

## Policy as Intervention: Environmental and Policy Approaches to the Prevention of Cardiovascular Disease

### ABSTRACT

This paper describes the evolution of efforts to prevent cardiovascular disease, from individual health education approaches to broader community education efforts and, finally, to comprehensive and integrated programs addressing environmental, policy, and individual behavior change. Policies are divided into two areas: legislation/regulation and organizational policy. Environmental strategies are measures that alter or control the physical or social environment. Dimensions along which these strategies might be implemented are provided. Policy and environmental approaches can be justified on economic, strategic, and theoretical grounds. Experiences from other fields and other countries provide a framework for conceptualizing cardiovascular disease prevention approaches. (*Am J Public Health*. 1995; 85:1207-1211)

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### Introduction

Policy and environmental interventions account for much of the success of the first public health revolution.<sup>1</sup> Sanitarians contributed to the nation's health through improved environmental conditions fostered by rules (policies) that required cleaner food preparation facilities in slaughterhouses, factories, and restaurants; better technologies (environmental changes), such as refrigeration; better sanitation, including garbage collection, sewage treatment, and water purification; and significant changes in norms, attitudes, and behaviors (e.g., washing hands and not spitting in public).<sup>1-3</sup>

### Strategies to Address Chronic Diseases

A contemporary public health revolution must respond to chronic diseases such as cardiovascular disease and cancer that have complex and multiple causes. It is now generally accepted in the more developed world that people's behaviors and the environments that elicit and maintain them, rather than inadvertent exposure to infectious disease agents, are the primary causes of today's major health problems.<sup>4</sup> Risk factors for cardiovascular disease, the leading cause of death, are primarily behavioral and include tobacco use, inadequate physical activity, and poor diet.<sup>5-7</sup>

### Policy and Environmental Change

Societal-level changes necessary to address endemic chronic diseases successfully will include changes in policy and the environment to foster and maintain indi-

vidual-level behavior change.<sup>4,8</sup> The need for such an approach is recognized in the Victoria Declaration on Heart Health, a consensus statement drafted by leading scientists and experts in public health. The Victoria declaration calls for those in public health "to join forces in eliminating this modern epidemic [cardiovascular disease] by adopting new policies, making regulatory changes, and implementing health promotion and disease prevention programs directed at entire populations."<sup>8</sup> The declaration strongly advocates combining health education efforts with environmental and policy measures, because neither can be as effective alone.

It is unreasonable to expect large proportions of the population to make individual behavior changes that are discouraged by the environment and existing social norms. It is equally unrealistic to expect communities or organizations to enact policy changes for which there is no broad-based understanding and support.<sup>3,9</sup> To be effective, a public health approach to cardiovascular disease prevention must incorporate environmental and policy measures as well as education and skills development for each of the sectors of individuals and organizations involved.

### Policy Strategies

Policies can be defined as "those laws, regulations, formal, and informal rules and understandings that are adopted on a collective basis to guide individual and collective behavior."<sup>10</sup> For this paper,

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we have subdivided policy into two areas: legislation or regulation and organizational policy. Legislation and regulation include formal policies written into or having the effect of laws enacted by appropriate governing bodies. Examples of public health-based legislation and regulation abound and include seat belt laws, restaurant codes, and clean indoor air laws.

Organizational policies are policies instituted within specific organizations (e.g., corporations, schools, or health departments) that define appropriate behavior within the confines of the organization (e.g., a prohibition against smoking). Although they do not affect the public as a whole, organizational policies on public health can have a considerable cumulative impact; smoke-free schools, hospitals, work sites, and public places are examples.

### *Environmental Strategies*

Environmental strategies are a second major category of intervention. We define environmental interventions as measures that alter or control the physical or social environment. Environmental measures may address availability, accessibility, or social norms. A successful environmental intervention has involved changing the food supply to make low-fat milk available.<sup>11-14</sup> Opening school gymnasiums and opening shopping malls before or after business hours can increase physical activity by increasing access. Modifications of the social environment include normative changes in attitudes and behaviors such as expectations for routine condom use or shifts in student peer group expectations about drinking and driving. Other examples include passengers using seat belts or asking permission to smoke. The demarcation between policy and environmental efforts is not always clear; policies may be used to effect environmental change. For instance, a city government may pass ordinances requiring that public housing projects include recreational facilities, that new subdivisions include sidewalks, or that office complexes provide walking paths.

As in national and international movements such as the Healthy Cities and Healthy Communities projects,<sup>15</sup> new community-focused efforts in the United States are beginning to take this broader perspective. These programs recognize the need to facilitate behavior change by removing policy and environmental barriers to healthy behavior as well as fostering those policies, rules, procedures, and

conditions that encourage health-promotive behaviors.

Another rationale for expanding community-based programs to include more environmental- and policy-level activities comes from behavioral science theory (e.g., the theory of diffusion of innovations).<sup>3,9</sup> Green suggests that individual-centered efforts were appropriate for the first generation of community-based cardiovascular disease programs because the nation was then in the early stages of the diffusion process.<sup>3,9</sup> In this stage, "early adopters" make positive health choices based mainly on new information. As we move to later generations of community-based programs, the target groups may include more "late adopters," and therefore the programs may need to focus more on health-fostering policies and environments.

### *Individual Behavior Change*

Over the last 2 decades, efforts to reduce chronic diseases have grown, especially efforts to prevent cardiovascular disease. For most programs in the United States, from the large research and demonstration trials sponsored by the National Heart, Lung and Blood Institute<sup>16-18</sup> to smaller state<sup>19-22</sup> and locally sponsored community projects,<sup>23,24</sup> the primary focus has been on interventions to encourage individual behavior change. These first- and second-generation community-based trials recognize the multifactorial nature of cardiovascular disease and consistently advocate approaches involving multiple strategies across multiple channels and across all sectors of the population. However, the main focus has been on information and skill building. Results from most of these comprehensive cardiovascular disease prevention programs, as well as risk-factor-specific efforts such as the COMMIT smoking cessation program, have, on the whole, been disappointing.<sup>25-29</sup> Although the newer programs are becoming more inclusive, environmental and policy approaches have not received much attention in the United States.

The individual, high-risk approach has been supplanted by a population perspective that recognizes the value of reducing risk for selected groups of high-risk individuals but also recognizes the substantial number of additional lives that can be saved by even slightly reducing the mean population level of risk.<sup>30-32</sup> The traditional focus on enhancing knowledge and attitudes may be, in part, a result of a historical and philosophical reluctance of

some behavioral scientists to participate in actions that reduce an individual's free will and choice.<sup>3</sup> However, while initial efforts often result in moderate short-term success, the level of success for behaviorally focused interventions generally dissipates over time.<sup>3</sup> Most smokers relapse,<sup>33</sup> and most dieters regain lost weight.<sup>34</sup>

An effective public health response to chronic disease must take a broad, communitywide perspective that focuses on prevention over treatment and avoids "blaming the victim" by recognizing the pervasive control that the environment has over behavior. Supportive environmental changes may be as important as or more important than individual behavior change efforts.<sup>8,9,32,35</sup>

### *Need for Policy and Environmental Approaches*

Behavioral psychologists have long recognized that the conditions necessary to maintain behavior may not be those required for acquisition. They note that once behaviors have been learned, conditions or stimuli sufficient for them to reoccur, even at a much later time, may be minimal. For instance, environmental cues sufficient to elicit relapse in an ex-smoker, alcoholic, or overeater may be below the threshold level of individuals who have not regularly engaged in these behaviors.<sup>36</sup> Lack of will, self-control, and attitudes have less to do with the prevalence of smoking or obesity than do cheap cigarettes and vending machines.

The transition to the next generation of public health diseases with a basis in personal behavior has spawned many behaviorally focused interventions. However, in some cases, the pendulum may have swung too far toward individual behavior change and away from the passive public health strategies that have been so instrumental in the public health advances of the last century. Passive public health strategies do not require individuals to take action on an individual basis or to make specific behavioral changes. Rather, an action such as a change in environment or policy is taken on the societal level to reduce exposure to health risks or to lead to healthy behavior.<sup>18</sup> The likelihood of success for a preventive measure varies inversely with the frequency and complexity of the behavior change required for persons to be protected.<sup>37</sup> For example, public drinking water is chlorinated, thus eliminating the need to increase awareness of water-

borne pathogens and to teach people to assess water quality and appropriately treat their personal water supply.

Most public health problems are best approached through a combination of active and passive strategies. The 50% reduction in motor vehicle fatality rates per mile driven over the past 25 years is an excellent example of the synergy between active and passive public health strategies. Improved roadways, better designed automobiles, speed limits, seat belts, air bags, seat belt and drunk driving legislation and the enforcement of those laws, driver education, and campaigns promoting seat belt use and safer driving have all contributed to the reduction in mortality.<sup>37</sup> Similar applications to the behavioral risks for cardiovascular disease must be developed.

## **Success in Other Health Care Systems**

Finland's North Karelia Project is an example of a comprehensive public health program to prevent heart disease that incorporates policy and environmental interventions in an effective, community-focused manner.<sup>12</sup> Recent results from this national effort indicate that changes in the risk factors targeted by the program can explain most of the decline in ischemic heart disease observed over the last 20 years.<sup>38</sup> Incentives for producing healthier food have also been incorporated into Norway's nutrition and food policy,<sup>11</sup> and an important strategy of the Heartbeat Wales project was "to achieve environmental, organizational, structural, and policy changes to support healthy choices by individuals."<sup>39</sup>

## **Success in Other Fields**

Experiences from areas outside cardiovascular disease are also instructive. Policy and environmental strategies have long been used to control the sale and consumption of alcohol. Here, policy-level interventions make good public health sense because there is abundant evidence that government policies on alcohol can directly affect per capita consumption, type of alcohol used, age of use, distribution of use, and probability of alcohol problems.<sup>40-42</sup> These effects can be produced by local, state, and national policies.<sup>42,43</sup> Approaches can be grouped into three broad categories: price, promotion (conditions of sale), and the product itself.

## **Price**

Alcohol consumption is sensitive to price, and in many countries taxes have been used to moderate consumption. In the United Kingdom, taxes on alcohol have been associated with a shift not only in consumption patterns but also in disease rates; cirrhosis of the liver, formerly a disease of the lower class, is now more common in the upper class.<sup>42</sup> Because young people are especially price sensitive, taxes can be very effective in delaying the onset, as well as the frequency, of abuse.

## **Promotion**

Controlling the conditions of sale is an effective mechanism for regulating use. Variables used to control alcohol sales include age and proximity to schools or churches; other controls involve requiring concurrent purchases of food in restaurants, prohibiting sale of single cans or premixed drinks in convenience stores, and holding the licensee responsible for violations. Limiting promotions of alcohol beverages and requiring counteradvertising have analogues for food, tobacco, and physical activity.

## **Product**

Changing the product to make it less harmful is a common public health strategy but one not always well received. For example, proposals to add vitamins to wine to prevent alcoholic nutritional deficiencies and attempts to develop "safer" cigarettes have been resisted under the presumption that their net effect would be to condone use and increase consumption.

## **Generalizing to Modifiable Cardiovascular Disease Risk Factors: Physical Activity, Nutrition, and Tobacco**

Generalizing these strategies to other areas seems appropriate. The tobacco control community has used these strategies for several years. Price relates directly to tobacco use, and taxes have been shown to be an effective method of discouraging sales, especially to minors.<sup>44</sup> Limitations on promotion of tobacco through direct and indirect advertising appear to be gaining support. Restrictions on conditions of sale, including prohibiting vending machines or the sale of individual cigarettes, prohibiting marketing or promotion around young people,

and making retailers responsible for violations, have proven to be effective tobacco control strategies. Increased public acceptance of these policy and environmental efforts has evolved over the last 2 decades.

Strategies used in health care systems of other countries and those used to control other health risks can also be appropriately applied to rules and conditions that inhibit physical activity and encourage poor dietary behaviors. Support for such approaches is limited but perhaps growing. For instance, taxes on high-fat foods have been suggested as a way to help finance health care reform and as a "user" fee to offset the additional health care costs associated with increased heart disease.<sup>45</sup> A survey of six midwestern communities suggests that there is public support for additional public health efforts to regulate the sale and consumption of high-fat foods and tobacco through policy and environmental change.<sup>46,47</sup> The potential synergy between policy and other health education actions is suggested by the observation that the three survey communities that had been exposed to a community-based cardiovascular disease prevention program were the most supportive of policy and environmental change.<sup>46,48</sup>

## **State Health Agencies: Setting the Agenda and Establishing a New Focus**

### **Advantages**

Environmental- and policy-level activities can make efficient use of limited public health budgets. In the era of health care reform, these activities serve a strategic function by helping agencies move from a direct service role to one of guidance, agenda setting, and coordination of community-based efforts. Environmental and policy interventions use the force of law and regulation to change behavior and social norms rather than trying to achieve change through the more clinical and less efficient model of individual remediation.

Behavioral science theory also supports the value of environmental- and policy-level efforts. For instance, in terms of diffusion of innovations theory, the focus may be on "later adopters"<sup>3</sup>; from a transtheoretical approach, "precontemplators"<sup>49</sup> may be targeted; and, in the argot of smoking cessation practitioners, "hard-core" smokers may be the focus. Policy and environmental efforts help create the supportive environments these groups

need to initiate and sustain long-term behavior change.

## Barriers

Reluctance to promote environmental- and policy-level interventions stems from a variety of sources, including inadequate training for health educators and others in the philosophy and application of policy and environmental change, lack of institutional permission for such activities within a state health agency's scope of work, resistance to change, and concern that individual freedoms may be reduced. When policy and environmental choices are considered, the health agency's responsibilities might include fostering public discussion and providing balanced empirical data. Public antipathy toward additional intrusions on freedom may, in part, represent concern about where to draw the line. For instance, some people see each step toward the control of firearms in order to reduce violence as a step further down the slippery slope of prohibition and abridgment of freedom.

How policies and environmental changes are adopted may be as important as their functional outcome. Ensuring informed public participation in such discussions and decisions may also make rational intermediate steps appealing. Getting schools to provide healthy menu choices or discouraging them from selling soft drinks and candy is more acceptable when it comes as a result of parental choice rather than government mandate. Although policy and environmental strategies should not be used as a vehicle for a moral message (e.g., that those who do not maintain a healthy life-style lack will or moral substance), providing assistance in framing public debate may be appropriate.

The climate for policy and environmental interventions in many areas, such as tobacco and firearms control, has changed dramatically over the last few years. Activities and actions previously considered revolutionary or inappropriate for a state agency are now common and expected. Advocacy for clean air regulation, restrictions on the sale and promotion of tobacco, and increased taxes on tobacco and counteradvertising are becoming regular components of state and local health agency programs.

The normative changes that have occurred for tobacco control can be traced, in part, to the cutting-edge efforts of earlier advocacy organizations such as "Doctors Ought to Care." Social scientists have suggested that changes in attitudes

are, in part, facilitated by expanding the boundaries of behavior.<sup>50</sup> The civil rights movement purposefully pushed the boundaries of acceptable public behavior to shift the norm in the same direction. Health departments may not be the sole agents for such activities, but they can help define the logical boundaries for discussion. These efforts make it clear that, if policies are to be adopted and to be successful, changes in the social environment are as important as changes in the physical environment.

## Conclusion

As health agencies move further from a direct service role to one that helps empower communities to address the underlying conditions that promote cardiovascular disease, they will be called upon to make significant changes in what they do and in how they interact with their constituents. Setting the public health agenda so that policy and environmental options are included in public discourse and expanding the focus from the individual or consumer to include others such as the manufacturer or retailer are appropriate goals for state health agencies. The focus should also be expanded to include the wide variety of policy and environmental conditions that influence cardiovascular disease risk behaviors.

Many government and private agencies, such as zoning boards, parks and recreation associations, licensing boards, and boards of education, make decisions that have important implications for cardiovascular health. Through their "assurance" role, health departments have a responsibility to see that public health is represented in these decisions. Also, from our perspective, focusing on policy and environmental change does not mean using the government to increase the power of centralized decision makers; rather, it means using these strategies to work with the community to address barriers to heart-healthy living. Health departments that support disincentives for high-fat foods, tax breaks for cafeterias that offer healthy food choices, policies that require zoning ordinances to include sidewalks, or school facilities open to the public might be labeled radical or experimental today; tomorrow, however, they may be considered prudent stewards of the public health. □

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## References

1. Rosen G. *A History of Public Health*. Baltimore, Md: Johns Hopkins University Press; 1993.
2. Breslow L. Foreword. In: Bracht N, ed. *Health Promotion at the Community Level*. Newbury Park, Calif: Sage Publications; 1990:11-13.
3. Green LW, Richard L. The need to combine health education and health promotion: the case of cardiovascular disease prevention. *Int J Health Promotion Educ*. 1993;1:11-17.
4. Farquhar JW. *The American Way of Life Need Not Be Hazardous to Your Health*. New York, NY: WW Norton & Co; 1978.
5. Smith C, Pratt M. Cardiovascular disease. In: Brownson RC, Remington PL, Davis JR, eds. *Chronic Disease Epidemiology and Control*. Washington, DC: American Public Health Association; 1993:83-95.
6. Remington R. From preventive policy to preventive practice. *Prev Med*. 1990;19:105-113.
7. McGinnis JM, Foege WH. Actual causes of death in the United States. *JAMA*. 1993;270:2207-2212.
8. Advisory Board International Heart Health Conference. *The Victoria Declaration on Heart Health*. Victoria, British Columbia, Canada: British Columbia Ministry of Health; 1992.
9. Green LW, McAlister AL. Macro-intervention to support health behavior: some theoretical perspectives and practical reflections. *Health Educ*. 1984;11:322-339.
10. Wallack L. Media advocacy: promoting health through mass communication. In: Glanz K, Lewis FM, Rimer BK, eds. *Health Behavior and Health Education: Theory, Research and Practice*. San Francisco, Calif: Jossey-Bass; 1990:370-386.
11. Klepp K-I, Forster JL. The Norwegian nutrition and food policy: an integrated policy approach to a public health problem. *J Public Health Policy*. 1985;6:447-463.
12. Puska P. Community-based prevention of cardiovascular disease: the North Karelia project. In: Martarazzo JD, Weiss SM, Herd JA, Miller NE, Weiss SM, eds. *Behavioral Health: A Handbook of Health Enhancement and Disease Prevention*. New York, NY: John Wiley & Sons Inc; 1984: 1140-1147.
13. Wechsler H, Wernick SM. A social marketing campaign to promote low-fat milk consumption in an inner-city Latino community. *Public Health Rep*. 1992;107:202-207.
14. Milio N. *Nutrition Policy for Food-Rich Countries: A Strategic Analysis*. Baltimore, Md: Johns Hopkins University Press; 1990.
15. Hancock T. The evolution, impact and significance of the healthy cities/healthy communities movement. *J Public Health Policy*. 1993;14:5-18.
16. Farquhar JW, Fortmann SP, Flora JA, et al. Effects of community wide education on cardiovascular disease risk factors: the Stanford Five-City Project. *JAMA*. 1990;264: 359-365.
17. Carleton RA, Lasater TM, Assaf AR, Feldman HA, McKinlay SM. The Paw-

- tucket Heart Health Program: cross-sectional results from a community intervention trial. *Circulation*. 1994;89:932. Abstract.
18. Shea S, Basch CE. A review of five major community-based cardiovascular prevention programs. Part I. Rationale, design and theoretical framework. *Am J Prev Med*. 1990;4:203-213.
19. Mittelman MB, Hunt MK, Heath GW, Schmid TL. Realistic outcomes: lessons from community-based research and demonstration programs for the prevention of cardiovascular diseases. *J Public Health Policy*. 1993;14:437-462.
20. Schwartz R, Smith C, Speers MA, et al. Capacity building and resource needs of state health agencies to implement community-based cardiovascular disease programs. *J Public Health Policy*. 1993;4:480-494.
21. Elder JP, Schmid TL, Dower P, Hedlund S. Community heart health programs: components, rationale, and strategies for effective interventions. *J Public Health Policy*. 1993;14:463-479.
22. Wheeler FC, Lackland DT, Mace ML, Reddick A, Hogelin G, Remington RD. Evaluating South Carolina's community cardiovascular disease prevention project. *Public Health Rep*. 1991;106:536-543.
23. Cook TJ, Schmid TL, Braddy BA, Orenstein D. Evaluating community based program impacts. *J Health Educ*. 1992;23:183-186.
24. Kreuter MW. PATCH: its origin, basic concepts, and links to contemporary public health policy. *J Health Educ*. 1992;23:135-139.
25. COMMIT Research Group. Community Intervention for Smoking Cessation (COMMIT): I. Cohort results from a four-year community intervention. *Am J Public Health*. 1995;85:183-192.
26. COMMIT Research Group. Community Intervention for Smoking Cessation (COMMIT): II. Changes in adult cigarette smoking prevalence. *Am J Public Health*. 1995;85:193-200.
27. Susser M. The tribulations of trials—intervention in communities. *Am J Public Health*. 1995;85:156-158. Editorial.
28. Fisher EB. The results of the COMMIT trial. *Am J Public Health*. 1995;85:159-160. Editorial.
29. Luepker RV, Murray DM, Jacobs DR, et al. Community education for cardiovascular disease prevention: risk factor changes in the Minnesota Heart Health Program. *Am J Public Health*. 1994;84:1383-1393.
30. McAlister AL. Population behavior change: a theory-based approach. *J Public Health Policy*. 1991;12:345-361.
31. Blackburn H. The public health view of diet and mass hyperlipidemia. *Cardiovasc Rev Rep*. 1980;1:361-442.
32. Bracht N. Introduction. In: Bracht N, ed. *Health Promotion at the Community Level*. Newbury Park, Calif: Sage Publications; 1990:19-25.
33. Smoking cessation during previous years among adults—United States, 1990-91. *MMWR Morb Mortal Wkly Rep*. 1993;42:404-406.
34. Jeffery RW. Population perspectives on the prevention and treatment of obesity in minority populations. *Am J Clin Nutr*. 1991;53:1621S-1624S.
35. Wallerstein N, Bernstein E. Introduction to community empowerment, participation, participatory education and health. *Health Educ Q*. 1994;21:141-148.
36. McGinnies E, Ferster EB. *The Reinforcement of Social Behavior*. Boston, Mass: Houghton Mifflin Co; 1971.
37. Wintemute GJ. From research to public policy: the prevention of motor vehicle injuries, childhood drowning, and firearm violence. *Am J Health Promotion*. 1992;6:451-464.
38. Vartiainen E, Puska P, Pekkanen J, Tuomilehto J, Jousilahti P. Changes in risk factors explain changes in mortality from ischemic heart disease in Finland. *BMJ*. 1994;309:23-27.
39. Corson J. Heartbeat Wales: a challenge for change. *World Health Forum*. 1990;11:405-411.
40. Adrian M. International trends in alcohol production, trade and consumption, and their relationship to alcohol-related problems. *J Public Health Policy*. 1984;5:344-367.
41. Single E. International perspectives on alcohol as a public health issue. *J Public Health Policy*. 1984;5:238-254.
42. Smith CJ, Hanham RQ. *Alcohol Abuse: Geographical Perspectives*. Washington, DC: Association of American Geographers; 1982:chap 3.
43. Room R. Alcohol control and public health. *Annu Rev Public Health*. 1984;5:982-986.
44. Breslow L, Johnson M. California's Proposition 99 on tobacco, and its impact. *Annu Rev Public Health*. 1993;14:585-604.
45. Terris M. Public health policy for the 1990s. *J Public Health Policy*. 1990;11:281-295.
46. Schmid TL, Jeffery RW, Forster JL, Rooney B, Klepp K-I, McBride C. Public support for policy initiatives regulating alcohol use in Minnesota: a multi-community survey. *J Stud Alcohol*. 1990;51:438-442.
47. Schmid TL, Jeffery RW, Forster JL, Rooney B, McBride C. Public support for policy initiatives regulating high-fat food use in Minnesota: a multicommunity survey. *Prev Med*. 1989;18:791-805.
48. Jeffery RW, Forster JL, Schmid TL, McBride C, Rooney B, Pirie PL. Community attitudes toward public policies to control alcohol, tobacco, and high-fat food consumption. *Am J Prev Med*. 1990;6:12-19.
49. Prochaska JO, DiClemente CC. Stages and processes of self-change of smoking: toward an integrative model of change. *J Consult Clin Psychol*. 1983;51:390-395.
50. Freedman JL, Carlsmith JM, Sears DO. *Social Psychology*. Englewood Cliffs, NJ: Prentice-Hall; 1974.