Critical Issues and Trends

The Social Ecology of Health Promotion: Implications for Research and Practice

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Recent studies have documented the substantial health benefits and financial savings associated with many disease prevention and health promotion programs.[1-5] Examples of effective strategies include employee health risk appraisal, counseling, and lifestyle change programs,[6,7] cultural change strategies within organizational settings,[8,9] and the provision of clinical preventive services to enhance maternal and child health.[10,11] A mid-decade appraisal of progress toward meeting the *Healthy People 2000* goals in the United States found substantial reductions in adult use of tobacco products and in alcohol-related automobile deaths and moderate gains in the proportion of adults exercising regularly and eating less fatty diets. Also noted was an increase in the proportion of workplaces providing health promotion programs for their employees.[12,13]

Despite these encouraging trends, not all health promotion efforts have been met with unqualified success. Even the best-designed worksite health promotion programs reach only a small proportion of the total workforce. Participants in these programs tend to be healthier, better paid, more educated, and more motivated to change their health habits than nonparticipants.[1,2] Also, lifestyle-change programs that proceed in a "linear" fashion to modify specific health behaviors often neglect the contextual circumstances that lead to high relapse and attrition rates once the interventions have ended.[14,15] And certain health risks—such as exposure to community violence, obesity, teen pregnancy, substance abuse, financial barriers to medical and preventive services, and lack of adequate health insurance—remain "segmented in pockets of heightened prevalence,"[16] particularly among low-income and minority groups in the population.[4,12,17,18] To improve the health of vulnerable populations, and to reduce the self-selection biases and attrition rates associated with many intervention programs, broader-gauged strategies of health promotion will be required—those that combine behavioral, organizational, environmental, regulatory, and political initiatives to alleviate community sources of illness and injury.[19-21]

The limitations of earlier disease prevention and health promotion programs highlight the need for a major paradigm shift, away from narrowly focused interventions aimed primarily at changing individuals' health behavior, toward more comprehensive ecological formulations that address the interdependencies between socioeconomic, cultural, political, environmental, organizational, psychological, and biological determinants of health and illness.[21,22] The articles presented in this special issue of the *American Journal of Health Promotion* delineate a *social ecological paradigm* for understanding the complex community and environmental origins of public health problems, and for organizing disease prevention and wellness programs that can effectively ameliorate those problems. It has long been recognized that patterns of health and illness are closely linked to a variety of sociocultural, political, and physical-environmental conditions within communities.[23-26] The "new public health" outlined in the Ottawa Charter gave explicit emphasis to social causes of illness, above and beyond the physical-environmental health threats that exist in certain communities.[27,28] The social ecological paradigm for health promotion extends these earlier notions by providing a set of conceptual and methodological principles, drawn largely from systems theory, for organizing comprehensive, community-based health promotion programs.[29-33]

Eight articles included in this special issue delineate core themes associated with a social ecological approach to health promotion, and offer new guidelines and strategies for implementing community programs based on ecological principles. The article by Green, Richard, and Potvin (see page 270) examines the implications of ecological and systems theories for designing effective community health promotion programs.[34] The development of social ecological interventions for health promotion is a complex process, often requiring the establishment and maintenance of partnerships among diverse community groups and the incorporation of multiple intervention strategies (e.g., educational, regulatory, economic) within a single, comprehensive program. Green et al. describe some of the ways in which systems-theoretical principles can be used to resolve certain complexities and unintended side effects of comprehensive community health promotion programs (e.g., by

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conducting iterative evaluations of prevailing social, behavioral, and environmental conditions within communities; and by incorporating subjective as well as objective assessments of changes in population health status).

The article by Stokols (beginning on page 282) examines the contrasting assumptions underlying behavioral change, environmental enhancement, and social ecological theories of health promotion.[35] The relative strengths and limitations of these alternative, yet complementary, perspectives are compared. Core principles of social ecology are then used to derive practical guidelines for designing and evaluating community health promotion programs. For example, social ecological theory highlights the importance of identifying *high-impact "leverage points"* for health-promotive changes in organizations and communities, and the value of considering *other-directed* as well as *personal health behavior* as targets for change in community interventions. Several related directions for future health promotion research and practice are discussed, including the development of studies to elucidate the role of intermediaries (e.g., corporate decision-makers, legislators) in promoting the well-being of others, and strategies for expanding the scope and sustainability of intervention outcomes.

The article by Richard, Potvin, Kishchuk, Prlic, and Green (page 318) contributes an original conceptual framework for evaluating the degree to which ecological principles have been incorporated into the design of particular health promotion programs.[36] The proposed taxonomy incorporates three fundamental dimensions of health promotion programs: the intervention *settings*, *targets*, and *strategies* encompassed by particular programs. Intervention settings include organizations, communities, societies, and supranational systems. Intervention targets subsume individuals, small groups, organizations, communities, and representatives of political systems. Intervention strategies include *direct transformations* of one or more aspects of a given target, as well as the *creation of networks* among two or more targets.

To evaluate the utility of the proposed taxonomic framework, Richard et al. surveyed representatives from 44 health promotion programs funded by the Canadian Ministry of Health. Each program was assigned a summary score, ranging from 0 to 4, indicating the degree to which its design and implementation was based on core ecological principles (e.g., the extent to which a program integrates environmental and individual targets across a variety of settings, and incorporates multiple intervention strategies). Survey results indicated that single-setting and single-strategy programs were more common than those incorporating multiple intervention strategies delivered across two or more settings. The most frequently cited targets of health promotion programs were organizations, individual clients, and the persons comprising an individual's social environment. Political systems and communities did not appear to be frequently targeted. The classification system developed by Richard et al. is quite useful in providing operational criteria for evaluating the ecological character of health promotion programs and for identifying potential targets, settings, and strategies that have been neglected by those programs.

The article by Breslow (page 253) focuses on various pathways by which changes in the physical and social conditions of communities enable individuals to increase control over and improve their own health.[37] Examples of these changes include technological strategies to curb environmental pollution, water fluoridation programs, and social interventions that encourage individuals to adopt healthier lifestyles. Breslow contrasts social ecological strategies for promoting healthy lifestyles (by creating supportive environmental conditions) with health education programs aimed primarily at modifying individuals' behavior. Examples of ecologically-based programs are described, including the use of multi-pronged strategies in California (e.g., media campaigns, school-based educational programs, community ordinances, and state-wide tobacco taxes) to create a social milieu that discourages smoking.[38] Interestingly, the environmental and regulatory strategies of health promotion discussed by Breslow are aimed at transforming communities and political systems, thereby enabling individuals to adopt healthier lifestyles—intervention targets and strategies that were not commonly found within the Canadian programs reviewed by Richard et al.

Whereas Breslow describes several community-based programs that have successfully reduced the incidence and severity of public health problems (e.g., exposure to environmental pollutants, fluoride and iodine deficiencies of water and soils, smoking and substance abuse), Sanders-Phillips (page 308) focuses on an intractable social problem that continues to ravage low-income, minority groups—namely, chronic exposure to community violence.[18,39,40] Sanders-Phillips reviews approximately 90 studies documenting the impact of chronic exposure to violence on psychological functioning, perceptions of well-being, and personal health behavior. She then outlines a conceptual model in which low-income and minority status predispose individuals to violence exposure which, in turn, evokes feelings of powerlessness, hopelessness, and alienation. These psychological outcomes undermine individuals' motivation to enact health-promotive behavior and increase their vulnerability to multiple illnesses, injuries, and premature death. Sanders-Phillips concludes that the detrimental effects of poverty, low socioeconomic status, race, and ethnicity on health promotive behavior are exacerbated by chronic exposure to community violence. Priorities for future research and practice are noted, including the need for longitudinal studies of the links between violence exposure, psychological outcomes, and health behavior; and the development of community empowerment strategies that can effectively break the cycle of violence in African American and Latino communities.[41]

Health promotion programs that are narrow in scope and rely solely on interventions aimed at individuals and small groups are not likely to effect change in complex social problems such as interracial conflict and community violence. To ameliorate these long-standing and pervasive problems, broader-gauged programs that incorporate multiple interventions implemented across a variety of community settings will be required. The articles by Wandersman, Valois, Ochs et al.[42] (page 299) and by Buchanan[43] (page 262) focus on an intervention strategy that is gaining widespread interest

and support within the health promotion field—the development of community coalitions for achieving public health goals and objectives.[44,45]

In terms of the taxonomy of health promotion programs of Richard et al., community coalitions establish new networks among a variety of community groups for the purpose of transforming the health behaviors of individuals and the health-promotive qualities of organizations and their environments. Wandersman et al. identify several contextual variables (e.g., economic and political factors; age distribution; racial, ethnic, and class diversity) that influence the development and effectiveness of community coalitions.[42] The impact of these variables on coalition formation and effectiveness is revealed through three case studies conducted by the authors in South Carolina. These examples illustrate the ways in which a history of racial conflict, geographic and political boundaries between participating communities, and the age distribution of community residents can undermine the effectiveness of coalitions. The authors also summarize the findings from an initial survey of key community leaders with regard to their levels of awareness, concern, and action vis-à-vis particular public health problems (i.e., alcohol, tobacco, and other drug abuse). Key leaders are viewed not only as important indicators of community change but also as pivotal change agents and, in that respect, exemplify the high-impact "leverage points" for community health promotion discussed by Stokols.[35]

Buchanan presents a case study of the Massachusetts Community-Based Public Health Consortium to illustrate sources of conflict in collaborative partnerships between academic institutions and community organizations.[43] Two different models of health promotion, the "locality development" and "social planning" approaches, are used to highlight the divergent orientations of university and nonacademic participants in community coalitions. The former emphasizes "process goals," whereas the latter gives higher priority to "task goals." Buchanan's study reveals a frequently observed and clearly unintended side-effect of community coalitions for health promotion—the heightened levels of competition and conflict among participating stakeholder groups. Excessive competition among participant groups can undermine the immediate effectiveness and longer-range viability of community health promotion programs. To reduce or avoid these potential problems, Buchanan outlines several strategies for establishing greater trust among academic and non-academic participants in community coalitions for health promotion.

The article by Duhl (page 258) traces the history, guiding assumptions, and programmatic strategies of the *Healthy Cities Movement*—the most comprehensive approach to community health promotion that has been developed to date.[46] In Duhl's words, Healthy Cities programs "bring all of the key subsystems of a city together to focus on health as a primary value." A distinctive feature of the Healthy Cities Movement is the creation of partnerships among cities in different areas of the world to promote the exchange of information about successful community programs, and to support international efforts to enhance public health at regional and global levels. Establishing health-promotive networks among interest groups residing in the same community and between cities located in different countries is an enormously ambitious task, but one that has already achieved considerable success. At present, more than 1500 cities have established Healthy Cities programs. Now that these programs are in place, an important goal for the future is to evaluate their long-term effects on population health, social cohesion, and environmental quality.[47]

Taken together, the articles included in this special issue identify the theoretical concerns, programmatic strategies, key accomplishments, and limitations of ecological approaches to health promotion. All of the articles refer to core principles of social ecology or systems theory, and several focus primarily on theoretical and taxonomic concerns. This emphasis on conceptual issues is characteristic of new scientific paradigms during their early stages of development.[48] For example, the formulation of taxonomic systems in chemistry and biology (e.g., the periodic table of atomic structure and Darwin's classification of plant and animal species) preceded and stimulated the rapid growth of empirical research in these fields. Similarly, the classification of ecological intervention strategies proposed by Richard et al. and the delineation of contextual factors influencing the formation and effectiveness of community coalitions, offered by Wandersman et al., may facilitate the design of more-effective community health promotion programs and the development of research methods for evaluating their organizational, environmental, and health outcomes.[36,42]

The articles included in this issue also summarize some of the major programmatic strategies and accomplishments of ecologically oriented health promotion programs. For example, Breslow cites several instances in which regulatory initiatives led to improvements in the physical and social environments of communities, thereby encouraging the adoption of healthier lifestyles among individual residents and reducing the prevalence of major health problems in those communities.[37] Similarly, Wandersman et al. and Duhl discuss the benefits of establishing community-wide and international partnerships for improving public health and cite several examples of successful health promotion coalitions.[42,46] At the same time, however, Wandersman et al. and Buchanan identify various political, sociocultural, attitudinal, and geographic factors that can undermine the effectiveness and longevity of community coalitions.[42,43] An important message of these articles is that the leaders of community coalitions must be attentive to these contextual factors, and should take them into account when organizing community consortia for health promotion.

Green et al. and Stokols discuss certain other limitations inherent in social ecological strategies of health promotion, including their complexity and cumbersome nature.[34,35] The complexity of ecological approaches to health promotion resides in the fact that these programs encompass multiple interventions, often implemented across several settings, for the purpose of improving a wide range of community health outcomes (e.g., objective levels of environmental quality, social organization and cohesion, the epidemiological prevalence of major public health problems, personal health

behaviors, and perceived quality of life). The coordination of efforts among diverse community groups to achieve these goals is a complex task in itself, as are the challenges of sustaining these efforts over prolonged periods and evaluating the tangible outcomes of multifaceted health promotion programs.[49]

Confronted by the complexities of social ecological and systems analyses, Green et al. and Stokols suggest that health promotion programs should be informed by diagnostic needs assessments and middle-range theories, both of which help identify facets of community systems that afford the greatest leverage for achieving public health goals.[34,35] Distinguishing between high- and low-leverage intervention targets and strategies and engaging the efforts of key decision makers and community leaders are important prerequisites for developing more effective health promotion programs.[34,35,42]

One of the most challenging and pervasive health problems in the United States and world wide is community violence. To date, effective solutions to this problem have not been achieved. Efforts to reduce the incidence of violence, especially in low-income and minority communities, will require broad-based programs incorporating multiple interventions (e.g., child welfare programs, educational and community empowerment strategies) and collaborative partnerships between public agencies, the private sector, and diverse stakeholder groups.[50,51] Sanders-Phillips takes an important step toward achieving that goal by providing a middle-range theory of the relationships between socioeconomic and minority status, chronic exposure to community violence, psychological experiences of powerlessness, hopelessness, and alienation, and reduced motivation to enact health promotive behavior.[39] As an adjunct to Sanders-Phillips' "theory of the problem," corresponding "intervention theories" outlining the conditions under which various strategies for reducing community violence will be more or less effective remain to be developed in future studies.[52] The combination of these two theoretical perspectives eventually may lead to the development of more effective social ecological strategies for reducing community violence.

The complexity and relative newness of ecologically oriented health promotion programs, and the imperviousness of certain public health problems (e.g., high rates of community violence, teen pregnancy, and substance abuse within low-income, minority groups) to community interventions may account for the absence of rigorous program evaluation data in the articles comprising this special issue. As noted by several of the authors in this issue and other scholars, comprehensive community health promotion programs are notoriously difficult to evaluate with respect to their overall health outcomes, cost effectiveness, and long-term sustainability.[34,35,42,46,47,49] These challenges notwithstanding, the utility of social ecological models must be clearly demonstrated through future evaluative studies if their potential value in identifying comprehensive solutions to public health problems is to be realized. The articles contained in this special issue provide the conceptual foundations for pursuing these longer-range, program evaluation and health promotion goals.

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