THEORY AT A GLANCE

A GUIDE FOR HEALTH PROMOTION PRACTICE

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INTRODUCTION

This monograph describes theories of health-related behaviors, the processes of changing behaviors, and community and environmental factors that influence behavior in a practical, easily applied style. Public health workers will be able to use this guide to improve the impact of their efforts, and to analyze the reasons for success, or the lack thereof, in completed programs.

This monograph presents *ideas* that can be used as tools for problem solving in the field of health promotion. It complements existing resources that provide tools and techniques for practice. It aims to increase the accessibility of different theoretical and conceptual frameworks to health promotion practitioners who design and implement programs that seek to change health behaviors.

The primary audience for this monograph is *public health workers* in state and local health agencies; secondary audiences include health promotion professionals and volunteers working in voluntary health agencies, community organizations, health care settings, schools, and the private sector. It is intended for use as a stand-alone handbook, as part of in-house staff development programs, or in conjunction with continuing education workshops.

This monograph consists of three main sections.

Part 1. Foundations of Applying Theory in Health Promotion Practice discusses the ways that theories and models can be useful in health promotion practice and provides basic definitions and context for the monograph.

Part 2. Theories and Applications begins by presenting an ecological perspective on health promotion programs, then describes seven theories or models of behavior at the individual, interpersonal, and community levels. Each theory is introduced as a possible approach to solving a practical problem. Next, a brief description is followed by definitions of key concepts and additional examples or case studies.

Part 3. Putting It Together explains how theories can be used in health promotion program planning, implementation, and evaluation. This includes an overview of two comprehensive planning models, PRECEDE-PROCEED and Social Marketing. Within these two planning models, theories can be combined for greater impact and also used as a basis for evaluations that create feedback loops for more successful efforts in the future.

For this monograph, it was necessary to choose a small number of theories for easy reference. Those which are included were selected because they have the widest applicability for public health workers. Even some well known and familiar theories and models had to be left out. For readers who want to learn about other useful theories for health promotion, the bibliography at the end of the monograph lists some recommended sources.

Throughout the text, you will find boxed sections that highlight, clarify, and illustrate important concepts and their applications. Many of these are based on comments, examples, and questions of public health professionals whose work forms both the rationale and the basis for this monograph.

The boxed sections and figures can be used in various ways. For example, the boxed information can be used as a checklist to consider some key concepts as part of a planning process. Another use might be when a program is being reviewed: The points in the boxes can help a project team think about the broad range of influences the program should be considering. We hope you will experiment with the most practical and relevant uses for your situation.

1

FOUNDATIONS OF APPLYING THEORY IN HEALTH PROMOTION PRACTICE

Why Are Theories and Models Important in Health Promotion?

Public health and health promotion programs can help to improve health, reduce disease risks, manage chronic illnesses, and improve the well-being and self-sufficiency of individuals, families, organizations, and communities. But not all health promotion programs and initiatives are equally successful. The programs that are most likely to succeed are based on a clear understanding of the targeted health behaviors and their environmental context. They are developed and managed using strategic planning models, and are continually improved through meaningful evaluation. Theories of health behavior can play a critical role in all of these areas.

Theory can help us during the various stages of planning, implementing, and evaluating an intervention. Program planners use theories to shape the pursuit of answers to WHY? WHAT? and HOW? That is, theories can be used to guide the search for reasons WHY people are or are not following public health and medical advice, or not caring for themselves in healthy ways. They can help pinpoint WHAT you need to know before developing or organizing an intervention program. They can provide insight into HOW you shape program strategies to reach people and organizations and make an impact on them. They also help you identify WHAT should be monitored, measured, and/or compared in the program evaluation.

Theories can help us understand the nature of targeted health behaviors. They can explain the dynamics of the behavior, the processes for changing the behavior, and the effects of external influences on the behavior. Theories can help us identify the most suitable targets for programs, the methods for accomplishing change, and the outcomes for evaluation. Theories and models EXPLAIN behavior and suggest ways to achieve behavior CHANGE.

Models that support program planning processes include Green and Kreuter's PRECEDE-PROCEED model and Social Marketing. Processes such as these are what get the job done. These processes involve research, thought, and action at all stages. Theory directs our research strategy (what to look for), intervention goals (what to achieve), and what might explain outcomes of interventions. Theory also helps us think of ideas we might never have considered. And, when we look at multiple theories, it helps us to keep our minds open and disciplined at once, resulting in more effective programs. While theory alone does not produce effective programs, theory-based planning, implementation, and monitoring does.

Explanatory Theory = Theory of the Problem

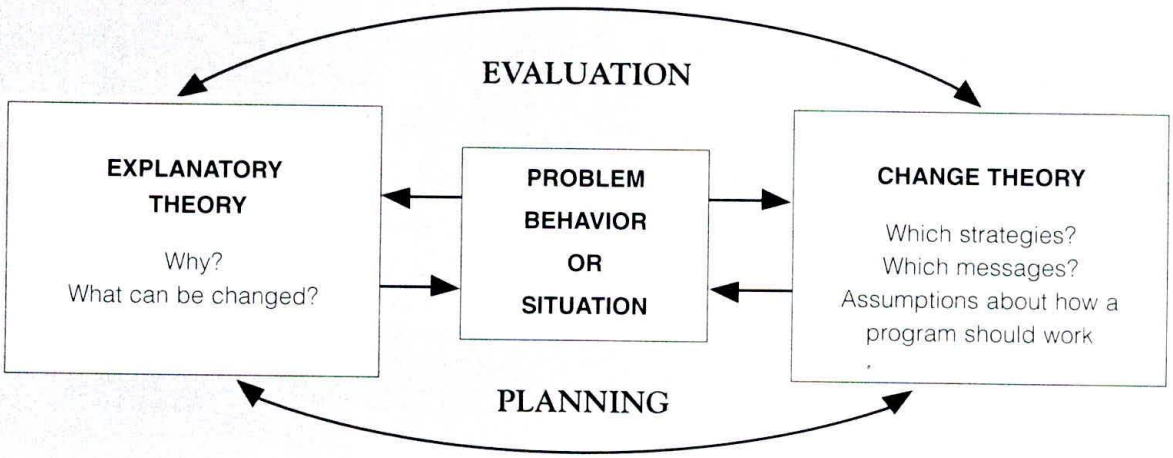
Helps describe factors influencing behavior or a situation and identify WHY a problem exists. These theories guide the search for modifiable factors like knowledge, attitudes, self-efficacy, social support, lack of resources, and so on.

Change Theory = Theory of Action

Guides the development of health promotion interventions. These theories spell out concepts that can be translated into program messages and strategies. They are the jumping-off point for using theory as a basis for *evaluation*, and they push you to make *explicit* your assumptions about how a program should work (i.e., how your "theory of action" will affect your "theory of the problem").

FIGURE 1

Explanatory Theory and Change Theory in the Process of Program Planning and Evaluation



Two planning approaches, Social Marketing and PRECEDE-PROCEED are discussed in Putting It Together (Part 3).

Theory can take you beyond being a technician or a mechanic. It can help you to step back and think about the larger picture. An awareness of different behavior theories and the ability to apply them skillfully in practice is what distinguishes a professional and leader from someone simply carrying out a set of activities. A public health professional *with* theory can solve problems. Like an expert chef, a theoretically grounded health education professional does not blindly follow a cookbook recipe, but constantly creates it anew, depending on the circumstances. Without theory, she or he has only the skills of a cafeteria line worker.

Health promotion has adapted ideas from the behavioral and social sciences to fit the concerns of public health workers. These adaptations are based on what we have learned over many years. Currently, theory is more accessible than ever. Concrete examples and brief explanations, comparisons across theories and models, and theories and models at multiple levels can be found here and in the sources listed in the bibliography. People in the field recognize the value of theory, as you can see from the next page.

What People in the Field Are Saying

"Theory is different from most of the tools I use in my work. It's more abstract, but that can be a plus too. A solid grounding in a handful of theories goes a long way toward helping me think through why I approach a health problem the way I do."
— *County Health Educator*

"I used to think theory was just for students and researchers. But now I have a better grasp of it, I appreciate how practical it can be."
— *State Chronic Disease Administrator*

"By translating concepts from theory into real-world terms, I can get my staff and community volunteers to take a closer look at WHY we're conducting programs the way we do, and HOW they can succeed or fail."
— *City Tobacco Control Coordinator*

"A good grasp of theory is essential for leadership. It gives you a broader way of viewing your work. And it helps create a vision for the future. But, of course, it's only worthwhile if I can translate it clearly and simply to my co-workers."
— *Regional Health Promotion Chief*

"It's not as hard as I thought it would be to keep up with current theories. More than ever these days, there are tools and workshops to update us often."
— *Patient Education Coordinator*

What Is Theory?

A theory is a set of interrelated concepts, definitions, and propositions that present a *systematic* view of events or situations by specifying relations among variables, in order to *explain* and *predict* the events or situations. The notion of *generality*, or broad application, is important. Also, theories are by their nature *abstract*: that is, they don't have a specified content or topic area. Like an empty coffee cup, they have a shape and boundaries but nothing concrete inside. They only come alive when they're filled with practical topics, goals, and problems.

- CONCEPTS are the building blocks of theory, the primary elements of theory.
- A CONSTRUCT is the term used for a concept developed or adopted for use *in a particular theory*. Thus, a CONSTRUCT has a very specific and technical meaning. "Key concepts" of a given theory are its constructs.
- VARIABLES are the operational forms of constructs. They state how a construct is to be measured in a specific situation. It is important to keep in mind that VARIABLES should be matched to CONSTRUCTS when you are identifying what needs to be assessed in the evaluation of a theory-driven program.
- MODELS are generalized, hypothetical descriptions, often based on an analogy, used to analyze or explain something.

Most health promotion theories come from the social and behavioral sciences, but their application often requires familiarity with epidemiology and physical sciences, too. They borrow from various disciplines such as psychology, sociology, anthropology, consumer behavior, and marketing. Many theories are not highly developed or have not been rigorously tested. Because of this, we often label them as conceptual frameworks or theoretical frameworks; here the terms are used interchangeably.

Fitting a Theory or Theories to the Field of Practice

No single theory dominates health education and promotion. Nor should it: the health problems, behaviors, populations, cultures, and contexts of public health are broad and varied. In addition, the importance of some types of problems—for example, smallpox and certain strains of influenza—change over time because of new technology and successful public health activities. Other kinds of problems—like AIDS and environmental hazards—are emerging because of a combination of biological and social factors. Some theories focus on individuals as the unit of change, while others focus on change in organizations or cultures. Because of these different frames of reference, theories that were very important to public health education a generation ago may be of limited use today.

Effective practice depends on marshaling the most appropriate theory or theories and practice strategies for a given situation.

This monograph includes descriptions and applications of some theories that are dominant in health promotion today. Still, no one theory will be right in all cases! Depending on the unit of analysis or change (individuals, groups, organizations, communities) and the topic and type of behavior you are concerned with (one-shot or repetitive behaviors, addictive or habitual behaviors, or those involving choice of "brands"), different theoretical frameworks will have a good fit and be practical and useful.

You may notice that theories often overlap, and that some seem as if they can fit "within" broader models. Also, you might recognize that more than one theory is needed to adequately address an issue. For comprehensive health promotion programs, this is almost always true. It is also evident in the use and description of applied theories in the professional literature. The last section of this monograph will give specific examples of combining theories for greater impact.

One of the greatest challenges to public health professionals is to learn to analyze the "fit" of a theory or model for issues one is working with. A working knowledge of a handful of theories and how they have been applied will go a long way to improve one's skill in this area. However, the first rule, and best advice to keep in mind, is this:

Think before you leap.

A good place to start is with the tips in the box below.

Theories, or conceptual frameworks, can be and are useful for health promotion practice. They enrich, inform, and complement practical skills and technologies and enable you to solve problems. They are an excellent basis for critical appraisal of what is (or is not) being accomplished in your work.

A Good Fit: the Theory Will Do the Following...

Make assumptions about a behavior, health problem, or condition of people or the environment that are:

- Logical
- Consistent with everyday observations
- Similar to those used in previous successful program examples you have read or heard about
- Supported by past research in the same area or related ideas

It WON'T work to try to fit a square peg into a round hole!

2

THEORIES AND APPLICATIONS

The Importance of a Multi-Level, Interactive Approach

Contemporary health promotion includes not only educational activities but also advocacy, organizational change efforts, policy development, economic supports, environmental change, and multi-method programs. This highlights the importance of approaching public health problems at multiple levels, and stressing the interaction and integration of factors within and across levels. This approach has been referred to as an *Ecological Perspective*.

Two key ideas from an ecological perspective help direct the identification of personal and environmental leverage points for health promotion interventions.

First, behavior is viewed as being affected by, and affecting, *multiple levels of influence*. Five levels of influence for health-related behaviors and conditions have been identified. They are: (1) intrapersonal, or individual factors; (2) interpersonal factors; (3) institutional, or organizational factors; (4) community factors; and (5) public policy factors (McLeroy et al., 1988).

For example, a woman might delay getting a recommended cancer screening test (a mammogram) because she is afraid of finding out she has cancer. This is an individual-level, or intrapersonal factor. However, her inaction might also be influenced by her doctor's not recommending mammography, the difficulty of scheduling an appointment because there is only a part-time radiologist at the clinic, and her inability to pay the high fee. These interpersonal, organizational, and policy factors also influence her behavior. These factors are defined in Table 1.

The second key idea relates to the possibility of *reciprocal causation* between individuals and their environments; that is, behavior both influences *and* is influenced by the social environment.

A man with high cholesterol might have a hard time following his prescribed low-fat diet because his company cafeteria doesn't offer low-fat food choices that he likes. He can try to change the environment by talking with the cafeteria manager or the company medical or health department staff, and asking that healthy food choices be added to the menu. Or, if employees start to dine elsewhere in order to eat low-fat lunches, the cafeteria may change its menu to maintain its lunch business.

This multi-level, interactive perspective clearly shows the advantages of multi-level interventions, such as those that combine behavioral and environmental components. For example, employee smoking cessation clinics are more successful if there is also a no-smoking policy at the workplace and a city clean indoor air ordinance. Adolescents are less likely to take up smoking if their peer groups disapprove of the habit and if laws that prohibit tobacco sales to minors are strictly enforced.

Health promotion will succeed most when problems are analyzed and programs are planned, keeping in mind the various levels of influence the ecological perspective comprises. Thus, the comprehensive planning systems, PRECEDE-PROCEED and Social Marketing, which are discussed in Part 3, both start with extensive research to assess needs at multiple levels. This often involves consumer and market

TABLE 1

An Ecological Perspective: Levels of Influence

Concept	Definition
Intrapersonal Factors	Individual characteristics that influence behavior, such as knowledge, attitudes, beliefs, and personality traits
Interpersonal Factors	Interpersonal processes, and primary groups including family, friends, peers, that provide social identity, support, and role definition
Institutional Factors	Rules, regulations, policies, and informal structures, which may constrain or promote recommended behaviors
Community Factors	Social networks and norms, or standards, which exist as formal or informal among individuals, groups, and organizations
Public Policy	Local, state, federal policies and laws that regulate or support healthy actions and practices for disease prevention, early detection, control, and management

analysis; epidemiological assessment; behavioral, educational, environmental, and organizational diagnosis; and administrative and policy assessment. It is in the research and diagnostic phases of program development, in particular, that social and behavioral theories are most valuable.

At this point, it is useful to examine theories and their applications in three levels consistent with the ecological perspective: individual (intrapersonal), interpersonal, and community. The third level—community—represents the combined elements of institutional factors, community factors, and public policy. The third level of influence represents a composite of factors related to larger social structures, which share common aspects under the general heading of "community."

Cognitive-Behavioral Models: Leading the Way in Individual and Interpersonal Theories

Contemporary models of health behavior at the individual and interpersonal levels usually fall within the broad category of COGNITIVE-BEHAVIORAL theories. Two key concepts cut across these theories:

1. Behavior is considered to be mediated through cognitions; that is, what we know and think affects how we act.

2. Knowledge is *necessary but not sufficient* to produce behavior change. Perceptions, motivation, skills, and factors in the social environment also play important roles.

Individual- (or Intrapersonal-) Level Model

Individual is the most basic level of health promotion practice. All other levels of health promotion, including groups, organizations, communities, and nations, are composed of individuals. They are the entities that comprise groups, manage organizations, elect or appoint leaders, and legislate policies. Thus, individual-level models can be pieces of broader-level theories; even policy and institutional changes require, at some point, influencing individuals.

In addition, many health professionals spend most of their time and effort working at the individual level in one-on-one encounters such as counseling and patient education. Individuals are often the prime audiences for health educational materials, too. For many different reasons, therefore, health practitioners must be able to explain and influence the behavior of individuals.

Theories at the individual level also focus on *intra*personal ("within individuals") factors. These are characteristics of individuals such as their knowledge, attitudes, beliefs, motivation, self-concept, developmental history, past experience, skills, and behavior. We will discuss three theories at this level: Stages of Change, the Health Belief Model, and Consumer Information Processing. Each has a distinct focus:

- The Stages of Change Model concerns individuals' *readiness* to change or attempt to change toward healthy behaviors.
- The Health Belief Model addresses a person's perceptions of the threat of a health problem and the accompanying appraisal of a recommended behavior for preventing or managing the problem.
- Consumer Information Processing Theory addresses the processes by which consumers take in and use information in their decision making.

Stages of Change

Suppose you were working with a large company with about 200 smokers to plan a smoking cessation program. You might provide group cessation clinics and offer them at various times and locations. However, if several months passed and only 50 of the smokers had signed up for the clinics, you might face a problem regarding what to do next: How to reach the many smokers who did not take part in the clinics? The Stages of Change Model, introduced by Prochaska and DiClemente, suggests one perspective for approaching this problem.

The Stages of Change Model evolved from work with smoking cessation and the treatment of drug and alcohol addiction and has recently been applied to a variety of other health behaviors. The basic premise is that behavior change is a *process* and not an event, and that individuals are at varying levels of motivation, or *readiness*, to change. People at different points in the process of change can benefit from different interventions, matched to their stage at that time.

Five distinct stages are identified in the Stages of Change Model: pre-contemplation, contemplation, decision/ determination, action, and maintenance. (See Table 2 for definitions and applications for intervention.) It is important to note that this is a *circular*, not a linear model. People don't go through the stages and "graduate"; they can enter and exit at any point, and often recycle. Studies have shown that individuals go through the same changes when using self-help or self-management methods, or when they seek professional help or go to organized programs. Also, there appear to be differences in how the stages fit the situation for different problem areas. For example, with a problem that involves overt, easily recognized behavior and includes a physical addiction component (e.g., alcoholism), the stages might have a different meaning than with a problem where target goals are not easily identified and where undesirable habits may have been formed without physiological addiction (e.g., following a diet with no more than 30 percent calories from fat).

The Stages of Change Model can be used both to help understand (*explain*) why employees who smoke might not take part in the group clinics and to develop a smoking control program that reaches more smokers (*change*). First, to *explain* the situation: Current or former smokers can be classified according to the stage that they are in by asking a few simple questions—are they interested in trying to quit, thinking about quitting soon, ready to plan a quit attempt, in the process of cessation, or trying to stay smoke-free? By knowing their current stage, you can help set realistic program goals—perhaps movement to the next stage, or joining a clinic and actually quitting or staying smoke-free. When it comes to *change* efforts, you can tailor messages, strategies, and programs to the appropriate stage. This might mean developing materials and activities focusing mainly on motivation, such as carbon monoxide testing, or holding a one-session "free sample" smoking cessation seminar for people considering quitting. These stage-based strategies would probably appeal to smoking employees who are not yet ready to join a quitting group. (See Table 2 for details.)

Health Belief Model

High blood pressure screening campaigns often identify people who are at high risk for heart disease and stroke, but who do not experience any symptoms. Thus, they may not think it is necessary to discuss the condition with a physician, or might not follow instructions to take prescribed medicine or lose weight. The Health Belief Model (HBM) can be useful in analyzing these people's inaction or noncompliance.

The HBM was one of the first models that adapted theory from the behavioral sciences to health problems, and it remains one of the most widely recognized conceptual frameworks of health behavior. It was originally introduced in the 1950s by psychologists working in the U.S. Public Health Service (Hochbaum, Rosenstock, Leventhal, and Kegeles). Their focus was on increasing the use of then-available preventive services, such as chest x-rays for tuberculosis screening and immunizations such as flu vaccines. They assumed that people feared diseases, and that health actions were motivated

TABLE 2

Stages of Change Model

Concept	Definition	Application
Pre-contemplation	Unaware of problem, hasn't thought about change	Increase awareness of need for change, personalize information on risks and benefits
Contemplation	Thinking about change, in the near future	Motivate, encourage to make specific plans
Decision/Determination	Making a plan to change	Assist in developing concrete action plans, setting gradual goals
Action	Implementation of specific action plans	Assist with feedback, problem solving, social support, reinforcement
Maintenance	Continuation of desirable actions, or repeating periodic recommended step(s)	Assist in coping, reminders, finding alternatives, avoiding slips/relapses (as applies)

in relation to the degree of fear (perceived threat) and expected fear-reduction potential of actions, as long as that potential outweighed practical and psychological obstacles to taking action (net benefits).

The HBM was spelled out in terms of four constructs representing the perceived threat and net benefits: perceived *susceptibility*, perceived *severity*, perceived *benefits*, and perceived *barriers*. These concepts were proposed as accounting for people's "readiness to act." An added concept, *cues to action*, would activate that readiness and stimulate overt behavior. A recent addition to the HBM is the concept of *self-efficacy*, or one's confidence in the ability to successfully perform an action. This concept was added by Rosenstock and others in 1988 to help the HBM better fit the challenges of changing habitual unhealthy behaviors, such as being sedentary, smoking, or overeating. (See Table 3.)

Originally, the HBM was developed to help *explain* health-related behaviors. It could guide the search for "why" and help identify leverage points for change. It can be a useful framework for designing *change* strategies, too. The most promising application of the HBM is for helping to develop messages that are likely to persuade individuals to make healthy decisions. The messages can be delivered in print educational materials, through electronic mass media, or in one-to-one counseling.

TABLE 3

Health Belief Model

Concept	Definition	Application
Perceived Susceptibility	One's opinion of chances of getting a condition	Define population(s) at risk, risk levels Personalize risk based on a person's features or behavior Heighten perceived susceptibility if too low
Perceived Severity	One's opinion of how serious a condition and its sequelae are	Specify consequences of the risk and the condition
Perceived Benefits	One's opinion of the efficacy of the advised action to reduce risk or seriousness of impact	Define action to take: how, where, when; clarify the positive effects to be expected
Perceived Barriers	One's opinion of the tangible and psychological costs of the advised action	Identify and reduce barriers through reassurance, incentives, assistance
Cues to Action	Strategies to activate "readiness"	Provide how-to information, promote awareness, reminders
Self-Efficacy	Confidence in one's ability to take action	Provide training, guidance in performing action

Messages that are suited to health education for hypertension control illustrate the components of the HBM. Before one will accept a diagnosis of hypertension and follow a prescribed treatment regimen, one must believe that one can have the condition without symptoms (*is susceptible*), that hypertension can lead to heart attacks and strokes (*the severity is great*), and that taking prescribed medication or following a recommended weight loss program will reduce the risk (*benefits*) without negative side effects or excessive difficulty (*barriers*). Print materials, reminder letters, or pill calendars might promote consistent adherence (*cues to action*). And if the individual has had a hard time losing weight and keeping it off in the past, a behavioral contracting strategy might be used to establish achievable short-term goals so that his or her confidence can increase (*self-efficacy*). (See Table 3 for application of concepts.)

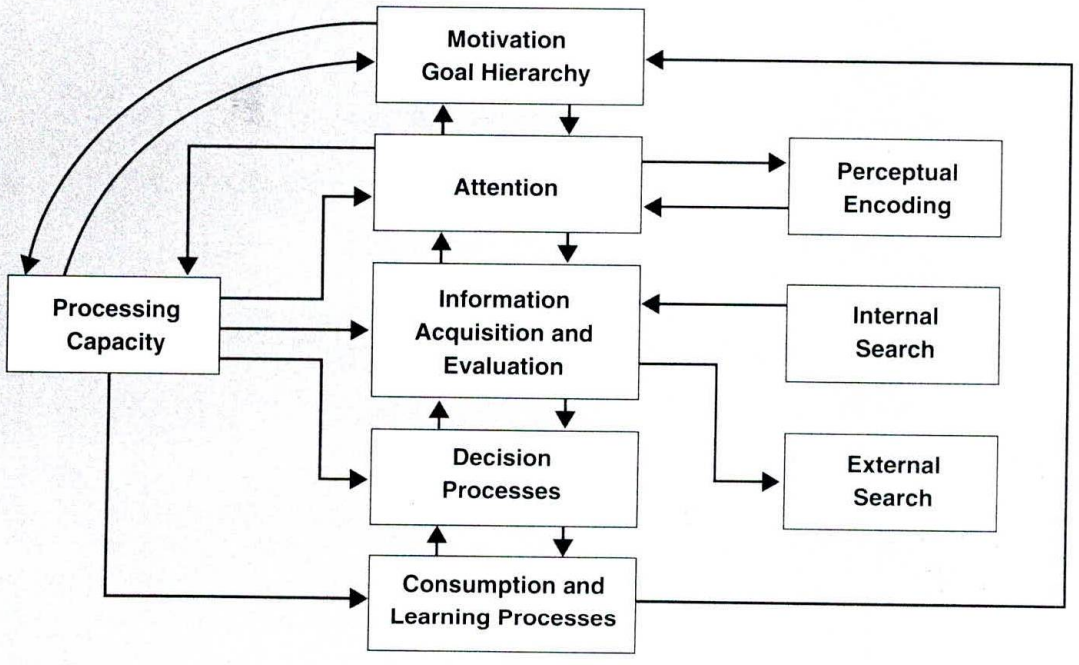
The HBM has a "good fit" when the problem behavior or condition evokes *health* motivation, since that is its central focus. While HBM concepts also can be stretched to relate to social or economic motivations (for example, greater attractiveness after weight loss, saving money by quitting smoking), these matters might be better addressed by other theories and models.

Consumer Information Processing

The Consumer Information Processing Model (CIP) grew out of the study of human problem solving and information processing. It was not developed specifically to study health-related behavior nor to be applied in health promotion programs, but it has many useful applications in the health arena. Information is a common tool for health education, and is often an essential foundation for health decisions. However,

FIGURE 2

Consumer Information Processing Model of Choice*



* Excerpted from Bettman, 1979.

TABLE 4

Consumer Information Processing Model

Concept	Definition	Application
Information Processing Capacity	Individuals' limitations in the amount of information they can acquire, use, and remember	Choose the most important and useful points to communicate, whether orally or in print materials
Information Search	Processing of acquiring and evaluating information; affected by motivation, attention, and perception	Provide information so it takes little effort to obtain, draws consumer's attention, and is clear
Decision Rules/ Heuristics	Rules of thumb, developed and used to help consumers select among alternatives	Learn key ways to synthesize information in ways that have meaning and appeal for your audience
Consumption and Learning	Internal feedback based on outcome of choices, and use in future decisions	Keep in mind that people have probably made related choices in the past, and are not "empty vessels"
Information Environment	Amount, location, format, readability, and processability of relevant information	Design information tailored to the audience; place it conveniently for use

as we noted earlier, information is *necessary but not sufficient* for encouraging healthful behaviors. Still, misconceptions can lead even motivated consumers to behave in risky ways.

People require information about medical self-care regimens, guidance in choosing among alternative treatment modalities, and specific information to choose foods for therapeutic diets. Information can increase or decrease people's anxiety, depending on their information preferences, and how much and what kind of information they are given. Also, illness and its treatments can interfere with information processing. By understanding the key concepts and processes of CIP, health educators can examine why people use or fail to use health information, and design informational strategies with better chances for success.

CIP theory reflects a combination of rational and motivational ideas. The use of information is an intellectual process; however, motivation drives the search for information and how much attention people pay to it. Central assumptions of CIP are that: (1) Individuals are limited in how much information they can process, and (2) in order to increase the usability of information, they combine bits of information into "chunks" and create decision rules, known as heuristics, to make choices faster and more easily. (See Table 4 for a summary of key concepts and applications.)

One of the best known models of CIP was developed by James Bettman (see Figure 2). It depicts a cyclical process of information search, choice, use and learning, and feedback for future decisions. It is important to note the feedback loops throughout the model. Bettman's model has been extended to consider that the information environment affects how easily people obtain, process, and use information. This leads to some basic CIP concepts for application in health promotion: Before people will use health information, it must be (1) available, (2) seen as useful and new, and (3) processable, or format-friendly.

Table 4 illustrates generic applications of key CIP concepts. An example that applies CIP is point-of-purchase (P-O-P) nutrition information in grocery stores. In P-O-P programs, information is presented in summary form and only selected, useful points are communicated (*information processing capacity, decision rules*). Stickers or labels bearing symbols or phrases such as "low-fat" or "low-calorie" are conveniently provided on food items or as shelf tags so that they are easy to locate (*information search*). The most successful programs provide information that is likely to be new and helpful in choosing foods that vary in nutritional value, such as dairy products, and not by telling consumers something they probably already know—for instance, by labeling all fresh vegetables as "healthy" (*consumption and learning*). During the design of)-P programs, health educators should conduct formative evaluations to be sure the audience finds the materials convenient, attractive, and easy to use (*information environment*).

Theories of Interpersonal Health Behavior

Theories of health behavior at the interpersonal level assume that individuals exist within environments where other people's thoughts, advice, examples, assistance, and emotional support affect their own feelings, behaviors, and health. The significant individuals and groups include family members, co-workers, peers, health professionals, and other social entities who are similar to or influential for them. People are both influenced by, and influential in, their social environments.

Theories of interpersonal health behavior are not limited to developing an understanding of interactions, though the dynamics of relationships are often at the core of these theoretical frameworks. The theories at this level include factors related to individuals' experience and perceptions of their environments in combination with their personal characteristics.

Social Learning Theory (SLT) is complex and includes many concepts that are useful in health promotion. For this reason, we concentrate here on describing and applying SLT. Other theories of interpersonal influence, including social power, interpersonal communication, social networks, and social support, are also useful, but they are not discussed in depth in this monograph because of length constraints.

Social Learning Theory assumes that people and their environments interact continuously. It is important to recognize that SLT clearly addresses both the psychosocial factors that determine health behavior and strategies to promote behavior change.

Social Learning Theory or Social Cognitive Theory

As the prevalence of sexually transmitted diseases in adolescents rises, the importance of consistent use of condoms by sexually active teens has come to the attention of health educators. It appears that there are several reasons why these youth do not routinely use protection: some do not know what kind of condoms are best and how to use them properly; others fear that potential partners will reject them if they insist on condoms; and some who believe condoms are important find it hard to be assertive in intimate situations. The SLT can be used to turn these explanations into successful health education strategies.

Another example involves a new mother who wants to breastfeed but has just returned to work, where lack of privacy, a busy schedule, and lack of refrigeration keep her away from her infant for long hours and preclude pumping breast milk for later use. Social Learning Theory suggests possible responses to this problem, also.

In Social Learning Theory, human behavior is explained in terms of a three-way, dynamic, reciprocal theory in which personal factors, environmental influences, and behavior continually interact. A basic premise of SLT is that people learn not only through their own experiences, but also by observing the actions of others and the results of those actions. In the 1970s, Albert Bandura published a comprehensive framework for understanding human behavior, based on a cognitive formulation which he named the Social Cognitive Theory. That framework is currently the dominant version used in health behavior and health promotion; however, it is still often referred to as SLT, the term we will use in this section.

Social Learning Theory synthesizes concepts and processes from cognitive, behavioristic, and emotional models of behavior change. As a result, it is very complex and includes many key constructs. Selected key concepts are defined and their applications presented in Table 5. The first concept, *reciprocal determinism*, means that behavior and the environment are reciprocal systems and that the influence is in both directions. (This idea is also central to the ecological perspective.) That is, the environment shapes, maintains, and constrains behavior; but people are not passive in the process, as they can create and change their environments.

Consider the dilemma of the new mother described above. If she becomes an advocate for flextime and begins a support group or advocacy effort to persuade management to provide mothers' rooms and refrigerators, her personal views and behavior may change. Her opportunities for breastfeeding and/or for storing pumped breast milk will increase, as will her confidence that motherhood can be compatible with her job.

The concept of *behavioral capability* maintains that a person needs to know what to do and how to do it; thus, clear instructions and/or training may be needed. *Expectations* are the results that a person thinks will occur as a result of action. *Self-efficacy*, which Bandura considers the single most important aspect of the sense of self that determines one's effort to change behavior, is self-confidence in one's ability to successfully perform a specific type of action.

TABLE 5

Social Learning Theory or Social Cognitive Theory

Concept	Definition	Application
Reciprocal Determinism	Behavior changes result from interaction between person and environment; change is bidirectional	Involve the individual and relevant others; work to change the environment, if warranted
Behavioral Capability	Knowledge and skills to influence behavior	Provide information and training about action
Expectations	Beliefs about likely results of action	Incorporate information about likely results of action in advice
Self-Efficacy	Confidence in ability to take action and persist in action	Point out strengths; use persuasion and encouragement; approach behavior change in small steps
Observational Learning	Beliefs based on observing others like self and/or visible physical results	Point out others' experience, physical changes; identify role models to emulate
Reinforcement	Responses to a person's behavior that increase or decrease the chances of recurrence	Provide incentives, rewards, praise; encourage self-reward; decrease possibility of negative responses that deter positive changes

In order for sexually active teens to consistently use condoms to protect them from sexually transmitted diseases, they need to know what type of condoms work best and how to use them properly (*behavioral capability*), to believe that potential sex partners won't reject them because they want to use condoms (*expectations*), and to have the strength of confidence in themselves to state their wishes clearly before or during an intimate encounter (*self-efficacy*).

Observational learning is often referred to as "modeling," that is, that people learn about what to expect through the experience of others. This means that people can gain a concrete understanding of the consequences of their actions by observing others and noting whether the modeled behaviors are desirable or not.

Observational learning is most powerful when the person being observed is powerful, respected, or considered to be like the observer.

- Children may observe their parents not using seatbelts, driving above the speed limit, and consuming too much alcohol. If they do not see any negative effects, they are more likely to adopt these behaviors themselves.

- A woman who has tried numerous weight-loss diets may feel discouraged until she sees an old friend who has much the same problem, but who has slimmed down. There is a good chance that woman will be motivated to try the approach (or diet) that worked so well for her friend.

Reinforcement is a response to a person's behavior that affects whether or not the behavior will be repeated. Positive reinforcements, often called "rewards," increase the chances that behaviors will be repeated. Negative reinforcements include punishment and lack of any response. Health promotion programs that provide tangible rewards or praise and encourage self-reward, encourage people to establish positive habits. Extrinsic rewards to help motivate behavior change should be used with caution to avoid developing dependence on external reinforcements. They are often useful as motivators for continued participation but not for sustaining long-term change.

Token reward systems and refundable deposits have been used successfully to increase participation rates and reduce attrition in a variety of health promotion programs that involve multiple sessions, such as smoking cessation, physical activity, and weight management programs.

Because *self-efficacy* is considered so important in SLT, it is worth looking at ways to increase self-efficacy. The advantages of greater self-efficacy include higher motivation in the face of obstacles and better chances of persisting over time outside a situation of formal supervision. Three strategies for increasing self-efficacy are consistent with other aspects of SLT, too:

1. *Setting small, incremental goals*: When someone achieves a small goal, like exercising for 10 minutes each day, her self-efficacy increases. Thus, the next goal (longer periods each day, 5 days in a row) seems achievable, and her persistence is greater.

2. *Behavioral contracting*: By using a formalized process to establish goals and specify rewards (*reinforcement*), a patient trying to adhere to a self-care regimen can receive feedback about performance, praise, and a tangible, motivating reward.

3. *Monitoring and reinforcement*: Feedback from self-monitoring or recordkeeping can reduce anxiety about one's ability to achieve a behavior change, thus increasing self-efficacy.

Community-Level Models

Designing health promotion initiatives to serve communities and targeted populations, and not just single individuals, is at the heart of a public health orientation. The collective well-being of communities can be fostered by creating structures and policies that support healthy lifestyles, and by reducing or eliminating hazards in social and physical environments. Community-level models are frameworks for understanding how social systems function and change, and how communities and organizations can be activated.

Community-level models are essential for *comprehensive* health promotion efforts. These models embody an ecological perspective and are the foundations for pursuing goals of better health for individuals, groups, institutions, and communities. They complement individually oriented behavior change goals with broad aims that include advocacy and policy development. Community-level models suggest strategies and initiatives that are planned and led by organizations and institutions whose missions are to protect and improve health: schools, worksites, health care settings, community groups, and government agencies.

Ideally, comprehensive health promotion efforts build on strategies that have been tried and found effective for reaching health and health behavior goals. However, while strategies have been shown to be effective in many behavioral arenas (e.g., marketing, political), there are currently few health issues for which a variety of demonstrably effective strategies are known.

- Smoking prevention and control is one area for which effective interventions have been developed and evaluated. Thus, community-level tobacco control efforts are well defined. They involve simultaneous pursuit of four main goals within a defined locale: (1) raising the priority of smoking as a health concern, (2) improving communities' abilities to change smoking behavior, (3) increasing the influence of existing legal and economic factors that discourage smoking, and (4) strengthening social norms and values supporting nonsmoking.

Achieving these goals means creating an environment for change. Similar goals can be applied to other important community health issues, also. Each of the conceptual frameworks in this section applies to one or more strategies aimed at these goals.

This section describes three conceptual frameworks for community-level change in health promotion:

- *Community Organization* has its roots in theories of social networks and support. It emphasizes active participation and the development of communities that can better evaluate and solve health and social problems.

- *Diffusion of Innovations Theory* addresses how new ideas, products, and social practices spread within a society or from one society to another.

- *Theories of Organizational Change* concern the processes and strategies for increasing the chances that healthy policies and programs will be adopted and institutionalized within formal organizations.

Community Organization

The challenge of activating and involving specific, and often underserved, population groups faces many public health organizations. For instance, high rates of hypertension among African-Americans may combine with low socioeconomic status and a sense of alienation from mainstream medical care to inhibit successful cardiovascular risk reduction programs. Other groups, such as people who share common health problems like AIDS, may feel disenfranchised from the powerful medical establishment. Community organization models are useful for designing programs to improve health in both of these situations.

Community organization is the process by which community groups are helped to identify common problems or goals, mobilize resources, and develop and implement strategies for reaching their goals. It has roots in several theoretical perspectives: the ecological perspective, social systems perspective, social networks, and social support. It is also consistent with Social Learning Theory and can be successfully used along with SLT-based strategies. Community organization is composed of several alternative change models, often identified using Rothman's typology that consists of three models: locality development, social planning, and social action. These models sometimes overlap and can be combined.

- *Locality development* (also called community development) uses a broad cross-section of people in the community to identify and solve their own problems. It stresses consensus development, capacity building, and a strong task orientation; outside practitioners help to coordinate and enable the community to successfully address its concerns.

- *Social planning* uses task goals and addresses substantive problem solving, with expert practitioners providing technical assistance to benefit community consumers.

- *Social action* aims to increase the problem-solving ability of the community and to achieve concrete changes to redress social injustice that is identified by a disadvantaged or oppressed group.

Although community organization does not use a single unified model, several key concepts are central to the various approaches. (See Table 6). The process of *empowerment* is intended to stimulate problem solving and activate community members. *Community competence* is an approximate community-level equivalent of self-efficacy plus behavioral capability, that is, the confidence and skills to solve problems effectively. *Participation* and *relevance* go together: They involve citizen activation and a collective sense of readiness for change. *Issue selection* concerns identifying "winnable battles" as a focus for action, and *critical consciousness* stresses the active search for root causes of problems.

An important step in changing public policy is creating the environment in which change can take place. In public health, this often means examining social and political environments and inequities that need attention along with overt health concerns.

Cardiovascular disease risk reduction programs based in African-American churches have used community organization strategies to set up risk factor reduction programs for congregation members. Using a combination of locality development and social planning models, they have established task forces and trained lay educators to conduct blood pressure screenings, organize healthy potluck meals, and begin physical activity programs like walking clubs. In these programs, empowerment and community competence are increased by the use of task forces that identify ways to improve the health of congregants and learn skills to put those techniques into practice. Participation is achieved by inviting a broad spectrum of individuals to play active roles, and issue selection is reflected in the decision to focus on risk factors that can be measured and affected in a fairly short time period.

TABLE 6

Community Organization

Concept	Definition	Application
Empowerment	Process of gaining mastery and power over oneself/ one's community, to produce change	Give individuals and communities tools and responsibility for making decisions that affect them
Community Competence	Community's ability to engage in effective problem solving	Work with community to identify problems, create consensus, and reach goals
Participation and Relevance	Learners should be active participants, and work should "start where the people are"	Help community set goals within the context of pre-existing goals, and encourage active participation
Issue Selection	Identifying winnable, simple, specific concerns as focus of action	Assist community in examining how they can communicate the concerns, and whether success is likely
Critical Consciousness	Developing understanding of root causes of problems	Guide consideration of health concerns in broad perspective of social problems

Social action approaches to community organizing go beyond the traditional notion of geographical and political boundaries. Communities of people who share common health problems have coalesced to attract attention for and obtain power to address their needs—including health services, antidiscrimination policies, and more research funding. Foremost among these groups presently are AIDS activists. Women's health advocates have also used social action to pressure powerful institutions to address their problems; breast cancer is now a focus for action and advocacy among breast cancer survivors and their relatives. They have used *media advocacy* as a powerful tool in their efforts. Participation and relevance are inherent in these health action coalitions. The act of joining forces plants the seeds for empowerment, and the experiences of group members and precedents set by other groups enhance community competence. Critical thinking about the causes of their problems may lead these groups to address issues of discrimination and oppression of women or homosexuals. However, they tend to choose issues that are clear and specific as the goals for their action.

Media advocacy is the strategic use of mass media as a resource for advancing a social or public policy initiative. It is an important, and often essential, part of social action and advocacy campaigns because the media focus public concern and spur public action. The core components of media advocacy are developing an understanding of how an issue relates to prevailing public opinions and values, and designing messages that "frame the issues" so as to maximize their impact and attract powerful and broad public support. Groups like Action AIDS and tobacco control coalitions have been creative and strategic in their use of mass media. As a result, they have made major advances in public support, funding, and policies in a remarkably short time.

Diffusion of Innovations

The availability of new screening technologies and medical self-care products for home use provides exciting opportunities to detect disease in earlier, more treatable stages and to reduce the cost and inconvenience of frequent medical visits. But it may be inconvenient to obtain cancer screening, and home blood pressure and diabetes testing kits can be difficult to understand and use. Diffusion of Innovations Theory is helpful for understanding these concerns and the dissemination of new health promotion tools and strategies, including prevention and health education curricula.

Diffusion of Innovations Theory addresses how new ideas, products, and social practices spread within a society or from one society to another. In public health and health promotion, it is a major challenge to disseminate new prevention, early detection, and treatment methods and to increase the use of programs and curricula that have been found to be successful. Sometimes, purchase decisions, or "adoption" decisions, are made on behalf of large organizations or communities. This happens when a school system adopts a curriculum, a teacher adopts a course textbook, a worksite health manager contracts for screening services, and a city council decides to acquire recycling bins. The challenge of diffusion requires approaches that differ from those focused solely on individuals or small groups. It involves paying attention to the innovation (a new idea, product, practice, or technology) as well as to communication channels and social systems (networks with members, norms, and social structures).

A focus on *characteristics of innovations* can improve the chances that they will be adopted, and hence diffused. It also has implications for how the innovation is positioned to maximize its appeal. (See Table 7.) Some of the most important characteristics of innovations are their relative advantage (is it better than what was there before?), compatibility (fit with the intended audience), complexity (ease of use), trialability (can it be tried out first?), and observability (visibility of results).

TABLE 7

Diffusion of Innovations Theory

Concept	Definition	Application
Relative Advantage	The degree to which an innovation is seen as better than the idea, practice, program, or product it replaces	Point out unique benefits: monetary value convenience, time saving, prestige, etc.
Compatibility	How consistent the innovation is with values, habits, experience, and needs of potential adopters	Tailor innovation for the intended audience's values, norms, or situation
Complexity	How difficult the innovation is to understand and/or use	Create program/idea/product to be uncomplicated, easy to use and understand
Trialability	Extent to which the innovation can be experimented with before a commitment to adopt is required	Provide opportunities to try on a limited basis, e.g., free samples, introductory sessions, money-back guarantee
Observability	Extent to which the innovation provides tangible or visible results	Assure visibility of results: feedback or publicity

- A mobile mammography unit that offers the same service as a hospital or doctor's office, but saves travel time and money, has advantages over a stationary facility (*relative advantage*).

- Culturally sensitive AIDS education videotapes are more acceptable in Hispanic communities than the same materials produced for white or African-American audiences (*compatibility*).

- A diabetes home testing kit might seem like a good idea, but if it is too difficult to use most people with diabetes will not use it regularly or effectively. But a digital blood pressure monitor may be appealing for home monitoring because it is easier to use and to understand than a traditional stethoscope model (*complexity*).

- An open introductory session can help attract more employees to register for a multiple-session nutrition course than a course that permits only preregistered participants (*trialability*).

- By providing feedback in the form of case examples or cumulative statistics, clinic users can get a concrete sense of the value of a cancer screening program (*observability*).

Communication channels are another important component of Diffusion of Innovations theory. Diffusion theories view communication as a two-way process, rather than one of merely "persuading" an audience to take action. The two-step flow of communication, in which opinion leaders mediate the impact of mass media, emphasizes the value of social networks, or interpersonal channels, over and above mass media, for adoption decisions.

Physicians and community leaders are important allies in communicating about new practices or ideas to improve health. When they reiterate information that is provided through mass media channels, the chances that consumers will decide to act increase. If a nurse demonstrates a diabetes home testing kit in the health care setting, and supervises a patient's practice in using it, he or she will be more likely to use it properly at home.

Organizational Change

Smoke-free work environments can reduce the costs of building maintenance, prevent health problems due to environmental tobacco smoke, and encourage smokers to quit and quitters to remain tobacco-free. But smoking policies challenge the status quo and are viewed by some as threats to individual privacy. They can evoke conflict among workers and management and raise questions of authority versus self-determination. Tobacco policies are organizational changes that are best attempted with an understanding of organizational change theories.

Organizations are complex and layered social systems, composed of resources, members, roles, exchanges, and unique cultures. Thus, organizational change can best be promoted by working at multiple levels within the organization. Understanding organizational change is important in promoting health to help establish policies and environments that support healthy practices and the capacity to solve new problems. While there are many theories of organizational behavior, two are especially promising in public health interventions: Stage theory and Organizational Development (OD) theory.

Stage theory is based on the idea that organizations pass through a series of steps or stages as they change. By recognizing those stages, strategies to promote change can be matched to various points in the process of change. An abbreviated version of Stage theory involves four stages: problem definition (awareness), initiation of action (adoption), implementation, and institutionalization. (See Table 8.) When problems are first being recognized, awareness of various options is important. Practical information is needed when leaders are ready to decide on a course of action, and training and technical assistance are most suitable during the implementation stage. For organizational change to be complete, the new policy or program should be *institutionalized*, that is, become entrenched in the organization.

TABLE 8

Organizational Change: Stage Theory

Concept	Definition	Application
Problem Definition (Awareness Stage)	Problems recognized and analyzed; solutions sought and evaluated	Involve management and other personnel in awareness-raising activities
Initiation of Action (Adoption Stage)	Policy or directive formulated; resources for beginning change allocated	Provide process consultation to inform decision makers and implementers of what adoption involves
Implementation of Change	Innovation is implemented, reactions occur, and role changes occur	Provide training, technical assistance, and problem-solving aid
Institutionalization of Change	Policy or program becomes entrenched in the organization; new goals and values are internalized	Identify high-level champion, work to overcome obstacles to institutionalization, and create structures for integration

Organizational Development theory grew out of the recognition that organizational structures and processes influence worker behavior and motivation. Both technologies and workplace norms can be foci for OD theory. OD theory concerns identifying problems that impede an organization's functioning, rather than the introduction of a specific type of change. Human relations and so-called quality of work life factors are often the targets of OD problem diagnosis, action planning, interventions, and evaluation. A typical OD strategy involves process consultation, in which an outside specialist helps identify problems and facilitates the planning of change strategies.

Stage theory and OD theory have the greatest potential to produce health-enhancing change in organizations when they are combined. That is, OD strategies can be used at various stages as they are warranted. Simultaneously, the stages signal the need to involve organization members and decision makers at various points in the process.

Organizational change theories can guide the development of a smoke-free work environment. A representative committee (including smokers and nonsmokers) would first analyze the situation, needs, and advantages and disadvantages of various approaches (*problem definition*). Senior management might decide to offer smoking cessation programs, but also to implement a restrictive smoking policy in the company (*initiation of action*). At this stage it is important to continue involving the representative committee to avoid major obstacles. Training of managers, communication regarding new policies and their enforcement, and hiring leaders for cessation programs would then follow (*implementation*). After a period of fine-tuning and adjustment, management might decide to make the policy permanent and offer ongoing smoking cessation opportunities (*institutionalization*). A standing advisory committee could be established at that time, also.

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PUTTING IT TOGETHER

Many health workers find that they can achieve the greatest impact by *combining* more than one theory to address a problem. The theories in this monograph are most effective if they are integrated within a *comprehensive planning system*. Such a system assigns a central role to research as input to determine the situation and needs of the population to be served, the resources available, and the progress and effectiveness of the program at various stages. Planning is a continuous process, in which new information is gathered to build or improve the program.

Theories can be combined within one level, or across levels of practice. For example, the Health Belief Model might provide the basis for a message encouraging women to obtain cervical cancer screening (Pap smears), and Consumer Information Processing might guide the design and format for providing information. When it comes to combining theories across levels of practice, you need only remember that the broader or larger levels (interpersonal, community) are composed of units at the more narrow levels (individual, intrapersonal). Thus, a cancer control program using the locality development model of Community Organization theory could employ skill development strategies suggested by Social Learning theory. Further, those skill development strategies could be phased in, thus designed to help move a wide variety of community dwellers through the Stages of Change.

Although health behavior theories are critical tools, **the health educator cannot substitute theory for planning or research**. However, theories help us interpret problem situations and plan feasible interventions. Theory also plays an important role in program evaluation. Because it identifies the assumptions behind intervention strategies, it helps pinpoint intermediate steps that should be assessed in evaluation. These "mediating factors" help to clarify the reasons why programs achieve or fail to achieve our goals for success in changing behaviors or environments.

While theory alone does not produce effective programs, research, planning, implementing, and monitoring do. Two well-developed planning models that can be used to integrate diverse theoretical frameworks, Social Marketing and PRECEDE-PROCEED, are discussed below.

Social Marketing

Social Marketing is a process to develop, implement, evaluate, and control behavior change programs by creating and maintaining exchanges, such as volunteer time for community recognition or individual effort for the health of future generations. Kotler and Andreasen define it as the adaptation of commercial marketing technologies to the analysis, planning, execution, and evaluation of programs designed to influence the behavior of target audiences in order to improve their physical and mental well-being and/or that of the society of which they are a part.

Marketing takes a *consumer orientation*: Success will come to the organization that best determines the perceptions, needs, and wants of target markets and satisfies them through the design, communication, pricing, and delivery of appropriate, competitive, and visible offerings. The process is consumer-driven, not expert-driven. Social Marketing uses the principle of voluntary exchange: Individuals, groups, and organizations have resources (such as money, effort, or time) which

they are willing to exchange for perceived benefits (such as looking and feeling better, social prestige, and being independent). Marketing facilitates the exchange by providing the audience with benefits they value as being worth the cost—does so in a way that allows the marketer to continue to provide and improve that offering, and does so efficiently. The exchange satisfies the customer and the marketer.

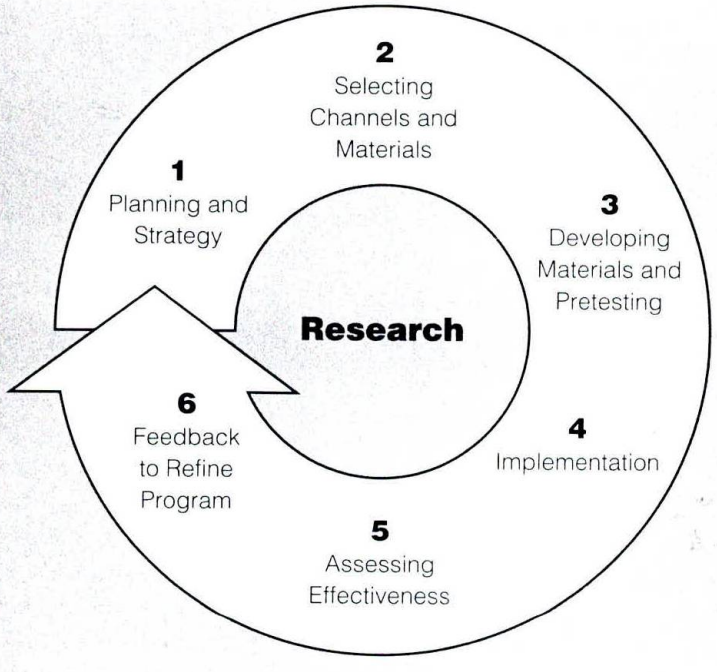
Social Marketing concentrates on tailoring programs to serve a defined target group. That group can be health professionals, community leaders, legislators, corporate executives, retail store managers, media decision makers, public health officials, and various public audiences. It is not just "the individual." A tight, continuous focus on the particular consumers one is trying to affect (the "target") will assure the planner's ability to identify and meet consumer needs.

Social Marketing is most successful when it is implemented as a systematic, continuous process which is driven at every step by decision-based research used as feedback to adjust the program. A clear, workable marketing process includes six stages: analysis, planning, development of plan elements, implementation, assessment of in-market effectiveness, and feedback to the first stage. (See Figure 3.) There is constant research-based feedback and planning within each stage as well.

To change the consumer's behavior one must first understand both what drives and maintains current behavior and what "levers" in the consumer's life and environment might drive and maintain the new behavior. To create and run an effective program, one must also understand what drives, facilitates, and maintains the behavior of potential intermediaries, channels of distribution and communication, and actu-

FIGURE 3

Social Marketing Wheel



al and potential competitors (including internal and "friendly" competitors such as employees and other health organizations, respectively).

Analysis involves learning about the behaviors and environment to be changed. It includes learning about consumers' current behavior, what enables it, and what reinforces it, as well as the various factors in their environment that might be benefits or barriers to the desired behavior; consumers' current attitudes, opinions, interests, activities, and concerns; and consumers' product usage and media habits. Part of consumer analysis is to divide the market into subgroups that are relatively homogeneous in their needs and their likely response to different programs and messages (i.e., to "segment" it). For example, smokers may be divided by geography, demography, social setting, lifestyle, level of readiness for change, and media habits, among other factors. The more specific the target, the more customized the program offering can be to satisfy them—by reaching them with the right message about the right product at the right price in the right place and time.

Planning involves identification of clear, realistic, measurable behavior objectives that fit the organization's mission, the behavior and environment to be changed, and the organization's resources. It includes selecting the target segment(s) for the program. For each segment chosen, one must plan a distinctive *marketing mix* of "4 Ps": product, price, place (distribution), and promotion (communication). The product is the program and/or action you are encouraging. Price includes both tangible and intangible costs to engage in action or take part in a program; it includes money, time, opportunity costs, and even pain and fear of the action's consequences. Distribution involves the location or system for getting the program, product, or action to consumers, and communication involves all strategies to promote the program/action and to inform consumers about it and its advantages.

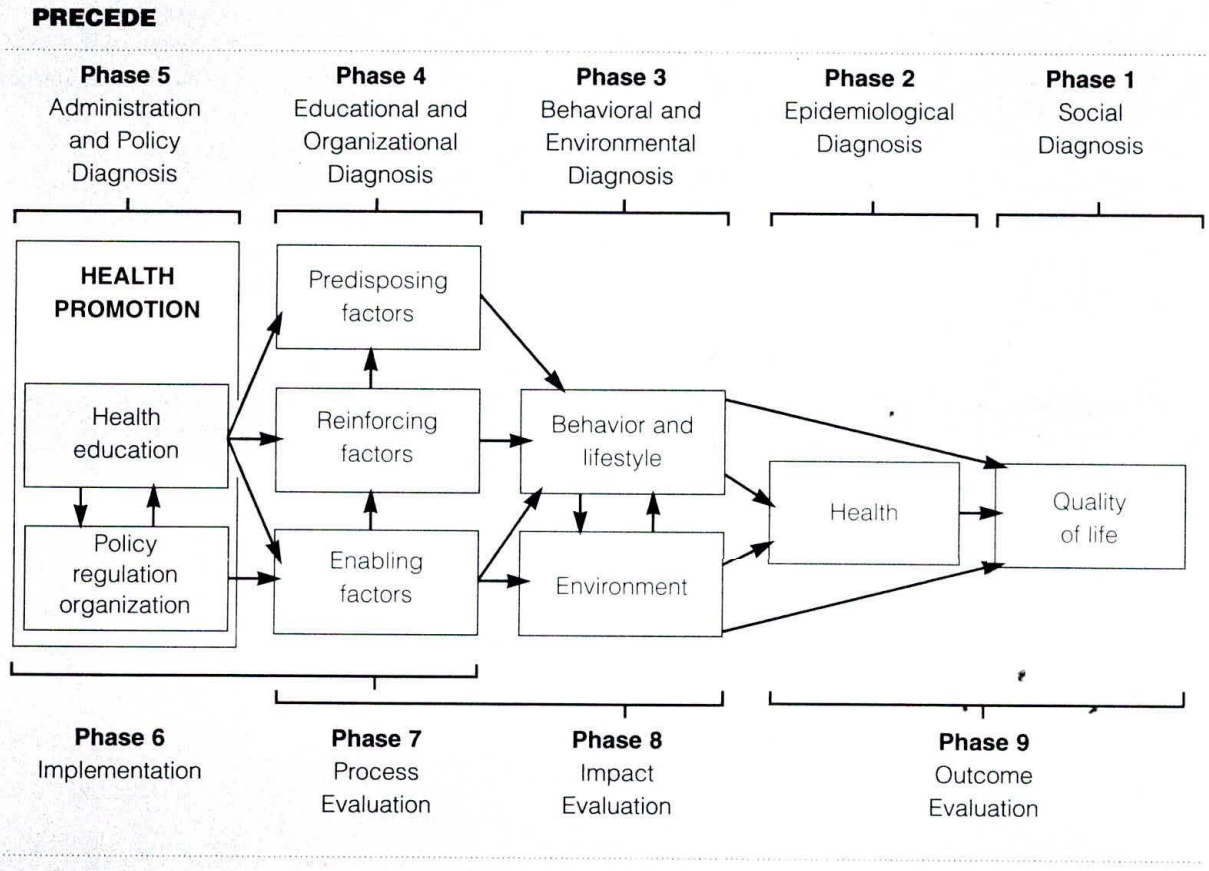
Much of the research conducted in marketing is *formative and process research* to know the consumer and to develop and refine concepts, messages, products, services, pricing, and distribution channels before they are implemented fully. Marketers view techniques such as focus groups, intercept interviews, and pilot studies as cost-efficient necessities to optimize program content and delivery and to avoid exposing expensive and irreversible disasters to the target audience. It is better (and cheaper) to avoid disasters than to measure them. *Summative research* is also conducted in social marketing, often in the form of outcome monitoring. It is conducted to compare the impact and outcomes against planned program objectives so that one can tell (1) what worked and what needs improvement, and (2) whether the program has been worth its cost.

PRECEDE-PROCEED

PRECEDE-PROCEED is a planning model designed by Lawrence Green and Marshall Kreuter for health education and health promotion programs. Its overriding principle is that most enduring health behavior change is voluntary in nature. This principle is reflected in a systematic planning process which seeks to empower individuals with understanding, motivation, and skills and active engagement in community affairs to improve their quality of life. This is also practical: Much research shows that behavior change is most likely and lasting when people have actively participated in decisions about it. In the process, they make healthy choices easier by changing their behavior and by changing the policies and regulations which influence their behavior.

FIGURE 4

PRECEDE-PROCEED*



*Source: Green and Kreuter, 1991.

PRECEDE-PROCEED has nine phases, the first five of which are *diagnostic*: (1) *social* diagnosis of the self-determined needs, wants, resources, and barriers to them in the target community; (2) *epidemiological* diagnosis of the health problems; (3) *behavioral and environmental* diagnosis of the specific behaviors and environmental factors for the program to address; (4) *educational and organizational* diagnosis of the predisposing, enabling, and reinforcing conditions which immediately affect behavior; and (5) *administrative and policy* diagnosis of the resources needed and available in the organization, as well as the barriers and supports available in the organization and community.

TABLE 9

PRECEDE-PROCEED as an Organizing Framework for Application of Theory

	Diagnostic Phase				
	PHASE 1 Social Diagnosis	**PHASE 2** Epidemiological Diagnosis	**PHASE 3** Behavioral & Environmental Diagnosis	**PHASE 4** Educational & Organizational Diagnosis	**PHASE 5** Administrative & Policy Diagnosis
THEORY					
Stages of Change			X	X	
Health Belief Model				X	
Consumer Information Processing				X	
Social Learning Theory			X	X	
Community Organization	X		X		
Organizational Change				X	X
Diffusion of Innovations				X	X

These diagnoses involve research in target communities and the change-initiating organization to identify goals and specific objectives and set priorities among the objectives to be addressed in the program. Each diagnosis identifies objectives and sets priorities among them based on their importance, immediacy, and changeability. The result of all of these diagnoses is a plan with specific objectives and strategies. The assumptions behind the strategies are based on what was learned in the diagnostic phases about key causes and factors contributing to problems or needs; the application of theory, then, is useful in pinpointing which factors to examine within each diagnostic category. The plan leads right back to the end-goal: meeting the community's self-determined needs and wants.

The four remaining phases in PRECEDE-PROCEED are implementation and evaluation (process, impact, and outcome), with emphasis on using the latter to improve the former. Evaluation of the process begins as soon as implementation does, in order to detect problems early so they can be corrected. As implementation proceeds, the planner starts evaluating in the order in which program effects are expected. First, its immediate effects (impacts) are evaluated, in order to determine the extent to which the program needs modification. Finally, when enough time has passed—as specified in the objectives—the ultimate intended effects on morbidity, mortality, and quality of life are assessed. This kind of phased evaluation allows you to see what works and what does not.

To use PRECEDE-PROCEED as an organizing framework for application of theory, it is first important to reflect on which phases have the closest parallels to theories at the individual, interpersonal, and community levels. As Table 1 shows, the application of theories discussed in this guide is clustered around Phases 3, 4, and 5: behavioral and environmental diagnosis; educational and organizational diagnosis; and administrative and policy diagnosis. Community organization also relates to Phase 1, social diagnosis. None of the theories is especially informative for epidemiological diagnosis, where straightforward descriptive epidemiology is most pertinent. Still, community organization might come into play when it comes to *setting priorities* among existing health problems.

Theory is most likely to be informative during Phase 4 of the planning process suggested by PRECEDE-PROCEED, or the educational and organizational diagnosis. This phase focuses on examining factors that shape behavioral actions, and environmental factors. Behavioral actions—such as reducing intake of dietary fat, engaging in routine physical activity, and obtaining annual mammograms—are shaped by *predisposing*, *reinforcing*, and *enabling* factors, many of which are amenable to change. Environmental factors—such as availability of prevention services, hazardous workplace conditions, and reimbursement for cancer screening—are influenced primarily by *enabling* factors.

Suppose you were planning chronic disease intervention programs to reduce cancer risk. Those programs can only be effective if they influence the precursors to behaviors (or environments); and to influence those precursors, you must first be able to identify them.

- *Predisposing factors* provide the motivation or reason behind a behavior; they include knowledge, attitude, cultural beliefs, readiness to change, and so on.

- *Enabling factors* make it possible for a motivation to be realized; that is, they "enable" persons to act on their predispositions; they include available resources, supportive policies, assistance, and services.

- *Reinforcing factors* come into play after a behavior has begun, and provide continuing rewards or incentives; they contribute to repetition or persistence of behaviors. Social support, praise, reassurance, and symptom relief might all be reinforcing factors.

Theories help guide the examination of predisposing, enabling, and reinforcing factors. For example, the Health Belief Model targets certain kinds of beliefs that might lead a woman to get a mammogram, or to avoid one—her perception of her chances of developing cancer (*susceptibility*), and how serious she thinks cancer would be (*severity*); both are predisposing factors. Other HBM constructs relate to benefits of and barriers to screening. A potential benefit would be reassurance that she does not have cancer (*a reinforcing factor*); and the lack of insurance coverage for screening mammography might be a barrier (*negative enabling factor*). By finding out *how important* each of these factors is to her behavior, program planners might prioritize the importance of a message (for example, about personal susceptibility) or an administrative intervention (such as providing low- or no-cost screening, or changing insurance coverage). The best way to do this is by gathering information directly from women in that group (market segment); a next-best approach is to learn through reading the research literature on women with similar characteristics.

PRECEDE-PROCEED and Social Marketing are both comprehensive planning systems based on the needs of the people or community to be served. Both start with extensive research and analysis to assess those needs, planning backwards from the needs to steps which will meet them. Both deal with the individuals to be served—(health) consumers—and with others who have resources or influence on them, such as channels of distribution or "intermediaries" and "partners," including community leaders, media decision makers, parents, peers, teachers, and health professionals. Both use this analysis to focus on specific levers which might best influence the desired behavior. Levers are sought among predisposing factors such as motives, reinforcing factors such as rewards, and enabling factors or barriers. Both use this analysis to focus on specific, realistic behavioral objectives which can be measured for evaluation. And both use research to help create and refine the program elements continually. Finally, both provide ample opportunities for the use of multiple theories and methods.

Where to Begin: The Range of Theories

In order to make good use of theory in a given practice situation, it is necessary to consider both the social or health problem at hand and the community or organizational context for which the intervention is intended. Remember, theories are abstractions, so it's best not to merely *begin* with a "favorite theory." Once a problem is identified, one or the other of the planning systems outlined here—Social Marketing or PRECEDE-PROCEED—can be used to identify the social science theories that are most appropriate for understanding the problem behavior or situation. As Burdine and McLeroy point out, the theories can then be used to identify potential points of intervention. Methods of intervention can then be examined for their "fit" to the working model, and the past successes of those intervention strategies can be explored. Finally, thoughtful reflection on whether those intervention strategies are likely to work in a given situation is invaluable before proceeding. That process of reflection can be extended to pretesting or actively discussing proposed strategies with the person, group, or community that is involved.

Table 10 summarizes the focus and key concepts of each of the seven theories described in this guide. This table can be used as a reference point for identifying multiple theories that help understand and address a problem. For example, a program to reduce adolescents' tobacco use might be approached using several theories. Looking at the "focus" column first: The Stages of Change model might be very useful, whereas the Health Belief Model seems less promising—because youth don't think of tobacco in terms of its long-term health impact; in fact, they don't feel vulnerable to disease at all! Likewise, Consumer Information Processing would not seem suitable to this problem, because the "information" that tobacco use is dangerous, and illegal for minors, is widely available and probably not causally linked with tobacco use. Social Learning Theory is also promising, because it emphasizes the interchange among personal, environmental, and behavioral factors. Likewise, community organization and organizational change have a bearing on tobacco use in relation to community activation, and school and retail outlet policies regarding smoking and access.

These theories could be used as focal points for needs assessment, or problem diagnosis, and later serve as reference points for shaping intervention strategies. The application of each of the theories above might include these points:

- *Stages of Change*: By learning more about the stages of readiness among smoking adolescents, appropriate and effective cessation messages and strategies can be planned.

- *Social Learning Theory*: In the assessment process, it is helpful to examine how the social environment, including peer attitudes, influences tobacco use. The expectations of teens who experiment with tobacco or use it regularly would be particularly revealing, and observational learning and reinforcement might provide keys to both understanding why teens smoke and how to help them succeed at quitting.

- *Community Organization*: A coalition of concerned parents, teachers, and teens might be organized to help explore the nature of the tobacco use problem and potential solutions. The participation of smokers would be important. The coalition might later serve as a vehicle for program development and evaluation.

- *Organizational Change*: Issues relating to organizational change include school-based tobacco policies and access to tobacco through retail outlets. The development and enforcement of school-based policies directly parallel the phases of Stage Theory: problem definition, initiating action, implementation, and institutionalization of change. For reinforcement of laws regarding sales of tobacco products to minors, there may need to be a much longer period of problem definition, and establishment of cooperative relationships, before new approaches will be adopted.

TABLE 10

Summary of Theories: Focus and Key Concepts

	THEORY	FOCUS	KEY CONCEPTS
Individual Level			
	Stages of Change Model	Individuals' readiness to change or attempt to change toward healthy behaviors	Precontemplation Contemplation Decision/determination Action Maintenance
	Health Belief Model	Persons' perception of the threat of a health problem and the appraisal of recommended behavior(s) for preventing or managing the problem	Perceived susceptibility Perceived severity Perceived benefits of action Perceived barriers to action Cues to action Self-efficacy
	Consumer Information Processing Model	Processing by which consumers acquire and use information in their decision making	Information processing Information search Decision rules/heuristics Consumption and learning Information environment
Interpersonal Level			
	Social Learning Theory	Behavior is explained via a 3-way, dynamic reciprocal theory in which personal factors, environmental influences, and behavior continually interact	Reciprocal determinism Behavioral capability Expectations Self-efficacy Observational learning Reinforcement
Community Level			
	Community Organization Theories	Emphasizes active participation and development of communities that can better evaluate and solve health and social problems	Empowerment Community competence Participation and relevance Issue selection Critical consciousness
	Organizational Change Theory	Concerns processes and strategies for increasing the chances that healthy policies and programs will be adopted and maintained in formal organizations	Problem definition *(awareness stage)* Initiation of action *(adoption stage)* Implementation of change Institutionalization of change
	Diffusion of Innovations Theory	Addresses how new ideas, products, and social practices spread within a society or from one society to another	Relative advantage Compatibility Complexity Trialability Observability

TYPE OF ACTIVITY	PROMISING THEORIES	
Change People ▪ Educational Materials ▪ Behavioral Programs	Individual Level	Health Belief Model Consumer Information Processing Stages of Change
	Social Learning Theory	
Change the Environment ▪ Policy Changes ▪ Regulatory Changes ▪ Organizational Changes	Community Level	Community Organization (and Media Advocacy for Social Action) Diffusion of Innovations Organizational Change

The example above illustrates how multiple theories can be combined to address a single problem. Clearly, the resulting program will be a multi-component, multi-level effort. Given the limits of a written description, the application above must be considered as only a first step toward applying theory in the development of a public health program.

A Few Final Words

Once you are familiar with some contemporary theories of health behavior, the challenge is to use these critical tools within a comprehensive planning process. Planning systems like Social Marketing and PRECEDE-PROCEED increase the odds of success by examining health and behavior at multiple levels. This ecological perspective emphasizes our two main options:

- Change people
- Change the environment

The most powerful approaches will use both of these options together. Both are essential for truly comprehensive programs. Note, in the box above, how the activities most directly tied to changing *people* are derived from individual-level theories. In contrast, activities aimed at changing the *environment* draw on community-level theories. In between is Social Learning Theory, which has at its core a focus on the reciprocal causation between individuals and their environments.

If you regard theoretical frameworks as guides in your pursuit of successful efforts, you will maximize your flexibility and develop an ability to *apply* the abstract concepts of theory in a way that is most useful in your work settings and situations.

A knowledge of theory and comprehensive planning systems offers much. Other key elements of effective programs to remember are: a good program-to-people match (goals, needs, culture, educational and reading levels); accessible how-to information; active learning and getting involved; and skill building, practice, and reinforcement. Theory helps you ask the right questions, and effective planning lets you zero in on these elements in relation to a specific problem.

Effective use of theory for practice *takes practice*, but it's an effort that can pay off handsomely. Abstractions become concrete thoughts as you

> **"...pass with relief from the tossing sea of cause and theory to the firm ground of result and fact."**
> (*Winston Churchill, 1898*)

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