Fall 9-18-2013

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Lisa D. Lieberman

Shelley D. Golden

Jo Anne L. Earp

Health Education & Behavior
40(5) 520–525

DOI: 10.1177/1090198113503342
heb.sagepub.com
SAGE

Structural Approaches to Health Promotion: What Do We Need to Know About Policy and Environmental Change?

Lisa Lieberman, PhD[1], Shelley D. Golden, MPH[2], and Jo Anne L. Earp, ScD[2]

Abstract

Although the public health literature has increasingly called on practitioners to implement changes to social, environmental, and political structures as a means of improving population health, recent research suggests that articles evaluating organization, community, or policy changes are more limited than those focused on programs with individuals or their social networks. Even when these approaches appear promising, we do not fully understand whether they will benefit all population groups or can be successful in the absence of accompanying individually oriented programs. The role of this broad category of approaches, including both policy and environmental changes, in decreasing health disparities is also unclear, often benefiting some communities more than others. Finally, the political nature of policy and environmental change, including the impact on personal autonomy, raises questions about the appropriate role for public health professionals in advancing specific policies and practices that alter the conditions in which people live. This article addresses these issues and ends with a series of questions about the effectiveness and ethical implementation of what we have termed "structural initiatives."

Keywords

health disparities, health education ethics, health policy, program evaluation, public health education, public health interventions, social ecological model, structural approaches

The public health literature has increasingly called on practitioners to target the contexts in which people live as a means of improving population health, yet models describing the scope, design, implementation, and effectiveness of such efforts remain limited. Building on previous definitions of structural interventions (Blankenship, Friedman, Dworkin, & Mantell, 2006; M. Katz, 2009), and literature focused on policy and environmental changes (Brennan, Castro, Brownson, Claus, & Orleans, 2011; Frieden, 2010; Sallis, Bauman, & Pratt, 1998), we use the term *structural approach* in this article to describe modifications to the physical, social, political, and economic environment in which people make health-related decisions. Strategies incorporated into structural approaches can include policy change, price or product modification, redesign of spaces, social norm alteration, community empowerment, or resource redistribution. These approaches are not new in public health, which originated in structural changes to reduce the risk of water- and air-borne disease (Rosen, 1993). More recently, we have seen application of, and advocacy for, structural approaches (Fineberg, 2012; Frieden, 2010; Goodman et al., 2006; Robert Wood Johnson Foundation, 2012; Satcher, 2011; Stange, Breslau, Dietrich, & Glasgow, 2012) to address the problems accounting for our modern causes of death and illness (Hoyert & Xu, 2012).

The State of Structural Approaches in Public Health

Structural approaches are theoretically grounded in an understanding of health and health behavior as socially conditioned. Social ecological models have been used to depict individual behaviors, lifestyle factors, and biological factors that determine health status as operating within the influence of social networks, living and working conditions, and the sociopolitical environment (Sallis, Owen, & Fisher, 2008). More than 20 years ago, health education scholars who were influenced by the work of Brofenbrenner (1977) were among the first to describe the need for an ecological approach in public health (McLeroy, Bibeau, Steckler, & Glanz, 1988; Stokols, 1992, 1996). They embraced the notion of "higher order interventions" that addressed the institutional, community, and policy levels; this concept soon became part of the public health education lexicon. Currently, several key public

[1]Montclair State University, Montclair, NJ, USA
[2]University of North Carolina at Chapel Hill, NC, USA

Corresponding Author:
Lisa Lieberman, PhD, Department of Health and Nutrition Sciences, Montclair State University, 1 Normal Ave, Montclair, NJ 07043, USA.
Email: liebermanl@mail.montclair.edu

health directives, including Healthy People 2020 (Koh, Piotrowski, Kumanyika, & Fielding, 2011; U.S. Department of Health and Human Services, 2010) and the Future of the Public's Health in the 21st Century (Institute of Medicine, 2002), employ social ecological models to describe determinants of health and depict structural concepts at the "higher" or "outer" levels of these models. Structural approaches are also consistent with literature focused on the social determinants of health, including recommendations to improve daily living conditions and tackle inequitable distributions of power, money, and resources (World Health Organization, 2008) and efforts to integrate health outcomes into all government initiatives through the Health in All Policies approach (World Health Organization, 2010).

Existing definitions of structural change, however, are also overly broad, encompassing everything from vending machine modifications to income redistribution. Thus, we also make a distinction between two kinds of structural initiatives. *Health-directed* structural approaches focus on environmental factors that target a particular health issue, such as smoke-free workplace policies, designated bike lanes, restrictions on sugar-sweetened beverage sales, "opt-out" HIV-testing policies, or expanded insurance coverage for prevention and screening. Although health-directed efforts can have profound effects, their impact on the overall public health profile may be limited to specific health behaviors or outcomes. Alternatively, structural approaches that enhance access to resources or power for vulnerable populations are, in the words of health education pioneer Guy Steuart, intrinsically *health-related* (Steckler, Dawson, Israel, & Eng, 1993). Living wage laws (Cole et al., 2005), expansion of education for girls and women, or microfinance programs may ultimately have a more transformative impact on health, because they target those fundamental determinants (Link & Phelan, 1995) that affect multiple disease outcomes through multiple resource-related mechanisms.

An emphasis in health education on changes to the physical, social, political, and economic structures to improve health remains both welcome and necessary. Structural approaches may enhance our ability to reach large numbers of people. Although they may involve significant initial outlays, ultimately they are likely to require fewer resources to sustain than individualized approaches. Furthermore, many people want to make health-related changes in their lives but face structural barriers to making such changes. Thus, removing some of those barriers can facilitate healthy decision-making. More generally, a renewed focus on structural change may reflect a growing appreciation for the role of social forces in producing population health patterns, underscoring a social responsibility for addressing them. In a field that has long recognized the dangers of victim-blaming, and embraced a commitment to social justice, we view this as a particularly healthy move.

Current trends toward structural approaches, however, also raise several concerns. First, the umbrella of structural change is quite large. Some strategies may be more useful or appropriate than others. For example, are broader *health-related* approaches more effective than targeted *health-directed* approaches? If so, under what circumstances is one more effective than the other? Second, how can the appropriate balance be achieved, so that a renewed focus on structural approaches does not come at the expense of continued work with individuals and their social networks? Third, how can we ensure that structural approaches both improve population health overall and reduce health disparities between certain communities and groups? Finally, how can initiatives targeting structural factors be implemented to assure that they also preserve and promote the autonomy of both individuals and communities?

Effectiveness of Structural Approaches

Unfortunately, research about the implementation and effectiveness of efforts to modify the contexts in which people make health behavior decisions is sparse. A variety of journals, even in special issues that focus on structural change, reflect largely philosophical rationales for their use. Using existing data to demonstrate why such approaches are necessary, they present strong normative, theoretical, and practical arguments (Nestle, 2012; Robert Wood Johnson Foundation, 2012; Tagtow et al., 2011). Few, however, have published empirical evidence of the effectiveness of specific initiatives in improving health. Golden and Earp (2012) found that individually and interpersonally focused interventions remain more prevalent in the literature, compared to efforts to modify institutions, enhance communities, or devise policies to improve health. When structural approaches are described and assessed, they usually derive from tobacco, nutrition, and physical activity fields (Blanck et al., 2012) and often target school environments for change (D. L. Katz, 2012; Perry et al., 1990; Thornton, 2012; Veugelers & Fitzgerald, 2005). Although the rationale for structural approaches is strong, there is limited published evidence of their impact on health behavior or health status. Furthermore, despite some demonstrated effectiveness, such as the impact of tobacco taxes on smoking behavior (Chaloupka, Yurekli, & Fong, 2012), it is unclear whether parallel initiatives, such as sugar-sweetened beverage taxes, would have a similar impact.

Integrating Individual-Level and Structural Interventions

Although social ecological models suggest equal attention to structural and individual determinants, many public health leaders, in arguing that larger social structures are keys to improving health, advocate for prioritized adoption of environmental and policy approaches. For example, in describing a health impact pyramid, the Centers for Disease Control and Prevention director Thomas Frieden (2010) posited that changing the context in which people make health-related

decisions and addressing socioeconomic conditions are the most efficient ways to improve population health.

In prioritizing structural approaches, however, few studies have considered whether these alone are sufficient to enhance health. Kahn and Gallant (2012) found that environmental and policy change efforts in worksite health promotion are mostly ineffective unless paired with traditional individual-level health promotion programs. Whether their findings hold for a wider range of intervention efforts is unknown. Traditional health behavior theories (Bandura, 1986; Fishbein & Ajzen, 1975; Janz & Becker, 1984; Rosenstock, Strecher, & Becker, 1988; Strecher, Becker, & Rosenstock, 1996), which have been well specified and supported by empirical research, argue that when individuals face behavioral choices, their personal beliefs about their options and expected outcomes affect their decisions. Thus, even if we modify environments to ensure that people have access to health-promoting resources, or that healthy choices are the "default" or more readily available options, persuasive communications and other individualized messages are still likely to be necessary. The best mix of individual and structural approaches, however, remains unclear.

Furthermore, it is particularly challenging to evaluate interventions that integrate both structural and individual-level approaches (Glasgow, Klesges, Dzewaltowski, Estabrooks, & Vogt, 2006) and determine the relative contributions of various components (Cleary, Gross, Zaxlovsky, & Taplin, 2012). Given limited resources, particularly for structural approaches that often require significant initial investment, it is especially important to determine the roles and efficacy of various components of multilayered approaches.

Structural Approaches and Health Disparities

Structural approaches have been championed as efficient because they usually modify the environment for many people, regardless of individual risk. However, because structural initiatives often occur at local levels, it is possible that they will benefit some communities more than others. For example, access to grocery stores or places to exercise, or efforts to control exposure to environmental toxins or crime, are not randomly or equally distributed across communities. Thus, structural approaches may be promising vehicles for eliminating health disparities, but only if employed in and embraced by those communities with the greatest need. If well-resourced and well-connected communities are better positioned to enhance their own environments, or if we pass policies without the concomitant resources to assure their implementation in vulnerable communities, we may ultimately widen, rather than reduce, health gaps.

Furthermore, some population health programs have been criticized for failing to attend to the fundamental determinants that make some populations particularly vulnerable to multiple health risks (Frohlich & Potvin, 2008). Based on our definitions, *health-related* structural approaches may be absolved from this criticism, but some *health-directed* structural interventions remain subject to it. Extra attention to the impact of health-directed structural interventions on high-risk groups is necessary to protect vulnerable groups and support amelioration of health disparities.

For example, tobacco taxes have been lauded as a key smoking prevention strategy (Centers for Disease Control and Prevention, 2000). Previous research, however, indicates that individuals with lower incomes may be most sensitive to increases in cigarette prices (Townsend, Roderick, & Cooper, 1994), and thus tax hikes may place a higher burden on individuals with the fewest resources to bear it. At the same time, these vulnerable populations often experience the greatest harmful impact of tobacco and thus experience the greatest benefits of reducing use. Thus, as an example, to avoid imposing extra strain on already vulnerable groups, tax hikes could be accompanied by free support for quit attempts or other initiatives to address income disparities.

Preserving Autonomy While Promoting Structural Change

In health education, our normative philosophy elevates social justice as a priority value (Beauchamp, 1976; Simonds, 1976). For decades, we have held that a critical part of our role is to facilitate the empowerment of individuals and communities (Minkler, 1994; Wallerstein & Bernstein, 1988). We have long relied on community organizing, participatory research, and other techniques as tools of our trade to involve key stakeholders (Butterfoss, Goodman, & Wandersman, 1993; Israel, Schultz, Parker, & Becker, 1998; Minkler, 2004; Minkler & Wallerstein, 2011).

Yet efforts to implement policies or modify environments to influence health behavior have sometimes been criticized as paternalistic (Buchanan, 2008; Carter, Cribb, & Allegrante, 2011; M. M. Jones & Bayer, 2007; Resnick, 2010). Although the goal of structural change is often to enhance opportunities for individuals, policy or environmental modifications can also restrain options, at least for some people, or change "default" choices (i.e., those more easily adopted). Individuals generally rely on heuristic tools to simplify decisions under conditions of uncertainty or complexity and view their options differently depending on how they are framed (Kahneman, 2003, Lowenstein, Brennan, & Volpp, 2007). As a result, slight environmental modifications, such as changing the placement of unhealthy foods in a cafeteria or market, may create significant changes in behavior, even if customers are not consciously aware of the ways in which the environment was modified. Thus, efforts to tweak physical, social, economic, or political conditions in order to produce behavioral change, without the active agreement of the individuals affected, reflect a decision to prioritize certain choices over others.

Arguably, however, ignoring opportunities to make environmental changes reinforces the status quo, including the structural forces that currently support and/or reinforce unhealthy behaviors. Therefore, dismissing structural approaches because they might limit autonomy does not necessarily enhance individual autonomy any more than enacting them. To mitigate charges of paternalism related to structural approaches, we should attend to the processes through which they are implemented. Changes that derive from, and are supported by, the people and groups that are most likely to be affected may run the least risk of inappropriately infringing on important liberties. Although several frameworks for assessing the ethical implications of health promotion programs have recently been proposed (Carter et al., 2011; Carter et al., 2012; Tannahill, 2008), we are unaware of work that applies these frames specifically to structural approaches. Furthermore, less attention has been focused on the process of stakeholder adoption, a critical feature of ethical practice, than on the kinds of structural activities to embrace. A recent Institute of Medicine (2012) report advocates for the importance of assessing community process in determining the value of all types of prevention initiatives, including structural approaches

The Role of Health Educators

Public health educators, and researchers who specialize in understanding and changing health behavior, are uniquely positioned to undertake these explorations, playing an important role in: designing, implementing, and evaluating structural approaches; involving and educating communities in deciding which initiatives are most important; advocating for implementation; and providing support for individual behaviors that must accompany these changes. We regularly design health promotion programs to reduce or eliminate health disparities, have expertise in evaluating both the process and outcomes of our initiatives, and routinely wrestle with ethical dilemmas (Society for Public Health Education, 2012) about the appropriate scope of our role in crafting the behavioral choices of others. We should continue to apply these skills to ensure implementation and evaluation of structural approaches.

For example, structural approaches may require the support of organizational or community leaders, policy makers, and the public to be adopted. Some, especially those health-related programs that transform distributions of resources and power, may be met with strong opposition from those vested in their current positions in the social hierarchy. Respondents in a recent U.S. survey were divided in their opinions about whether social policies constituted health policies, with more advantaged groups expressing greater skepticism about this link (Robert & Booske, 2011). Another study documented major differences between the view of advocates and policy makers about the role of policy in obesity prevention (E. Jones et al., 2012). Thus, the individual or community education strategies for which health educators are known could be used to build understanding of the links between social policies and health, among both the general population and policy makers.

To be effective partners in structural change efforts, however, health educators may need to resist tendencies toward individualized approaches. The health education field has long embraced structural change as part of its mission (Freudenberg & Golub, 1987; Luepker et al., 1994; Perry et al., 1990; Webber et al., 2008). In practice, however, many of the theories and intervention techniques routinely employed by health educators focus on individual and interpersonal change. As a result, health education is sometimes perceived as limited to counseling, clinical encounters, or classroom interactions (Frieden, 2010), and health educators may shy away from structural efforts, fearing they do not have the skills or stamina to win the political battles that transformative change usually engender. A stronger evidence base about the feasibility and effectiveness of structural interventions would allow health educators, and others, to be more confident and prepared to undertake the transformative initiatives needed to comprehensively address today's public health problems.

Unanswered Questions

Despite attention to, and strong advocacy for, structural approaches to health promotion, including policy, or environmental changes, many unanswered questions remain. First, what kinds of structural change strategies are most effective in altering individual health behaviors and/or improving health status? Second, what are the mechanisms through which structural approaches work, and what criteria and approaches best measure their success? Third, to what extent should structural approaches be paired with individually focused interventions? Fourth, while improving population health do structural approaches narrow, or at least not widen, health disparities? Under what circumstances can structural approaches be implemented in ways that protect the autonomy of the people and communities on whom they have impact? The answers will help assure that both financial and human resource investments are spent on policy initiatives, environmental changes, and other structural approaches that effectively promote health.

Editor's Note

Health Education & Behavior is releasing a Call for Papers for a special supplement issue on the Evidence for Policy and Environmental Approaches to Promoting Health. The call for papers, printed elsewhere in this issue (and available on the Society for Public Health Education website at www.sophe.org), solicits papers that address these specific questions.

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.

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