addressed by the behavior change strategy. A priority group is usually a segment or subset of a larger population at risk. The priority group is called the target audience. Here, however, we use the term priority group to capture the notion that individuals participate in their own change rather than being the subject of change.

What is the difference between a behavior change strategy and behavior change communication strategy?

Although they are frequently used interchangeably, the terms "behavior change" and "behavior change communication" *are not the same*. They are complementary but different. As we use the terms here, behavior change is the general approach and behavior change communication is part of the general approach, the part that includes the communication interventions. Stated another way, a behavior change strategy consists of a range of interventions, including communication interventions. A behavior change communications strategy consists just of the communication interventions.

As with the behavior change strategy, the behavior change communication strategy is based on formative research to understand the behavioral determinants that shape the present behavior and impede the adoption of new behaviors of the priority group. Selecting the type of behavior change communication intervention depends on which determinant needs to be addressed and on the available and effective communication channels for a particular priority group.

Several different types of communication interventions could be included as part of a behavior change communication strategy; mass media initiatives through TV, radio, and print channels, paid ads as well as public service announcements, interpersonal communications (e.g., local spokesmen/women, testimonials, and counseling), informational materials (e.g., brochures, comics, posters, videos, and audiocassettes) distributed through small media channels, folk media (e.g., local theater, puppets, and storytellers), and interactive media such as the Internet.

Section II

The CATALYST Behavior Change Diagnostic Framework

The reproductive and sexual health mandate taken on by the CATALYST Consortium is a broad and complex one covering both supply and demand issues. It attempts to integrate a full range of approaches that might promote improved health outcomes. It also goes beyond the traditional behavior change communication approach to address quality of care, access, policy, costs, sustainability, gender, and empowerment.

Such a broad and complex mandate requires an expanded diagnostic framework. The traditional behavior change diagnostic framework simply considers the behavior of the male or female beneficiaries of reproductive health programs and services and the direct behavioral determinants of the reproductive and sexual health behaviors of these individuals. A diagnostic framework tailored and adapted to promote the work of the CATALYST Consortium must be **expanded** to address a fuller range of behaviors and to address macro as well as micro factors.

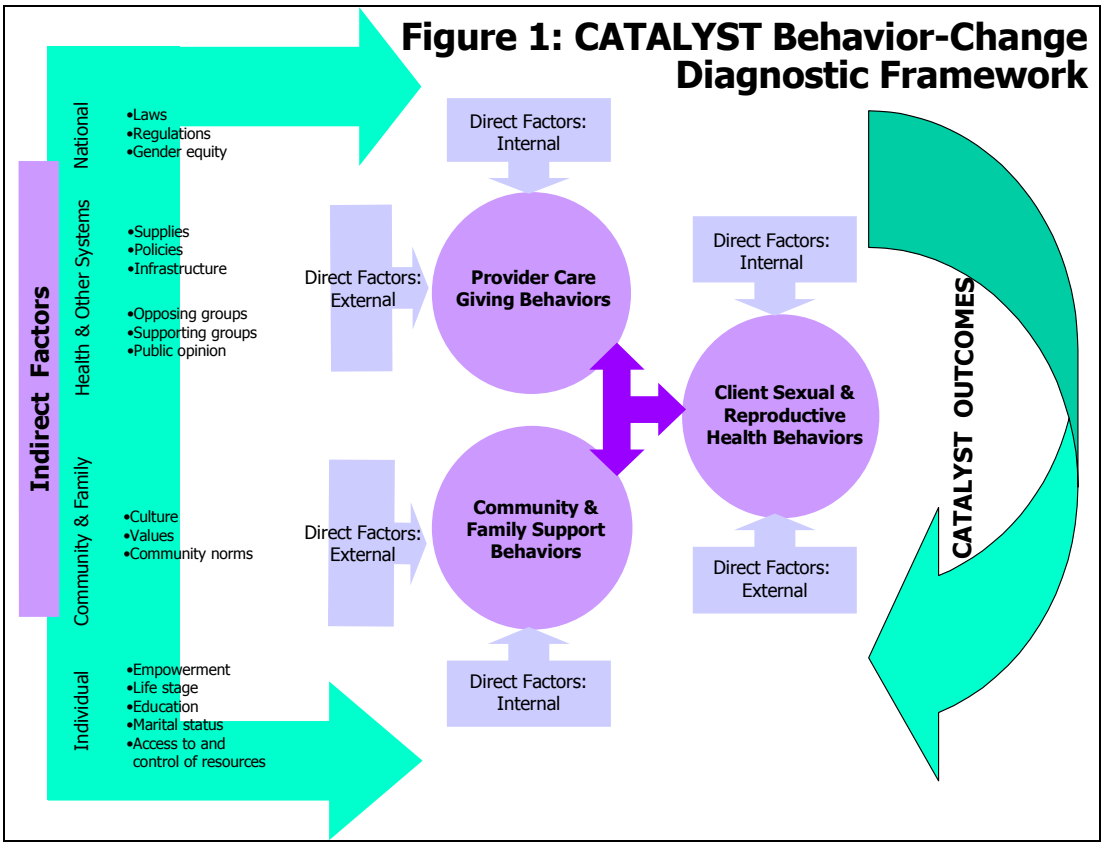
This section sets forth an expanded framework tailored to support the CATALYST Consortium. It first presents the framework and details about each of the components of the framework. Figures for the diagnostic framework are incorporated throughout the document.

It is important to note that this framework is presented as a starting point for discussion and work in the field. Initially, it was developed with input from behavior change specialists at the Academy for Educational Development and then revised based on discussions with CATALYST staff in Washington, D.C. Clearly, the framework will change based on experience and feedback from the field.

What is the CATALYST Behavior Change Diagnostic Framework?

The Behavior Change Diagnostic Framework is a conceptual system designed to assist CATALYST staff and partners during the diagnostic phase of the development of behavior change strategies. It shows the causal chain from indirect to direct factors to behaviors and ultimately to CATALYST outcomes. Many factors may need to be addressed by its interventions and programs. Figure 1, on the following page, presents the proposed expanded framework. Before selecting either an intervention or a program of interventions to improve an outcome, it is necessary to understand the factors influencing that outcome. In the case of behavior change interventions, the framework will help identify which behaviors of which individuals need to be modified. It will then be necessary to establish those factors that potentially influence those behaviors. At this stage, formative research is used to ascertain which of the potential elements are the actual factors that facilitate behavior change and ultimately improve the outcome.

Figure 1: CATALYST Behavior Change Diagnostic Framework



Thus, the CATALYST Behavior Change Diagnostic Framework has a specific purpose – to improve the diagnostic phase of team discussions and formative research. Because it is designed for the diagnostic rather than the evaluation phase, the framework does not include intervention activities. It focuses on the current situation before the new interventions are implemented. Once the intervention is selected, an evaluation framework maps out how the intervention activities lead to outputs and to short-term, intermediate, and long-term outcomes.

What is a behavior?

A behavior is first and foremost **an overt and observable action** taken by a single individual. It is something that someone does that one can potentially see. The task of selecting and identifying the behavior, or behaviors, to be changed is at once the most critical and the most difficult task in developing behavior change interventions. The behavior change approach is an effective method of understanding and changing a voluntary behavior rather than an outcome, a category of behaviors, or actions that are involuntary. Table 2 below outlines three aspects to consider when identifying the action that will be the target of a behavior change intervention.

Table 2

What a Behavior Is and Is NOT

A behavior is…	**A _____ is NOT a behavior when it is…**
An overt and observable action: Walk 30 minutes a day every day. Use a contraceptive. Have sexual intercourse. Use contraception for three years after birth of child.	An outcome: Lose weight. Prevent HIV infection. Get pregnant. Achieve an interval of three years between births.
Voluntary, under a person's control, and a result of a choice: Join a smoking cessation program. Join a drug treatment program. Use a male contraceptive (for a man).	To some extent involuntary or under someone else's control: Stop smoking (for people who are addicted). Stop using drugs (for people who are addicted). Use a male contraceptive (for a woman).
Single action: Eat five fruits or vegetables a day. Place paper, glass, and cans in recycling bins. Take a birth control pill daily. Discuss the contraceptive options. Take care of children while the woman goes to the facility.	A category or set of actions: Diet. Protect the environment. Practice contraception. Provide counseling. Support a woman in her optimal birth spacing (OBS) decisions.

It is important to distinguish behaviors from the outcomes or goals that are achieved by practicing behaviors. Behavior change interventions do not directly influence health outcomes. They affect outcomes by influencing the behaviors underlying outcomes. Input from medical and health scientists is needed to select the behaviors that are associated with improvements in health.

For example, losing weight is not a behavior. It is the outcome of several things, including some behaviors, such as exercise and eating behaviors. Input from exercise and nutrition scientists is necessary to help identify which behaviors to encourage in order to help people achieve weight loss. Similarly, input from medical personnel and epidemiologists is necessary to help identify the behaviors that need to achieve reduced maternal morbidity and mortality.

CATALYST addresses, through its programs and interventions, behaviors that are **voluntary** actions, those actions under the **volitional control** of the individual, or those actions that result from choices. Voluntary actions may not always be performed with a high degree of consciousness; they can, however, become conscious. In selecting a behavior to be modified by an intervention, it is important to select a voluntary action.

The focus on voluntary actions not only reflects the CATALYST human-rights perspective but also is pragmatic. The behavior change approach works best when the action addressed is voluntary. To the extent that an action is either involuntary or under someone else's control, behavior change approaches are less effective. If an action is involuntary, it is advisable to use

other change approaches (e.g., medications) or to identify an action that, if practiced, will improve the situation (e.g., entering a treatment program).

For example, to the extent that a drug is an addictive substance, using drugs is not a completely voluntary action. Using drugs may not be a voluntary choice but to some extent a response to a physiological cue. To the extent that one is addicted to a substance, stopping using that substance is not completely voluntary but partially physiological. In this case, it might be more effective to design a program to encourage people to take the voluntary action of entering a drug treatment program. The drug treatment program in turn can help the individual address the nonvoluntary factors with medications and other treatments.

The voluntary or involuntary nature of a behavior is often a matter of degree and may differ from person to person, from setting to setting, and from culture to culture. For example, using a male contraceptive is usually a voluntary act for men. It is under their control. They can decide whether or not to use one. Persuading a man to use a male contraceptive is not completely under a woman's control. Strictly speaking, for a woman to have a man use a contraceptive is an outcome of the behavior of asking the man to use a contraceptive. In societies where women have less power than men, many actions are outside their sphere of control. In this case, other social change approaches are needed to improve the status of women before they can be expected to practice these behaviors voluntarily. Long-term income generation programs could be put into place to help women earn money to improve their status. Alternatively, the focus of the intervention could shift to the man for whom the act of using a contraceptive is voluntary and under his control.

It is also important to differentiate **single** behaviors from **categories or sets of behaviors**. Walking is a single behavior; exercising is a set of behaviors that includes walking as well as jogging, cycling, and other activities. While there may be some common elements underlying engaging in all types of exercise, some of the factors underlying the decision to walk may be different from those underlying the decision to jog. Practicing safer sex is a category of behaviors. Safer sex could mean safe from pregnancy or it could mean safe from HIV and STIs. It could include a number of different actions, such as using contraceptives, using birth control pills and other contraceptive methods, and choosing partners differently. It is easier to design effective interventions when one has identified a single behavior and where one can be sure that the underlying factors are understood and addressed.

What are the elements that need to be defined for a behavior?

Four elements that define a behavior are the action, the target, the context, and the time. Strictly speaking, when any of these four elements changes the behavior changes and the determinants of the behavior change and the content of an intervention may also need to change. For example, buying contraceptives is different from using contraceptives. These different **actions** have different underlying factors and might need varying interventions. Using contraceptives is different from using birth control pills. These different **targets** might have different underlying factors and need different interventions. Using a contraceptive with a main partner is different than using a contraceptive with an occasional partner. These different **contexts** change the behavior and may change the underlying factors. Using a contraceptive every time is different from using a contraceptive sometimes and using a contraceptive the next time differs from using a contraceptive for the next three years. These differences in the **time** frame may mean different underlying factors and may require different interventions.

In selecting and identifying a behavior to be addressed by a behavior change intervention, it is important to decide whether to be general or specific around the target, context, and time. In our work on contraceptive use, we found that it was important to differentiate contraceptive use with the main partner from contraceptive use with occasional or casual partners. Facilitating contraceptive use with main partners is often more difficult than encouraging contraceptive use with casual partners because of the concern about what the main partner would think. Interventions that worked with casual partners were unsuccessful when used with main partners. As experience is gained, practitioners find out which differentiations are important in a setting with a behavior.

What happens when addressing multiple behaviors?

In many cases, it is necessary to address several behaviors at once. Often these behaviors occur in a sequence. For example, to achieve optimal birth spacing, a woman may need to discuss the topic with her husband, to go to a facility, to ask the provider about OBS, to select among methods, to begin to use the method, to return for more contraceptive supplies, and to practice the method consistently for three years.

Here the analysis is more complex, both from the perspective of choosing a behavior to address and in terms of trying to understand the behavior. It is difficult to design interventions that address several behaviors at once. In some settings, it might be possible to determine where in the sequence a breakdown occurs and to address that behavior. In other settings, the same determinants might influence several behaviors so one intervention will facilitate all behaviors. Behavior change specialists are still learning just how to tackle this challenge. This is an issue for additional discussion and learning.

What behaviors are important to CATALYST?

We propose that three sets of behaviors are important to achieving CATALYST outcomes: the sexual and reproductive health behaviors of clients, the care giving behaviors of providers, and the support behaviors of families and the community. These three sets are represented by the three circles at the center of the framework in Figure 1, on page 9. Figure 2, on page 13, isolates these circles. The triple-headed arrow connecting these circles indicates that the three sets of behaviors are interconnected and will influence each other dynamically. Stated another way, what a woman or man does regarding to sexual and reproductive health is influenced by and influences what health care providers do as they provide sexual and reproductive health care. And what the family or community does to support a woman or a man's sexual and reproductive health behaviors influences that behavior and will be influenced by that behavior. Stated even another way, for CATALYST outcomes, the behavior of one priority is one of the factors influencing the behavior of others.

Table 3, on page 14, presents some illustrative behaviors and categories of behaviors that might be relevant to the CATALYST Project. They are in no particular order.

Client behaviors are those actions that men and women perform to take care of their health, in this case their sexual and reproductive health. This set of behaviors begins with actions such as using the various types of contraception and seeking the various types of care. It also includes behaviors that need to be performed in order to carry out these contraceptive use behaviors such as asking about contraceptive method options, talking with a partner, and buying contraception.

Provider behaviors are those actions that health care providers of all types take as they offer sexual and reproductive health care. This set of behaviors includes clinical behaviors (e.g., follow the post-abortion care protocol and provide counseling) as well as communication and interpersonal behaviors (e.g., clarify the method options and go into the community to talk with family and community leaders about a reproductive health topic).

Family and community behaviors are those actions taken by the community as a whole and by members of the client's family that support or hinder a client from taking the action or support or hinder a provider from giving care. Oftentimes, the woman needs someone to take care of the children in order for her to visit a health care center. Or she may require help with transportation or need her partner to accompany her. Community leaders can play a primary role by talking publicly for, rather than against, various reproductive health topics.

Figure 2: Three Interconnected Circles of Behaviors

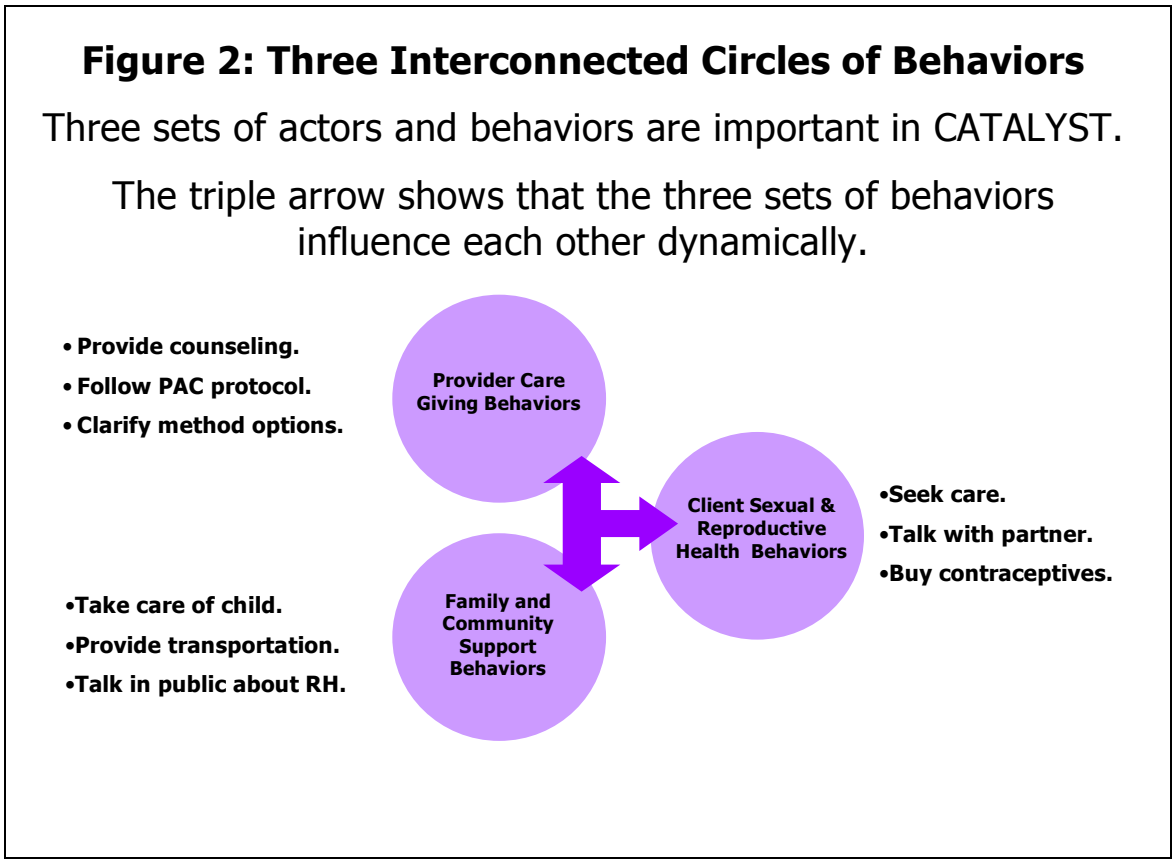


Table 3

Examples of Behaviors Relevant to CATALYST

Client Sexual and Reproductive Health Behaviors	Health Care Provider Care Giving Behaviors	Community and Family Support Behaviors
Talk with partner about contraception.	Provide counseling on birth control options.	Take care of child while daughter goes for health care (e.g., mother or mother-in-law).
Buy contraceptives at a pharmacy.	Go into the community to talk with family.	Provide transportation for a woman to seek care (community, partner, or family).
Seek care when bleeding after an abortion.	Follow 57 actions of the postabortion care (PAC) protocol.	Provide transportation without judgement.
Use birth control pills for two years after a child is born.	Clarify method options.	Encourage wife to use birth control pills (partner).
Go for an STI checkup.	Test for an STI.	Encourage daughter-in-law to go for an STI checkup.
Go to an HIV counseling and testing center to get tested for HIV.	Refer to an HIV voluntary counseling and testing center.	Encourage son to get tested for HIV (mother, father, mother-in-law, or father-in-law).
Talk with girlfriend/boyfriend about delaying the initiation of sex.	Explain to youth the benefits of delaying initiation of sex.	Provide youth with information on the benefits of delaying initiation of sex (community).
Talk with peers about the protective benefit against HIV-STI of contraceptive use with all casual partners.	Seek out youth groups and explain the protective benefits of contraceptives against HIV and STIs.	Hold a community session to explain how correct and sustained contraceptive use protects against HIV/STIs (community groups).
Ask partner to accompany her to FP counseling session.	Welcome, congratulate, and invite man to family planning counseling session.	Discuss the pros of men accompanying their partners to FP counseling sessions (e.g., parent groups).
Express right to receive full information regarding alternatives in contraception.	Encourage and respond to RH questions with a gender-specific perspective.	Openly recognize women's reproductive rights.
Take money from savings to pay for the service, if needed.	Provide childcare and/or diaper change site for mothers who go to the facility seeking R.H.	Organize a sustained emergency obstetrics system of transportation for all women in community who need it (community).

Sometimes the behaviors of men are placed in the column of client reproductive and sexual health behaviors and occasionally appear in the column for community support behaviors. The same approach is used for women. For example, a man using a contraceptive with other partners, going to the pharmacy to buy a contraceptive, and going for an STI test are all examples of sexual and reproductive health behaviors; whereas, a man telling the woman he wants to space the next pregnancy, talking his wife to the health facility, stating his method preferred method would be examples of support behaviors.

In choosing these behaviors for the expanded CATALYST diagnostic framework, we discussed the issue of including policymakers as a fourth behavioral focus. CATALYST programs often strive to influence policymakers. While related to the behavior change approach that we have described, the advocacy approach used to influence policy makers differs because it does not focus on the behavior of at-risk individuals in a larger population and does not entail the identification of underlying factors based on formative research. Thus, at this point in the development of the behavior change diagnostic framework, we decided not to create a fourth circle of behaviors. We resolved to view policymakers as an indirect factor. This issue remains open for additional discussion.

What are the behavioral determinants or factors underlying a behavior?

Behavioral determinants or underlying factors are the presumed influences or causes of a behavior. These are the aspects that need to be addressed by and changed by the intervention in order to improve the behavior. One of the main purposes of the diagnostic framework is to list the potential factors that might be important. The role of formative research is to take the list of potential factors, to identify which are the actual factors in the current situation, and thus to identify which are the ones we will try to change by the intervention.

Indirect Factors → Direct Factors → Behaviors → Outcomes

In the expanded framework being proposed for CATALYST, we make a distinction between two main types of factors, direct and indirect factors. We think this differentiation is important because the CATALYST mandate not only is open to communication interventions which address single behaviors but also includes long-term policy changes and other interventions which contribute to many behaviors and attempt to create conditions that promote sustained behavior change.

Table 4 below presents some of the differences between direct and indirect factors. Direct factors are the immediate determinants of a behavior. They are the near or the proximal factors that are closely connected to a behavior. Direct factors are usually relevant for a narrow range of behaviors. Indirect factors operate through the direct factors. They are the distal, distant, or remote factors. The same indirect factor can influence more than one behavior. In the causal chain, indirect factors influence direct factors that in turn influence behaviors and ultimately achieve outcomes. Direct factors mediate the influence of the indirect factors. In actuality, this distinction is one of degree with direct factors being nearer to the behavior and indirect ones being further upstream in a causal flow.

Table 4 A Comparison of Direct to Indirect Factors	
Direct Factors	**Indirect Factors**
Are immediate, near, or proximal causes and influence each behavior directly.	Are distal, distant, and remote causes and influence behaviors indirectly.
May be influenced by the indirect factors.	May influence behaviors through their influence on direct factors.
Are more likely to be micro factors.	Are more likely to be macro factors.
Influence one behavior.	Influence many behaviors.
Can be divided into two types: external internal	Operate at several levels: national, health and other systems, community and family, individual.

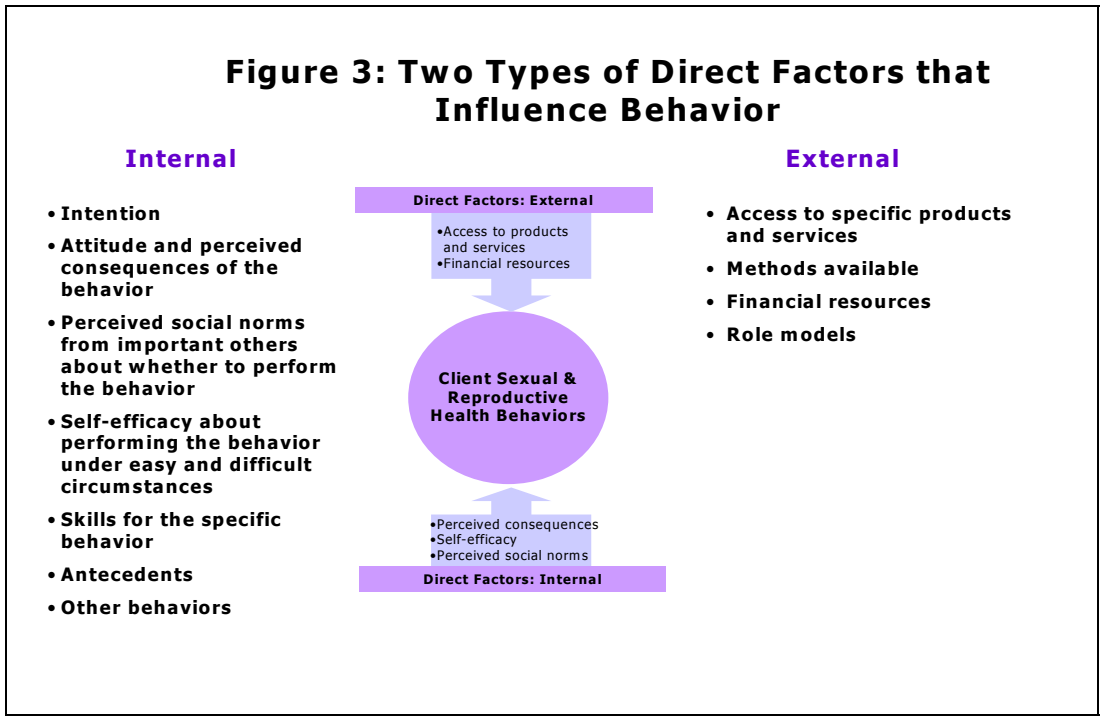
What are the potential DIRECT factors or determinants of a behavior?

In conducting a diagnosis to understand how to change a behavior, one needs to consider two broad types of direct determinants. Here we are calling these two types, direct internal and direct external factors. Figure 3, on the following page, lists some key direct internal and external determinants of how a behavior might influence a specific behavior, client sexual and reproductive health behaviors. In each situation, it is important to consider which, if any, of these are operating and need to be addressed by the intervention. It is not all that important whether one classifies a factor as internal or external. The important thing is to think about both internal and external determinants.

Internal direct determinants are factors about the person that affect their behaviors. Most of these are perceptions and beliefs about the world. Figure 3 lists some primary determinants to consider, many of which are factors common to the major theories of behavior (Fishbein et al. 2001). The *intention* or commitment to perform a behavior is an immediate determinant and is one of the best predictors of behavior.

Attitude toward the behavior is the rating of how good or bad it is to perform the behavior. Underlying the attitude toward the behavior are the *perceived consequences* of performing the behavior. One is more likely to perform a behavior if one believes it will lead to good things and prevent bad things. If they are unknown, it is important to conduct formative research to determine the good and bad consequences the client perceives will happen if he or she performs the behavior. Men might perceive that using a contraceptive will diminish their sexual pleasure;

Figure 3: Two Types of Direct Factors that Influence Behaviors



women might perceive that asking their partners to use a contraceptive will make them angry or violent. The perceived consequences are themselves determined by the actual consequences of performing the behavior. For example, there are physical side effects to using some birth control methods that in turn influence the perceived consequences. Many women do not use birth control pills because they believe that they will become sterile if they use them.

Social pressures are important factors influencing a behavior. *Normative beliefs* about what specific others want us to do as well as the *global subjective norm* or what most people want us to do are potential direct determinants of behavior.

Many behaviors involve skill to be performed successfully. The *self-efficacy* or perceived skill or certainty that one could perform the behavior, overall and within specific circumstances often influences whether or not a behavior is performed. The more one feels certain that one can perform a behavior, the more likely the behavior will be performed. In addition to perceived skill, there is *actual skill.* Correct and consistent contraceptive use requires actual skill (i.e. putting the contraceptive on correctly) as well as perceived skill (i.e., the assurance and confidence that one could do so under easy and difficult conditions).

Direct internal factors influence the behaviors of health care providers and community as well as the clients. For example, the health care provider behavior of "clarifying method options" might be determined by the intention or commitment on the part of the provider to do so. This behavior might also be caused by the perceived consequences that the act of clarifying options will be

appreciated by the clients, will lead to more consistent use of the method and will not take more time than they have. The behavior might be caused by the normative belief that other health care providers think they should clarify method options. Under other circumstances, the behavior might be influenced by their perceived and actual skill at clarifying options.

Direct external factors are external to the individual but are specific to the immediate situation. These factors refer to the local environment immediately around the person. For the client behaviors, these could include access to specific products or services, financial and other resources to use services or obtain products, and role models who engage in the behavior. For example, going to a health center is influenced by how far away the center is and how difficult it is to get there, how available transportation is, and how much it costs. As another example, using a contraceptive method may be influenced by how much it costs, whether it is found at the pharmacy or facility, how much the client can afford to pay for the method, and how readily available it is at the pharmacy.

For health care providers, the conditions of the health center are important direct external factors determining the behaviors of health care providers. These direct external factors include the policies and practices at the level at the health center (rather than the national level) as to who can receive care at the center and at what cost, protocols or formalized standards of care which guide day-to-day operations at the center, the adequacy of the supplies, tools, and equipment available at the clinic, the supervision of the provider, the number and type of staff in comparison to the client load, the type and number of clients who come to the center, and the number and type of services offered at the center.

How do indirect factors work to influence many behaviors?

Indirect factors (see Figure 4) influence many behaviors and influence them indirectly through the direct factors. Indirect factors are likely to be macro factors. They form the foundation for the direct factors and the behaviors. Here we propose indirect factors on four levels: national, health and other systems, community and family, and individual. Again, it is more important to consider factors at many different levels than to argue about exactly where a factor belongs.

At the national level, one needs to consider indirect factors such as national laws, if they exist, about who should receive what type of care, the level of resources being allocated to sexual and reproductive health care at the national level, the national public opinion about sexual and reproductive health issues, the national leaders and their views and behaviors when it comes to sexual and reproductive health, and national acknowledgement of reproductive rights of women. At the level of the health care system, consider the policies about who can get what type of service, under what conditions, how these policies play out in administrative processes established and managed by the Ministry of Health, the strength and type of the health system, both the public- and private-sector systems, and the leaders in the health care system.

In addition to health systems, there are often other systems that are important. Religious systems often play a role at the general level in influencing sexual and reproductive health. What is the view of various reproductive health issues by the religions of the country, and how do religious leaders act in interpreting this view? Other systems might include the legal system, which can play a role in

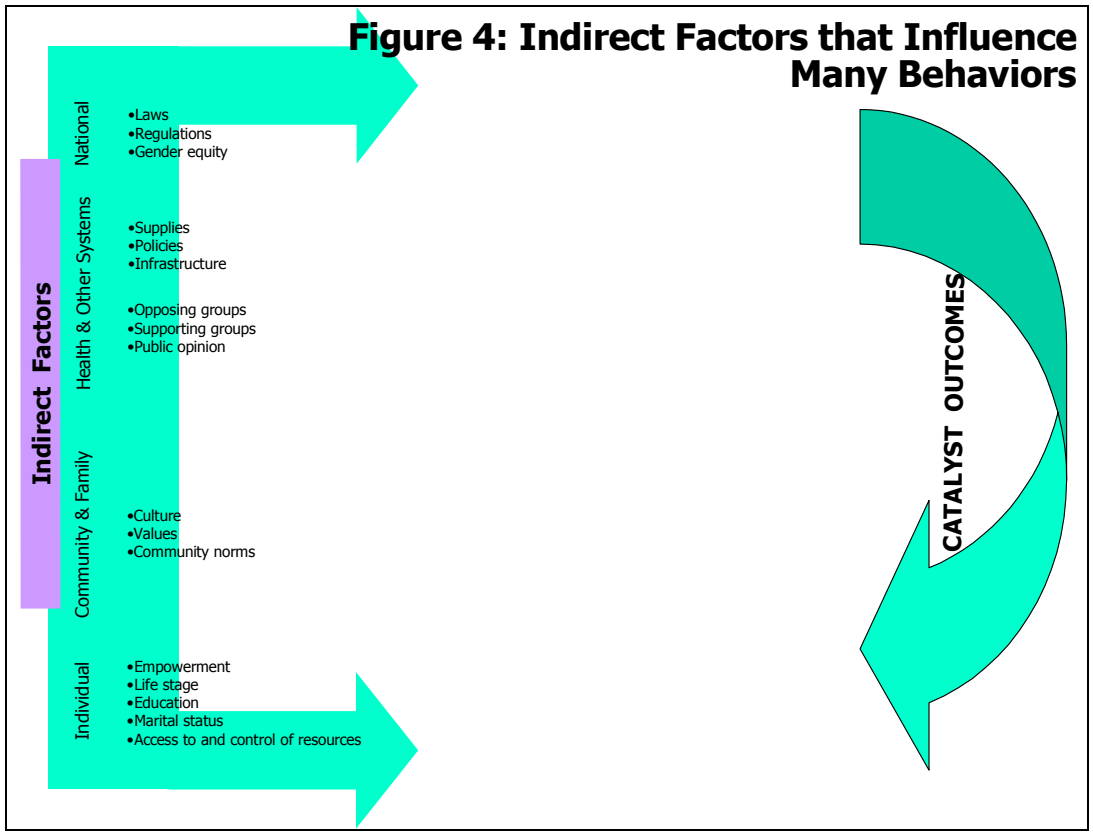
supporting the rights of women and adolescents, as well as the system of nongovernmental organizations, which often advocate for and provide sexual and reproductive services and health information. Gender equity must be supported by these systems.

Some indirect factors operate at the family and community level. Here community is defined in terms of people sharing a common approach to life or interacting together rather than geographically as living in the same place. Thus, cultural values and traditions and community norms are community-level indirect factors. Many cultural beliefs are relevant to children, health, and gender roles that have the potential of influencing many different sexual and reproductive health behaviors.

Indirect factors at the individual level include characteristics of the client, such as marital status, size and composition of family, socioeconomic status, education, age, self-esteem, sense of empowerment, personality, autonomy, locus of control, values, ethnic status, age, and biological characteristics. Access to, and control of, resources and empowerment opportunities are also individual indirect factors that may influence many behaviors.

Many of the individual indirect factors are elements that are givens and cannot be changed. Some of them can be changed or improved, but this usually requires long-term programs and systemic intervention. Access to and control of resources can be addressed through microeconomic and other programs designed to improve the socioeconomic status of individuals.

Figure 4: Indirect Factors that Influence Many Behaviors



Ethnic status is a good example of an indirect factor that cannot be changed. A woman's ethnic status vis-à-vis the dominant ethnic group or the ethnic group of the provider may influence how she is treated in a clinic and may influence many different behaviors on her part and on the part of the providers. One must recognize ethnic status as an issue. To improve the situation, one cannot change ethnic status. Instead one must improve how providers treat clients of different ethnic groups. Sometimes two factors, such as gender and ethnicity, work together. A male of an ethnic group may be treated with more respect by the provider than a woman of the same ethnic group, simply because she is a woman and thus considered less able to express her rights and needs.

How do indirect and direct factors relate to each other?

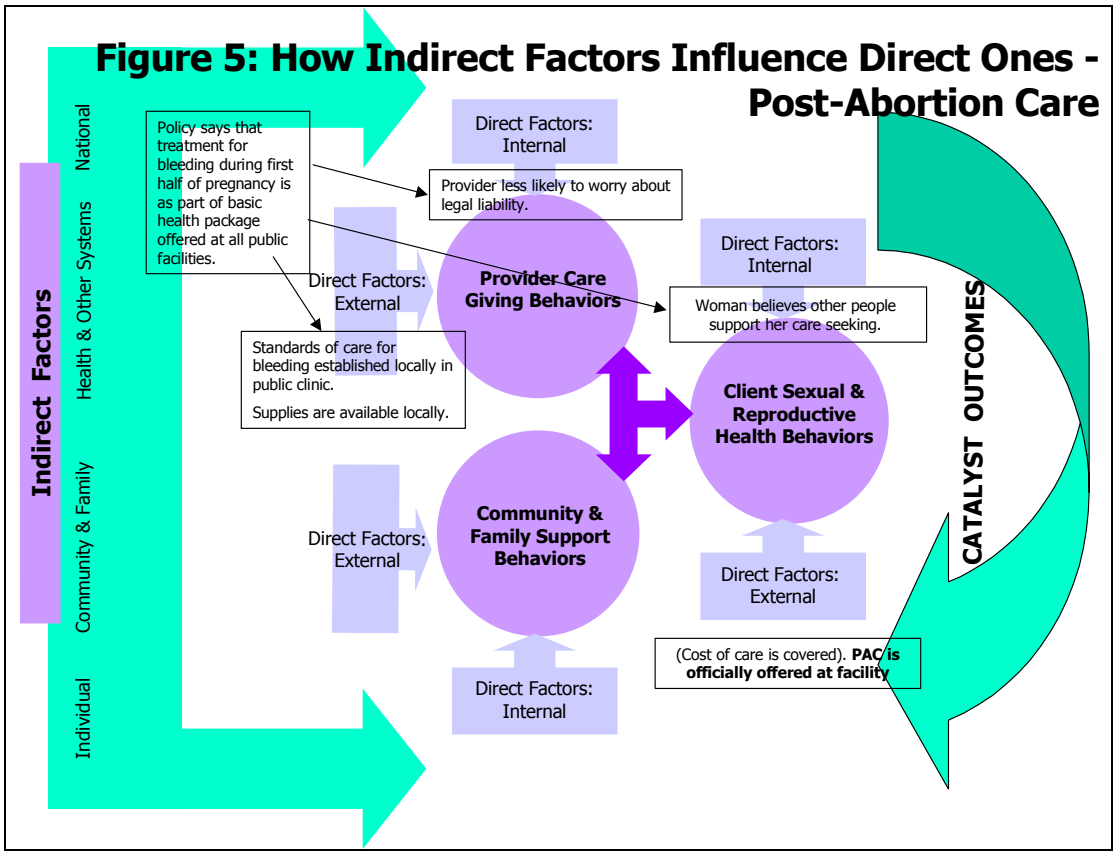
According to the diagnostic framework, indirect factors influence direct factors that in turn, along with the behavior of others, influence behaviors that ultimately are modified to attain outcomes. One can easily imagine situations in which national laws determine who receives care as they are translated into policies at the health system level and eventually influence the behavior of health care providers through policies, protocols, and practices of the health center. At the same time, these laws may influence what communities might do to support or hinder a behavior and what a client even tries to do. Think about a causal flow from indirect factors to direct factors to behaviors to outcomes.

Indirect Factors	→	Direct Factors	→	Behaviors	→	Outcomes
(National)		(Internal)				
(Systems)		(External)				
(Family and Community)						
(Individual)						

In the expanded diagnostic framework, we propose to differentiate direct external factors from indirect factors. Both of these types of factors are external to the individual. The distinction is one of degree. Direct external factors are closer to the behavior; indirect external factors are more distal. In some cases, a factor might be BOTH indirect and direct. For example, the national availability of supplies would be an indirect, external factor; the local availability of supplies would be a direct, external factor. It is an open question as to how useful this differentiation will be. We hope the differentiation will help program planners decide whether to address the external factors at the national or policy level or more directly. The three examples below illustrate the flow.

Take the example of postabortion care (see Figure 5). At the general national and health system level, the policy that treatment for bleeding during the first half of pregnancy is to be included as part of the package offered at health facilities is an indirect factor. This indirect factor might influence a number of direct factors. In terms of the provider, this national policy might influence both direct external factors (e.g., the standards of care for bleeding established locally at the clinic where the provider practices and supplies and equipment are available locally at that clinic) and direct internal factors (e.g., the provider's worry about legal liability). Regarding the client, this national policy may address both the direct external (e.g., cost of the treatment) and internal factors (e.g., since the treatment is officially sanctioned and women may believe that their decision to seek care for bleeding is supported).

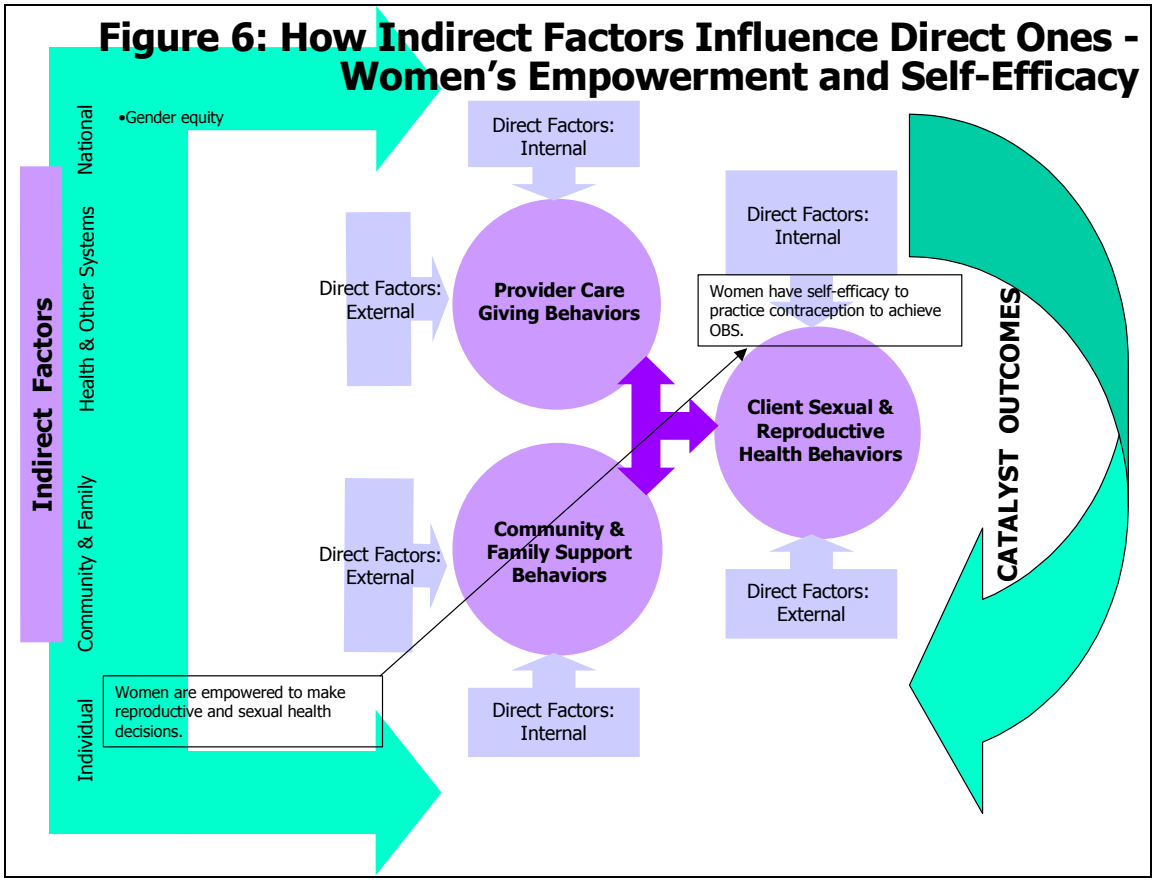
Figure 5: How Indirect Factors Influence Direct Ones – Post-Abortion Care



The cultural belief that a man is validated as a man if he has many children is an example. This indirect individual factor influences many community and family support behaviors as well as client sexual and reproductive health behaviors. It influences the likelihood that the man will talk with his new wife, ask her to delay the first pregnancy, take steps to help her go to the health facility, and decide which method to use. It may also influence various behaviors necessary for optimal birth spacing. These influences occur through direct factors such as the man's own belief that encouraging his wife to use contraception will mean he is less of a man, as well as the behaviors of his family and friends if they mock him or push him to have children. Thus, an intervention, such as a reflection session with males, has the potential of increasing the practice of a number of behaviors and influencing the health of women and children through a number of paths.

Take the example of empowerment of women (see Figure 6). Empowerment of women can be considered an indirect factor that influences self-efficacy of women for a number of specific behaviors. Women who are empowered might have more self-efficacy when it comes to using contraception, talking with their partners about sexual health, or asking for transportation to a clinic for bleeding. Thus, one can improve many behaviors by improving the empowerment of women. Or one can concentrate on one behavior and improve the self-efficacy for just that behavior.

Figure 6: How Indirect Factors Influence Direct Ones – Women's Empowerment and Self-Efficacy



Section III

Application of the CATALYST Behavior Change Diagnostic Framework to Optimal Birth Spacing

The framework presented thus far is a generic one that is applicable to varying behaviors and many different domains. It is also possible to take what is known about a given topic and detail the factors specific to that situation. A specific framework can serve to summarize what is already known about a topic and allow us to begin with a more informed starting place.

This section describes what is known about the topic of optimal birth spacing and demonstrates how a specific framework might look. We have filled in what is known about this topic from the medical and behavioral literature. The references for this literature appear at the end of this document.

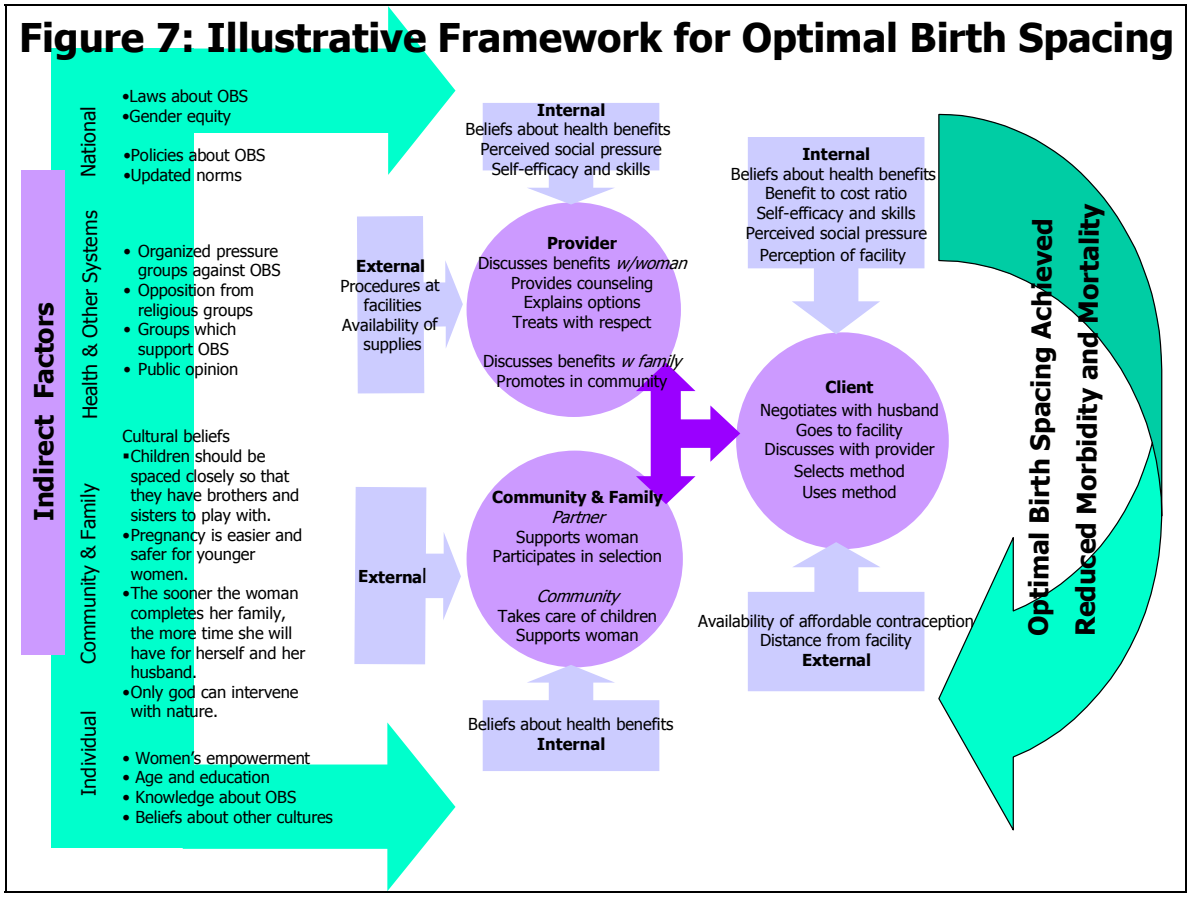
Optimal birth spacing interval refers to the ideal time a woman should wait before getting pregnant after the birth of her last child. Recent medical research has shown that the three to five year interval is the optimal time for both the woman's health as well as the well-being of the last born, and the health status of the next one to be born. (See Technical References, page 42.)

Figure 7, on page 24, presents the illustrative framework for the diagnosis of optimal birth spacing. The text below covers the same group and presents more detailed information. The text begins with the left part of the graph and works from left to right answering a series of questions. In addition to filling in some of the ideal behaviors for clients, providers, and family and community, we have outlined some of the direct factors that are potential determinants and that might need to be addressed by an intervention. We have concluded with the list of potential indirect factors. Input is needed from the field regarding how well this approach works to help organize the complex domain of optimal birth spacing.

What is the desired health outcome in the domain of optimal birth spacing?

The medical literature demonstrates that the optimal interval between births is three years. Women who leave an interval of three years between births are at *least* risk of maternal mortality and morbidity. In addition, their newborn infants experience reduced mortality and morbidity. Thus, optimally from a medical perspective, it would be beneficial to achieve an interval of three years between births. To achieve this interval, women need to be encouraged to use contraception for approximately three years after the birth of the last child before they become pregnant with the next one.

Figure 7: Illustrative Framework for Optimal Birth Spacing



What are the behaviors that might need to be addressed to achieve this optimal birth spacing?

For optimal birth spacing to be achieved, many different behaviors must be performed. In the CATALYST behavior change diagnostic framework we organize these as the behaviors of clients (in this case, women of reproductive age), providers (in this case, health care providers who provide reproductive health services), and the family and community, including the partner, of the women of reproductive age.

Many of the behaviors are those of the client, here women of reproductive age. Table 5, on the following page, lists some key behaviors in several groups. Notice that many of these behaviors form chains (e.g., woman negotiates with partner, woman goes to clinic, woman asks about contraception, woman selects method, and woman uses method consistently). Some behaviors she performs alone. Other behaviors are performed with others. They are in response to what others have done, and they in turn elicit behaviors from others.

Achieving optimal birth spacing also requires providers to perform behaviors. Two types of provider behaviors appear in Table 6. Provider behaviors are closely connected with client behaviors (e.g., client comes to facility, provider discusses benefits of birth spacing, client asks about methods, provider provides counseling, provider presents menu of contraceptive methods, client selects from menu, and provider explains full method in detail). The ultimate behavior of consistent use for the three-year interval can be interrupted if any behavior along the chain is not performed.

In addition, we need to look at the behaviors of the family, particularly the husband and the community. Some of these actions are listed in Table 7.

What are the factors that might be relevant for these optimal birth-spacing behaviors?

Once the behaviors have been listed, it is important to consider the determinants, the factors underlying the behaviors. This is indeed a complex matter with a mandate such as the one that CATALYST has because it considers numerous outcomes, behaviors, and domains. It is necessary to consider the direct factors underlying each behavior and to consider the indirect factors that influence many behaviors.

Ideally, one could consider and detail the factors for each of the behaviors, separately. For the purpose of this document, we have listed them all together. Following is a discussion of what we know about the research that has been done on optimal birth spacing in developing countries.

Table 5 Client Behaviors Underlying Optimal Birth Spacing	
Woman alone	• Chooses a method after having heard all options (i.e., pill, injections, Norplant, IUD and natural methods (e.g., counting days and Billings method of monitoring mucus) • Starts using method as soon as baby is off exclusive breastfeeding or as soon as menstruation returns. • Consistently uses correctly the selected contraceptive method for three years before making decision to get pregnant again.
Woman with providers of health services	• Goes to reproductive health facility and asks about OBS, presents doubts, and solicits more explanation if further clarification is required. • Buys contraceptives, pays for oral pills, IUD or injection, if they are not given free of charge. • Returns to service to replenish contraceptives or pills when they are depleted or when she needs either a new dose of the injectable or a new IUD.
Woman with her partner	• Invites partner to counseling especially when he opposes birth spacing. • Negotiates with partner the three-year interval of time before she gets pregnant again. • Discusses and comes to agreement with partner regarding which contraceptive method they will use. • Negotiates her access to the money needed to acquire the contraceptive method.
Woman with her family, peers, neighbors, and other members of her community	• Explains to family members, friends, and community members the benefits of her OBS decision. • Explains why she sees more value and benefits for herself, her children, and her partner if she chooses to bypass the religious norm of not interfering with the natural cycle of getting pregnant by using contraceptives. • Refuses to accept the cultural tradition that indicates a woman should get pregnant in less than three years after the birth of last child.

Table 6 Provider Behaviors Underlying Optimal Birth Spacing	
Provider with client	• Discusses at length benefits of three-year birth interval. • Provides counseling to help client manage fear and doubts. • Presents menu of methods available at the service (correctly uses counseling materials available at facility). • Listen carefully to understand client's relationship to spouse and offers suggestions for negotiating acceptance of chosen method. • Gives detailed explanation of method chosen. • Verifies client has understood correctly. • Proactively works with client to maintain use of selected method. • Treats woman with respect and expresses support in choice of method • Refers to a private sector point of sale when desired method is not available in the public health facility.
Provider with family and community	• Discusses at length benefits of three year birth interval • Does community outreach promoting birth spacing with males. • Gives support to male partner on choosing a method and asks him what assistance he needs to continuing using the method.

Table 7 Family, Community and Private Sector Behaviors Underlying Optimal Birth Spacing	
Husband or partner	• Supports wife's decision to practice OBS for three years before he brings up the next pregnancy. • Supports this decision before peers, family members, or religious authority. • Participates in the selection process of best method to carry out the OBS. • Offers wife the money needed to obtain method, and buys himself contraceptives, if they choose to use them.
Community and community leaders	• Organizes and holds OBS discussion meetings for women, for men, and for couples. • Takes care of children while woman is at the clinic.
Private sector	• Sells contraceptives at affordable prices for the intended audience. • Promotes commercially, on large scale, the sale of contraceptives. • Furnishes in packages complete, reliable information on benefits, the way method works, and potential side effects, and how to handle them.

What are the direct factors that might be relevant for the client, i.e., women of reproductive age?

As indicated below, much is known about the factors that influence the behaviors of the client, in this case the woman of reproductive age. To simplify this discussion, we have divided these factors in three groups: direct internal factors such as attitudes, beliefs, perceptions, skills, and perceived norms that women hold with respect to practicing the behaviors that will lead to optimal birth spacing; direct external factors such as the external and physical environment; and the behaviors of others.

Direct internal factors:

- ***Beliefs about the health outcomes.*** To practice OBS behaviors effectively, a woman needs to believe and fully understand that it is beneficial to her and to her newborn to achieve a birth-to-pregnancy interval of three years. Many women are unaware that practicing contraception in order to achieve an interval of at least three years (birth to pregnancy) is highly beneficial to women as well as to the babies to come. Women often do not understand that frequent pregnancies and closely spaced pregnancies put their health at risk and threaten the health of the next baby.

- ***Beliefs that the advantages (benefits) outweigh the disadvantages (costs*).** Ultimately for a woman to successfully practice the several OBS behaviors, she must believe that the advantages outweigh the disadvantages. And while health outcomes are important so are other types of outcomes, both positive and negative. When a woman decides to try to achieve a three-year *inte-pregnancy interval*, she often has to go against her family beliefs, her peer beliefs, and her community traditions. Moreover, she has to confront, and probably argue with, her husband if she proposes OBS or if she makes the decision to practice it. When she decides to practice a method of contraception, she must consider the monetary costs, the potential health side-effects, and the potential impact on her relationship with her husband.

- ***Self-efficacy and skills.*** For a woman to be successful at achieving optimal birth spacing, she needs to have skills and to perceive that she has the necessary skills. She may require many different specific skills. She needs to be able to talk with her husband and her family. She may need to be able to talk with the provider about the power relationship with her partner.

- ***Perceived social norms***. Women are more likely to perform behaviors that they feel pressure to, rather than not to, perform. Social pressure can come from other women as well as from her husband and her family. If a woman believes that most other woman do NOT practice OBS behaviors, she will find it difficult to do so. Conversely, if she knows that most women in her community do practice them, she will be more likely to perform the behaviors as well. If she thinks that she will be perceived as a deviant by the community, she will find it difficult to practice the behaviors.

- ***Perception of the facility and the services at the facility.*** Women are more likely to seek care at a health facility when they perceive that they will be treated fairly and with respect

and that they will receive high-quality reproductive health services. They will listen and understand and will receive clear explanations about the alternative contraceptive methods.

Direct external factors:

- ***Availability of affordable services.*** Seeking contraception in order to achieve OBS is facilitated by the easy availability of affordable services and contraceptive products. If it is difficult to obtain affordable contraceptive methods, the woman will not practice the method even after the choice has been made to do so.

- ***Distance from the facility.*** If the facility is far away or difficult to reach, women will be less likely to seek OBS services.

The behaviors of others:

- ***Behavior of the providers.*** In this case, what providers do influences whether or not the women will perform the necessary behaviors. How the benefits are discussed, the quality of the counseling, how well the options are explained, and how the woman is treated will be instrumental in helping her decide to practice contraception, select a method that works for her, use the method effectively, and return to the facility when necessary. Earlier we were concerned about how she perceived she was going to be treated. Here we are concerned about how the woman is actually treated. Clearly, she is more likely to go if she is treated well. In addition, the services must be of high quality for the actions to be taken. Counseling must be done in such a way that the woman coming in for a visit leaves better informed on the benefits of OBS and how to go about practicing it. The counseling must address and answer satisfactorily the objections women may have because of their cultural definition of OBS.

- ***Behavior of partner, family, and community.*** In addition to the behavior of the provider, the behavior of the husband, her family, and other community members influences whether or not the woman will successfully practice OBS behaviors. She is more likely to decide to try if her husband brings up the subject and is supportive. She is more likely to select a method that works for her if he is involved in the decision. The woman also is more likely to use contraception for the full period if her husband waits before asking her to become pregnant again. Similarly, the woman is influenced by the behaviors of her family and other members of her community. For example, if the woman's family not only supports the decision but also actively helps by taking care of the children, she is more likely to go to the facility than if her family openly disapproves.

What are the direct internal and external factors that might be relevant for the provider care-giving behaviors?

As with the woman, we need to perform a diagnosis of the factors influencing the providers in order to determine how to change provider behaviors. And, again, there are three types of factors.

Direct internal factors:

- ***Beliefs about the health benefits of OBS.*** To discuss the benefits, the health personnel must be up to date on these benefits and must understand the health impacts and the rationale behind the three-year interval. It is likely that providers who fully understand the health benefits to the woman and her newborn are more successful at doing what is needed, including discussing the benefits with women, their partners, and the community.

- ***Beliefs that the advantages outweigh the disadvantages of practicing the OBS behaviors.*** Again, consequences exist beyond the health outcomes for women. It is important to understand the outcomes the providers experience when they discuss OBS with women, when they provide counseling, and when they explain the options. Health personnel may be punished by their supervisors for taking the time required to provide a full explanation. Providers may be worried they will lose clients.

- ***Self-efficacy and skills at counseling.*** Many of the OBS behaviors require skills and perceived skills on the part of the provider. If these skills are lacking, the behaviors will not be practiced successfully and the quality of service will be low. Providers need to be able to explain contraceptive method options in clear language. They must be comfortable discussing reproductive issues with women of all cultures. Counseling requires a high degree of interpersonal skills.

- ***Perceived social pressure.*** As with women, providers are influenced by the perceived expectation of others. For providers, the expectations of their superiors, their women clients, their colleagues, and members of the community, who expect them to offer OBS services are important sources of social pressure.

Direct external factors:

- ***Policies and procedures in the facility.*** Clearly, if facilities follow procedures, the providers are more likely to practice OBS behaviors. Manuals must include the standards of maternal health care that indicate the optimal interval of three five years and what needs to be done to achieve this interval. Moreover, procedures for OBS need to be integrated into maternal or reproductive health services provided by the facility.

- ***Availability of supplies and equipment.*** The health facility needs to be properly equipped. In the case of OBS, the facility needs to have the appropriate contraceptive supplies available. In addition, it must provide counseling rooms and furnish culturally sensitive materials.

Behavior of others:

- ***Behavior of women.*** Just as provider behavior influences women, the behavior of the clients will influence what the provider does and how well he or she does it. For example, if the woman asks about OBS, the provider is more likely to discuss the benefits. If, however, the woman is interested in and comfortable with discussing options, the provider needs to furnish specific information regarding alternative methods of contraception.

- ***Behavior of the community and the family.*** The provider will also be influenced by what the partner and the community do. For example, if the women expresses she cannot negotiate the use of a contraceptive method with her husband but she wants to use one, the provider may be inclined to offer a more viable method, such as an IUD or an injectable.

What are the direct internal and external factors that might be relevant for community and family behaviors?

There is still much to learn about the factors that influence husbands, family, and other community members.

- ***Beliefs about health outcomes.*** It is probable that the husband, family, and community members need to understand the benefits of a three-year interval for the women and their children. The belief that a strong, healthy son will be born if optimal birth spacing is used may be an important factor in some settings.

- ***Beliefs that the advantages will outweigh the disadvantages.*** A need also exists to understand what partners and communities believe will happen if the family supports the woman and optimal birth spacing is achieved. For example, partners may believe that they will be perceived to be less virile unless pregnancies are frequent. Partners may worry that their wives will be more likely to be unfaithful if they are practicing contraception. Families may also be concerned that there will not be sons who can guarantee lineage and workers for the field. Beliefs regarding the monetary costs of both contraception and pregnancies also need to be considered.

- ***Self-efficacy and skills.*** For successful OBS behaviors to occur, men may need to know how to use contraceptives. In addition, they need to feel capable of initiating a dialogue with their partners.

What are the indirect factors that might need to be addressed in the domain of birth spacing?

You will recall that indirect factors are those that influence many behaviors and affect them indirectly through the direct factors. Indirect factors are macro factors. They form the foundation or ground for the direct factors and the behaviors. And, indirect factors influence all three sets of behaviors, the sexual and reproductive behaviors of clients, the care giving behaviors of providers, and the support behaviors of the family and community.

- ***Laws and legislation***. In some settings, laws may exist that influence reproductive services, such as optimal birth spacing. Unfavorable laws that prohibit emergency contraception or abortion will present obstacles to the practice of optimal birth spacing.

- ***Health system policies***. Policies concerning services at the level of the Ministry of Health often have more of an influence on clients and providers than do laws. Successful OBS behaviors will more likely occur in systems where there is a clear policy statement about OBS and who is eligible for such services.

- ***Organized pressure by religious groups.*** In many settings, organized opposition exists to optimal birth spacing by religious groups. Members of some religions believe that we should not interfere with the reproductive and biological cycles because they are perceived as God-given.

- ***Organized pressure from other groups.*** In some places, there are organized groups beyond religious groups that exert pressure for and against birth spacing and the underlying issues. For example, fundamentalist groups are strongly opposed to programs, institutions, and service providers who offer OBS as part of their reproductive health services.

- ***Traditional beliefs about the family and childbearing.*** Traditional beliefs often impede achieving optimal birth spacing. These beliefs about what is appropriate in a culture influence what men and women believe about their own actions. For example, in many cultures, it is believed that younger women can endure pregnancies better than older women. Concerns are also expressed about the impact of a longer birth interval on family dynamics. Others firmly believe that if one gets pregnant it is God's will. In many cultures, a family without a male child is perceived not to be blessed by God and thus lack a lineage. These traditional beliefs influence everyone from clients to providers to community and family members.

- ***Women's empowerment.*** To practice many sexual and reproductive health behaviors, women need to feel that they are empowered to make decisions regarding family size and spacing. In many settings, women do not feel that they have permission from either husbands or family members to decide whether they will become pregnant.

Section IV

Steps in Using the CATALYST Behavior Change Diagnostic Framework

The CATALYST Behavior Change Diagnostic Framework has been designed to assist CATALYST staff across the range of programs and issues. Its specific purpose is to help "diagnose" the situation. The framework also aids in identifying the behaviors and the determinants to be addressed by a program.

This section of the paper describes a step-by-step process for applying a behavior change approach to program planning. The steps will be familiar to many readers because they comprise a typical process for developing behavior change strategies. The particular steps described here are adapted, in fact, from the steps described in USAID's Technical Reference Materials for its Child Survival Grants Program in the section on behavior change interventions. [See USAID/BHR/PVC/Child Survival Grants Program – Technical Reference Materials. December 2000]

The first four steps may be accomplished by applying the diagnostic framework described above. While it is beyond the scope of this paper to instruct the reader on how to move from diagnosis to implementation of a plan, we have briefly laid out the subsequent steps. Final decisions about interventions and programs require research and other input which is specific to the local context. This portion of the paper shows the reader how a behavior change specialist will work with the team to move from the framework to developing strategies and implementing programs.

Applying the Diagnostic Framework:
Steps One through Four

Step One: Clearly identify the program goal and desired outcome and how to work with relevant stakeholders.

Before using the diagnostic framework, the first task is to be clear about the goal and health outcome for the program. On the basis of that information, the team can then begin the diagnostic process of analyzing which behaviors of which individuals will have an impact on that outcome.

Often, CATALYST receives the program goal and outcome from the funding agency. At other times, the CATALYST team itself is responsible for defining the program goal and outcome given program resources. In the latter case, the CATALYST team would review the relevant research findings on the problem and hold internal strategic planning sessions within CATALYST (or with the funding organization, if appropriate and necessary), to define the program goal and health outcome.

In this, AND ALL STEPS, it is important to solicit input from a full range of stakeholders in the decision process. Stakeholders are people who are invested or interested in the results of the diagnosis and the programs and interventions that are identified or developed after the diagnosis. They might include government officials, representatives of the health system at national and local levels, international and country funders, nongovernmental organizations and community groups (e.g., women's groups), commercial partners (e.g., manufacturers and distributors of contraceptives), and representatives of the community and the beneficiaries.

These stakeholders can be involved in all steps relevant to diagnosis and development. They might join in conducting formative research to identify the factors, which operate as determinants, or in selecting behaviors to promote, or in implementing programs to influence the behaviors. Stakeholders may be engaged through a variety of methods, such as including representation on the team, community meetings and public forums, participatory research techniques, advocacy initiatives, and implementation partnerships. Regardless of whether CATALYST is given a predetermined goal and outcome or must define it, the team (including the stakeholders) can move forward in using this framework only when a clear goal or desired outcome is articulated and agreed upon by the appropriate set of stakeholders.

Step Two: Develop a list of key behaviors to meet the program outcome.

Once the program goal and outcome have been established, the next step is to prepare a list of key behaviors that would help to achieve that outcome. For example, to meet the desired program goal of three years' birth spacing between children, one key behavior would be for women of reproductive age to choose to use oral contraceptives for three years starting immediately after the birth of their last child. Another would be for husbands of women of reproductive age to support their wives in choosing to use oral contraceptives for three years immediately after the birth of their last child. A third would be for providers to provide counseling on birth control options to women soon after the birth of the last child.

The list of key behaviors can be generated through a CATALYST group brainstorming session or through discussion among a few colleagues. Before brainstorming, team members should first review the international literature, evaluation and program research, in-country evaluations and formative research, and existing epidemiological data. The team manager can prepare such a summary review using the secondary literature databases and expertise from the CATALYST headquarters.

The list will usually contain the "medically ideal" behaviors, those behaviors that have been shown through research to lead to the desired outcome. It is important, however, to include the intermediate or antecedent behaviors that the individual may need to perform ahead of the final behavior you are aiming to change.

The team should consider all three sets of behaviors in the diagnostic framework: the sexual and reproductive behaviors of clients, the care giving behaviors of providers, and the support behaviors of the family and community. The actions of providers and community and family members influence the reproductive and sexual behaviors of the clients. They are important in facilitating or preventing the desired behavior of the client.

While brainstorming, identify the behavior (action) people *are currently doing*, and the behavior you *want* them to do. Ask the team: "If they take the desired action, will it make a tangible difference in achieving the overall program goal?"

Step Three: Applying agreed-upon criteria, reduce the list to a manageable, prioritized set of feasible behaviors and prioritized segments of individuals whose behavior we want to influence.

The list developed during Step Two is the full range of behaviors that ideally would have to be addressed either to solve the health problem or to contribute to the health outcome. At this juncture, the team needs to reduce that list to a *manageable set of behaviors that are feasible to modify for a manageable set of individuals* given the amount of time and resources for the program. Behaviors that seem impossible or difficult to influence should be eliminated through a group discussion and the decision process that will take into account budget and time constraints, cultural beliefs, and other relevant issues.

When prioritizing the behaviors, program planners need to also prioritize the individuals whose behavior is of interest. In the example above, the program might consider trying to influence the contraceptive behavior of all women of reproductive age in the country. More likely, however, program planners will decide to focus their efforts on a more limited set of women, such as women who live in a part of the country or women of a particular income level or women in a particular age range. This more limited set or segment of women is known as the priority group.

Throughout this paper, we are using the term "priority group" rather than "target audience." A priority group is a segment of individuals who have been chosen as the primary people to be addressed by the behavior change strategy. We prefer the term priority group for at least two reasons: (1) because it carries an orientation of helping people change rather than doing something to people to make them change; and (2) because it works in a wide range of programs beyond "communication to *audiences*."

Sometimes coming to agreement on the priority behaviors and priority groups will be fairly clear-cut; other times it may be more difficult. The temptation may be strong to jump ahead to messages or to planning intervention activities and programs. Carefully thinking through and assigning priority to specific behaviors and priority groups, however, will avoid difficulty later in trying to implement too many interventions for too many segments of individuals with limited program funds. Again, what is most important is to prioritize.

The aim should be to assign priority to the *largest* priority group with a common behavior change objective. The team needs to ensure that the desired action (behavior) is *different* from what they are already doing. In many cases, you will want to ensure that the behaviors the team has identified are feasible for the priority group to do, *in the shortest amount of time with the highest probability of change*. In some cases, you will want to tackle larger scale issues like gender relations and gender equity that might take a longer time to influence.

Avoid selecting priority groups that are impossible, or nearly impossible, to reach; otherwise, you will expend a great deal of energy for minimal gain. Remember that the priority group *most* important to reach because of need may not make the final cut if it is infeasible to reach them because they are too hard to access, are too difficult to influence, or will use an enormous part of the budget.

It may be useful to designate a primary behavior and priority group as well as secondary behaviors and priority groups. For example, suppose the program goal is to increase use of family planning methods among women 18 to 24 years old. In this example, women 18 to 24 years of age are the *primary* priority group. We might decide to encourage these women to carry out several behaviors: to go to a health facility, to ask for counseling in family planning, to select a method, and to use a family planning method. Research shows that the male partners or husbands of these women greatly influence whether the woman will use family planning or not. Therefore, male partners or husbands are a *secondary* priority group that may be important for this program, because they can support women in adopting the behavior. In some countries, the role of the mother-in-law is pivotal and mothers-in-law would be considered a *secondary* priority group. And, a number of behaviors of the health providers will influence whether and how effectively the woman uses the method. Thus, health care providers who serve women 18 to 24 years of age could also be considered a *secondary* priority group.

The process of prioritizing is a dynamic one. That is, the team will select one priority, do some analysis and research to examine feasibility, and then given the findings, decide to change to a different behavior and/or group. Rely on data to work through and answer the following questions that will determine the feasibility and relative importance of each behavior and each possible priority group.

Behavioral Feasibility Checklist

The following checklist provides some ideas to consider in reducing the list of principal behaviors to a more manageable set of feasible ones:

- Do the priority groups view this behavior as problematic?
- What is/are the competing behavior(s)?
- What do the priority groups identify as the benefits and barriers to performing the desired behavior? To performing the competing behavior/s?
- What are the differences between those individuals who do the desired behavior (the "doers") and those who don't ("nondoers")? Are these differences or determinants factors that can be addressed by the programs and interventions you can accomplish?
- What is the level of psychological or monetary cost of the new behavior?
- How similar or dissimilar is the new behavior compared to the previously identified behaviors?
- How much social sanction or disapproval from the community, family, or peers will the new behavior receive?
- How many new skills need to be learned to perform the new behavior? How long and how difficult are these skills?

(For further refinement of this process, see AED Health Communication Tool Kit, 1998.)

Step Four: Conduct formative research into individual behaviors. Using the findings, review the potential factors and identify the determinants that need to be addressed by the interventions and programs.

After the list of prioritized behaviors and priority groups has been prepared, the next task is to understand which of the full set of factors that potentially could influence the behavior are the *determinants*, the factors that actually influence the behavior for this segment in this setting. Once the determinants have been identified, the intervention can be developed or selected that addresses these determinants.

This step is where the diagnostic framework is most useful. It is important to use the framework to identify which are the potential factors and to consider the direct and indirect factors. When considering direct factors, consider internal ones (e.g., beliefs about the positive and negative consequences of the behavior, perceived norms regarding specific behavior, and self-efficacy for the specific behaviors) and external ones (e.g., access to services and products, financial resources, and role models). Consider indirect factors at all levels – national, health system, other systems, community and family, and individual.

The framework provides the list of potential factors. Experience and research are used to identify which of these are the *determinants* in this setting. The key is to select those factors that differentiate those among the priority groups who *do* the behavior from those who *don't*. The team will find it useful to examine the formative research, in-country as well as in the region or internationally, to identify what others have found are the most important determinants of the behaviors for the priority segment that the team has selected. The team's programmatic experience in working on CATALYST and other projects should be considered in deciding which determinants should be the focus of the behavioral intervention.

Formative research with the priority segments is often necessary to identify or verify the determinants. Behavioral science offers several practical methodologies for identifying priority determinants for a given group and behavior. Both qualitative and quantitative methods that identify benefits and barriers to the behavior may help generate a list of potential determinants. Formative research methodologies that have been successful in identifying these determinants include in-depth interviews, focus group discussions, and Trials in Improved Practices (TIPS). Any method that compares "doers" of the behavior with "nondoers" can help to pinpoint the most powerful factors and may avoid wasted program effort by demonstrating which factors seem *not* to determine whether a person does the behavior or not.

On the basis of the steps completed through this point, CATALYST staff will consider input from the country teams and other stakeholders in selecting the priority group and behaviors as well as the determinants that need to be the focus of the programs and intervention efforts. At this point, the direct external factors identified as "root causes" are also addressed in order to modify the determinants that are shaping the present behaviors. With the country team, CATALYST will define how many and how much of these "root causes" can be presented to the Ministry of Health or other stakeholders for consideration. CATALYST must be clear on what it can commit to, what is in the domain of other organizations and consultants, and other strategies that will address the "root causes," and how much can be modified so that the new behaviors may be adopted. With this discrete set of priority groups, behaviors, and determinants, the team has completed its use of the diagnostic framework.

Post-Diagnostic Framework – Strategic Intervention Program Planning: Steps Five Through Ten

Having used the framework to complete the diagnosis, the team will have chosen the priority groups, behaviors, and determinants that will be the focus of program interventions. CATALYST staff are now ready to proceed to the program planning stage where the development and implementation of interventions and activities are carried out.

Step Five: Formulate comprehensive multilevel behavior change strategy, including communication component, links to training, improved services, products, and policy change.

Many potential interventions and activities might be useful in influencing the selected determinants. Some interventions, however, are a better "match" for influencing specific determinants. For example, mass media can be used to raise awareness of an issue or to let people know when and where to go for a service. Advocacy and community mobilization are useful tools to influence policies. Intensive one-to-one counseling is valuable in building skills. Mass media may advertise an event or begin to change people's attitudes about a product or even help to shift the social norms related to a behavior. Partnerships with commercial organizations are often needed to improve a product or alter distribution of a product.

As the team chooses interventions they should focus on: what will have the most significant impact on the selected behavioral determinants for a given priority group; what can be done with the available program resources in terms of funds and staff; and what can be accomplished within the given time frame. This will guide the team towards interventions that are likely to be successful in improving the behaviors and ultimately reaching the program goal. Team members need to be mindful that the individual program activities will work together to form the overall strategy, and that together, the activities will address all of the priority groups, the behaviors, and the identified determinants.

Step Six: Produce, pretest, and complete draft communication materials, training designs, improved services/product as indicated by research; plan for monitoring and evaluation.

Whether adapting existing materials or developing new ones, proposed activities will require detailed program plans, new or improved products or packaging, training curricula, and a variety of communication or other materials. Plans and materials must be produced with an eye to the planning that has preceded this step. Each program component should meet the test: How does it address the determinants and thus influence the behavior? How appropriately and well does it reach the priority group who will eventually adopt the behavior? Program planners must be rigorous in ensuring that plans and materials are "on target," that is, that they address the factors that really are determinants and not some other factors. Program planners are so accustomed to relying on familiar activities and messages that they may not question their usefulness in the schema arrived at as a result of the diagnostic framework.

Once products, packaging, program activities, training curricula and other materials are developed or adapted, it is critical to pretest them with the end users. This approach might require conducting a pilot training session and measuring changes in skills, knowledge, and

attitudes and asking participants how the curriculum might be improved. It might mean showing a pamphlet to members of the priority group and asking a series of questions to assess the degree to which the messages are understood, and the audience considers it to be persuasive, relevant and appealing – or at least inoffensive.

Sometimes members of the priority group are asked to try out new products or services and then quizzed about ways the products or services might be improved. Similarly, when new services are launched, the service providers should participate in assessing them and recommending improvements. Many excellent guides have been written on methods for pretesting and ensuring that program activities and materials are effective and appealing. Once activities and materials have been revised – taking into account the results of the pilots or pretests – program planners will finalize them.

During this phase, program planners also need to lay out specific indicators that will be used to monitor and evaluate the program. Plans should include ways to assess process (the extent to which and the fidelity with which planned program activities are carried out); reach (the numbers of people reached by the program or materials; impact on secondary priority groups; and impact on the primary priority group (including impact on direct and indirect factors and on the behaviors themselves). Details on the levels of monitoring and evaluation are given in Step Ten, below.

Step Seven: Work with communities: identify, negotiate, and implement activities to change or address behaviors.

Community engagement may take place during many of the previous steps. Whether community members are at the table when program decisions are made or whether they are simply consulted through formative research phases, their voice and involvement are critical to program success. Community members often are stakeholders. In reproductive and sexual health, community involvement may be even more important than in some other health arenas.

Step Eight: Mobilize all levels to design or implement advocacy strategy to support policy changes as indicated by research.

In cases where the diagnostic framework has identified policies or legislation as direct or indirect factors that could support the promoted behavior, program planners will want to partner with others to influence policy. An advocacy strategy will lay out specific steps to put supportive policies in place.

Step Nine: Implement communication interventions, conduct training, introduce, and promote improved services/products, policy changes.

Once program plans and materials have been developed and piloted or pretested, it is time to launch the program. Program elements may be started in a staggered manner or launched all at the same time. Care must be taken to avoid creating demand prior to address all of the needed prerequisites. For example, launching a campaign promising new and improved reproductive health services prior to conducting the training of clinic staff or distributing the educational

materials could be counterproductive. The mix of program elements may address both supply-side and demand-side and will affect both the direct and the indirect factors. Care must be taken to keep activities focused on the powerful determinants or factors identified through the research, thereby avoiding irrelevant activities.

Step Ten: Monitor and refine interventions throughout implementation phase, evaluate and report.

Following the indicators developed during planning phases, program planners will assess implementation at several levels. A process evaluation will determine to what extent the program elements were implemented as planned. Measures obtained from program implementation data, observations, and interviews provide the information to refine program implementation and provide a context to explain unexpected program outcomes.

The impact or outcome evaluation measures changes in factors such as the beliefs, attitudes, skills, perceived social norms, or behaviors of the priority groups. Indicators selected should be limited to those targeted by the program. Programs with ample research budgets may be able to conduct full-scale community or national surveys with baseline and one or two repeats during and following program implementation. Others may "purchase" a key question or two in an omnibus or continuing survey. Still others may conduct intercept interviews, stopping people at the market or some other public gathering spot to ask questions and track changes over time.

Conclusion

This paper provides the Catalyst diagnostic behavior change framework used to define individual behaviors and their determinants/factors. We define behavior, behavior change, and behavior change strategies involved in a behavior change approach, and distinguish these from other models to advance social change. We establish how behavior change interventions do not directly influence health outcomes, but rather influence the behaviors underlying the outcomes.

Behavior determinants are explained as those factors, either direct or indirect, that influence behaviors. We determine the influence of indirect factors on direct factors, which in turn influence the behaviors that result in health outcomes. The difference between client behaviors, provider behaviors, and family and community behaviors is defined, and we show how they are interrelated and influence each other.

We chose one thematic area, optimal birth spacing, and applied these concepts to show how they help to distinguish the different potential factors for each actor that determine the various birth spacing behaviors as experienced by the client, and as influenced by the provider, the family and community members. We also analyzed which possible indirect factors contribute greatly in shaping the direct factors that influence birth spacing behaviors and how they are interrelated. Finally, we conclude with the steps that should be taken in order to design and implement a behavior change strategy it should follow if it includes a behavior communication component.

Technical References

Booth, E. 1996. *Starting with Behavior, A Participatory Process for Selecting Targeted Behaviors in Environmental programs*. AED.

Centers for Disease Control and Prevention. 2001. *CDCynergy 2001: Your Guide to Effective Health Communication.* Atlanta, GA: CDC.

Conde-Agudelo, A. and J. Belizan. 1998. Maternal mortality and morbidity associated with interpregnancy interval: A cross sectional study. *British Medical Journal* (321): 1255-1259.

Dickens, K., M. Griffiths, and E. Piwoz. 1997. *Designing by Dialogue: A Program Planner's Guide to Consultative Research for Improving Young Child Feeding*. SARA, Academy for Educational Development.

Fishbein, M., H.C. Triandis, F.H. Kanfer, M.Becker, S.E. Middlestadt, and A. Eichler. 2001. Factors Influencing Behavior and Behavior Change. Pp. 1-7 in *Handbook of Health Psychology*, Mahwah, NJ: Lawrence Erlbaum Associates.

Fuentes-Afflick, E., and N.A. Hessol. 2000. Interpregnancy interval and the risk of premature infants. *Obstetrics and Gynecology* 95: 383-90.

Jansen, W.H. D. Frick, and R. Mason. May 2002. *The "X" factor in birth spacers: age and parity in demand for birth spacing in 15 developing countries*. Paper presented at the Population Association of America.

Kotler, P., N. Roberto, and E. Roberto, 2002. *Social Marketing: Improving the Quality of Life* (2nd Ed.), Thousand Oaks, CA: Sage Publications.

National Institutes of Health and Office of Cancer Communications. 2002. *National Cancer Institute, Making Health Communications Work: A Planner's Guide* No. 92-1493, Washington, D.C.

Roberts, A., and R. Pareja, 1995. *A Tool Box for Building Health Communication Capacity*. HealthCOM, Academy for Educational Development.

Rutstein, S. no date. *Effect of birth intervals on mortality and health: multivariate cross-country analyses*. Unpublished data from Measure/DHS+ Macro International, Inc. Calverton, MD.

Skjaerven, R. et al. 2000. The interval between pregnancies and the risk of preeclampsia. *New England Journal of Medicine* 346 (1): 33-38.

Zhu, B.P. et al. 2001. Effect of interval between pregnancies on perinatal outcomes among white and black women. *American Journal of Obstetrics and Gynecology* (185): 1403-10.

Zhu, B.P. et al. 1999. Effect of the interval between pregnancies on perinatal outcomes. *The New England Journal of Medicine* (340): 589-94.