Editorial

HEALTH EDUCATION & BEHAVIOR

Upending the Social Ecological Model to Guide Health Promotion Efforts Toward Policy and Environmental Change

Health Education & Behavior
2015, Vol. 42(1S) 8S–14S

DOI: 10.1177/1090198115575098
heb.sagepub.com
SAGE

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Abstract

Efforts to change policies and the environments in which people live, work, and play have gained increasing attention over the past several decades. Yet health promotion frameworks that illustrate the complex processes that produce health-enhancing structural changes are limited. Building on the experiences of health educators, community activists, and community-based researchers described in this supplement and elsewhere, as well as several political, social, and behavioral science theories, we propose a new framework to organize our thinking about producing policy, environmental, and other structural changes. We build on the social ecological model, a framework widely employed in public health research and practice, by turning it inside out, placing health-related and other social policies and environments at the center, and conceptualizing the ways in which individuals, their social networks, and organized groups produce a community context that fosters healthy policy and environmental development. We conclude by describing how health promotion practitioners and researchers can foster structural change by (1) conveying the health and social relevance of policy and environmental change initiatives, (2) building partnerships to support them, and (3) promoting more equitable distributions of the resources necessary for people to meet their daily needs, control their lives, and freely participate in the public sphere.

Keywords

environmental change, public policy, social ecological model, structural interventions

In the decades since the 1978 Alma Ata declaration and the 1986 Ottawa Charter of Health Promotion highlighted the importance of nonmedical factors in producing health, health promotion researchers and practitioners have emphasized that changing policies, as well as the environments where people live, work, and play, is essential to improving population health and reducing health disparities (Green & Allegrante, 2011). This supplement to *Health Education & Behavior* was initiated to describe the ways in which policy and environmental changes have been implemented in the health promotion field and what we have learned about their effectiveness. In the other perspective article in this issue, Mockenhaupt and Woodrum reflect on *what* types of changes have been made and *why* funders continue to emphasize the importance of using these strategies to build a "culture of health." Here we ask *how* policy and environmental changes are brought about, and how health promotion professionals can contribute to them. Building on the experiences of health educators, community activists, and community-based researchers described in this supplement and elsewhere, as well as several political, social, and behavioral science theories, we propose a new framework to organize our thinking about producing policy, environmental, and other structural changes.

Health educators are trained to plan interventions after identifying the determinants of the problem (Green & Kreuter, 2005). Organizations, individuals, and governments have employed various terms to describe determinants of health that are generally outside an individual's control, including upstream determinants (Gehlert et al., 2008), social determinants (Marmot, 2005), fundamental causes (Link & Phelan, 1995), structural factors (Sumartojo, 2000), upper or outer

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levels of the social ecological model (Golden & Earp, 2012), and wider levels of the health impact pyramid (Frieden, 2010). Although often discussed in conjunction with policy and environmental change, many of these contributing factors are considered "root causes" of public health problems or are modeled as the fount from which other more proximal causes are produced, leaving the impression that they do not directly influence individuals (Krieger, 2008), have no cause themselves, or are not inherently modifiable. Both fundamental cause theory (Link & Phelan, 1995) and the health impact pyramid (Frieden, 2010), for example, recognize the durability of socioeconomic status in providing access to resources and restricting exposure to hazards that produce many of the health outcomes and disparities about which we are so concerned. Neither the theory nor the pyramid, however, describes how socioeconomic hierarchies are produced, maintained, or, most critically, changed or circumvented.

Although the World Health Organization does acknowledge that distributions of money, power, and resources shape social determinants of health, the focus of most related work is on the conditions in which people are born, grow, live, work, and age, and only more recently on the processes that determine these conditions (Solar & Irwin, 2007). Similarly, the social ecological model is built in part on notions of reciprocal determinism, which recognize interplay among individuals, groups, and their proximal and distal social environment (Green, Richard, & Potvin, 1996). Many public health interventions, however, have focused on the role of policies and organizations in producing individual change, rather than on the conditions and environments within which health-promoting policies and organizations are formed.

Insufficient articulation of how health-related structures, including systems, policies, and environments, are themselves produced has resulted in limited attention to feasibility and real-world results. Since structural changes may reach a broader range of people and require less effort on the part of the people who are directly affected, they are assumed to be both more effective and more efficient, and implicitly more equitable, than other health promotion strategies (Frieden, 2010). These notions of structural change, however, may be overly simplistic and fail to account for how such changes actually operate and occur. If we instead think of policy and environmental changes as purposive interventions within more complex systems, we can incorporate concepts from the field of systems thinking, such as feedback loops, stocks and flows, and systems processes and relationships (Schensul, 2009; Sterman, 2000; Trickett, 2009), to elicit the mechanisms that produce structural change and their reverberating effects.

The articles in this special issue underscore the complexity of real-world structural interventions, teaching us that policy and environmental change is neither easy nor guaranteed effective. Lessons from injury prevention (Hanson, Gunning, Rose, McFarlane, & Franklin, 2015; Mack, Liller, Baldwin, & Sleet, 2015), cardiovascular disease prevention (Kegler et al., 2015; Stempski et al., 2015), food legislation (Dinour, 2015), and wage policy (Freudenberg, Franzosa, Chisholm, & Libman, 2015) highlight the enormous commitments of time, energy, and resources required to enact new policies, modify physical environments, or sustain community initiatives. Individuals and organized groups—whether policy champions (Dinour, 2015), stakeholders (Kok, Gurabardhi, Gottlieb, & Zijlstra, 2015), coalitions, or other coordinated advocates (Freudenberg et al., 2015; Kegler et al., 2015)—are critical to policy change, as are data in support of such initiatives (Gielen & Green, 2015). Evaluations of structural change are difficult to design (Dubowitz, Ncube, Leuschner, & Tharp-Gilliam, 2015) and may not demonstrate desired results (Shin et al., 2015). Structural changes can have unintended negative consequences on health (Balog, 2015), be watered down during compromise processes (Dinour, 2015), or be unsustainable without external resources (Hanson et al., 2015).

The Social Ecological Model, Inside Out

To illustrate structural changes better and highlight the enormous individual efforts, research and advocacy needed to implement them, we propose a framework of the processes and social conditions that facilitate health-promoting policy and environmental change. We build on the social ecological model, a framework widely employed in public health research and practice, by turning it inside out, placing health-related and other social policies and environments at the center, and conceptualizing the ways in which individuals, their social networks, and organized groups produce a community context that fosters healthful policy and environmental development.

Social ecological models are visual depictions of dynamic relationships among individuals, groups, and their environments. They derive from a systems orientation to human development, in which individuals are understood to influence, and be influenced by, people and organizations with whom they interact, available resources and institutions, and societal norms and rules (Bronfenbrenner, 1992). In the health promotion field, ecological models have been used to understand and identify targets for both general and specific health behavior interventions (McLeroy, Bibeau, Steckler, & Glanz, 1988; Sallis, Owen, & Fisher, 2008; Stokols, 1996).

In our proposed model, we diverge from traditional ecological approaches, which describe the development of individuals within nested environmental subsystems, to instead consider the development of health-related policies and environments within nested contexts. We draw five concentric but connected circles to distinguish embedded systems and forces that mutually influence each other (Figure 1).

Level-Specific Outcomes

Health-Related Policies and Environments: At the center of the model are specific policies and environments that are

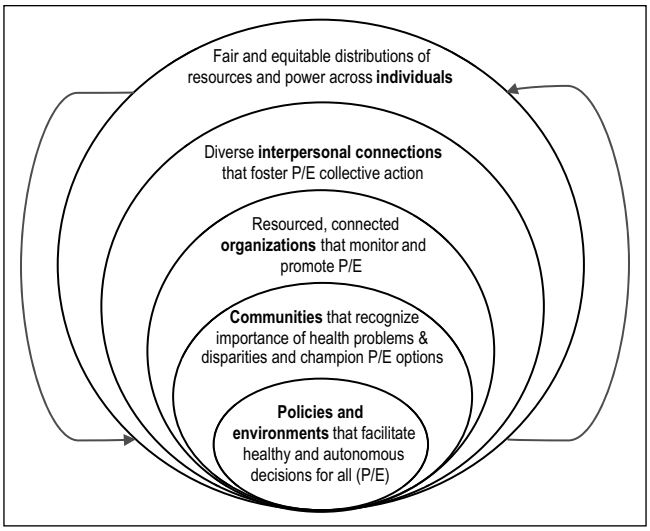

Figure 1. "Inside out" social ecological model of policy and environmental change.

produced by organized and intentional human action, enable autonomous action, and facilitate healthful choices. These include public policies with obvious ties to health, such as health insurance laws and bicycle helmet requirements; public policies that determine access to resources or exposure to hazards, such as zoning ordinances, minimum wage laws, and tax policies; voluntary or organizational policies, such as workplace smoking bans; aspects of the physical environment, such as community parks or drug resource centers; and environmental facilitators of social interaction, such as availability of communications systems and transit services.

Community Contexts in Which Decisions About Policy and Environmental Changes Are Made: By "community," we refer to the immediate infrastructure that identifies different policy or environmental options and chooses among them. These include decision-making groups, such as corporate boards, local commissions, and elected bodies, as well as connections and communications among them (Goodman et al., 1998). Three additional components of the immediate political context are theorized to produce windows of opportunity to create structural change when they converge. These three health-promoting "policy streams" are the following: champions of health-supporting policies and environments inside and outside of decision-making groups, events that elevate the salience of particular health problems or novel health-promoting ideas in public debate, and public support of implementing policies and environmental changes to improve health (Kingdon & Thurber, 1984).

Organizations That Monitor and Promote Policy and Environmental Change: Organized groups of people who have united around a specific policy or environmental topic comprise the next level of the model. Interest groups, community coalitions, and other advocacy clusters monitor policy-making organizations and other structural change efforts, promote the placement of key topics on policy agendas, and identify a host of policy and environmental solutions for health-related problems. Theories of framing indicate that perceptions of a topic are influenced by the manner in which they are presented. Dominant discourses about health, behavior, personal responsibility, and disparities both reflect and perpetuate beliefs about them (Aronowitz, 2008). Scientists, members of the media, and consultants influence dialogue specific to a particular topic (Sabatier, 2006) and are therefore key facets of this level. Well-networked and well-resourced organizations can have particularly strong influence on the policy domains that affect their interests (Laumann, Knoke, & Kim, 1985), often by tying deeply held beliefs of key constituents to specific policy options (Sabatier, 2006).

Interpersonal Connections That Foster Collective Action: Informal social networks or formal groups formed for other purposes provide opportunities for the development or expansion of health-related advocacy organizations or movements (Rao, Morrill, & Zald, 2000). Social networks characterized by high levels of trust and norms of reciprocity (Kawachi, Kennedy, Lochner, & Prothrow-Stith, 1997), ties to a wide range of individuals who wield different kinds of influence (Granovetter, 1973; Sabatini, 2009), provision of social support (Berkman & Glass, 2000), and lay leadership (Pérez & Martinez, 2008) may be particularly well-poised for more organized structural action.

Distributions of Resources and Power Across Individuals: The extent to which people can meet their daily needs, control their lives and their resources, and freely participate in the public sphere may partially determine the likelihood that they influence policy or environmental change. Social justice models underscore protection of individual rights, ensuring individual capabilities and providing more for those who are least well-off (Rawls, 2009). They recognize that individual autonomy to engage in health-related decision making requires access to a host of social opportunities (Buchanan, 2013; Powers & Faden, 2006). Research on the social determinants of health similarly suggests that equitable distributions of material resources and control over one's life and work facilitate collective action, minimize health disparities, and foster healthy populations (Kawachi & Kennedy, 1999; Marmot, 2005; Wallerstein, 2006).

Roles for Health Promotion Professionals

As multiple articles in this issue emphasize, accomplishing these outcomes requires human capital. By applying current skills in new or different directions, health promotion

practitioners and researchers may have much to offer structural change endeavors.

Conveying the Importance of Health-Enhancing Policies and Environments

When health-related policies and environments are created or improved, health educators can apply their training in community organization and health communication to ensure that policy and environmental resources are publicized to and understood by policy makers and the public. Health educators can collect and disseminate information about a host of opportunities in their communities, from safe walking trails to employment assistance groups to zoning ordinances. Public health researchers can also assess the extent to which policies are enforced and environmental changes are maintained, and evaluate the effect of both on health outcomes. Many good examples of policy and environmental evaluations exist in some fields, such as tobacco control and injury prevention (Chaloupka, Straif, & Leon, 2011; Hyland, Barnoya, & Corral, 2012; Shope, 2007), but process and impact evaluations for other health outcomes, and among diverse populations, are needed, as is research documenting changes in health following adjustments to social welfare policies and socioeconomic conditions. Practitioners and researchers can weigh in on specific proposals by serving as expert witnesses or helping arrange for other people, especially those most likely to be affected by a structural change, to share their opinion publicly. Researchers trained in health impact assessments (Collins & Koplan, 2009) can evaluate the potential and relative health effects of varied policy or environmental change options, including those without obvious health consequences (Tang, Ståhl, Bettcher, & De Leeuw, 2014).

Health promotion professionals can also help frame the public understanding of the importance of social, political, and environmental factors in determining health. In a recent U.S.-based opinion poll, fewer than half the respondents felt that improving education, employment, and housing quality would be effective strategies for improving health (Robert & Booske, 2011). Increasing these numbers, not only by highlighting evidence linking social conditions and health but also by reconsidering how these linkages are described, could be targets of educational outreach. The Robert Wood Johnson Foundation (2010) recently undertook such an effort, publishing suggestions for choosing words, facts, and pictures to talk about social determinants of health.

Building Partnerships for Policy and Environmental Change

Health promotion professionals have long served as bridge builders, uniting diverse groups around health issues. They have a history of partnering with nonhealth groups, including churches (Campbell et al., 2007), youth forums (Tsui, Bylander, Cho, Maybank, & Freudenberg, 2012), and employers (Goetzel & Ozminkowski, 2008), on collaborative practice and research. Applying these skills to build organizations or coalitions focused on health-related advocacy may be a natural fit for many health educators. For example, community coalitions have been used successfully to advocate for changes in asthma- and diabetes-related policies and environments (Butterfoss, Goodman, & Wandersman, 1996; Clark et al., 2014; Hill et al., 2007). Researchers can build on previous efforts to measure coalition capacity (Foster-Fishman, Berkowitz, Lounsbury, Jacobson, & Allen, 2001; Goodman et al., 1998) and organizational readiness (Weiner, 2009) by adding group skills, knowledge, and ability to target legal and structural institutions. For example, Kegler and Swan (2011) recently operationalized the community coalition action theory, which, among other things, links member engagement and resources to community change outcomes, including policy achievement. Similarly, Cacari-Stone, Wallerstein, Analilia, Garcia, and Minkler (2014) offer a conceptual model illustrating connections between community-based participatory research and policy change. Further testing and application of models like these are important for best understanding the role and limitations of organizations in creating policy and environmental change efforts.

More informally, health promotion professionals can also leverage their own social networks to connect people across power and resource differentials, and advocate for inclusion of more diverse voices in the organizations and groups to which they belong. At times, this may mean providing support to a group while remaining peripheral to it, allowing the development of a group identity to which a health educator may not belong (Jagosh et al., 2012; Wallerstein & Duran, 2006). Many researchers already study the ways in which processes of both social inclusion and exclusion affect health (Berkman & Glass, 2000; Hawe & Shiell, 2000; Thoits, 2011). Extending the body of work on social networks, social norms, and social capital to evaluate participation in collective policy and environmental change action may shed insight into how health educators can use what they know about building social relationships for health to support policy and environmental change efforts.

Promote More Equitable Distributions of Social and Economic Resources

The health promotion field has long been driven by attention to health inequities as well as population health profiles. Given the continued clustering of social disadvantage in certain vulnerable populations (Frohlich & Potvin, 2008), ameliorating or alleviating those inequalities attributable to social conditions should continue to be a high priority for health promotion professionals. For example, a group of community

activists, academics, and health department employees recently formed a partnership to collect and disseminate worksite-based data as part of an effort to implement and enforce a wage theft ordinance in San Francisco (Minkler et al., 2014). Even health educators engaged in traditional health promotion campaigns without direct policy and environmental implications should ensure that such interventions do not inadvertently stigmatize individuals, groups, or health-related choices (Carter et al., 2011; Guttman & Ressler, 2001). Finally, by considering and measuring whether the policy and environmental change efforts promoted by the field are equitably distributed across population groups and enhance the capabilities of people to live their desired lives, we can connect the inner- and outermost levels of the traditional and revised ecological models and ensure attention to the justice efforts that guide the health promotion field.

Conclusions

In proposing the use of an "inside out" ecological model for policy and environmental interventions, we hope to merge key theories and experience from a variety of fields to illustrate the multiple layers of the social system that produce policy and environmental change, and guide health promotion practitioners and researchers toward tangible tasks and outcomes. As Freudenberg et al. note in their article in this issue, breaking away from "downstream" interventions that maintain the status quo can be difficult when there is resistance to redistributive politics, when there are legal and political limits on the work of health educators, and in the face of limited evidence for such work.

Luckily, tools for engaging in policy and environmental change at all levels of its formation are increasingly available. The World Health Organization's Global Plan of Action on the Social Determinants of Health builds on the organization's long history and evolving emphasis on the importance of government action as well as citizen participation (Green, 1986), and a training manual related to the Health in all Policies initiative is forthcoming. Several countries that have experienced significant health improvements after embracing policy and environmental approaches, such as Costa Rica (Unger, De Paepe, Buitrón, & Soors, 2008) and Brazil (Victora et al., 2011), could serve as models in the United States and elsewhere. This special issue includes an article highlighting a new resource, produced by the U.S. Department of Health and Human Services, designed to help health administrators and other stakeholders decide between possible population-levels interventions, and then guide them in implementing and evaluating them in a way that continues to build the evidence base (Lifsey, Cash, Anthony, Mathis, & Silva, 2015). Finally, the Association of Schools and Programs of Public Health is revising its recommended core content for all levels of public health training. In response, many programs are revamping their public health curricula, providing an opportunity to inject skills training associated with the tasks described in this model. Health promotion practitioners and researchers, equipped with their traditional training, new resources, and frameworks for applying those skills to structural change, and the lessons presented in this special issue and elsewhere, should have much to contribute to the design, implementation, and evaluation of policy and environmental change efforts designed to enhance health and reduce disparities.

Acknowledgments

The authors would like to thank all the other members of the guest editorial board for their input. The ideas and critiques related to policy and environmental change they shared during the development of the supplement formed part of the foundation on which this perspective is built.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Supplemental Issue Note

This article is part of a *Health Education & Behavior* supplement, "The Evidence for Policy and Environmental Approaches to Promoting Health," which was supported by a grant to the Society for Public Health Education (SOPHE) from the Robert Wood Johnson Foundation. The entire supplemental issue is open access at http://heb.sagepub.com/content/42/1_suppl.toc.

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