Possible lessons from the tobacco experience for obesity control\textsuperscript{1–4}

Shawna L Mercy, Lawrence W Green, Abby C Rosenthal, Corinne G Husten, Laura Kettel Khan, and William H Dietz

ABSTRACT Although obesity is increasing to epidemic proportions in many developed countries, some of these same countries are reporting substantial reductions in tobacco use. Unlike tobacco, food and physical activity are essential to life. Yet similar psychological, social, and environmental factors as well as advertising pressures influence the usage patterns of all 3. These similarities suggest that there may be commonalities between factors involved in controlling obesity and tobacco. This review, therefore, seeks to draw lessons from the tobacco experience for the organization of more successful obesity control. Smoking cessation counseling by physicians has been found to be one of the most clinically effective and cost-effective of all disease prevention interventions. When used alone, however, it cannot decrease the cultural acceptability of tobacco and the pressures and cues to smoke. Research and evaluation have shown the key elements of tobacco control to be (1) clinical intervention and management, (2) educational strategies, (3) regulatory efforts, (4) economic approaches, and (5) the combination of all of these into comprehensive programs that address multiple facets of the environment simultaneously. For each element, we present the evidence outlining its importance for tobacco control, discuss its application to date in obesity control, and suggest areas for future research. Viewing all of the elements involved and recognizing their synergistic effects draws researchers and practitioners back from an exclusive concentration on their particular setting to consider how they might seek to influence other settings in which individuals and populations must negotiate desired changes in nutrition and physical activity. \textit{Am J Clin Nutr} 2003;77(suppl):1073S–82S.

KEY WORDS Tobacco control, obesity control, smoking cessation, smoking cessation counseling, obesity counseling, physical activity, nutrition, health promotion, health education, health policy, prevention, health economics

Nutrition and physical activity experts are alarmed by the growing epidemic of obesity in developed countries, although tobacco control experts in many of these same countries simultaneously announce remarkable reductions in tobacco consumption. Unlike tobacco, food and physical activity are essential to life. Yet some overweight individuals grapple with similar compulsive tendencies as smokers by using food for gratification beyond their nutritional requirement. Social influences and advertising pressures affect both overweight people and smokers, leading some overweight people to minimize energy expenditure by limiting physical activity. Similarities suggest that there may be overlap between factors involved in the control of obesity and tobacco. In this review, we therefore seek to draw lessons from the successes of tobacco control for the organization of more successful efforts to reduce obesity.

Smoking cessation counseling has consistently been more successful than obesity counseling because the broad organization of comprehensive tobacco control efforts has supported smoking cessation and reinforced systematic and effective counseling to achieve it. Although physicians can function as effective counselors for smoking cessation, physician advice alone may not have a sufficient impact on population-based cessation rates without supportive interventions such as system changes and community and media initiatives (1). Physician efforts cannot singlehandedly reduce the broad cultural acceptability of tobacco use and the pressures and cues to smoke in various settings (2). Similarly, physician counseling alone cannot be expected to significantly reduce obesity rates across the population.

To the degree that counseling of any kind depends on individuals’ commitment to change their behavior, its success can be enhanced through support for the individual at home, at work, and with friends, as well as through organizational, community, and broader societal efforts (3–7). Most individuals relapse repeatedly when they try to make complex, sustained behavioral changes without positive social support in environments that conspire against them (8, 9). Comprehensive programs enable multiple facets of the environment to be addressed simultaneously, while also strengthening the application of evidence-based clinical counseling (2). For these reasons, the crosswalk presented in this article from tobacco control to obesity control encompasses aspects beyond clinical counseling by primary care providers, which has been our focus elsewhere (5, 10).

THE EVIDENCE FROM COMPREHENSIVE TOBACCO CONTROL

The reduction in tobacco consumption in the United States since 1965 has been declared one of America’s 10 greatest

\textsuperscript{1}From the Office of Extramural Prevention Research, Public Health Practice Program Office (SLM, LWG); the Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion (ACR, CGH); and the Division of Nutrition and Physical Activity, National Center for Chronic Disease Prevention and Health Promotion (LKK, WHD), Centers for Disease Control and Prevention, Atlanta, GA, United States.

\textsuperscript{2}Presented at the Third Heelsum International Workshop, held in Heelsum, the Netherlands, December 10–12, 2001.

\textsuperscript{3}Supported by the Canadian Institutes for Health Research and the Canadian Health Services Research Foundation (SLM as a Postdoctoral Fellow).

\textsuperscript{4}Address reprint requests to SL Mercer, Senior Service Fellow, Office of Extramural Prevention Research, Public Health Practice Program Office, Centers for Disease Control and Prevention, 4770 Buford Highway NE, Mailstop K-56, Atlanta, GA 30341–3724, United States. E-mail: smercer@cdc.gov.
public health achievements of the 20th century (11, 12). Other countries, notably Australia, Canada, New Zealand, Singapore, and some northern European countries, have achieved similar reductions (13–17). Several expert groups have recently undertaken reviews of the mounting evidence to determine what has been responsible for such successes (2, 18–20). What has been most evident from the systematic examination of trends in tobacco consumption, prevalence of smoking, attempts to quit, and successful cessation is that no single component of the comprehensive programs can account for all of the significant changes (2, 13, 18, 21). With the possible exception of pricing, the impact of each component of comprehensive tobacco control programs is enhanced by the existence of and synergy with other components operating in the same environment (2, 18–20).

A FRAMEWORK FOR SUCCESSFUL TOBACCO AND OBESITY CONTROL

A useful framework to identify and categorize all of the components necessary for successful tobacco control is provided by the recent Surgeon General’s report entitled Reducing Tobacco Use (20). The report identifies 5 key elements: (1) clinical intervention and management, (2) educational strategies, (3) regulatory efforts, (4) economic approaches, and (5) the combination of all of these into comprehensive programs. We use this framework to detail the importance of each of these elements for tobacco control, as well as their application in obesity control.

Clinical intervention and management

Given the considerable morbidity and mortality associated with tobacco use and the large number of current smokers, successfully helping smokers to quit produces a public health benefit that occurs more quickly and is likely larger (at least in the short term) than the benefit associated with any other component of a comprehensive tobacco control program (2, 22). Physician counseling and treatment for smoking cessation has therefore been found to be one of the most clinically effective and cost-effective of all disease prevention interventions (23–27). More than 70% of smokers visit a physician each year, and the large majority would like to quit smoking (28). Recent studies have found that physicians who discussed smoking had more satisfied patients than those who did not—even among patients not interested in quitting (29, 30). Yet, as with nutritional and physical activity counseling for obesity control, the primary care setting is a vastly underused resource.

Numerous clinical guidelines for physician-based smoking cessation and treatment have appeared in recent years (25, 26, 31–34). One produced by a joint task force sponsored by the US Public Health Service has been among the most helpful and influential, thanks to its presentation of a clear algorithm for assessing and treating tobacco use (26). The guideline recommends that the physician (1) ask every patient about tobacco use at every visit; (2) advise every tobacco user to quit; (3) assess each user’s willingness to quit; (4) assist, using counseling and pharmacotherapy, all patients willing to make a quit attempt; and (5) arrange follow-up (Figure 1). For patients unwilling to quit, the physician is to use the 5 Rs to enhance motivation to quit tobacco. This involves having the patient consider the (1) relevance of quitting, (2) risks of tobacco use, (3) rewards of quitting, and (4) roadblocks to quitting, and (5) having the physician incorporate repetition of this motivational intervention into each clinical visit.

Even though these interventions are very brief, physicians are less likely to use them if they carry the sole responsibility for completing all the steps. Increased adoption and effectiveness result from making structural changes to the health care system that encourage and enable physicians to undertake the tasks for which they are uniquely or best qualified (26, 35, 36). Hence, office staff should ask about a patient’s smoking status, prompt physicians, and provide more intensive counseling or arrange referrals to specialized services, whereas physicians should provide cessation advice and encouragement, assess readiness to quit, and offer brief assistance through counseling and pharmacotherapy (14, 26, 35–38).

Physician advice to lose weight increases the likelihood that patients will attempt to control their weight (39). Clinical

FIGURE 1. Algorithm for assessing and treating tobacco use. From Green et al (10); adapted from Fiore et al (26).
guidelines have been formulated for obesity management and intervention (40–42) as they have for smoking cessation. Indeed, these guidelines have demonstrated the efficacy of a variety of approaches to obesity and its associated comorbidities, including dietary therapy, physical activity, behavior modification, and pharmacotherapy. No programs to date, however, have examined the effectiveness of these strategies in primary care settings. Thus, whereas effective interventions that can be implemented in primary care exist for smoking cessation, such interventions have not yet been identified for obesity management. The recent study findings that counseling overweight patients about weight and physical activity reduces the incidence of type 2 diabetes indicate that effective interventions may soon be within reach (43). Like smoking cessation, use of such interventions will likely be limited by the disincentive for physician counseling brought about by scant reimbursement or coverage for obesity treatment and prevention in most countries’ medical capitation plans.

Whereas pharmacotherapy is recommended for all users of tobacco regardless of amount smoked, the risks and benefits of pharmacotherapy for obesity are related to body mass index (BMI), so there is no comparable approach for obesity intervention. Also, although prompts have been found to increase smoking cessation counseling by physicians, the effect on physician counseling of prompts about the severity of obesity has not been explored. BMI could be such a prompt, especially because diet and exercise interventions are more successful in moderate than severe obesity, but BMI’s use as an indicator is not yet widespread.

Health professionals such as nurses and pharmacists may be able to advise, assess, assist, and motivate less expensively than physicians for both smoking cessation and obesity counseling (26). The relative effectiveness of obesity interventions delivered by physicians versus nonphysicians remains to be adequately researched.

Educational strategies

Educational interventions and strategies have primarily been delivered through school programs and advertising, the mass media, and counter-marketing, and to a lesser extent through parents and community programs (20).

School programs

Most people who start smoking do so before the age of 18, and many form impressions about tobacco and experiment with it well before they reach high school (44). Hence, school-based programs, starting in the elementary grades, that focus on tobacco use prevention and cessation have been an integral part of successful comprehensive tobacco control programs (2, 44–46). Of particular importance in these programs is identifying the social influences that promote tobacco use among youth and teaching children ways to resist these influences (44, 47, 48). Such prevention programs have demonstrated differences in smoking prevalence between intervention and nonintervention groups that persist for 1–5 y beyond the end of the program (44, 46–48). Some studies have found that effects may be maintained longer with the use of booster sessions and community programs that include parent involvement, mass media campaigns, restrictions on youth access to tobacco products, and enforcement of school policies (15, 45, 49–51). School-based efforts can be further strengthened by linking them with state and local coalitions and countermarketing programs (44).

Schools are also likely places to conduct nutrition and physical activity interventions because they provide numerous opportunities for eating and engaging in physical activity (52–54). Despite the difficulties inherent in establishing and maintaining school-based programs for both tobacco and obesity control, school-based programs that are well designed and fully implemented have been found to improve the eating behaviors and physical activity of children and adolescents (55–58). Programmatic strategies identified as most likely to be effective in this regard include implementing health and physical education curricula that help students adopt and maintain physically active lifestyles and healthful eating behaviors and that provide health education instruction through tailored activities that address social influences (55, 56). In this regard, the Food and Nutrition Service of the US Department of Agriculture (USDA) works with state agencies and local food authorities in US schools through the Team Nutrition initiative to teach and motivate children to make healthy food choices and to provide school food service staff with training and technical support (59).

Advertising, mass media, and countermarketing

Promotion and advertising of tobacco increase both consumption of tobacco among adults and initiation among youth (60). Children are 3 times more likely to be influenced by advertising than are adults, and they are more likely to buy the brands of cigarettes that are advertised the most heavily (60, 61). The aim of countermarketing is to promote smoking cessation and decrease initiation by countering pro-tobacco messages and influences and by increasing pro-health influences and messages that “denormalize” smoking (2, 37). Additionally, countermarketing can increase public support for tobacco control and create a supportive climate for community and school-based efforts. There is considerable evidence that countermarketing, when combined with other program components, is effective in decreasing the prevalence of tobacco use among both adolescents and adults (37, 45, 50, 62–64).

Countermarketing involves paid advertising, media advocacy, press releases, health promotion activity sponsorship, and replacing tobacco industry promotions and sponsorships of cultural, sporting, and other events (2). Countermarketing will not be effective if it is not of sufficient duration, frequency, and reach (65). Campaigns should use a wide variety of production styles and messages and avoid too much repetition of individual messages and direct admonitions not to smoke (2).

Television appears to be directly and causally related to the prevalence of obesity among children and adolescents (66). Although displacement of more vigorous physical activity may help explain this relationship, the effects of television on children’s food consumption offer a plausible alternative or complementary effect. Televised food advertisements have a major influence on the dietary intake of children. For example, a recent study found that food products account for more than 60% of the products advertised on Saturday morning television programs for children (67). And the more television that children watch, the more likely they are to consume the foods advertised on television and to consume these foods inattentively while watching television. Finally, interventions aimed at reducing television viewing have been highly effective in both the treatment and prevention of obesity in clinical and school-based settings. Because the specific mechanisms that mediate the effects of television on childhood obesity have not yet been identified, strategies to
prevent childhood obesity have focused on reductions in television time. Policy statements of the American Academy of Pediatrics (AAP) have repeatedly proposed that parents limit children's television watching to 1–2 h daily (68). The AAP recommendation contrasts sharply with the median viewing time of 4.8 h daily that children reported in a 1990 survey (69).

One of the most ambitious and potentially powerful strategies to affect obesity-related behavior is the Centers for Disease Control and Prevention's (CDC's) new National Youth Media Campaign to Promote Healthy Activity, announced in the spring of 2002. For the first time, substantial financial resources are being devoted to a media campaign that promotes physical activity among children. This campaign offers a unique opportunity to explore the factors related to physical activity and the impact of a program designed to address them.

**Regulatory efforts**

A small body of evidence supports regulation and its enforcement as essential components of tobacco control programs (R Chaloupka and RL Pacula, unpublished observations, 1998; 70–72). Lack of enforcement of tobacco control policies sends the message to the public that jurisdictional and community leaders do not consider the policies to be important (73). Enforcement also increases the efficacy of tobacco control policies by deterring violators, especially those selling to youth (R Chaloupka and RL Pacula, unpublished observations, 1998; 72, 73). Controlling tobacco products, minor's access laws, and clean indoor air policies to protect the health of nonsmokers are the principal areas in which regulation is being developed and enforced in the United States whereas other countries also legislate restrictions on advertising and promotion (20). Regulation needs to be combined with other program components targeted to changing social norms, or restrictions of products by age or by location of use may simply lead people to adjust where they obtain or use tobacco (2). Hence, enforcement of clean indoor air laws is frequently preceded by public information campaigns, publication of telephone hotlines for cessation and for reporting of infractions, and employer education campaigns (R Chaloupka and RL Pacula, unpublished observations, 1998; 74).

There are some regulations that affect the food consumption of large numbers of people. The most pertinent of these for obesity control are school lunch programs and food labeling. The US National School Lunch Program, for example, is a federally assisted meal program operating in more than 97 700 public and nonprofit private schools and residential childcare institutions (75, 76). It provides nutritionally balanced low-cost or free lunches to more than 27 million children each school day. In 1998, Congress expanded the National School Lunch Program to include reimbursement for snacks served to children and youth in after-school educational and enrichment programs.

School lunches must meet the Dietary Guidelines for Americans, which recommend that no more than 30% of an individual's calories come from fat, and <10% from saturated fat. Regulations also establish a standard for school lunches to provide one-third of the recommended dietary allowances of protein, vitamin A, vitamin C, iron, calcium, and calories. Yet decisions about what foods to serve and how to prepare them are left to the discretion of local school food authorities.

Nutrient labeling significantly affects consumer purchase behavior. There is some evidence that consumers may act as if they hold “nutrient (or health risk) budgets” (77). Providing nutrient information facilitates consumers’ choices between more and less healthful products where differences in characteristics (eg, taste) are relatively small. If the substitution effect (eg, difference in taste) is large, however, nutrient labeling may not change the overall consumption of less healthful foods.

In contrast to tobacco, specific foods or dietary practices have not yet been indubitably linked to obesity. Therefore, most regulatory strategies that might affect food consumption cannot yet be justified. Nonetheless, the identification of these linkages must remain a high priority. A better case exists for physical activity. For example, the beneficial effects of physical activity on the comorbidities associated with obesity emphasize the importance of increased physical activity for those who are overweight (52). Furthermore, some evidence links physical activity in schools to overall physical activity, which in turn has been linked to obesity (78–80).

School-based policies that focus on improved nutrition and physical activity as obesity prevention strategies represent promising avenues for further research. For example, some communities have refused to sign exclusive contracts between schools and soft drink companies that provide incentives for volume of sales that encourage students to consume foods of low nutritional value. Although limited data link either soda or fast food consumption to obesity, such consumption may increase caloric intake or impair efforts at weight control. Furthermore, interventions that have reduced the prices of vegetables and fruits in high school and work site cafeterias have increased consumption of vegetables and fruits (81). Efforts are under way to determine whether increasing prices of less nutritious foods may have the same impact on fruit and vegetable consumption. Finally, schools provide a safe location for physical activity. Nonetheless, the proportion of US high school students who report that they are in physical education daily has declined from 42% in 1991 (82) to 29% in 1999 (83).

**Economic approaches**

Economic theory states that the demand for a product will decrease as its price increases (84). Studies have demonstrated that current consumption levels of an addictive substance such as nicotine are determined by past consumption levels, along with the perception of the costs of current and future consumption (13, 20, 85). Adolescents and individuals in low- and middle-income countries are especially sensitive to increasing prices (13, 86). Analyses of the literature estimate that a 10% increase in the price of cigarettes will lead to a 3–5% decline in overall consumption in high-income countries and a 6–10% decline in low- and middle-income countries (20). This decline results from a combination of some smokers reducing the number of cigarettes they smoke, some smokers quitting, and some individuals being dissuaded from taking up the habit (20, 84). Regulation of tobacco production, importation, and exportation all increase prices and thereby decrease consumption (20). Moreover, the single most important economic approach—and one of the key tobacco control strategies—is to decrease the affordability of tobacco by increasing taxes on tobacco products (13, 20, 84).

Because food and physical activity, unlike tobacco, are essential to life, issues of taxation need to be considered much more cautiously in this arena. Although taxation is not currently an appropriate tool for obesity control, economic forces can clearly affect food choices and consumption patterns. Studies have shown that fruit and vegetable consumption and low-fat snack
choices in schools and work sites can be increased by price subsidies (81, 87–89). Also, the introduction in 1973 of a soy–ground beef blend in grocery stores resulted almost immediately in adoption of the innovation by approximately one-fourth of the buyers of ground beef. The fluctuations between the 2 varieties and the recovery of ground beef in subsequent months were related almost entirely to the price of ground beef rather than to health motives or social influence (90). Over longer periods of time, the USDA has explained most of the historical trends in per capita consumption of specific food products in economic terms (91, 92).

A case for social influence and diffusion or media effects has also been shown to be secondary to pricing or coterminal with pricing. The consumption of eggs, butter, and whole milk has steadily declined: eggs since World War II, butter since the introduction of margarine, and whole milk more recently. Comparatively prices of the alternative, lower-fat products account for many of the trends, but health information about the obesity, cardiovascular, and other health risks associated with food lines has at least amplified the price effects (91).

A recent economic analysis of annual state-based data from the US Behavioral Risk Factor Surveillance System on the prevalence of obesity and state-specific data for a variety of other variables demonstrated that the rapid increases in obesity between 1984 and 1999 were best explained by the increase in the number of fast-food and full-service restaurants and the increasing cost of cigarettes (93). The researchers suggested that the linkage of restaurant numbers to increased obesity may reflect the increase in the number of working mothers. They also postulated that when the value of work exceeds the cost of restaurant food, families will elect to purchase food rather than to prepare it. Such economic analyses may identify novel approaches to control the obesity epidemic.

**Comprehensive programs**

Comprehensive programs combine at least some, and preferably all, of the aforementioned modalities to provide a multimessage, multichannel approach to tobacco control that simultaneously addresses many of the factors supporting use of tobacco by individuals and populations (19, 20). The jurisdiction employing comprehensive tobacco control that has been evaluated most thoroughly over the longest period of time has been California (94–99). North Karelia in Finland, New South Wales and Victoria states in Australia, Wales in the United Kingdom, and Ontario in Canada have had similarly comprehensive programs or community trials that started earlier than California’s, but without as sustained an evaluation of impact as California’s (15, 16, 100–103). Other states and provinces such as Massachusetts, Florida, Arizona, and Oregon in the United States; British Columbia in Canada; and Western Australia have followed California with more aggressive efforts on at least some fronts (2, 63, 104–108).

The experiences of the US states listed above have been combined with evidence from US National Programs, community intervention trials from around the world, and published evidence-based guidelines to distill how to best develop comprehensive tobacco control programs that change multiple facets of the social environment so as to reduce the broad cultural acceptability of tobacco use (2, 20). The evidence suggests that individual program components must work together to produce the synergistic effects of a comprehensive program. It indicates that attention must be paid to ensuring that comprehensive programs are sustainable and accountable. It also notes that comprehensive tobacco control programs need to address all of the following goals within each program component: (1) prevent initiation of tobacco use, (2) promote quitting (cessation) by youth and adults, (3) eliminate nonsmokers’ exposure to environmental tobacco smoke, and (4) eliminate disparities related to tobacco use and its effects on different population groups (2, 20). Finally, because comprehensive programs will evolve in response to changing circumstances and new evidence, they need to have sound administration and management and extensive and ongoing surveillance and evaluation.

**Community programs**

To support behavior change at the level of the individual, such as smoking cessation and maintenance of abstinence, communities need to change knowledge, attitudes, and practices of community members, while simultaneously changing the way tobacco products are promoted, sold, and used (2, 95, 109). Efforts, therefore, need to be targeted at individuals and at the social environment that promotes tobacco use and accepts exposure to secondhand smoke. Effective community programs engage people in their work sites, schools, places of worship, entertainment venues, civic organizations, and other public places, as well as in their homes (2, 20, 110). Within a comprehensive program that operates through multiple community channels, a synergy may develop that will enable social norms undercutting tobacco use to spread through the population much faster than would otherwise be possible (109). Research shows that the measured effect of community programs may be relatively small overall, but even a small effect on reducing tobacco use will translate into a large public health impact, given the large number of smokers and the significant morbidity and mortality associated with tobacco use (109, 111).

Hence, the moderate efficacy of community programs is more than offset by their substantial reach (2). Furthermore, they provide the foundation on which other activities, such as counseling in primary care, can build.

To meet the 4 overall goals for comprehensive tobacco control, community programs are advised to (1) increase the number of individuals and organizations engaged in planning and implementing education and training programs at the level of the community, (2) conduct countermarketing campaigns that educate and support local tobacco control policies and initiatives, (3) promote the adoption of public and private tobacco control policies, and (4) measure outcomes using surveillance and evaluation (2, 3, 95). Programs also must be targeted to specific populations. For example, involving youth in developing and implementing tobacco control interventions for their peers has been shown to strengthen the interventions’ effects (104). If changes are to be sustained, programs must have sufficient organizational support, operating funds, resources, and educational materials. They must also provide adequate education and training, support communication campaigns, organize debates of the issue in the community, implement local action plans, and draw other leaders into tobacco control activities and advocacy (2, 4, 112).

In contrast to the broad-based interventions directed at tobacco, fewer interventions have targeted obesity, and these have not included community or environmental strategies that reinforce school-based interventions (54). School-based prevention and treatment strategies directed at obesity appear to be among the most promising public health strategies for obesity...
control. When obesity has not been specifically targeted as an outcome variable, intervention programs have not had a significant impact on obesity (113). However, when reduced television viewing has been employed in conjunction with other strategies, targeted children have either demonstrated reduced rates of weight gain (114) or increased rates of remission (115, 116) compared with control groups. At least one study also included fruit and vegetable consumption, fat intake, and physical activity as intervention targets (116).

Studies that have compared home-based programs with school-based programs have shown promising increases in terms of parent participation and greater changes in the dietary behavior of children (including reduced total fat, saturated fat, and monounsaturated fat in their diets) and their parents (eg, more of the encouraged foods appeared on their food shelves) in home-based programs (117). Such studies continue to emphasize the importance of complementing and coordinating school efforts with community efforts in health promotion (49, 118).

In contrast to the vigorous advocacy that led to control of tobacco, advocacy around control of obesity in the United States has been more limited. Several factors may account for this. The American Cancer Society, the American Heart Association, and the Center for Science in the Public Interest probably represent the best-known and most visible groups that have advocated for improved nutrition, but few groups have targeted obesity as their primary focus. Because obesity has been widely viewed as a disease that results from a lack of self-control, overweight individuals rather than their environment are held responsible for their disease. Second, the obesity epidemic is a recently recognized phenomenon. Neither research nor public opinion has targeted the consumption of specific foods or classes of food as causes of obesity. Also, although physical activity represents the other significant arm of the energy balance equation, few constituencies promote opportunities for physical activity within communities. Several organizations, such as the US National Association for Sport and Physical Education or the National Coalition for the Promotion of Physical Activity, have focused on improved opportunities for physical activity among various population groups. Yet none has mobilized a broad public constituency for the promotion of physical activity.

State-, province-, or countywide programs and partnership grants

State-, province-, or countywide programs can increase the capacity of local programs by providing the resources, information, and skills that are essential for strategic and coordinated implementation of effective programs (2, 95, 112). Jurisdiction-wide programs have also stimulated local actions in schools and businesses and encouraged community action plans and evaluation efforts (2, 119). Resources that jurisdictionwide programs can provide include cessation toolkits and materials for mass media campaigns and surveillance. Jurisdictionwide programs have also provided local organizations with training and technical assistance on how to implement smoke-free policies, reduce minors’ access to tobacco, promote media advocacy, and conduct meaningful surveillance and evaluation (2, 21).

Jurisdictionwide and regional grants to youth, business, and professional groups; city development; and law enforcement organizations have functioned both to increase knowledge about tobacco use among their constituents and to encourage active participation of these constituents in tobacco control efforts.

Funding medical associations and organizations that interact with diverse communities, as well as involving these communities in planning and implementation, can increase the effectiveness of tobacco control in diverse population groups that might not be well reached by government agencies (120, 121).

State or other jurisdiction-level direction that coordinates efforts and provides a cohesive approach to obesity provides visibility and support for individual and health system efforts. Research has shown that including affected populations in planning and strategy implementation enhances participation and ensures relevance. One of the lessons, however, from some of the government and foundation funding agencies’ insistence on coalitions is that they must be managed strategically as tools of advocacy and planning, not as micromanagers of programs (122).

The CDC-funded program operating in 12 US states provides the only example of a federal effort at obesity control (123). The purpose of this program is to prevent and control obesity and related chronic diseases by supporting states in their development and implementation of nutrition and physical activity interventions, particularly through population-based strategies such as policy-level change, environmental supports, and the social marketing planning process. To accomplish the prevention and control of obesity and related chronic diseases through nutrition and physical activity, states have begun to (1) develop a plan for the priority population(s) they select; (2) develop appropriate internal and external partnerships to carry out the plan; and (3) develop, conduct, and evaluate nutrition and physical activity intervention projects in the population(s).

CAVEATS AND CONCLUSIONS

Innovations within the purview of particular researchers or health practitioners might be inspired or guided by only 1 or 2 of the key elements and components important in tobacco control. Yet the tobacco control experience has shown that individual-based or single-modality interventions will likely not exert a meaningful impact on rates of smoking initiation and cessation at the level of the population (1). Instead, viewing all of the components necessary for tobacco control and recognizing their synergistic effect draws researchers and health practitioners back from an exclusive concentration on their particular setting to consider the impact of—and explore how they might seek to influence—other settings and contexts in which individuals and populations must negotiate desired changes in lifestyle. Our aim in this article, therefore, has been to stimulate parallel consideration of what might be essential elements for obesity control and to document existing evidence in this regard.

One noteworthy compilation of suggested essential elements for obesity control has been published since the writing of this article by a working group consisting of key US national, state, and local public health and education professionals, with the assistance of the CDC’s Division of Nutrition and Physical Activity. This compilation employs the CDC’s best practice document for tobacco (2) as a template to begin to formulate guidelines for US state and local health advocates who want to create their own comprehensive obesity control programs (125). The document suggests sample activities for each program component and provides examples of existing US programs. The working group acknowledges that the current evidence is limited but maintains that its document provides an important early step that will require modification over time as additional evidence becomes available.
Some of the existing evidence has suggested that there are important differences between tobacco control and obesity control that have implications for the development of comprehensive programs to address the obesity epidemic. For example, one effect of the nonsmokers’ rights campaign has been to stigmatize smokers through policies that prohibit smoking in public buildings. One could attribute some of the decline in smoking to changes in social norms regarding the acceptability of smoking. In contrast, although obese persons have been stigmatized for decades, the prevalence of obesity has increased rather than declined in the face of discrimination against the obese.

A major touchstone of the health promotion movement has been to make healthful choices the easy choices (125, 126). This notion has driven the advocacy for policies and regulations that modify or control social and physical environments, including pricing, labeling, and smoke-free environments. Yet the North American social and physical environment increasingly seems to make less healthful choices the easier choices for both food and physical activity. The tobacco control experience suggests that this trend can be reversed. Finding ways to do so is the challenge ahead.

Just as the tobacco control movement has had to stand back from randomized clinical trials to assess some of its most important evidence concerning what has reduced smoking in communities, those concerned with obesity control will need to examine clinical experience in the broader context of community, regional, national, and international trends in food marketing and other influences on eating and physical activity. Furthermore, many practitioners, policymakers, and community residents who have been the objects of research are increasingly determined to be better consumers of research and even to have some control over the research that is done on them or on their behalf (127). This is happening just as some governments and other research funding agencies have recognized that their investments in research are not reaching the intended users and beneficiaries of the research because the research has not been made sufficiently relevant or responsive to their circumstances and interests. The pull of practitioners and communities, and the push of funding agencies, have put health researchers on notice that the subjects of their research need to be more actively consulted and even engaged in the research enterprise (127).

If pressure for this more participatory approach to research has been felt in tobacco control, it is likely to be even more acutely needed in research on matters related to food and physical activity. The worst fears of many food manufacturers, journalists, policymakers, practitioners, and lay members of the public when they hear of the interest in applying the lessons of tobacco control to diet and physical activity is that attempts will be made to control food and exercise with heavy-handed legal restrictions and environmental controls. For example, concerns have been expressed that the food industry could be vilified as the tobacco industry has been. Yet changing behaviors around food intake and physical activity, which are essential to life, will require a more collaborative approach. Participatory research will be an important first step in ensuring such cooperation.

None of the authors has any real or potential conflicts of financial or personal interest with the subject matter of this article.

REFERENCES

National Center for Chronic Disease Prevention and Health Promotion, Office of Smoking and Health, 2000.


