Strengthening Individual and Community Capacity to Prevent Disease and Promote Health: In Search of Relevant Theories and Principles

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The dominant theoretical models used in health education today are based in social psychology. While these theories have increasingly acknowledged the role of larger social and cultural influences in health behavior, they have many limitations. Theories seek to explain the causes of health problems, whereas principles of practice, which are derived from practical experience, assist intervenors to achieve their objectives. By elucidating the relationships between theory and practice principles, it may be possible to develop more coherent and effective interventions. The key research agenda for health education is to link theories at different levels of analysis and to create theory-driven models that can be used to plan more effective interventions in the complex environments in which health educators work.

Modern health education in this country emerged during the Progressive Era as a component of public health in an effort to improve health practices among disadvantaged populations, integrate recent immigrants into mainstream society, and control recurrent outbreaks of infectious diseases. School health education, community campaigns against tuberculosis, and immunization drives exemplified this early approach. In the post–World War II era, health education expanded its scope to include the encouragement of individuals to seek preventive health care to fight chronic disease, persuading them to

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change behaviors related to diet, tobacco use, and exercise and educating hospital patients about their illness. In the last two decades, concerns about containing health care costs, the reemergence of infectious diseases such as HIV infection and tuberculosis, and the self-help and personal growth movements have added still new dimensions to the practice of health education. Throughout its history, health education has been primarily a practice-based discipline, although in the last two decades academic health educators have strived to develop or borrow and apply social and behavioral theories to guide practice.

As the end of the 20th century approaches, it is appropriate to revisit the basic questions that have driven the profession of health education: What are the goals of health education practice? What values inform our work? What is our relation to the larger public health and health education systems?

This report will address three broad questions:

1. What theories can help health educators meet the challenges of the next period? More specifically, what theoretical work is needed to guide the building of the capacity of people and communities to promote health and prevent disease?
2. What common principles should guide health education practice across settings, populations, and strategies?
3. What should be the relationships among theory, principles, and practice?

The goal of this report is to help set the stage for the continuing dialogue that will be needed to plan a theoretical, research, and practice agenda for health education for the next period and to help health educators discuss the basic questions about the direction of our profession.

Four trends have profoundly changed the practice of public health in recent decades and each of these trends is likely to continue. First, the distinctions among chronic, infectious, and "social" diseases have become blurred. Infectious diseases like tuberculosis and HIV now require ongoing self-management, changes in lifestyle, and long periods of medical care. Models of "contagion" for risk behaviors such as tobacco or drug use suggest infectious disease-type interventions to reduce "transmission." Social problems like drug use and violence are described as chronic diseases, and the concept of relapse to risk behavior has been raised in relation to all three types of disease. The dominant mode of categorizing causes of ill health may no longer be useful for constructing the most effective interventions.[1]

Second, the continuing gaps in health status between rich and poor, often presented as a gap between Whites and people of color, have become a major cause of the lags in health status between the United States and other developed nations. The gap is also a significant cause of preventable morbidity and mortality.[2,3] In the last decade, many of the nation's most serious health problems—HIV/AIDS, violence, tuberculosis, drug abuse, and premature deaths from heart disease—have become increasingly concentrated in low-income populations.

Third, the population of the United States is becoming increasingly diverse. Within the next few years, many large states will have a population that is majority non-White. It may have been possible for health educators working in some communities three decades ago to assume a relatively homogeneous set of cultural values related to health, but that will become increasingly rare in the years to come.

Finally, whether by design or default, our health care system is undergoing significant changes. The promise (or threat) of significant reform that seemed possible in 1992 now seems unlikely in the next few years, but it would be foolish to assume that change will

not occur. These changes will profoundly alter the practice of health education; influencing the incentives for prevention, the financing of health education, and the relationship between the public health and the medical care systems.[4]

As we discuss the future of health education practice and research, we need to keep our eye on these four trends. Health education, like other health professions, is based on certain core values. The Society for Public Health Education's code of ethics provides one statement of these values. Values that are frequently mentioned in the health education literature include a respect for individual autonomy, social equity, democracy, and regard for cultural differences.[5-8] Because health educators are not ideologically uniform, some may stress values such as individual responsibility,[9] while others may emphasize equity.[8]

Figure 1 illustrates one model of the relationships among values, theory, practice, interventions, and improvements in public health. Research is characterized as a dynamic feedback process that provides theoreticians and practitioners with data on the process and impact of interventions. The ultimate goal of health education is to improve the health of the public.

Theories for Health Education

A theory, at the simplest level, is an explanation of why a phenomenon occurs the way it does. Kurt Lewin, one of the founders of modern social psychology, once observed that there is nothing so practical as a good theory. Lewin may have been correct, but the key question is, What constitutes a good theory? Social scientists like a theory that successfully predicts behavior; others are attracted by elegance—a parsimonious explanation of events—or verifiability, a test that some very influential theories (e.g., Freud's theory of the unconscious) fail.

For health educators, another test is needed. For us, a good theory guides practice. It leads to the development of interventions that improve the health of the public. It contributes to a more effective and efficient use of resources than efforts guided by intuition or practical experience alone.

One way to decide if a theory is good, if it meets the proposed criteria, is to assess retrospectively whether it led to an effective intervention. The problem with this approach is that it forces us to learn from our failures. It also risks posing a tautology: Good theories lead to effective interventions, effective interventions by definition are informed by good theories.

To avoid these problems and to help select theories useful to the practice of health education, it is suggested that to serve as a useful guide to practice, theories must be able to answer four questions:

1. What are the primary causes of the health conditions of interest?
2. What are the links between intervention activities and outcomes?
3. How do different levels of experience (e.g., individual, community, and societal) interact?
4. What is the role of the health educator?

Primary Causes

Health education seeks to improve the well-being of individuals and communities. A useful theory has to explain where to start in order to achieve this goal. The health belief

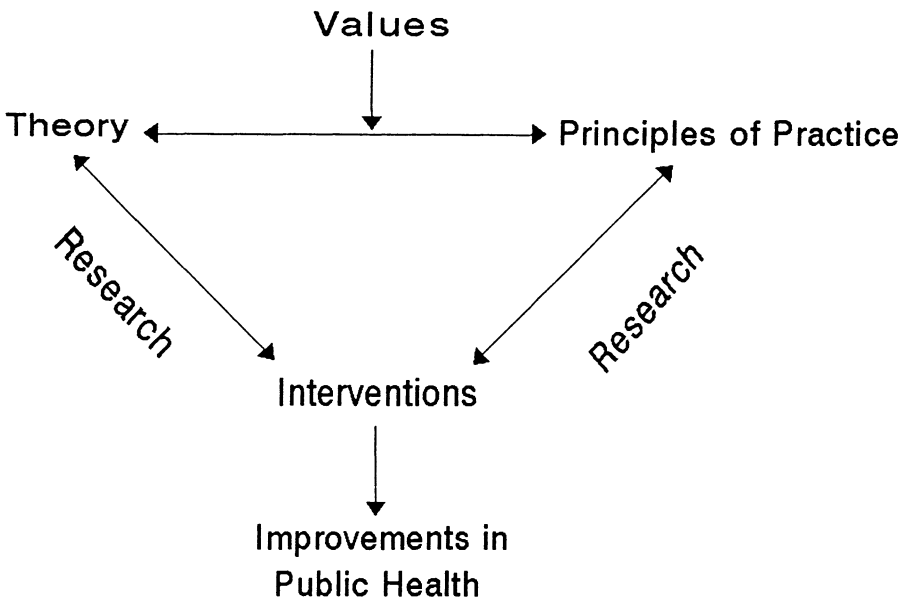

Figure 1. A model of health education theory and practice.

model, for example, implicitly assumes that individual behavior is the primary outcome of interest. According to this theory, by modifying health beliefs, health educators can change the perceptions of benefits and costs of preventive health behavior and therefore contribute to changes in behavior.

Some recent work has raised the concept of "environments of risk,"[10,11,12] which suggests that the primary cause of such diverse conditions as violence, tuberculosis, HIV infection, and teen pregnancy may be the deteriorating conditions in disadvantaged communities. This analysis suggests that strategies for change will require changing these conditions.

Numerous health educators have observed that health problems have multiple causes and require multidimensional interventions.[13,14,15] The danger, however, in recognizing that a problem has many causes is that there is no method of assigning priorities to the importance of different causes and no rational way for allocating limited resources to address the most significant causes. A good theory should assist in this task.

Links Between Activities and Outcomes

If health education were a powerful tool for improving health, and if many models of health education programs had been demonstrated to be highly effective, it would perhaps not matter so much *why* a particular program worked. We could be content to regard health education as a black box that mysteriously transformed our intervention inputs into desirable health outcomes. But neither of these assumptions is correct. Health education is a useful but fragile tool, and models demonstrated to be highly effective are generally lacking. Therefore, it is vitally important to understand why and how our interventions achieve the observed effects. Theory can help to develop models that explain the specific pathways by which an intervention (or naturally occurring phenomena) leads to desired health outcomes. Evaluation research can then test whether the pathways hypothesized by the theory are in fact valid. A good theory, a theory that helps to guide practice, must

therefore be able to describe why a particular kind of intervention will lead to the desired outcomes.

Interactions Among Individual, Community, and Societal Factors

The health conditions that cause morbidity and mortality today—heart disease, cancer, violence, accidents, infectious diseases—have multiple causes. Heart disease, for example, is influenced by individual behavior related to diet, exercise, and smoking; by the availability of recreational facilities, the amount of stressors in the workplace and community, and levels of air pollution; and by policies on smoking, health care, and food.[16] In order to develop effective interventions to prevent these conditions, we need to understand how these causal factors interact and how interventions can address these interactions. Empirical data can be used to test hypothesized interactions, but the construction of a model depends on a theoretical framework. A good theory helps health education practitioners choose which levels to work on and how to integrate the work at the different levels.

Role of the Health Educator

Finally, a good theory should provide guidance on the role of the health educator. Is it to initiate changes that are then diffused through existing channels of communication? To build the capacity of organizations to function more effectively? To encourage critical thinking that will lead to collective action? Each of these possible roles emerges from a different theoretical formulation. An effective intervention should have a coherent rationale for goals, intervention activities, and the role of the educator; a theory can help unite these diverse arenas of interest.

These four criteria provide one method for testing whether a particular theory will help to guide practice. To paraphrase Lewin, there is nothing so good as a practical theory. How well do currently used theories meet these criteria?

Theories That Guide Health Education

The dominant theoretical models used in health education today are based in social psychology, the intellectual discipline of many of the profession's founders. While these theories have increasingly acknowledged the role of larger social and cultural influences in health behavior, the primary outcome of interest remains individual behavior.

The health belief model, which influenced health education in the 1960s and 1970s, predicts that individuals will act to protect their health if they regard themselves as susceptible to a condition, if they believe the condition has serious consequences, if they believe that an available course of action will reduce their susceptibility or the severity of the condition, and if they believe the benefits of action outweigh its costs or disadvantages.[17]

Social learning theory is a theoretical framework in which cognitive, environmental, and behavioral variables are used to explain and describe human behavior and learning.[18] It has been used to study health-related behaviors such as smoking cessation, contraceptive behavior, and exercise. Developed by Bandura and others, social learning theory has spawned a variety of different theoretical approaches used by health educators. These

include self-efficacy theory, which predicts that individuals' confidence in their ability to take effective action to protect their health will increase the likelihood that they will take such action;[19] self-regulation theory, in which self-observation, self-judgment, and self-reaction are used to master new behaviors;[20] and health locus of control.[21]

Other social psychology theories used in health education are more firmly rooted in cognitive psychology. Attribution theory[22] seeks to understand how individuals understand the causes of their condition and the consequences of their actions. The theory of reasoned action[23] seeks to understand how an individual reaches a decision to take a certain action.

The transtheoretical model, which borrows from several social psychology theories, suggests that individuals go through various stages in considering health-related behaviors and that the intervention goals are different at each stage.[24] This more dynamic model has recently attracted interest among those working in HIV education, substance abuse prevention, and, especially, addictive behaviors.

Another approach to the basic goals of health education can be found in the work of Guy Steuart.[25] He suggested that increasing the competence of individuals and communities to create the conditions necessary for solving health and social problems was as important as improving specific health outcomes. While social science theory helped to frame this approach, it was equally grounded in community practice.

From the field of adult education and the practice of literacy programs an empowerment model of health education has emerged. Developed by the Brazilian educator Paulo Freire,[26] empowerment education is a strategy that involves people assuming control and mastery over their lives in the context of their social and political environment; they gain a purposefulness to exert political power as they work for social change within their community.[27,28] Although empowerment education has not always been driven by theoretical models, two recent issues of *Health Education Quarterly* provide a strong intellectual foundation for the development of new theory.[29]

More recently, in part as a response to the focus on the individual within theories emanating from social psychology, several investigators have proposed ecological models to understand health behavior.[14,30-32] These models seek to describe interactions among individual, peer, community, and social factors. Ecological approaches take into account the broader factors that social psychological theories often minimize; most ecological models, however, are descriptive and they are generally too complex to be tested empirically with existing research methods.[33]

Other theories that have influenced health education practice include diffusion of innovation theory,[34] social exchange theory,[35] and various communications theories.[36]

In the past few years, health education journals have devoted theme issues to theory and several review articles have summarized the strengths and weaknesses of existing approaches.[33,37-40] The renewed interest in health education theory has led to several recurring critiques of existing approaches. These include the following:

1. Health education theories are not readily accessible to practitioners, both because theories do not directly address educators' professional needs and because they do not facilitate the integration of practitioners' empirical experience into a theoretical framework.
2. Most theories emphasize individual change at the expense of social structural change.
3. Most theories are static and unidirectional, while the forces that influence health are dynamic and interactive.

4. Most theories emphasize the role of the health educator in bringing about change rather than the role of individuals and communities in defining the goals of change and the methods to achieve those goals.
5. Health educators often use theories of problems and theories of intervention interchangeably.[37] Few theoretical approaches have successfully linked these two types of theories.

In summary, existing theories often fall short of meeting practitioners' needs. Various explanations have been proposed for this shortcoming, including the use of bad or inadequate theory instead of good theory,[41] inadequate preparation of health education practitioners in theory,[37] a confusion between "planning models" and theories,[37] and an inappropriate reliance on natural science and positivist theories rather than on "practical reason."[40]

One possible solution to the limited utility of existing theoretical approaches is to broaden our search for relevant theory. Disciplines that may yield important new insights into the use of health education to improve the health of the public are anthropology, sociology, political science, social work, and organizational development. Theories that deserve particular scrutiny for their relevance to health education include social movement theory,[42] structuralist and poststructuralist theories (e.g., Foucault),[43] systems theories from social work and family therapy,[44] and theories of organizational conflict. Feminist critiques of traditional social science theory may also yield new insights for public health practice.[45] Although a discussion of these theories is beyond the scope of this article, these approaches may help to address some of the specific limitations of current health education theories.

As Green et al. note,[41] the goal is not a new megatheory, but rather "methods of synthesis that allow for the integration of theories from multiple disciplines, each of which has an integrity of its own in comprehending a slice of reality" (pp. 402-403).

The practical consequences of these theoretical limitations is that current theories do not adequately help health educators to answer several critical questions. These include

1. How can health educators conceptualize a problem so that they can work for specific and measurable changes without divorcing the problem from the broader context in which it occurs?
2. How can health educators integrate their work to help individuals change health behavior with their efforts to enable communities to improve health conditions and society to set policies and allocate resources that promote health?
3. How can health educators define a role for themselves that acknowledges their position as initiators of a process while enabling other participants to play a significant role in planning and implementing change?

Developing theoretical approaches that can provide verifiable and generalizable answers to these questions will assist health educators to meet the public health challenges of the next period.

PRINCIPLES OF HEALTH EDUCATION PRACTICE

A theory provides a causal explanation; a principle is a general guideline for action. Useful theories may suggest guides to practice. Glanz, Lewis, and Rimer[46] have observed that principles may be derived from precedent, history, or research. They note that at best,

principles serve as hypotheses to inform interventions; at their weakest, they are like horoscopes, inviting multiple interpretations. In the following section, 10 principles derived from the recent practice of health education are suggested. These principles have informed interventions designed to build the capacity of individuals and communities to promote health and prevent disease. They are a subjective and preliminary synthesis of the work of health education practitioners and researchers and are best viewed as hypotheses that require additional testing. The goal is to identify principles that cut across different populations, settings, and strategies.

1. Effective Health Education Interventions Should Be Tailored to a Specific Population Within a Particular Setting. To be successful, any health intervention has to help unique people living in a unique environment to improve their health. Factors such as culture, social class, ethnicity, gender, and previous experience all influence how a group will respond to a health campaign. The process of fitting a generic intervention to a particular social environment constitutes a major challenge for health educators. Successful tailoring requires a careful needs assessment, intimate knowledge of participants and their lives, the involvement of participants in planning and implementation, and a feedback process of evaluation.[13,47,48] At the same time, in order to have a larger influence on public health, health educators must be able to identify those program characteristics that can be generalized to other settings or populations. The AIDS prevention movement has made important contributions in developing innovative strategies to tailor programs to various subpopulations while maintaining certain broad messages.[49]

2. Effective Interventions Involve the Participants in Planning, Implementation, and Evaluation. Interventions that involve participants in all stages of program development are more likely to meet needs, to be accepted, to elicit feelings of ownership, and to last beyond the life of categorical funding. Strategies that have been used to involve participants include advisory councils, sponsorship by community-based organizations, hiring from within the target population, having participants create program materials, and providing resources directly to populations in need.[50-54]

3. Effective Interventions Integrate Efforts Aimed at Changing Individuals, Social and Physical Environments, Communities, and Policies. As previously noted, health problems are caused at a variety of levels. Recent health promotion interventions seek to integrate behavioral change at the individual level with change within the environment to support behavioral change.[55] The previously cited ecological theories provide a rationale for this approach. At best, changes at one level act as reinforcers or catalysts for changes at other levels. Freire's approach to empowerment education provides one powerful tool for linking different levels: By changing the consciousness of individuals they become prepared to act for community change or broader political change.[26,56,57]

4. Effective Interventions Link Participants' Concerns About Health to Broader Life Concerns and to a Vision of a Better Society. The most powerful motivator for health action is not necessarily a desire to prevent a specific health condition. Changing how we eat, exercise, visit doctors, use drugs, alcohol and tobacco, and have sexual relationships can be difficult, uncomfortable, or even distressing. By helping people find meaning for change within their own culture, by connecting changes in health behavior to improvements in living conditions, and by linking campaigns to improve health to broader movements for social justice, health educators can tap the wellsprings of energy, passion, and commitment that are needed to initiate and sustain lasting changes.[58,59,60]

5. Effective Interventions Use Existing Resources Within the Environment. Implementation of this principle seeks to reduce costs, to link professional and community systems of helping, and to root an intervention within an existing environment. Lay health advisers, for example, have greater potential to improve health by meeting different needs than do health professionals. At the same time, a lay health adviser approach allows a community to grow by mobilizing individuals' existing and potential assets and talents to build their community.[47,61,62]

6. Effective Interventions Build on the Strengths Found Among Participants and Their Communities. Health educators' instruments, methods, and services have been finely honed to assess people's problems, risks, needs, and deficits. As people learn to emphasize their deficiencies and needs, however, it is health care systems, not communities, that are enabled to grow.[61] An alternative strategy is to identify the strengths within an individual, community, or population and develop their capacity to take effective health action. Methods that health educators have used to achieve these goals include lay health advisers, peer education, community organization, and cultural competency approaches.[62-66]

7. Effective Interventions Advocate for the Resources and Policy Changes Needed to Achieve the Desired Health Objectives. On the one hand, effective health education programs mobilize existing resources that can contribute to improvements in health. On the other hand, they seek to bring in new resources that will enable more significant and lasting changes. Because the lack of basic resources such as shelter, adequate food, employment, health care, and education are significant determinants of many major health problems, it is unlikely that improvements in health will occur without a shift of resources into those communities most adversely affected. Health education strategies that have been used to bring about changes in policy and resource allocation include community organization, coalitions and networks, social movements, mass media advocacy, legislative efforts, and professional organization.[15,60,67-72]

8. Effective Interventions Prepare Participants to Become Leaders. Leadership development prepares a community to solve other health and social problems. It creates a cadre of individuals who can take responsibility for a program after professionals leave and it can help to level the imbalance in power relationships between participants and professionals. Strategies for leadership development include peer education, community empowerment, lay health advisers, and coalition building.[73-76]

9. Effective Interventions Support the Diffusion of Innovation to a Wider Population. Planned interventions usually reach only a limited population. By developing conscious strategies to support the diffusion of change from the small group reached directly by a program to the wider target population, health educators can significantly increase the impact of their interventions. Strategies for diffusion of innovation include leadership development, peer education, mass media, staff training, and social marketing.[18,63,77,78,79]

10. Effective Interventions Seek to Institutionalize Successful Components and to Replicate Them in Other Settings. Diffusion refers to the general process whereby change spreads from one setting to another; *institutionalization* describes the process by which a specific program moves from a demonstration phase into an ongoing service; and *replication* occurs when a successful model program is established in new settings. Each of these steps increases the likelihood that effective programs will continue to have a

positive impact on health. Without institutionalization or replication, health education interventions become yet another flash in the pan, limiting their impact and potentially discouraging participants from investing energy and time in future efforts. Strategies to encourage institutionalization and replication include policy advocacy, institutionalization planning, and community organization.[18,69,71,80,81,82]

THEORY, PRINCIPLES AND PRACTICE: WHAT'S THE CONNECTION?

In the decades since World War II, public health educators have accumulated a rich and diverse body of experience working with individuals and communities to improve health. From this experience, principles to guide further practice have emerged. There appears to be fairly broad consensus on the validity and generalizability of these principles. At the same time, social science researchers have created a variety of theoretical approaches to health behavior, theories that seek to guide interventions to improve public health.

Yet despite these impressive accomplishments, the coming decades pose daunting challenges to health education, challenges that our current body of practice, principles, and theory may not be adequate to overcome. These obstacles have been described earlier: the challenge of transcending the limits of current constructions of infectious, chronic, and social diseases; the challenge of closing the gap in health status between rich and poor; the challenge of integrating health education interventions aimed at individuals, communities, and society as a whole; the challenge of creating successful models for health promotion and disease prevention in an increasingly diverse population; and the challenge of creating a useful and ethical role for health education in a restructured health care system.

These principles, derived from practice and the literature, address both *efficacy*, a concept that assesses the potential of a program to do more good than harm under optimum conditions, and *effectiveness*, a measure of the benefits in real-world conditions.[83] Future work may find that different principles are needed to guide these two levels of assessment.

A primary reason for our difficulty in meeting these challenges is the disconnection between theory, practice, and principles. Those who build theories are dancing to one orchestra—the intellectual discourse within the social science academy—while those who build programs dance to another—the funders, communities, and public agencies that set program agendas. Even though many health education faculty are both researchers and practitioners, the effort to waltz and break dance at the same time creates some odd contortions and rhythms.

Two examples illustrate the rift between theory and practice: During the past several years, tuberculosis has reemerged as a significant health problem in the United States. A major cause of resurgent TB is the unwillingness or inability of those with the disease to follow medical regimens, a classic problem for health education research. For the last 15 years, hundreds of health education practitioners, usually with bachelor's-level training or less, have been struggling within local, state, and federal health agencies to develop educational programs to control the transmission of TB and help individuals complete treatment. Yet only in the past couple of years have a handful of researchers addressed the problem of TB, and they have been forced to rely on empirical approaches because the theories needed to guide practice for the populations now affected by TB—HIV-infected individuals, homeless people, drug users, recent immigrants—do not exist.

Current research on HIV prevention provides another example. In a recent review of published evaluations of AIDS prevention programs in the United States,[85] the discrepancy between published evaluations and community practice was striking. With a few notable exceptions, the evaluated programs were generally too simplistic or superficial to be able to make a significant impact on the continued transmission of infection or too unique to be replicable. Evaluators were likely to measure the impact of a few educational sessions or a single pamphlet or media message. Almost none looked at the impact of the multiple interventions that bombard vulnerable populations in many communities or compared the impact on different subpopulations. Yet the most creative, intensive, and innovative community-based interventions were rarely evaluated, leaving these programs to repeat the same mistakes, unable to share their successes or failures with others. Very few community organizations have access—or a desire—to engage with those who could provide a theoretical framework for their efforts.

In closing, a few specific measures that may help to bridge the gaps between theory, principles, and practice will be proposed.

1. Health education researchers should initiate a dialogue with researchers from a variety of disciplines.
2. Health education researchers should participate in multidisciplinary theoretical research.
3. Health education professional organizations should play a more active role in setting a research agenda for our profession. Currently, research agendas are set by disparate bodies, including individual researchers, government agencies, foundations, and other professional organizations. The questions of interest are rarely framed by public health imperatives. By articulating our perspective on a research agenda, including the needs for theory that can guide practice, health educators create the opportunity to influence other stakeholders in the process. Our unique contribution is that we can frame an agenda that puts public health and health behavior at its center. Table 1 identifies a preliminary list of research questions for health education that was developed by participants in the CDC/SOPHE Conference Creating Capacity: A Research Agenda for Public Health Education. This group assigned the highest priority to the first four questions on Table 1. The table includes examples of specific questions that emerge from each item on the agenda.
4. Health education researchers should create new forums in which they can learn from and teach practitioners, community activists, and community leaders. To develop theories that can guide practice, researchers need an intimate familiarity with the daily routine of health education interventions and the practical realities of the lives of participants. They need to understand the implicit theoretical models that guide practice, the many constraints that hamper implementation, and the incredible strengths and human resources that practitioners, community leaders, and participants bring to the intervention setting.
5. Health educators need to define a vision of the role of health education within the larger health care and public health systems. This vision should take as its starting point the public health challenges that face the United States today, not the narrow interests of the profession or the schemes for financing health care currently being debated in the political arena. At the end of the day, health educators need to ensure that our professional interests are accounted for and that our proposals are realizable

Table 1. Proposed Research Agenda on Health Education Theory and Principles

Research Question	Example
1. How can theories at different levels of analysis (e.g., individual, social network, community, society) be linked? What theories best explain the interactions and linkages among these levels of analysis?*	1. What is the impact on smoking behavior and attitudes among early adolescents of an intervention designed to increase self-esteem of individuals, change normative attitudes toward smoking among peer social networks, and reduce minors' access to tobacco, compared to an intervention designed to increase individual refusal skills, parent-child communication on smoking, and create a school climate that discourages smoking?
2a. Are some conceptual models of practice more useful than others in achieving specified health outcomes in varying populations or settings?* 2b. Are some theories of behavior or social change more useful than others in developing interventions for specific populations, settings, or problems?*	2a. What are the relative benefits of the PATCH model versus the empowerment model in achieving reductions in risk factors for coronary heart disease in a low-income community? 2b. What are the relative benefits of an intervention based on social cognitive theory versus one derived from the transtheoretical model for reducing risk behaviors associated with coronary heart disease?
3. What are the processes (e.g., participation, planning models, attention to context) that can help translate theories into effective practice?*	3. In a program to increase physical activity among low-income White women, does involvement of the participants in the design of the health education intervention, its implementation, and evaluation lead to higher, more long-lasting physical activity levels (and other desired outcomes) than a program that does not involve participants in this way?
4. What theories of social change are most useful for designing interventions to bring about changes at the community level?*	4. Which type of intervention will lead to greater reductions in youth violence in an urban community: a consensus coalition which brings together citizens, government, schools and business, or an approach that organizes disenfranchised youth to demand more resources for employment, recreation, and education?
5. Does empowerment lead to improved health for individuals or communities?	5. Does an asthma self-management program designed to increase the ability of parents to make their children's schools more responsive to their needs related to asthma lead to greater improvements in school attendance and reductions in emergency room use compared to an intervention focusing on compliance issues?

*Priority

(continued)

Table 1. *(continued)*

Research Question	Example
6. Do interventions that incorporate accepted principles of practice lead to better outcomes than those that do not?	6. Do health education programs designed to reduce disability days among older people that make operational at least eight of the ten previously listed principles of practice (as measured by a rating instrument) achieve greater reductions than programs that apply fewer than eight principles?
7. What theory-driven outcome measures are appropriate at various levels of analysis (e.g., individual, community, organization)?	7. In a worksite program to enhance smoking cessation among employees of multisite workplaces, what is the relative impact of implementing no smoking policies, offering quit-smoking support groups, or providing individual sessions with a counselor? How are these interventions associated with improved individual self-efficacy among smokers, changes in normative attitudes on smoking among employees, and changes in smoking behavior?
8. What measures can be used to assess community variables such as collective efficacy or community empowerment that go beyond the aggregation of individual respondents?	8. In a community seeking to reduce levels of violence, what are the relationships among scores on assessments of individual perceptions of personal ability to avoid violence, individual ratings of the community's ability to reduce levels of violence and measures of community action such as establishment of gun buy-back programs, neighborhood watches, local handgun control measures, or involvement of citizen in advising police?
9. How do the implicit theories and meanings that participants in a community intervention use to define their problems and create solutions influence its implementation and outcome?	9. What are the differences in implementation and impacts on HIV risk behavior for Mexican American women between an intervention in which participants design the program to reflect their understanding of how to challenge traditional gender roles and a program designed by professionals from outside the community?
10. How can researchers describe these theories and meanings and integrate them into more formal theoretical frameworks?	10. In a dietary change program for overweight women based on theoretical principles of self-regulation, does modification of the self-regulation process to specifically account for cultural influences on eating lead to greater weight loss than a program without this modification?
11. How can participatory action research strategies be used to engage participants in an intervention in defining its theoretical foundation and applying that theory to practice?	11. Does a high school quit-smoking program in which students are involved in selecting the theoretical framework for the intervention and conducting the evaluation lead to higher smoking cessation rates than one without such participation?

within the financial and organizational structure that is ultimately created. But unless we stake out some clear principles that guide our goals, we become just another interest group.

These five actions will help to create for health educators a theoretical framework, guiding principles and a practice that can meet the public health challenges of the 21st century.

References

1. Fee E, Fox DM (eds.): *AIDS: The Making of a Chronic Disease.* Berkeley, University of California Press, 1992.
2. Pappas G, Queen S, Hadden W, Fisher G: The increasing disparity in mortality between socioeconomic groups in the United States, 1960 and 1986. *New Engl J Med* 327:274-278, 1992.
3. McCord C, Freeman HP: Excess mortality in Harlem. *New Engl J Med* 322:173-177, 1990.
4. Jorgenson CM: Health education: What can it look like after health care reform? (1993 SOPHE presidential address). *Health Educ Q* 21:11-26, 1994.
5. Nyswander DB: The Open Society: Its implications for health educators. *Health Educ Monographs* 1:3-13, 1967.
6. Simonds SK: Health education: Facing issues of policy, ethics and social justice. *Health Educ Monographs* 6(suppl. 2):18-27, 1978.
7. Faden RR, Faden AI: The ethics of health education as public health policy, in Matthews B (ed.): *The SOPHE Heritage Collection of Health Education Monographs* (Vol. 2). Oakland, CA, Third Party Publishing, 1982.
8. Minkler M: Health education, health promotion and the open society: An historical perspective. *Health Educ Q* 16:17-30, 1989.
9. Knowles J: The responsibility of the individual. *Daedalus* 106:57-80, 1977.
10. Panel on High Risk Youth: *Losing Generations Adolescents in High-Risk Settings.* Washington, DC, National Academy Press, 1993.
11. Wallace R: A synergism of plagues: "Planned shrinkage," contagious housing destruction and AIDS in the Bronx. *Environmental Research* 47(1):1-33, 1988.
12. Zolopa AR, Hahn JA, Gorter R, Miranda J, Wlodarczyk D, Peterson J, Pilote L, Moss AR: HIV and tuberculosis infection in San Francisco's homeless adults: Prevalence and risk factors in a representative sample. *JAMA* 272:455-461, 1994.
13. Green LW, Kreuter MW: *Health Promotion Planning: An Educational and Environmental Approach* (2nd ed.). Mountain View, CA, Mayfield, 1991.
14. McLeroy KR, Bibeau D, Steckler A, Glanz K: An ecological perspective on health promotion programs. *Health Educ Q* 15:351-377, 1988.
15. Thompson B, Kinne S: Social change theory: Applications to community health, in Bracht N (ed.): *Health Promotion at the Community Level.* Newbury Park, CA, Sage, 1990.
16. U.S. Department of Health and Human Services: *Healthy People 2000: National Health Promotion and Disease Prevention Objectives.* Washington, DC, U.S. Government Printing Office, 1991. (DHHS Pub. No. PHS 91-50212.)
17. Janz NK, Becker MH: The health belief model: A decade later. *Health Educ Q* 11:1-47, 1984.
18. Parcel GS, Perry CL, Taylor WC: Beyond demonstration: Diffusion of health promotion innovations, in Bracht N (ed.): *Health Promotion at the Community Level.* Newbury Park, CA, Sage, 1990, pp. 229-252.
19. Bandura A: Self-efficacy: Towards a unifying theory of behavioral change. *Psychol Rev* 84:191-215, 1977.

20. Zimmerman BJ: Development of self-regulated learning: Which are the key sub-processes? *Contemp Educ Psychol* 16:307-313, 1986.
21. Wallston KA, Wallston BS: Locus of control and health. *Health Educ Monographs* 6:107-117, 1978.
22. Lewis FM, Daltroy LH: How causal explanations influence health behavior: Attribution theory, in Glanz K, Lewis FM, Rimer BK (eds.): *Health Behavior and Health Education: Theory, Research and Practice*. San Francisco, Jossey-Bass, 1990, pp. 92-114.
23. Ajzen I, Fishbein M: *Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs, NJ, Prentice Hall, 1980.
24. Prochaska JO, DiClemente CC: Towards a comprehensive model of change, in Miller WR, Heather N (eds.): *Treating Addictive Behavior*. New York, Plenum, 1986, pp. 3-27.
25. Steckler A, Dawson L, Israel B, Eng E: Community health development: An overview of the works of Guy W. Steuart. *Health Educ Q* Suppl. 1:S3-S20, 1993.
26. Freire P: *Education for Critical Consciousness*. New York, Seabury, 1973.
27. Rappaport J: Terms of empowerment/examples of prevention: Towards a theory for community psychology. *Am J Community Psychol* 15(2):121-148, 1987.
28. Zimmerman M, Rappaport J: Citizen participation, perceived control and psychological empowerment. *Am J Community Psychol* 16(5):725-750, 1988.
29. Wallerstein N, Bernstein E: Introduction to community empowerment, participatory education and health. *Health Educ Q* 21:141-148, 1994.
30. Stokols D: Establishing and maintaining health environments: Towards a social ecology of health promotion. *Am Psychol* 47:6-22, 1992.
31. Flay BR, Petraitis J: The theory of triadic influence: A new theory of health behavior with implications for preventive interventions. *Adv Med Sociol* 4:19-44, 1994.
32. Levy J: A conceptual meta-paradigm for the study of health behavior and health promotion. *Health Educ Res* 6:195-202, 1991.
33. Green LW: Everyone has a theory, few have measurement. *Health Educ Res* 6:249-250, 1991.
34. Rogers EM: *Diffusion of Innovations* (3rd ed.). New York, Free Press, 1983.
35. Emerson RM: Social exchange theory. *Annu Rev Public Health* 2:335-362, 1976.
36. McGuire W: Attitudes and attitude change, in Lindzey G, Aronson E (eds.): *Handbook of Social Psychology* (3rd ed.). New York, Random House, 1985.
37. McLeroy KR, Steckler AB, Simons-Morton B, Goodman RM, Gottlieb N, Burdine JN: Social science theory in health education: Time for a new model? *Health Educ Res* 8:305-312, 1993.
38. Bunton R, Murphy S, Bennett P: Theories of behavioral change and their use in health promotion: Some neglected areas. *Health Educ Res* 6:133-162, 1991.
39. Hochbaum GM, Sorenson JR, Lorig K: Theory in health education practice. *Health Educ Q* 19:295-314, 1992.
40. Buchanan DR: Reflections on the relationship between theory and practice. *Health Educ Res* 9:273-283, 1994.
41. Green LW, Glanz K, Hochbaum CM, Kok G, Kreuter MW, Lewis PM, Lorig K, Morisky D, Rimer BK, Rosenstock IM: Can we build on, or must we replace, the theories and models in health education? *Health Educ Res* 9:397-404, 1994.
42. Mueller CM: Building social movement theory, in Morris AD, Mueller CM (eds.): *Frontiers in Social Movement Theory*. New Haven, CT, Yale University Press, 1992, pp. 3-26.
43. Foucault M: *Knowledge/Power: Selected Interviews and Other Writings, 1972-1977*. New York, Random House, 1977.
44. Bateson G: *Steps to an Ecology of Mind*. New York, Aronson, 1971.
45. Reiter RR (ed.): *Towards an Anthropology of Woman*. New York, Monthly Review Press, 1975.
46. Glanz K, Lewis FM, Rimer BK (eds.): *Health Behavior and Health Education: Theory, Research and Practice*. San Francisco, Jossey-Bass, 1990, pp. 3-32.
47. Eng E, Young R: Lay health advisers as community change agents. *J Fam Community Health* 15:24-40, 1992.

48. Haglund B, Weisbrod RR, Bracht N: Assessing the community: Its services, needs, leadership and readiness, in Bracht N (ed.): *Health Promotion at the Community Level.* Newbury Park, CA, Sage, 1990, pp. 91-108.
49. Freudenberg N, Zimmerman M: The lessons of AIDS prevention for public health practice, in Freudenberg N, Zimmerman M (eds.): *AIDS Prevention in the Community: Lessons From the First Decade.* Washington, DC, American Public Health Association, in press.
50. Bracht N, Gleason J: Strategies and structures for citizen partnerships, in Bracht N (ed.): *Health Promotion at the Community Level.* Newbury Park, CA, Sage, 1990, pp. 109-124.
51. Arnstein SR: A ladder of citizen participation. *J Am Inst Planners* 35:216-224, 1969.
52. Green LW: *New Policies for Health Education in Primary Care.* Geneva, World Health Organization, 1986.
53. Kroutil LA, Eng E: Conceptualizing and assessing potential for community participation: A planning method. *Health Educ Res* 4:305-319, 1989.
54. Rudd RE, Comings JP: Learner developed materials: An empowering product. *Health Educ Q* 21:313-327, 1994.
55. Parcel GS, Simons-Morton BG, Kolbe LJ: Health promotion: Integrating organizational change and student learning strategies. *Health Educ Q* 15:435-450, 1988.
56. Wallerstein NB, Sanchez-Merki V: Freirian praxis in health education: Research results from an adolescent prevention program. *Health Educ Res* 9:105-118, 1994.
57. Israel B, Checkoway B, Schulz A, Zimmerman M: Health education and community empowerment: Conceptualizing and measuring perceptions of individual, organizational and community control. *Health Educ Q* 21:149-170, 1994.
58. Steuart GW: Social and behavioral change strategies. *Health Educ Q* Suppl. 1:S113-S136, 1993.
59. McKnight J: Regenerating community. *Soc Policy* 17:54-58, 1987.
60. Freudenberg N: Training health educators for social change. *Int Q Community Health Educ* 5:37-52, 1984-1985.
61. Kretzmann JP, McKnight J: *Building communities from the inside out.* Evanston, IL, Center for Urban Affairs and Policy Research, 1993.
62. Eng E, Hatch JW: Networking between agencies and Black churches: The lay health adviser model. *Prev Human Serv* 10:123-146, 1991.
63. Kelly J, St. Lawrence JS, Stevenson Y, et al: Community AIDS/HIV risk reduction: The effects of endorsement by popular people in three cities. *Am J Public Health* 82:1483-1489, 1992.
64. Kinne S, Thompson B, Chrismna NJ, Hanley JR: Community organization to enhance the delivery of preventive health services. *Am J Prev Med* 5:225-229, 1989.
65. Brathwaite RL, Frederick M, Lythcott N, Blumenthal DS: Community organization and development for health promotion within an urban Black community: A conceptual model. *Health Educ* 20(5):56-60, 1989.
66. Airhihenbuwa CO: Health promotion and the discourse on culture: Implications for empowerment. *Health Educ Q* 21:345-353, 1994.
67. Altman DG, Balcazar F, Seekins T, Fawcett S, Young JQ: *Public health advocacy: Creating community change to improve health.* Palo Alto, CA, Stanford Center for Research in Health Promotion, 1994.
68. Feighery E, Rogers T: *Building and maintaining effective coalitions.* Palo Alto, CA, Stanford Center for Research in Disease Prevention, 1990.
69. Freudenberg N, Golub M: Health education, public policy and disease prevention: A case history of the New York City Coalition to End Lead Poisoning. *Health Educ Q* 14:387-401, 1987.
70. Wallack L: Media advocacy: Promoting health through mass communications, in Glanz K, Lewis FM, Rimer BK (eds.): *Health Behavior and Health Education: Theory, Research and Practice.* San Francisco, Jossey-Bass, 1990, pp. 370-386.
71. Steckler A, Dawson L, Goodman RM, Epstein N: Policy advocacy: Three emerging roles for health education, in Ward WB (ed.): *Advances in Health Education and Promotion* (Vol. 2.). Greenwich, CT, JAI, 1987, pp. 5-27.
72. Milio N: *Promoting Health Through Public Policy.* Philadelphia, Davis, 1981.

73. Kumpfer KL, Turner C, Hopkins R, Librett J: Leadership and team effectiveness in community coalitions for the prevention of alcohol and other drug abuse. *Health Educ Res* 8:359-374, 1993.
74. Zapka JG, Marrocco GR, Lewis B, McCusker J, Sullivan J, McCarthy J, Birch FX: Inter-organizational responses to AIDS: A case study of the Worcester AIDS Consortium. *Health Educ Res* 7:31-46, 1992.
75. Werner D: *Where There Is No Doctor*. Palo Alto, CA, Hesperian Foundation, 1977.
76. Alinsky S: *Rules for Radicals: A Pragmatic Primer for Realistic Radicals*. New York, Vintage, 1972.
77. Parcel GS, Taylor WC, Brink SG, Gottlieb N, Engquist K, O'Hara NM, Eriksen MP: Translating theory into practice: Intervention strategies for the diffusion of a health promotion intervention. *Fam Community Health* 12(3):1-13, 1989.
78. Lefebvre RC, Flora JA: Social marketing and public health intervention. *Health Educ Q* 15:299-315, 1988.
79. Orlandi MA, Landers C, Weston R, Haley N: Diffusion of health promotion innovations, in Glanz K, Lewis FM, Rimer BK (eds.): *Health Behavior and Health Education: Theory, Research and Practice*. San Francisco, Jossey-Bass, 1990, pp. 288-313.
80. Green LW: Comment: Is institutionalization the proper goal of grantmaking? *Am J Health Promotion* 3:44, 1989.
81. Goodman RM, Steckler A: A model for the institutionalization of health promotion programs. *Fam Community Health* 11(4):63-78, 1989.
82. Flay BR: Efficacy and effectiveness trials (and other phases of research) in the development of health promotion programs. *Prev Med* 15:451-474, 1986.
83. Freudenberg N: A review of published evaluations of AIDS prevention interventions in the United States, in Freudenberg N, Zimmerman M (eds.): *AIDS Prevention in the Community: Lessons From the First Decade*. Washington, DC, American Public Health Association, 1995.